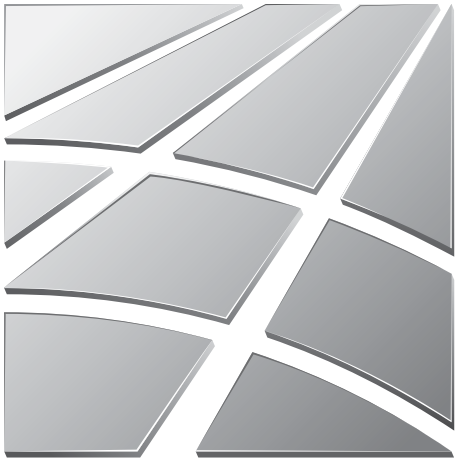
2011



Sustainability Report

Terna

Terna is a leading grid operator for electricity transmission in Italy and guarantees its safety, quality and cost-effectiveness over time. It ensures equal access conditions to all grid users. It develops market activities and new business opportunities with the experience and technical competence acquired in the management of complex systems. It creates value for shareholders through a strong commitment to professional excellence and responsible attitude towards the community, while respecting the environment in which it operates.

Translation from the Italian original, which remains the definitive version.

2011

Sustainability Report

Terna

Contents

Letter to our stakeholders

For Terna, 2011 was another year marked by good economic results, the seventh consecutive one at a time of economic turmoil both nationally and internationally. Particularly, in this last year, the difficult Italian situation has led to adopting extraordinary tax policy measures – such as the "Robin Hood Tax" – that have also significantly affected the Company's accounts. We are therefore especially pleased to underline our capability of creating value that has allowed us, in 2011, to maintain the distribution of dividends at the same level of 2010. The shareholder return was only one of the positive results of our stable business approach based on solidity and versatility that aims at building lasting results also by focusing on sustainability and on all stakeholders: even in this area, our commitment has received growing recognition over time.

In 2011, investments in developing the electricity transmission grid, that continues to represent the principal crossroad of economic, environmental and social aspects of our operational activity, reached 1,229 million euros, surpassing 67 million euros invested in 2010. This is how Terna most significantly expresses its role as a useful company for the country: investments in electricity infrastructures improve the service's quality and safety, with important consequences also regarding the potential of the economic system. We are therefore pleased to underline how some of the principal projects we implemented and are currently implementing – as for example the SA.PE.I. submarine cable inaugurated in 2011, and the Sorgente-Rizziconi and Montecorvino-Benevento power lines – regard Southern Italy and the Islands. The positive effects of developing the transmission grid include creating employment – in 2011, nearly 3,500 full time employees worked for contractors and sub-contractors in Terna's building sites – and contributing to reducing CO_2 emissions from the electricity service, deriving from increased grid efficiency and eliminating restrictions to renewable energy production.

Grid development also represents the main area of Terna's interaction with external stakeholders that is particularly expressed in presenting and approving the Development Plan, in coordination activities with the local governments and in collaboration agreements with leading environmentalist associations. In 2011, voluntary coordination activity continued with Regional Authorities and Local Bodies for identifying shared solutions for new infrastructure locations. The agreement with the WWF for sustainably developing the electricity grid led to implementing mitigation and enhancement works in three WWF Oases in Tuscany and in Sicily, that were completed and inaugurated during the past year. In December, Terna signed a Memorandum of Understanding with Legambiente for promoting energy sustainability. For the first time in 2011, the grid's Development Plan was presented also to associations representing production categories and to consumer associations: it is important to point out in this respect that, as of 2005 to the present, Terna's activities generated savings of 4 billion euros for the Italian electricity system.

In the new 2012-2016 Strategic Plan, investments for building new power lines will continue to play a central role for the Company's growth and will increasingly focus on developing new activities. Among these, building storage systems is particularly important as they are functional to safely managing an electricity system that in the past few years has witnessed the rapid growth in number of electricity production plants from non-programmable renewable sources. Storage systems are an important element in building a smart grid where the transmission grid has a decisive role. In line with the guidelines of the Strategic Plan, in April of this year Terna adopted a new Group structure – illustrated within this Report – that intends to promote growth by fully enhancing people. The guidelines will also be applied to focusing on responsible management: our objective is that all the companies of the Group adopt the sustainability governance instruments implemented by the Parent Company, from the Code of Ethics to Model 231, starting in 2012.

Developing business requires maintaining high standards of professional capacity. For this purpose, training investments continued to be high also in 2011: 97% of personnel was involved in training activities that overall reached 51 average hours per capita, 2 more compared to 2010. The attention towards our people, that was also expressed in a survey on people satisfaction, will continue to be an important foundation of Terna's sustainability; this will be just as important as stakeholder relations – particularly for grid development investments – as improving environmental performance that in 2011 registered a reduction of CO_2 emissions and of the amount of SF_6 leakage, and as supporting cultural and solidarity activities.

In presenting the Sustainability Report, we feel it is important to also underline our commitment towards complete and transparent information. This includes considering the new information requests of the G3.1 version of the GRI Reporting Guidelines, focusing on integrated reporting, confirmed by Terna's participation in the Pilot Programme of the Integrated Reporting Council; this also implies online communication on sustainability issues enhanced by a dedicated section on electric and magnetic fields and last but not least, the inclusion into this Report of comparisons with other companies according to 7 sustainability indicators: as far as we know, this is a distinguishing characteristic of Terna's Report. We hope that these will be useful to stakeholders, as they are internally, to better understand our environmental and social performance.

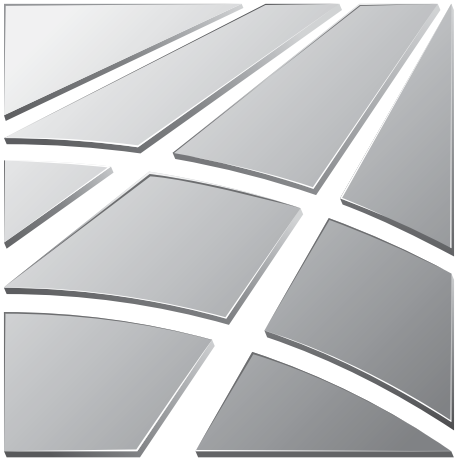
Chairman
LUIGI ROTH

CEO
FLAVIO CATTANEO

Terna's sustainability approach

TERNA CARRIES OUT ITS ROLE AS ELECTRICITY TRANSMISSION OPERATOR, 365 DAYS A YEAR, 24 HOURS A DAY, WITH A SUSTAINABLE APPROACH THAT JOINS BUSINESS MANAGEMENT WITH RESPONSIBILITY TOWARDS STAKEHOLDERS.

2011



The Concise Report

Terna

The Concise Report

Terna

With a high-voltage electricity grid of more than 63,500 kilometers across Italy, Terna is the leading independent transmission operator in Europe and the sixth largest in the world in terms of the number of kilometers of lines managed. The Company is the main owner of the National Transmission Grid and is responsible for the transmission and dispatching of electricity throughout Italy, namely, safely managing – 365 days a year, 24 hours a day – the balance between electricity demand and supply in Italy as well as the planning, development and maintenance of the grid.
In addition to providing the transmission service in Italy, Terna has development projects in the Mediterranean basin, particularly in North Africa and in the Balkan countries, for building new interconnections and increasing Italy's import capacity to the benefit of the Italian electricity system's safety.
The Company is also involved in developing non-traditional activities: in 2011, the second phase of the project for building and selling photovoltaic plants was completed and the Strategic Plan presented in March 2012, also included significantly increasing investments for implementing battery storage systems for the transmission grid as well as other new projects.
Terna, headed by CEO Flavio Cattaneo, and by Chairman Luigi Roth has been listed on the Italian Stock Market since June 2004. Its major shareholder is Cassa Depositi e Prestiti with 29.85% (March 2012). 11% of the share capital is held by Socially Responsible Investors (SRI).

The most significant events

During 2011, Terna successfully focused on its core business and on new opportunities for developing non-traditional activities, always based on sustainability objectives.
With regard to grid development, the company maintained its commitment for accelerating the growth of the country's electricity infrastructure completing the new Chignolo Po-Maleo power line (see box page 86), opening the building site for the Sorgente-Rizziconi electricity line (see box page 119), continuing upgrading the metropolitan areas of Milan, Turin and Naples and strengthening the 150kW main electricity lines for wind power production in Campania, Basilicata and Puglia.
As part of its non-regulated activities, with the closing in October 2011 of the second phase of the photovoltaic project, Terna built and then sold in a little over one year a production facility that when fully operating will allow saving CO_2 emissions equal to 209,000 tons a year (page 36).
In particular, the following events are pointed out:

- on March 17, 2011, during the day dedicated to the celebration of the 150th anniversary of the Unification of Italy, the official inauguration took place of the SA.PE.I., the submarine cable that connects Sardinia with the mainland; this occurred at the landing power station in Borgo Sabotino (LT), attended by the Minister for Economic Development;
- on May 13, 2011, Terna's Board of Directors appointed the Company's new Board of Directors that confirmed Flavio Cattaneo as CEO and Luigi Roth as Terna S.p.A.'s Chairman;
- on July 25, 2011 the EHV Chignolo Po-Maleo electricity line was inaugurated that is 24 km long and was built in only 18 months with single pole pylons that involved removing 31 km of obsolete electricity lines and consequently "freeing" 310,000 square meters of the territory (see box page 86);
- on October 14, 2011 Terna was included in the new STOXX® indexes that select the 300 best companies for sustainability performance among the 1,800 present in the STOXX® Global index;
- on October 24, 2011 the second phase of Terna's photovoltaic project was completed with the sale of Nuova Rete Solare S.r.l., Terna's entirely owned company through SunTergrid, to the private equity fund Terra Firma, (see box page 36);
- on December 30, 2011 the Electricity and Gas Authority concluded the process for reviewing the tariff regulations and set new tariff rules for Terna's activities for the 2012-2015 period (see box page 93);
- on April 2, 2012 the Terna Group's new organizational structure was approved, aimed at supporting the business development established in the 2012-2016 Strategic Plan (see box page 33);
- on April 19, 2012, at Terna's headoffice, Med-TSO, the association of Mediterranean transmission system operators, was officially launched, with the purpose of creating a connection between the regulatory duties that apply to sector Authorities and those referring to the operational management of electricity systems (see box page 38).

The numbers of 2011

Despite the negative economic situation, Terna confirmed its industrial strength and financial solidity, increasing investments for safety and efficiency of the electricity system and generating work and employment.
For the seventh consecutive year, 2011 closed with positive results thanks to a preventive strategy on non-traditional and non-regulated business that will continue to increase in the next three years.
The Terna Group's most significant numbers (as of December 31, 2011) were:

- 1,636 million euros of sales;
- 1,220 million euros of investments;
- 440 million euros of net profit.

The Sustainability Report: contents and novelties

The 2011 Sustainability Report was prepared according to the "*Sustainability Reporting Guidelines & Electric Utilities Sector Supplement (EUSS)*", defined by the 2009 GRI - Global Reporting Initiative and the updated G3.1 Guidelines of March 2011.
The application of the GRI guidelines is A+ level, the highest in terms of completeness of the information. A table linking the GRI indicators with the 10 principles of the United Nations Global Compact is also provided.
The Report is divided into 5 principal chapters:

- Terna's Profile
- The responsibility for the electricity service
- Economic responsibility
- Environmental responsibility
- Social responsibility.

The Methodological Note provides useful technical explanations for interpreting the data that is included into the text and into the section "Indicator Tables".
In compliance with the objective of clearly, completely and transparently providing the greatest possible amount of information, the 2011 Report used various instruments for illustrating the year's results. In addition to the usual dedicated boxes on the year's principal results, this Report expanded the number of comparisons with other companies regarding significant environmental and social indicators.
Comparisons represent a new element in reporting, allowing stakeholders to assess the data and Terna's performance not only with respect to activities carried out in the previous two years, but also in relation to other companies.
For additional information on the reference panels, see the Methodological Note on page 16.

Comparisons

- CO_2 emissions: pages 130-134
- SF_6 leakage: pages 135-136
- Water consumption: pages 142-143
- Waste production: pages 144-145
- Personnel turnover: pages 152-153
- Employee training: pages 156-159
- Gender pay gap: pages 164-167

The photographs

Every chapter opens with a photograph of one of Terna's grid elements and with a focus on one of the more recent projects implemented. Single pole pylons, Foster pylons as well as bird dissuaders and artificial nests represent Terna's firm sustainable business approach with important effects for both the environment and biodiversity.

The main sustainability results

During 2011, important progress was made in all corporate responsibility areas in line with the indications of the Code of Ethics, with the adoption of the Global Compact and with the objectives stated in the 2010 Sustainability Report.
For a timely comparison between objectives and results, please refer to the table on page 44. Below, the main progress and awards are listed.

General aspects

The "Sustainability" section of the website www.terna.it was expanded and reorganized to allow easier and more intuitive navigation as well as greater availability of contents, also multi-media ones. This activity awarded Terna fifth place among the first 50 companies included in the Lundquist ranking, the most significant ranking in terms of online sustainability communication (see box page 61).

Transparency in grid development: as of March 2011, the website "Terna's Building Sites in Italy" has been online. It was created to provide communities, institutions, media and other interested stakeholders all the information regarding the progress of the major authorized electricity infrastructures, work in progress or work delayed owing to bureaucratic problems. At the beginning of 2012, the website was further expanded with "Trasversale in Veneto", a focus dedicated to the electricity criticalities in this region and to the solutions proposed by Terna for overcoming them (see box page 58).

Culture of Sustainability: Terna's support in establishing a culture of sustainability was pursued through the active participation in the most significant initiatives in the sector, (see box on "Terna's Commitment in the UN Global Compact" page 40) and with progress made in applying the "LBG methodology - The London Benchmarking Group" for monitoring the impacts of Terna's initiatives in the community (see box page 179).

Integrated Reporting: Terna joined the Pilot Programme of the IIRC - International Integrated Reporting Council – and launched an internal project for a greater integration of financial and sustainability aspects in its communication to stakeholders (see page 48).

Stakeholder engagement: initiatives were intensified for involving stakeholders both on the short-medium term objectives (see box "A network of relations with stakeholders" page 59) and on issues for possible scenarios (see box "The battle of the grids: joint Terna-Greenpeace initiative", page 60).

Responsibility for the electricity service

Security of the electricity system: the Security Plan determined investments for 96 million euros for improving the systems dedicated to protecting the transmission service, also in light of the exponential growth of renewable production plants. The 2012-2016 Strategic Plan established important investments in energy storage systems (see box page 69).

Monitoring systems: in July 2011, TIMM's applications (Integrated Text for Monitoring the electricity market), the database that monitors the electricity market data also for the AEEG, obtained the ISO/IEC 27001:2005 certification (page 70).

Service quality: the performance targets were reached and surpassed for the electricity service's continuity and quality, monitored by Terna and by the AEEG (pages 72-73).

Pylons and design: following the entrance into operation of the Foster pylons along the Casellina-S. Barbara-Tavarnuzze electricity line in Tuscany, Terna's attention devoted to a more harmonious placement of its pylons into the environment has focused on the engineering process of the pylons designed by Arch. Dutton from the Rosental Studio (page 84).

Other significant aspects

- Terna and smart grids (page 68)
- ENTSO-E: European Network of Transmission System Operators (pages 79-80)
- Providing connection service (page 81)
- Line inspection by helicopter: the LIDAR project (page 82)
- A new method of working on high voltage power line conductors: 3D isolated platform (page 83)
- In Lombardy the first sustainable "super grid": Chignolo Po-Maleo" (page 86)
- The INTEGRIT project (page 86)

Economic responsibility

Economic impact: in addition to the effects implicit in the service provided to the users of the electricity system, Terna's economic impact can also be measured by the investment activities (1.2 billion euros in 2011), by the creation of employment (the work performed by the employees of its contractors and subcontractors was equal to over 2,076 full-time employees) and by its procurement costs equal to 1.2 billion euros in 2011 (pages 98-99).

Dividends for shareholders: while affected from the negative consequences of increased taxes (Robin Hood Tax), Terna has nonetheless guaranteed its shareholders dividends in line with those of the previous year (see page 101).

AEEG incentives and Terna's costs for the electricity system: all the bonus-penalty initiatives introduced by the Electricity and Gas Authority (AEEG) for improving the service have led to positive results increasing revenues for Terna and implicitly generating multiple positive results for the electricity system's users (see page 92). Overall, transmission costs affect approximately 3% of the electricity bill of a typical domestic user (see page 92).

Other significant aspects

- The new regulatory framework (page 93)
- Sustainability in criteria for awarding tenders (page 106)
- Master-data of electricity production plants started (page 109)

Environmental responsibility

Consultation: in 2011, volunteer consultation activities increased with regional authorities and local bodies for authorizing the works included in the Grid Development Plan. For the first time, the Company presented the Development Plan to category and consumer associations (page 59).
WWF: during the year, environmental restoration and mitigation measures were carried in the WWF Oases in Padule-Orti Bottagone (LI) and in Stagni di Focognano (FI) as well as in the Sicilian Oasis of Torre Salsa (AG) (see box page 122).
LIPU: monitoring activities were completed as established in the agreement with Terna of December 2008, for conducting scientific research on the possible interaction between birdlife and the electricity grid; the analysis of data collected suggested, for two areas out of seven, an additional study phase that is scheduled to begin in 2012 (page 126).
CO_2 emissions: even though not subject to the restrictions imposed by the Kyoto Protocol or by emission trading schemes, Terna has implemented numerous initiatives to limit CO_2 emissions. In 2011, direct emissions registered a 4.4% reduction compared to the previous year (page 129).
Grid Development Plan: even if indirectly, the greatest contribution to counter climate change is based on implementing the Grid Development Plan. Considering the overall Plan and its grid efficiency effects, change in production mix and connection of renewable plants, the reduction of the system's emissions at the end of the Plan period is estimated to be approximately 11 million tons of CO_2 equivalent (page 138).
Environmental costs: Terna's environmental commitment is marked by the costs incurred for environmental reasons, whose separate reporting has been used for three years. Investments in 2011, totaled over 38.3 million euros and operating costs equaled 10.3 million euros (pages 146-147).
An online mini website on electromagnetic fields: information and general definitions, frequently asked questions and a test for one's knowledge are only some of the contents included in the mini website on electromagnetic fields created with the collaboration of the Fondazione Ugo Bordoni and online since July 2011.

Other significant aspects

- Integrated planning process (pages 115-116)
- Electric and magnetic fields: the legal limit (page 117)
- The "Energy Bridge" between Sicily and Calabria: the Sorgente-Rizziconi power line (page 119)
- A radar for migratory birds (page 120)
- Masking the power stations in Chignolo Po and Maleo (page 124)
- Studies on electricity lines and bats (page 125)
- Recovery and restoration of building site areas in Val d'Ossola Sud (page 125)
- Criteria for location of dissuaders in the planning phase: the Trino-Lacchiarella power line (page 126)
- The 2011 reproductive season in the nests on Terna's pylons (page 127)
- Priority to energy from renewable sources (pages 139-140)
- Terna-Legambiente agreement for a sustainable energy culture (page 140)
- Disposal of equipment containing PCB oil (page 146)

Social responsibility

Turnover of personnel leaving: personnel trends were characterized also in 2011 by a very low spontaneous resignation rate (0.5%): human resources leave the Company mainly for retirement. Turnover of personnel leaving, even considering retirement, is low compared to other companies (see page 150).
Training: is reconfirmed as a strong point in enhancing human resources, as indicated by the comparison with other companies (pages158-159). In 2011, there were 51 training hours per employee, with a coverage of 97% of personnel that underlines Terna's focus on continuous training.
Occupational safety: in 2011, as was also recorded in the previous two years, there were no fatal injuries and the absentee rate for injuries confirmed the downward trend (page 172). Many initiatives were implemented for preventing occupational injuries that further improved the already consolidated approach to the issue.

Corporate giving: according to the LBG ranking (the London Benchmarking Group), in 2011, Terna allocated 1,714,164 euros to community initiatives of which 1,338.914 were donations and 244.336 investments in the community (page 179).

Other significant aspects

- Relations with schools, universities, centers of excellence (page 153)
- Transmitting energy also with sports (page 168)
- The Memorandum of Understanding with the Fire Department (page 171)
- With "A better future for everyone", Terna's 2011 Christmas created solidarity (page 181)

Sustainability objectives

2012 objectives (see page 43 for details) are in line with past trends. In particular, the following is underlined:

- reviewing ethical and environmental and social responsibility criteria in the subsidiaries following the company's new structure;
- continuing the project for a greater integration of financial and sustainability information as part of the IIRC's Pilot Programme;
- defining an action plan with firm initiatives to be implemented in the principal areas for improvement that emerged from the survey conducted on people satisfaction;
- reviewing environmental and social criteria in the supply chain also in light of the Ruggie Report of the United Nations on human rights.

Reading approaches for stakeholders

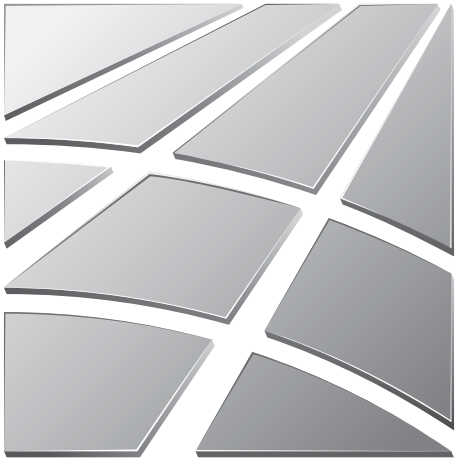
The 2011 Sustainability Report maintained the general lines introduced by several suggestions of stakeholder groups involved in critical readings followed by discussion with Terna's Corporate Social Responsibility unit.
In Terna's Profile an entire chapter is dedicated to stakeholder engagement which contains a table with their mapping (page 52), the commitments undertaken by the Company for them and the monitoring instruments used to check their actual implementation and progress.
Again this year, the interest of Terna's different stakeholders for the parts of the Report that regard them more directly determined several layout choices, the most important of which concerns the boxes, which are more numerous and detailed than in the past and the novelty represented by the benchmarks.
The reading of the sections, or in a few cases, of entire dedicated chapters with their related boxes allows readers to create approaches to the Report other than the standard beginning-to-end one. In particular, the following is pointed out:

- Shareholders, financial analysts and providers of capital: page 54
- Employees: pages 54-55
- Suppliers: pages 58-59
- Grid users, customers and business partners: page 55
- Authorities and regulatory authorities, AEEG: page 53
- Institutions and associations: page 53
- Media, opinion groups and scientific community: pages 59-61
- Society and local communities: pages 56-58

Chignolo Po-Maleo (PV-LO), 24 km of electricity line with 88 single pole pylons

WITH A BASE DIAMETER THAT RANGES FROM 1.5 TO 4 METERS, THESE NEW SUPPORTS HAVE A GROUND ENCUMBRANCE APPROXIMATELY 15 TIMES LOWER COMPARED TO THE TRUNCATED PYRAMID PYLONS WITH OBVIOUS ADVANTAGES IN TERMS OF REDUCED VISUAL IMPACT.

2011



Methodological note

Terna

Methodological note

The Terna Group's Sustainability Report for the year ended December 31, 2011 (hereinafter "2011 Sustainability Report") was prepared according to the Sustainability Reporting Guidelines & Electric Utilities Sector Supplement (EUSS)", established in 2009 by the GRI – Global Reporting Initiative and according to the G3.1 Guidelines update of March 2011. As in the previous years, the Report was approved by Terna's Board of Directors and subjected to specific auditing procedures. The assurance report, as of this year drafted by PricewaterhouseCoopers, is attached.
The process of preparing the document included the identification of the significant aspects to report and the presentation of the performance achieved by the Group with reference to these aspects and to sustainability objectives.
The period considered is 2011: all the data regards the year ended on December 31, 2011, while significant events that occurred by April15, 2012 are also described.
Compared to last year, the 2011 Report presents various novelties regarding the reported core indicators, that respond to the updating of the GRI Guidelines included in the G3.1 Guidelines. The application is confirmed at the A+ level. On the basis of evidence presented in the GRI Content Index, **we assessed having reached the A+ level of application** of the above-mentioned guidelines.
Furthermore, to meet the need underlined various times to create an **integrated reporting**, Terna joined the "Pilot Programme" initiative promoted by the International Integrated Reporting Council. As the beginning of an integrated process, addressing various themes (for example, Terna's presentation and that of research and innovation activities) was made uniform in the Sustainability Report and in the Financial Report; moreover, principal information regarding Terna's sustainability performance, included in this Report, was also included in the 2011 annual Financial Report, following the indications of the Consiglio Nazionale dei Dottori Commercialisti e degli Esperti Contabili – CNDCEC (National Council of Tax Consultants and Accounting Experts) on the sustainability information provision in mandatory corporate communication ("Report on managing Financial Statements based on the novelties introduced by Legislative Decree 32/2007", CNDCEC, January 2009).

Materiality

The selection of the GRI indicators to be included took place on the basis of a careful examination of the informational purpose of each of them and their relevance with Terna's activities and the interests of its stakeholders. The Report is indeed addressed ideally to all the stakeholders identified in the Company's Code of Ethics.
In particular, the information included for allowing stakeholders a balanced assessment of the Group's performance was identified referring to the materiality principle, through an internal process based on:

- analyzing the Group's activities and any controversies, by examining the contents included in the internal communication tools (team briefing documents, house organ Terna News, Intranet, top management communication), in external communication tools (press releases) and in the press review;
- analyzing internal reporting on sustainability aspects (monitoring and improvement plans for environmental and safety management systems);
- verifying stakeholder expectations through stakeholder engagement activities described in this Report;
- comparing performances of other companies through reports issued by sustainability rating agencies and developing benchmarking analyses;
- meeting Directors and department heads for examining the most significant aspects and emerging issues.

Structure of the Report

The organization of the Report in chapters has remained the same as in the previous editions. After Terna's profile, the Report maintains the division of the topics in four main sections, corresponding to the triple bottom line – economic, environmental, and social – typical of sustainability reports, preceded by the section on responsibility for the electricity service, which is peculiar to Terna.
In each of the chapters dedicated to the four areas of responsibility, the description of the topics is organized in the same way as last year. Each chapter begins with an explanation of the management approach to the specific area. This is followed by several thematic sections, which integrate in a single text both the precise information required by the GRI Guidelines and the in-depth analysis that Terna considers important to provide. In order to make the Report easier to read, the information regarding GRI indicators is indicated by the related marker in the margin of the text next to the relevant paragraphs (the indicator marker is next to the title if the entire section is considered relevant).

The Report is completed by several tables with additional numerical indicators and a glossary explaining the meaning of technical terms specifically regarding the electricity industry. At the beginning of the "Indicator tables" section, a table is included showing all the changes with respect to the additional indicators provided in the 2010 Sustainability Report with the related explanation.

Boundary and indicators

Except as stated otherwise, the data and information in the 2011 Sustainability Report regard the boundary including Terna S.p.A. and the companies that were consolidated in the Consolidated Financial Statements as of December 31, 2011. In compliance with the GRI Boundary Protocol, the data in the Sustainability Report refers to all the companies that have a significant impact on sustainability (for example, according to their size or number of employees; their potential impact on the environment or the community, or number of activities/actions carried out during the year) on which Terna S.p.A. exercises, directly or indirectly, control, i.e. the companies in which Terna can determine financial and operating policies. There are no relations with joint ventures, subsidiaries, or leased businesses that could significantly influence the boundary or comparability of the data.
Data was calculated in an accurate way on the basis of the findings of the general accounting and of Terna's other information systems; in the case of estimates in determining the indicators, the modality followed was specified.
All the GRI indicators published are listed below in the GRI Content Index, which also shows any limitations compared to the requirements of the Reporting Guidelines. The list also includes core indicators, necessary for applying the Guidelines at the A level, that do not apply to Terna.
Compared to the 2010 Report, the following is pointed out:

- the changed 2009 and 2010 data in the EN 4, EN 16 and LA 7 indicators. This change depends on the following reasons:
  - for energy consumption of stations and the corresponding indirect CO_2 emissions, the precise figures registered for the first time in 2011 highlighted an over-estimate of consumption for the previous years that in line with the new measures, were reviewed and lowered;
  - for CO_2 emissions, it was decided to refer to emission factors present in the Fourth Assessment Report issued by the IPCC (Intergovernmental Panel Climate Change). Consequently, the tons of CO_2 relative to the SF_6 insulating gas and to the R22 refrigerant gas are changed compared to the previous publications;
  - for the injury rate and for the absentee rate, in 2011, processing criteria were reviewed as well as the items that determine the total of hours worked. To guarantee data consistency and comparability, the figures of hours worked used for determining rates were updated and reviewed also for the previous years;
- the changed prospect of value added, with reference to some economic comparative balances for 2010 and 2009 to take into account the change in the accounting method adopted by the Terna Group for goodwill taxation.

Comparative analysis of sustainability performance

For the first time, the 2010 Sustainability Report included two comparisons between Terna's results and those of other companies, regarding the per-capita number of training hours and SF_6 leakage. The initiative was based on the belief that comparing environmental, social and governance performances is of interest both to the company itself and to stakeholders that are thus provided with reference points for assessing the sustainability commitment by comparing the most objective data. On the basis of this belief, the comparison is extended in this Report to a larger number of indicators, seven in total: water consumption, CO_2 emissions, SF_6 leakage, waste, training, gender pay gap and turnover rate of employees leaving. The choice of indicators was based on criteria of interest within the identification of benchmarks, as well as on a verification of the amount of data actually available for the comparison. In this respect, the comparison on occupational injuries, while being of interest, did not lead to significant results owing to the uncertainty regarding the calculation method adopted by the different companies in processing injury and lost day rates.
Below the principal criteria are listed, that were adopted in the analysis as a basis for interpreting the comparison on each indicator within the Report:

- three panels of companies were identified: one for the sector, formed by European transmission companies (Transmission System Operators) and by the major non-European companies according to kilometers of lines managed, and two multi-sector panels; the first one of these formed by large Italian companies (the 40 companies in the FTSE-MIB as of January 12, 2012) and the second one formed by the international best performers (the 19 Supersector global Leaders identified by the SAM – Sustainable Asset Management sustainability rating agency, in the publication SAM Sustainability Yearbook 2011). The purpose of the three panels is to guarantee, also with respect to the type of indicator examined, a comparison among the companies having the same operational characteristics, an Italian comparison and one with the international top performers. Terna's data does not contribute to the calculation of the average in the SAM – Supersector Leaders panel, but the figures are highlighted in the graphs;

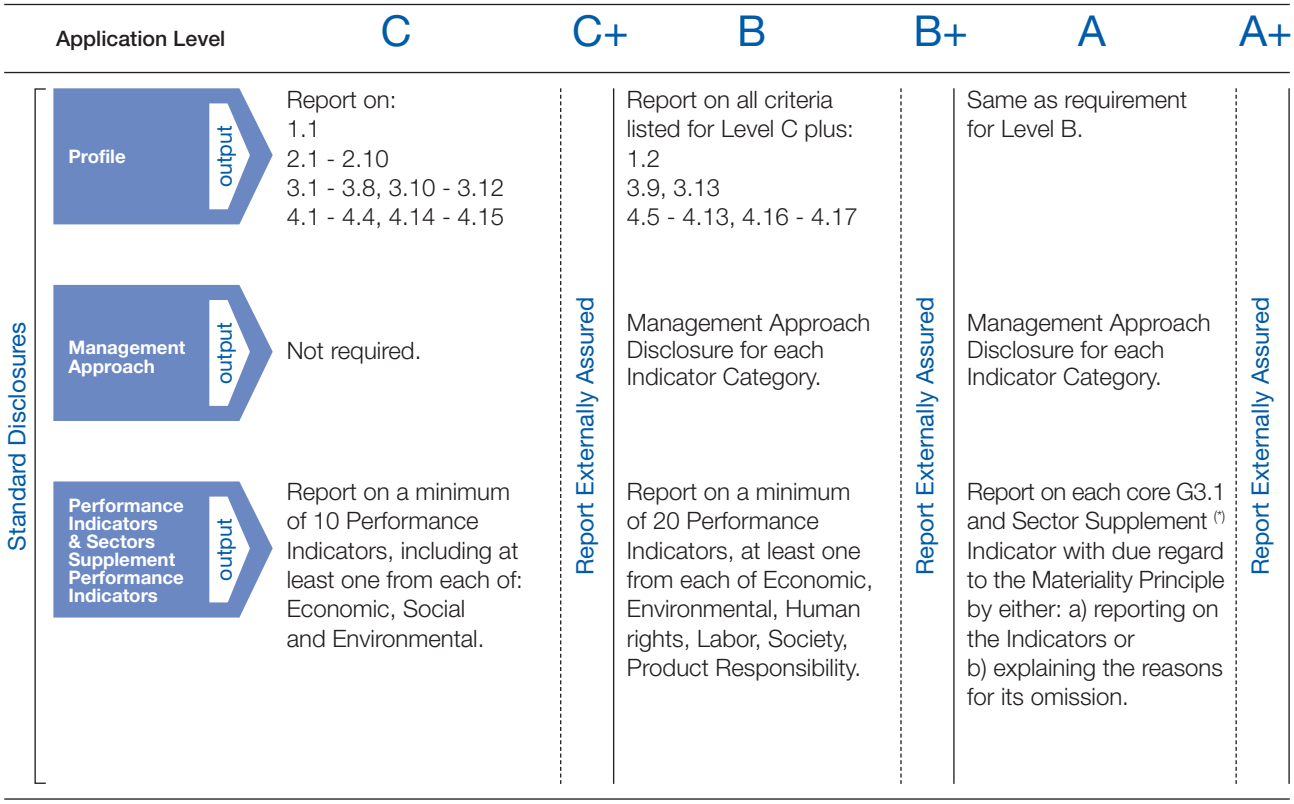
- among the companies included in the three panels, the ones considered were those that publish in their website information that is useful for comparisons, through the Sustainability Report (also if it is not drafted following the GRI guidelines) or through other documents (HSE Reports, financial reports, etc.). This had led to reducing the sample compared to the initial panel, as illustrated in the following table;
- the number of useful cases, in the three samples, for a comparison with each indicator, is often lower than the number of companies that publish Sustainability Reports. This depends above all on the unavailability of the indicator in the Sustainability Report of various companies, but also often on the adopting – on the part of the sample companies – of different definitions or measuring units which do not allow for a comparison. Compatibly with the indications provided for by the GRI Protocols, our choice was to favor the definition to which the highest number of useful responses corresponds in all three panels. In some cases, we excluded data that was contradictory with other data published in the same Report, while in other cases it was possible to redefine, on the basis of other data published, a coherent indicator with the definition adopted, even if not published. The details regarding these aspects are explained in the comment to the data of each indicator included in the Report.
- reference to the Sustainability Reports published is based on the 2010 data since the comparisons were prepared while the 2011 Reports were being drafted, as was the case with Terna's.

It is necessary to point out that despite the exclusion of data that is explicitly not uniform, in many cases doubts remain regarding the actual comparability among companies, particularly when considering the distance among the average performances and the best ones: it is likely that significant discrepancies depend from different application criteria – not clarified – of the GRI protocols rather than from particularly virtuous corporate conduct.
Some of the indicators considered (water consumption, waste produced, CO_2 emissions) are expressed as physical quantities in absolute value and therefore record levels that are very different with respect to the type of production activities and to the size of the business. In these cases, the comparison provides information regarding the different relevance of the environmental aspects considered for the individual companies, but does not accomplish the task of rendering performances comparable. Even the presentation of data per employee (water consumption, waste) is unsatisfactory: the development of relative indicators that are appropriate for each recorded situation – starting from Terna's data – represents an objective for continuing and further analyzing comparisons and more generally, for improving the Sustainability Report's information capability.
The issue of comparability is central to sustainability reporting and represents the object of a research project conducted upon the initiative of the CSR Manager Network, by Altis – Università Cattolica di Milano, in collaboration with the National Statistics Office (ISTAT) and supported by Terna also directly participating in data analysis, with the additional contribution of the comparisons published in this Report.
Further details on companies examined and on other methodological aspects are available in the Sustainability section of Terna's website: (http://www.terna.it/default/Home/AZIENDA/sostenibilita2.aspx)

	TSO Panel	FTSE-MIB Panel	SAM - Supersector Leaders Panel
No. of Companies considered	55	40	19
No. of companies with GRI reporting	18	26	18
No. of Companies with useful data	24	27	19

For comments, requests, and remarks on Terna's performance and how it is accounted for in this Report, write to csr@terna.it, phone Terna (Italy - 06/8313.111) and ask for the appropriate department, or send a letter to:

DIREZIONE RELAZIONI ESTERNE E COMUNICAZIONE
RESPONSABILITÀ SOCIALE D'IMPRESA
Terna S.p.A.
Viale Egidio Galbani, 70
00156 - Rome



Based on the information presented in the GRI Content Index, the application of the "Sustainability Reporting Guidelines & Electric Utility Sector Supplement" established in 2009 by the GRI - Global Reporting Initiative is considered to have achieved the A+ level.

(*) Sector supplement in the final version.

GRI Content Index

The GRI Content Index is a table of the contents of this Sustainability Report, which enables readers to find indicators quickly and use them to check the Company's performance and compare it with those of other companies that use the same reporting standard.
Each performance indicator has a code regarding the area concerned and the pages of the document where it is found.

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1. Strategy and Analysis		
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	4.05	301-304 (1)
	4.06	308-310 (1)
	4.07	287-289 (1)
	4.08	306-307 (1)
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	4.10	297 (1)
	Commitment to external initiatives	
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	4.14	53
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5. Informative report on management approach		
	Economic	90
	Environmental	112-113
	Appropriate labor practices and work conditions	150
	Human rights	176
	Society	176
	Product responsibility	66

(1) Page numbers refer to the Corporate Governance Report which is part of Terna's 2011 Annual Report, available at www.terna.it.

List of G3 performance indicators published

Code	Indicator	Limitation and notes	Page
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and to governments.		98-99; 179-182
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.		94-95
EC3	Coverage of the organization's defined benefit plan obligations.		95-96
EC4	Significant financing received from the government.		31; 99
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.		100
EC7	Procedures for local hiring at significant locations of operation and proportion of senior management hired from the local community.		32; 164
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.		113-115; 180-181
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts.		99-100
EN1	Materials used by weight or volume.		141-143; 146
EN2	Percentage of materials used that are recycled input materials.		142
EN3	Direct energy consumption by primary energy source.		128-129
EN4	Indirect energy consumption by primary energy source.		128-129
EN5	Energy saved due to conservation and efficiency improvements.		137
EN8	Total water withdrawal by source.		142
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.		120-122
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.		82; 120-127
EN13	Habitats protected or restored.		122-125
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.		125; 126-127
EN16	Total direct and indirect greenhouse gas emissions by weight.		129
EN17	Other relevant indirect greenhouse gas emissions by weight.		131-134
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.		106; 134-138; 167
EN19	Emissions of ozone-depleting substances by weight.		134
EN20	NOx, SOx, and other significant air emissions by type and weight. *Terna's activities do not include combustion processes, and thus do not generate significant NOx, and SOx emissions.*	Not applicable.	
EN21	Total water discharge by quality and destination. *Water is not part of the production cycle of Terna's service*	Not applicable.	
EN22	Total weight of waste by type and disposal method		143-144
EN23	Total number and volume of significant spills.		113
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.		116-118; 120-127
EN27	Percentage of products sold and their packaging materials that are recycled or reclaimed by category. *The service provided by Terna does not include the activities mentioned in this indicator.*	Not applicable.	
EN28	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations.		48; 113
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.		128; 129, 137-138
EN30	Total environmental protection expenditures and investments by type.		146-147
LA1	Total workforce by employment type, employment contract, region and gender.		150-153

Code	Indicator	Limitation and notes	Page
LA2	Total number and rate of employee and newly-hired personnel turnover by age group, gender, and region.		150-153
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.		162-163
LA4	Percentage of employees covered by collective bargaining agreements.		107; 173
LA5	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements.		174
LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs.		173
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities by region and gender.		172-173
LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.		163
LA9	Health and safety topics covered in formal agreements with trade unions.		173
LA10	Average hours of training per year per employee by employee category and gender.		157
LA12	Percentage of employees receiving regular performance and career development reviews by gender.		162
LA13	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity.		150-153; 164-165
LA14	Ratio of basic salary of men to women by employee category.		164-165
LA15	Return to work and retention rates after parental leave, by gender. *Data collection started in 2011.*	Available as of 2011.	163
HR1	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening.		176
HR2	Percentage of significant suppliers and contractors and other business partners that have undergone screening on human rights and actions taken.		104;107
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.		176;177
HR4	Total number of incidents of discrimination and actions taken.		176
HR5	Operations and main suppliers identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights.		40; 173; 176
HR6	Operations and main suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor.		40; 176
HR7	Operations and main suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures taken to contribute to the elimination of forced or compulsory labor.		40; 176
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken.		176
HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.		176
HR11	Number of grievances related to human rights filed, addressed, and resolved through formal grievance mechanisms.		176
SO1	Percentage of operations with implemented local community engagement, impact assessment and development programs.		56-59; 113-116; 176
SO2	Percentage and total number of business units analyzed for risks related to corruption.		177
SO3	Percentage of employees trained in organization's anti-corruption policies and procedures.		177
SO4	Actions taken in response to incidents of corruption.		48; 177
SO5	Public policy positions and participation in public policy development and lobbying.		178
SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.		179
SO7	Total number of legal actions for anticompetitive behavior, anti-trust, and monopoly practices and their outcomes.		48

Code	Indicator	Limitation and notes	Page
SO8	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations.		48
SO9	Operations with significant potential or actual negative impacts on local communities.		113-119; 176
SO10	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.		56-57; 113
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures. *Given the nature of the service, Terna is not affected by problems of product safety and security with regard to business partners (customers).* *Safety and security impacts of the service are considered with regard to society (as reported in the "Electric and magnetic fields: the limits provided for by the law" box).*	Not applicable.	
PR3	Type of product and service information required by procedures and percentage of significant products and services subject to such information requirements. *The service provided by Terna does not include the activities mentioned in this indicator.*	Not applicable.	
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship. *The service provided by Terna does not include the activities mentioned in this indicator.*	Not applicable.	
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.		70
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.		48

List of G3 performance indicators published in the supplement for the electric utility sector (EUSS)

Code	Indicator	Limitation and notes	Page
EU1	Installed capacity, broken down by primary energy source and by regulatory regime.		36
EU2	Net energy output broken down by primary energy source and by regulatory regime.		36
EU3	Number of residential, industrial and commercial customer accounts.		108
EU4	Length of above and underground transmission and distribution lines by regulatory regime.		29
EU5	Allocation of CO_2 emissions allowances broken down by carbon trading framework. *Terna is not subject to emissions reduction obligations or emissions trading schemes.*	Not applicable.	
EU6	Management approach to ensure short and long-term electricity availability and reliability.		36-39; 67; 81-82
EU7	Demand-side management programs including residential, commercial, institutional and industrial programs. *Demand-side management programs are not part of Terna's regulatory framework.*	Not applicable.	
EU8	Research and development activity aimed at providing reliable and convenient electricity and promoting sustainable development.		68; 69; 84-86; 139-140
EU9	Provisions for decommissioning of nuclear power sites. *Terna neither possesses nor manages nuclear power plants and does not operate in the decommissioning field.*	Not applicable.	
EU10	Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime. *Terna's responsibility in terms of electricity demand is limited to the management of the electricity system, with no implications for energy generation. See "Terna's Profile", in particular the "Processes and organization" paragraph, and the "Responsibility for the Electricity Service" section, in particular "Our approach" and "The security of the electricity system" paragraphs.*	Not applicable.	
EU11	Average generation efficiency of thermal plants by energy source and by regulatory regime. *Terna neither possesses nor manages thermoelectric power plants.*	Not applicable.	
EU12	Transmission and distribution efficiency (grid losses) as a percentage of total energy.		131
EU13	Biodiversity of offset habitats compared to the biodiversity of the affected areas.		118;124,125
EU14	Programs and processes to ensure the availability of a skilled workforce.		154-159
EU15	Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region.		153-154

Code	Indicator	Limitation and notes	Page
EU16	Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors.		107; 169-173
EU17	Days worked by contractor and subcontractor employees involved in construction, operation & maintenance activities.		153
EU18	Percentage of contractor and subcontractor employees that have undergone relevant health and safety training.		107
EU19	Stakeholder participation in the decision making process related to energy planning and infrastructure development.		56-57; 113-115
EU20	Approach to managing the impacts of displacement.		176
EU21	Contingency planning measures, disaster/ emergency management plan and training programs, and recovery/restoration plans.		70; 153-154
EU22	Number of people physically or economically displaced, broken down by type of project, generation plants or transmission lines.		176
EU23	Programs, including those in partnership with government, to improve or maintain access to electricity service.		34-38; 79-80
EU24	Practices to address language, cultural, low literacy and disability related barriers to accessing and safely using electricity and customer support services. *The service provided by Terna does not include the activities mentioned in this indicator.*	Not applicable.	
EU25	Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases of diseases.		48
EU26	Percentage of population not served in licensed distribution or service areas, broken down by rural and urban population. *Terna does not have relations with final customers of the electrical service.*	Not applicable.	
EU27	Number of residential disconnections for non-payment, broken down by duration of disconnection. *Terna does not have relations with final customers of the electrical service.*	Not applicable.	
EU28	Power outage frequency (SAIFI).		72-73
EU29	Average power outage duration (SAIDI).		72-73
EU30	Average generation plant availability by energy source and by regulatory regime. *Terna neither possesses nor manages power plants with significant installed power (see Profile – "Terna's second photovoltaic project" box, page 36).*	Not applicable.	

Connection with the Global Compact's 10 Principles

The following table shows the G3.1 version of GRI indicators that apply to Terna and their relation to each of the 10 Principles of the Global Compact. It aims at facilitating finding information relevant to stakeholders who wish to assess Terna's implementation of the Principles. To find the pages on which the GRI indicators are discussed, see the tables of the Index of the GRI contents.

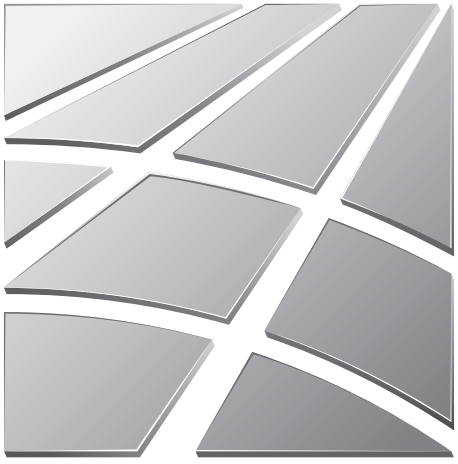
Area	Global Compact Principle	GRI Indicator
Human rights	**Principle 1** Businesses should support and respect the protection of internationally proclaimed human rights.	LA4, LA6, LA7, LA8, LA9, LA13 LA14, HR1, HR2, HR4, HR5, HR6, HR7, HR9, SO5, PR8.
	Principle 2 Businesses should make sure that they are not complicit in human right abuses.	HR1, HR2, HR4, HR5, HR6 HR7, HR9, SO5.
Labor	**Principle 3** Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	LA4, LA 5, HR1, HR2, HR3, HR5, SO5.
	Principle 4 Businesses should uphold the elimination of all forms of forced and compulsory labor.	HR1, HR2, HR7, SO5.
	Principle 5 Businesses should uphold the effective abolition of child labor.	HR1, HR2, HR6, SO5.
	Principle 6 Businesses should uphold the elimination of discrimination with respect to employment and occupation.	EC7, LA2, LA13, LA14, HR1, HR2, HR4, SO5.
Environment	**Principle 7** Businesses should support a precautionary approach to environmental challenges.	EC2, EN18, EN26, EN30, SO5.
	Principle 8 Businesses should undertake initiatives to promote greater environmental responsibility.	EN1, EN2, EN3, EN4, EN5, EN8, EN11, EN12, EN13, EN14, EN16, EN17, EN18, EN19, EN22, EN23, EN26, EN28, EN29, EN30, SO5.
	Principle 9 Businesses should encourage the development and diffusion of environmentally friendly technologies.	EN2, EN5, EN18, EN26, EN30, SO5
Corruption	**Principle 10** Businesses should work against corruption in all its forms, including extortion and bribery.	SO2, SO3, SO4, SO5, SO6.

References: GRI-Global Compact, "Making the connection", May 2007.

Live-line working

TERNA'S PEOPLE HAVE DISTINCTIVE, RARE AND UNIQUE TECHNICAL EXPERTISE IN THE ELECTRICITY SECTOR. IN 2011 THEY PERFORMED APPROXIMATELY 3,300 LIVE-LINE WORKS.

2011



Terna’s profile

Terna

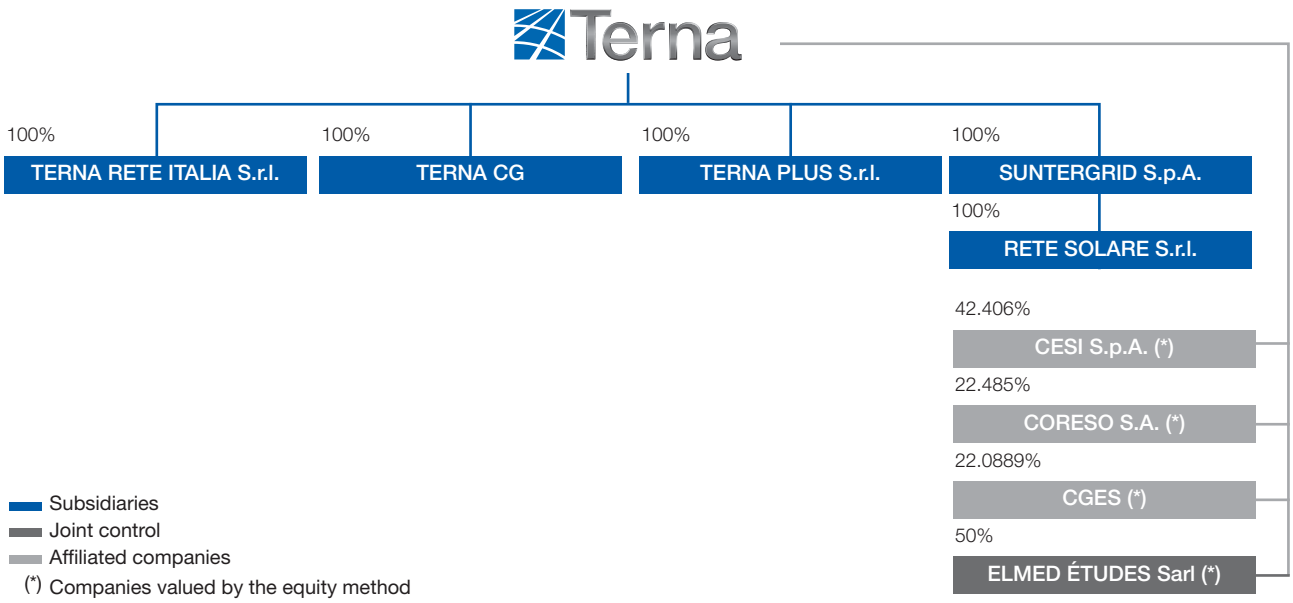
Presentation of the Company

Terna is the largest independent transmission system operator (TSO) in Europe and sixth in the world in terms of kilometers of lines managed.
The Company's headoffice is in Rome and it is the owner of the Italian National Transmission Grid (NTG), with 57,651 kilometers of high-voltage lines (63,626 km of three-phase conductors), 454 transforming stations and 22 lines interconnecting with foreign grids (as of December 31, 2011).
In Italy, Terna is the government-licensed transmission system operator, responsible for transmitting and dispatching electricity throughout the country on the high and extra-high voltage grid. Terna is also responsible for the planning, construction, and maintenance of the grid.
The Company's name comes from the set of three conductors or groups of conductors – in Italian, a terna – used to transfer each of the three phases of the three-phase electric field in alternating-current grids.
The founding elements of Terna's mission are:

- managing electricity transmission in Italy guaranteeing safety, quality and cost-effectiveness over time;
- ensuring equal access conditions for all grid users;
- developing market activities and new business opportunities with the expertise and technical knowhow acquired in managing complex systems;
- creating value for shareholders with a strong commitment toward professional excellence and with responsible conduct towards the community, fully respecting the environment in which the company operates.

The Terna Group

The structure of Terna's equity interests as of December 31, 2011 was as follows:



As of December 31, 2011 the Terna Group included:

- the directly controlled, 100%-owned Italian subsidiaries, SunTergrid S.p.A., Terna Rete Italia S.r.l. (former TELAT) and Terna Plus S.r.l.;
- the directly controlled, 100%-owned Montenegro company, Terna Crna Gora d.o.o.;
- the affiliated companies CESI S.p.A. (42.406% equity stake), CORESO S.A. (a Belgian company, 22.485% equity stake); CRNOGORSKI ELEKTROPRENOSNI SISTEM AD - "CGES" (a Montenegro company, 22.0889% equity stake) and the Tunisian jointly controlled company ELMED ÉTUDES Sarl (50% equity stake).

Subsidiaries

SunTergrid, an Italian company entirely owned by Terna, in 2009 began building photovoltaic solar plants on territories free from plants, near the transforming stations rented by the Parent Company. It entirely owns Rete Solare S.r.l..
Terna Rete Italia (former TELAT), Terna's entirely owned company, was created for planning and designing, implementing, managing, developing, operating and maintaining electricity lines, grid structures and related infrastructures as well as plants and equipment functional for their operation (see box, page 33).
Terna Plus, Terna's entirely controlled Italian company, was created for planning and designing, implementing, managing, developing and maintaining energy storage systems (including batteries), pumping and/or stocking systems. In the future, in Italy and abroad and in partnership with other parties, it will manage, among others, grid equipment and infrastructures and related research, consulting and assistance activities (see box, page 33).
Terna Crna Gora d.o.o., a Montenegro limited company established on June 22, 2011 and entirely owned by Terna, carries out activities regarding authorization, implementation and management of the electricity interconnection in Montenegro. The company will also promote development opportunities in the transmission sector for the Balkan area in support of generation investors in order to contribute to enhancing and using the Italy-Montenegro interconnection infrastructure. As of December 31, 2011, Terna Crna Gora had two employees working with a local contract and one seconded employee from Terna S.p.A..

Affiliated companies

CESI is the leading company in the market of testing and certifying electro-mechanical equipment and consultancy on electricity systems. It covers all the stages of the life cycle of the electricity system and offers companies therein (generation, transmission, and distribution), manufacturers of electrical and electronic equipment, large consumers of electricity, and local and national governments a complete range of services aimed at the solution of problems connected with the productive processes of the entire electricity industry.
CORESO is a service company operating under Belgian law, with its headoffice in Brussels, in which Terna acquired an equity interest of 22.485% in November 2010. Shareholders of the company include the TSOs of France (RTE), Belgium (Elia), and Great Britain (National Grid), each with the same percentage of the share capital as Terna, as well as Germany's TSO, 50Hertz Transmission, with 10%. CORESO develops daily forecasts and real-time analyses of power flows in Central and Western Europe, identifying potential problems and promptly informing the TSOs concerned. Terna's stake in CORESO constitutes an equity investment in an affiliated company for the Group.
CRNOGORSKI ELEKTROPRENOSNI SISTEM AD ("CGES") is Montenegro's TSO in which Terna acquired an equity interest of 22.09% in January 2011, following the approval, on the part of CGES' Member Meeting, of a capital increase reserved for Terna. The agreement represents the point of arrival of an industrial cooperation project and for the country; it is part of the inter-governmental agreements between Italy and Montenegro that began on December 19, 2007 with the signing of a strategic partnership agreement in November 2010 for building the new submarine electricity interconnection and implementing the partnership between national transmission operators. As of December 31, 2011 CGES had two seconded employees from Terna S.p.A..

Jointly controlled companies

ELMED ÉTUDES is a special purpose entity, jointly owned by Terna and the Tunisian electricity company STEG; STEG is developing the Elmed Project, which provides for the production of electricity in Tunisia from both conventional and renewable sources and its transfer to Italy through a submarine connection. Production rights will be awarded through an international bid procedure.
For information on the recent development of the regulatory and legislative framework affecting the Company, please refer to the 2011 Annual Financial Report, pages 95-103.

NUMBERS OF THE TERNA GROUP AS OF 31.12.2011

Number of employees	3,493
Turnover in million euros	1,636
Total capitalization in million euros	5,199
Km of three-phase conductors (1)	63,626
Km of lines (1)	57,651
EU4 *of which underground*	*1,328*
of which submarine cable	*1,348*

(1) For the km of lines and three-phase conductors broken down by voltage, see the indicator tables on page 186.

The Strategic Plan

On March 20, 2012, the Strategic Plan was presented for the 2012-2016 period, approved by the Company's Board of Directors. The following points provide the plan's summary.

The grid of the future for a new electricity system

In the next 5 years, 4.1 billion euros will be invested for the safety and modernization of the electricity grid, of which 82% will be used for grid development. Considering also the 1.2 billion euros already invested in 2011, the investment plan reaches 5.3 billion euros, exceeding the 5 billion euros of the previous Plan.
Up to nearly 1 billion euros should also be added to 4.1 billion euros, for implementing energy storage systems for 240 MW, still not yet authorized and subject to obtaining adequate remuneration. Developing the electricity grid remains a top priority also in the new Plan.
By enhancing the Company's strong technical and engineering skills, in addition to one billion euros for implementing batteries, up to 900 million euros of investments both in Italy and abroad could be included among non-traditional activities for projects for private customers where the expected returns are higher than those from regulated activities. In this way, the total expenditure for non-traditional activities is doubled (up to 1.9 billion euros) compared to one billion euros established in the previous Plan. Therefore, during the Plan period, investments up to 6 billion euros are expected.
Terna will have over 300 building sites open throughout Italy for a value of 2.9 billion euros and in 2012 works will begin for three strategic projects: the 380 kV Foggia-Benevento power line between Puglia and Campania; the 380 kV Trino-Lacchiarella power line between Lombardy and Piedmont; the 380 kV Dolo-Camin power line between Venice and Padua. Work that began in 2011 will continue for the "Sorgente-Rizziconi" electricity bridge between Sicily and Calabria for over 730 million euros of investments and the modernization and upgrading plan of the large metropolitan areas will continue involving the cities of Rome, Milan, Naples, Turin, Palermo and Genoa for an overall investment of approximately 1 billion euros.

Improved margins

Increased revenues and cost control will result in an increase of approximately 19% of the EBITDA accrued during the 2012-2016 Plan period, compared to the previous five-year Plan. The average annual EBITDA growth will increase from 5% to 7.5%, with a significant improvement in the operating cash flow. The EBITDA margin at the end of the period will be higher than 80%, increasing with respect to 78% of the old Plan.

Stronger financial structure

Efforts continue for improving the equity ratios. During the Plan period, the net financial debt is expected to increase by 1.6 billion euros to 6.7 billion euros leading to the significant reduction of 1 billion euros compared to the previous Plan.
Capital structure remains solid: during the Plan period, the ratio between net financial debt and RAB will continue to be lower than 55% in all the Plan's years and the ratio between net financial debt and the EBITDA will improve compared to 4.2 at the end of 2011, remaining 4 times lower.

New dividend policy

As of 2012, a base dividend is expected from traditional activities equal to 19 euro cents per share, to which the contribution from non-traditional activities will be added (60% payout on proceeds and/or gains).

Revised tariff system

The new tariff system for the 2012-2015 period has revised the remuneration level of investments and also the type of investments that fall into the different categories. The Electricity and Gas Authority has planned for the end of 2013 a review of the "Risk Free" component in determining the WACC, considering the annual average return of the BTPs with 10 year maturity for the period November 2012 - October 2013.

Financial flexibility

To increase its financial flexibility, Terna may possibly examine the sale of a group of assets to reinvest the proceeds in new development investments, without risking the stability of the capital structure in the long term.

New organizational structure

The distinction between traditional activities and non-traditional activities is reflected on the new organizational structure, operational as of April 1, 2012 (see box page 33).

Ownership Structure

Terna S.p.A. has been listed in the Italian Stock Exchange since June 2004.
Terna S.p.A.'s share capital is equal to 442,198,240 euros and consists in 2,009,992,000 ordinary shares with a par value of 0.22 euros each (March 29, 2012).
On the basis of accounting records and of other information collected as of the abovementioned date, Terna S.p.A.'s shareholders are divided as follows:

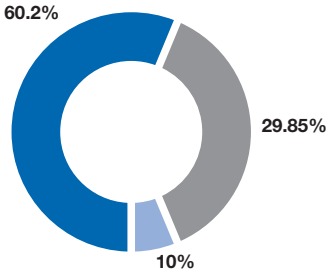
- Cassa Depositi e Prestiti S.p.A. (CdP) 29.85%
- 10% held by other relevant shareholders [1] among which:
  - Romano Minozzi with 5.6%
  - BlackRock Inc. with 2.4%
  - Assicurazioni Generali with 2%
- 60.2% held by other institutional + retail investors

On the basis of periodical surveys carried out by the Company, Terna S.p.A.'s shares are held for 65.6% by Italian shareholders (CdP 29.85%, Italian institutional investors 8% and retail investors 27.8%) and for the remaining 34.4% by foreign institutional investors, mainly European and American.

TERNA'S SHAREHOLDER BASE

EC4

Other institutional + retail investors	60.2%
CdP	29.85%
Other relevant shareholders [1]	10.0%
Total	**100%**



No other shareholder owns more than 2% of Terna's share capital, nor does the Company know of any shareholder agreements regarding its shares. On April 19, 2007, Cassa Depositi e Prestiti S.p.A. established that it was in a position of *de facto* control of Terna S.p.A..
As of March 2012, 11% of the share capital was held by Socially Responsible Investors – SRI.
By referring to specific provisions concerning State ownership in companies involved in liberalization processes, Terna's Bylaws establish restrictions on shareholding and voting rights. As with other companies involved in the liberalization process, the Ministry of Economy and Finance, in agreement with the Ministry for Economic Development, is entitled to oppose the acquisition – by parties not under public control – of more than 5% of the share capital. Furthermore, in order to safeguard Terna's independence and impartiality, when the Board of Directors is elected, no company in the electricity industry may exercise voting rights representing more than 5% of the share capital.

Corporate Governance

Terna's governance structure is based on the traditional accounting and control model and is in compliance with the provisions of Italian legislation regarding listed companies. Terna adopted the Governance Code of listed companies published by Borsa Italiana in March 2006 and in 2007 the Company approved and implemented adjustments in its corporate governance system in order to fulfill the commitments provided for by the Code.
Therefore, the Company's corporate governance system is in line with the principles included in the Governance Code (available at www.borsaitaliana.it), with the relevant recommendations issued by CONSOB, and in general with international best practices. This corporate governance model aims at creating value for shareholders, while being aware of the social importance of the Group's activities and of the need to appropriately considering all the interests involved in carrying them out. The task of managing the Company is entrusted to the Board of Directors, which is appointed by the shareholders' meeting. The Board of Directors is responsible for establishing strategic and organizational guidelines for the Company and the Group, as well as ensuring that the controls necessary for monitoring the performance of the Company and its subsidiaries are in place.

(1) Relevant shareholders are meant to be shareholders who own more than 2% of Terna S.p.A.'s share capital, on the basis of information available and of notices received pursuant to CONSOB Resolution no. 11971/99.

Board of Directors

In compliance with the Bylaws, the Board is entrusted with the broadest powers for the company's ordinary and extraordinary management and in particular, it has the power to take all action it deems necessary for implementing and reaching corporate goals, excluding only the action that the law and the Bylaws reserves for the shareholders' meeting.

Chairman of the Board of Directors

In compliance with the Bylaws, the Chairman has the company's legal representation power, chairs the shareholders' meeting, summons and chairs the Board of Directors and verifies the implementation of the Resolutions passed by the Board itself.

Chief Executive Officer

Also in compliance with the Bylaws, the CEO has the company's legal representation power and corporate signature and is also entrusted, according to the Board's Resolution, with all the powers for managing the company, with the exception of those differently established by law, by the Bylaws or reserved to the Board of Directors.

EC7 BOARD OF DIRECTORS IN OFFICE AS OF 31/12/11

Office	Members	Executive	Non executive	Independent	Internal Control Committee	Remuneration Committee	Committee for Related Party Transactions
Chairman	Luigi Roth		●				
CEO							
Director	Flavio Cattaneo	●					
Director	Fabio Buscarini		●	●			
Director	Francesco Pensato		●				
Director	Paolo Dal Pino		●	●	●	●	●
Director	Matteo Del Fante		●		●		
Director	Salvatore Machì		●	●		●	●
Director	Romano Minozzi		●	●		●	●
Director	Michele Polo		●	●	●		

The Board of Directors in office as of December 31, 2011 was appointed on May 13, 2011 and consists of nine members. On May 30, 2011, Director Andrea Camporese, non independent and non executive member, resigned from his positions for personal reasons. As his replacement, Terna S.p.A.'s Board of Directors appointed Francesco Pensato by cooptation and upon indication by Cassa Depositi e Prestiti; he will remain in office until the next shareholders' meeting.
Further information on Terna's corporate governance can be found in the "Corporate Governance Report", which was approved by the Board of Directors on March 20, 2011 and available on the Company's website, www.terna.it, in the Investor Relations section, accessible from the homepage.

Terna's new organizational structure

As of April 1, 2012 the Terna Group has a new organizational structure.
Announced in February 2011 during the analyst presentation of the 2011-2015 Strategic Plan, the reorganization is functional to developing the opportunities of the business objectives outlined in the Strategic Plan and focuses on the expertise and know-how acquired by Terna's people in managing large works and on its knowledge of the electricity market. In the new structure, the Terna Group is divided in Terna S.p.A., the Parent Company, that is the owner of the concession and of the assets, and into two entirely owned operational companies: Terna Rete Italia and Terna Plus, each one with its own CEO and its Board of Directors.
Terna has the task of establishing the company's strategic policies, govern processes, guarantee compliance with concessions and define the investment plan. While allowing the two new companies independent management, the Parent Company will exercise control through group guidelines that will be defined according to department and may be based on orientation, control, authorization and exclusiveness.
Terna Rete Italia is responsible for carrying out concession activities and for the operation, maintenance and development of the National Electricity Transmission Grid. The Company, with nearly 3,000 people, has also the task of implementing the projects established by the Parent Company in the Development Plan.
Terna Plus is responsible for non-traditional activities, particularly battery storage systems and energy efficiency as well as scouting development opportunities abroad (in particular the Balkans).
The two subsidiaries operate fully respecting the policies and guidelines defined by the Parent Company, according to the logic of the hierarchic-functional dual reporting: hierarchic reporting to the respective CEOs and functional reporting to the corresponding corporate structures. The CEOs of the subsidiaries determine the priority activities according to the logic and guidelines defined by the Parent Company's staff structures.
The new corporate and organizational structure was presented on April 3, 2012 by the Top management to the executives and through waterfall model presentations to all the Group's personnel.

Transmission activities and processes

The Italian electricity system consists of four components: the production, transmission, distribution, and sale of electricity. **Terna's business regards the transmission of electricity on the high-voltage grid**; in particular, the Company manages the electricity system, operating the grid and striving for the utmost efficiency of the infrastructures and excellence in their maintenance through plant engineering and management and grid development.

The main stages of the transmission service are the following.

Operation

Operation of the grid **requires at all times a balance between injections and withdrawals**, i.e. between the supply of domestic and imported power and the power consumed by end users. This function is called dispatching.
Preparation for real-time operation includes **unavailability planning** (of the grid and of production plants) with different time horizons, forecasting the national electricity demand, verifying its compliance with the production plan determined as the outcome of the free electricity market (Electricity Exchange and off-Exchange contracts), acquiring resources for dispatching, and verifying power transits for all the lines of the transmission grid.
In the **real-time control phase**, the National Control Center coordinates other centers throughout Italy, monitors the electricity system and performs the task of dispatching, taking action in case of deviations from the expected operation due to malfunctioning of production plants or grid segments or to a different demand trend compared to forecasts; instructions are thus given to producers and to Remote-control Centers to adjust the supply and the grid setup. In case of an emergency, the National Control Center may also take action to reduce the demand in order to avoid the risk of grid degeneration and extensive outages.

Grid development planning

The analysis of electricity flows on the grid and the development of projections of demand enable Terna to **identify the critical aspects of the grid and the new works that need to be constructed** in order to ensure the system's adequacy with respect to meeting the demand, the security of operation, congestion reduction, and the improvement of service quality and continuity.
The new works to be constructed are included in the National Transmission Grid Development Plan, which is submitted for approval to the Ministry for Economic Development every year. Terna then follows the authorization process, from advance consultation with the local bodies to the authorization to construct the work.
Lastly, by analyzing the situation of the grid, Terna identifies the **best ways of connecting to the grid** the plants of all the operators that so request.

Construction

Terna establishes the engineering standards of the plants connected to the grid, in particular construction standards and the performances required for equipment, machinery and components of stations and power lines.
As far as plant construction is concerned, **Terna prepares projects for the works authorized**. In particular, it establishes the requirements of external resources and the budget for the projects, as well as the work methods and the technical specifications of the components and materials that will be used in constructing the new lines or stations, including the adoption of innovative methods. The construction of new plants is generally outsourced.

Maintenance

Terna carries out the **maintenance of its power lines and stations** through eight Transmission Operating Areas, which employ most of the Company's human resources (slightly less than 70%).

Other Activities

As a complement to the activities carried out under concession, Terna also develops non-traditional activities, i.e. activities that are not regulated or that are subject to regulation by the Electricity and Gas Authority (AEEG) that differ from activities carried out under concession.
In 2011, these activities regarded:

- Continuing the photovoltaic project, with a second group of plants built by the subsidiary Nuova Rete Solare S.r.l., subsequently sold to the Terra Firma fund on October 24, 2011;
- Starting investment projects in the field of energy storage systems (see "Responsibility for the electricity service", box page 188);
- Developing foreign activities in the Balkan areas and in the Mediterranean-North African area.

EU1
EU2

Terna's second photovoltaic project

Terna's activity in the photovoltaic field consisted in enhancing the territories adjacent to power stations by building small-sized photovoltaic production plants.
Since 2010, the year the first photovoltaic project began, Terna installed over 220 MWp of solar panels.
The first group of plants (approximately 145 MWp) was built between 2010 and the first months of 2011 and was sold by transferring Rete Rinnovabile S.r.l., finalized in March 2011. The second group of plants was built by Nuova Rete Solare S.r.l. – a company entirely owned by the subholding SunTergrid.
The sale agreement of Nuova Rete Solare S.r.l. to Terra Firma, the private equity fund that had already bought from Terna Rete Rinnovabile S.r.l., was finalized in July 2011 with closing at the end of October.
At the closing, Nuova Rete Solare had a photovoltaic system with a total capacity of approximately 78.5 MWp built and connected, but not yet in production.
The agreed consideration (so called Enterprise Value) for the transaction was equal to 264 million euros. Selling the equity stake generated total gross proceeds for approximately 69 million euros, partly allocated for integrating the 2011 dividend.
On the basis of the agreement, Terna shall provide Nuova Rete Solare with maintenance, surveillance and monitoring services of the plants in compliance with contracts defined at the time of the multi-year sale transaction.
Once the system is fully operating, the photovoltaic production of this second part will allow saving approximately 74,000 tons of CO_2 emissions a year which added to the emissions saving determined during the first part of the project, will lead to a total of CO_2 emissions saved a year, equivalent to those produced by 78,000 vehicles.

EU6
EU23

Development Abroad

With regard to its international development activities, **Terna has focused its industrial development on the strategic areas located around the Mediterranean**. In particular, development areas regard North Africa and the Balkan countries with which the Italian government is implementing inter-governmental cooperation and development agreements in the electricity sector as well as for promoting renewables.
The purpose of expanding the Company's activities in strategic areas is to increase its ability to import electricity through new interconnections with neighboring countries; this will allow obtaining benefits in terms of increased safety for the Italian electricity system and, more generally, of the diversification of electricity supply sources from abroad, of increased competition on the Italian electricity market and of the reduction of electricity prices.
The new submarine power line between Italy and Montenegro, under construction, is the most significant electricity interconnection project for linking Italy with the Balkan area. Terna is not carrying out operational activities in North Africa as of now, preliminary studies are only being conducted.

The Balkans

The Balkans represent for Terna the most interesting strategic development area based on the geographical proximity and on the region's energy potential, particularly regarding renewables.
The region currently has the most attractive nearby power market based on the expected medium- and long-term power surplus thanks to its unused potential of hydroelectric power, wind power and biomasses. Accessing this market will allow diversifying supply sources at competitive production costs.
The opportunities for developing production from renewable sources in the Balkan area also represent a possibility for complying with EU targets for the reduction of CO_2 emissions.
Montenegro is the country of greatest interest to Terna in the Balkans thanks to its optimal geographical location for the national market needs and to the availability of a transmission grid that is in good conditions and well connected with the future production hubs planned in the area (Bosnia-Herzegovina, Serbia, Albania and – via Serbia – Bulgaria and Romania). These characteristics make it the best candidate for carrying out the role of electricity exchange platform between Italy and the South-Eastern European area, characterized by a significant power surplus in the short-and medium term at lower costs compared to Italy.
The **new submarine power line between Italy and Montenegro** will link Italy to the Balkan area through 415 km of cable between the 400 kV junctions in Villanova (Pescara) and Tivat (Montenegro), with a 1,000 MW transfer capacity. The infrastructure is part of Terna's NTG Development Plan approved by the Ministry for Economic Development and is carried out according to the same rules that regulate (for example in the field of bids) grid development investments in Italy.
In November 2010 and in January 2011 binding agreements were signed between Terna, Montenegro's government and the local transmission operator CrnoGorski Elektroprenosni Sistem AD (CGES) for building the cable between Italy and

Montenegro and for the strategic partnership with CGES. These agreements regulate modalities, coordination and the timeframe for implementing the infrastructures. The cable's entrance into operation is scheduled by agreements to take place by 2015 on the part of both the operators. Along with the submarine interconnection, a development plan for grid infrastructures has also been scheduled to be carried out by CGES.
The authorization process for the Italian side ended on July 28, 2011 with the authorization for building and operation issued by the Ministry for Economic Development. In Montenegro, the project was included in the detailed zoning scheme approved by Montenegro's government on July 28, 2011 and published on September 23, 2011. The project is currently being implemented by Terna and by Montenegro's operator CGES.
To complete building the new submarine connections, Terna will develop grid infrastructures in the Balkan countries in order to strengthen the electricity exchange corridors with Italy and guarantee Italian electricity market operators the opportunity to import from the region. Within this context, and in association with SAE Power Lines, Terna has built the 400 kV Tirana-Elbasan electricity line in Albania, successfully tested in March 2011.
Terna is also present in Kosovo, with technical assistance activities in favor of TSO KOSTT, focused on the operation of the electricity system and on international regulatory aspects for the electricity market. In partnership with the Scottish IPA, the contract is financed by the European Commission and has a total duration of 46 months, expected to terminate in January 2013.
June 2011 marked the successful conclusion of the technical assistance in favor of the Serb regulatory authority AERS following the previous experiences with the Turkish TSO (TEIAS), the Ukrainian Ministry of Energy, the Albanian distribution company KESH and the Albanian TSO (OST).

North Africa

Terna does not currently have any investment activities in North Africa but is only conducting studies and preliminary development activities.
Infrastructures (energy, water, transportation and related activities) represent the basis for the area's social and economic development: new market spaces open for companies operating in the electricity infrastructure sector, historically concentrated on national markets.
As part of interconnection projects with North African countries, Terna prefers integrated projects for electricity production and transfer, particularly referred to renewable sources whose use includes advantages for the environment and strengthens investment safety by improving the risk profile.
A strategic geographical position and a solid interconnection capacity with the European grids capable of supporting the efficient development of exchanges, make Terna a referent for connecting North African grids to Europe.
This development strategy is implemented by integrating the Euro-Mediterranean electricity grid for:

- enhancing the availability of renewables located along the southern coast of the Mediterranean by connecting them to end markets;
- promoting the building of electricity infrastructures along the southern coast, necessary for implementing international energy exchanges along the South-South and South-North axes.

This approach is based on a **multi-lateral Euro-Mediterranean cooperation project by:**

- building an electricity corridor Maghreb-Europe, with interconnection projects with Tunisia and Algeria;
- participating in international cooperation, institutional and industrial initiatives.

Interconnection projects currently being developed are:

- **Elmed Project:** an integrated production and transmission project based on market procedures that includes producing electricity in Tunisia and exporting it towards Italy, according to an Italian-Tunisian intergovernmental agreement that guarantees institutional coverage to the industrial initiative. On the basis of this agreement, Terna and the Tunisian national electricity company STEG signed a partnership agreement for implementing the Project; they also formed a mixed company (Elmed Études) responsible for providing assistance to the Tunisian Ministry for managing the bid aimed at granting production rights in Tunisia and export rights to Italy.

The Project has not yet entered the operational phase and includes:

- a production mix from renewables (min. 100 MW) and conventional sources in Tunisia for 1,200 MW, 400 of which for the Tunisian market and 800 for export to Italy, by the party that will be granted production rights in Tunisia, selected through an international bid launched by the Tunisian government;
- an Italy-Tunisia interconnection via submarine cable, built and managed by a mixed company Terna-STEG, with Terna as major shareholder; the transfer capacity will be of 1,000 MW.
- **Italy-Algeria interconnection:** as part of an interconnection between the Algerian and Italian electricity systems – and, more generally, between the Maghreb and Europe – Terna and Sonelgaz signed an agreement (March 2011) for the electricity connection between the two countries.

Specifically, the agreement regards updating and implementing a previous feasibility study for the submarine interconnection between Algeria and Italy, completed in 2004 by former GRTN with Sonelgaz and defining technical, economic, industrial, institutional and regulatory conditions for its implementation. According to the activity plan, Terna and Sonelgaz aim at initiating in 2012 the authorization process for the interconnection.

Other cooperation initiatives include:

- **Paving the Way for the Mediterranean Solar Plan:** the European Commission project for implementing and developing the Mediterranean Solar Plan that Terna is carrying out in association with RTE (France), Sonelgaz (Algeria), MVV Decon (Germany) and with ENEA.

The project includes technical assistance activities to nine beneficiary countries from the MENA Area (Middle East – North Africa), for defining a legal and regulatory framework promoting energy production from renewable in the southern Mediterranean coasts and integrating the electricity systems of the two Mediterranean coasts.
The Consortium closely coordinates its activities with the authorities of the beneficiary countries and carries out know-how transfer. Terna's contribution is focused on assessing production and transmission systems of the countries involved, on submitting proposals for developing renewable energy exchanges and on defining a regulatory framework that is harmonized throughout the Mediterranean area for promoting the integration of regional electricity systems.

- **Medgrid:** is a joint venture governed by French law, aimed at creating a Euro-Mediterranean electricity grid for exchanging renewable energy among the countries of the MENA Area and transferring it to Europe.
- **Desertec:** a German headed industrial initiative with the objective of promoting a Euro-Mediterranean cooperation project for producing electricity, mainly from renewables, in North Africa and in the Middle East (MENA Area).

EU6
EU23

Med-TSO: Terna for a Euro-Mediterranean electricity grid

The Mediterranean's social and economic development requires the availability of electricity infrastructures supporting production activities and a framework of clear and stable regulations for implementing long-term infrastructural investments.
Within this context, Terna has promoted together with the Algerian electricity company (Sonelgaz) and with the Tunisian electricity company (STEG), the creation of Med-TSO, the association of Mediterranean grid operators.
The initiative, currently being finalized, aims at creating a free and independent area among the Mediterranean TSOs and at guaranteeing the necessary connection between regulatory duties (specific to regulatory authorities) and those for the operational management of electricity systems.
Med-TSO holds the role of natural interface for Med-Reg (Association of Mediterranean Regulators) and Entso-E (Association of European TSOs).
In November 2011, the first organizational meeting among TSOs was held in Naples, under the patronage of Med-Reg and of the Parliamentary Assembly of the Mediterranean, during which nearly two thirds of the 24 coastal Mediterranean TSOs expressed their interest in joining the Association. The formal establishment of the Association took place in Rome at Terna's headoffice on April 19, 2012.

The Northern Frontier

On the northern frontier the most important development project is the one regarding the 1000 MW interconnection with France connecting Piossasco, (Turin) and Grand'Ile, (France) with a direct-current cable that will be completely buried or integrated in the infrastructure of the A32 Fréjus highway. With its long tunnels and viaducts and its extremely low environmental impact, this technological project is unparalleled in the world. Authorized by the Italian authorities in March 2011, the line will be 190 kilometers long – nearly half of which in Italy – and will use the highway and the new Fréjus service tunnel. The benefits for the Italian electricity system consist in an increase in its ability to import lost-cost power and in the security and diversification of its supply sources.

Sustainability

Terna's concerns

Terna has a crucial and fundamental role in the Italian electricity system. The major economic and social impact of its corporate business is determined by its ability to provide society with a reliable and efficient electricity service. Service commitment is therefore also the main reference of the Company's approach to sustainability issues, among which respect for the environment and local communities are particularly important, as well as occupational safety and personnel training. In general, as established in its Code of Ethics, Terna's aim is to construct and develop relations with its stakeholders based on trust in order to create value for the Company, society, and the environment.
Terna's core business is the provision of a service that is indispensable for the operation of the entire electricity system and for supplying everyone in Italy with electricity. Although the end users of the electricity service are not Terna's direct customers, but rather of companies that distribute and sell electricity, the essential role it performs in the electricity system makes the Company **ethically responsible for the service towards the entire country**. Terna therefore is very conscious of the responsibility entrusted to it by the government concession and takes on its objectives, i.e. to:

- provide a secure, reliable, continuous, and cost-effective service;
- keep the transmission system efficient and develop it;
- comply with impartiality and neutrality principles in order to ensure equal treatment to all grid users.

Terna's activities intrinsically produce a heavy impact on the environment: electricity infrastructures have a tangible, visible presence which is represented by the large pylons of electricity lines. Therefore, the **reduction of the impact of lines** is another major objective. The Company considers **respect for the environment and local communities** a rule of conduct that can trigger a virtuous circle: it allows biodiversity, natural and cultural heritage to be preserved, while facilitating the acceptance and construction of new infrastructures, thus generating economic benefits for shareholders and society as a whole, which takes advantage from a more secure, efficient and less costly service. The Company's concern for communities is also expressed through initiatives with social, humanitarian, and cultural value as a concrete sign of participation in the civil growth of society.
The role of human resources in Terna's activities is crucial. The **renewal of technical expertise** that is distinctive and often rare or unique in the electricity industry, represents an essential element of Terna's approach to sustainability. Another equally important element is concern for **occupational safety**, which is even greater considering that many operating activities are characterized by particular risks, such as working many meters above the ground and performing maintenance tasks on energized lines.
Further details on the significant aspects for Terna regarding sustainability are included in the first sections of the four chapters on service, economic, environmental, and social responsibility in this Report.

Sustainability Governance

Code of Ethics

The Code of Ethics was approved by the Board of Directors on December 21, 2006. The result of internal reflection that involved the top and first-line management, it is the highest reference for identifying the sustainability issues that are significant for Terna and establishing internal policies and guidelines. It is a concrete guide in making everyday decisions and aligning them with the objective of creating and consolidating a relationship with stakeholders based on trust.
The Code is divided into five sections, which describe:

- general ethical principles (legality, honesty and responsibility) and those particularly significant for Terna's business (good management, respect, fairness and transparency);
- the conduct required, specifically from employees, with regard to the general issues of loyalty to the Company, conflicts of interest, and the safeguard of corporate assets;
- the main guidelines on conduct in relations with stakeholders;
- Terna's commitments to ensuring compliance with the Code;
- the rules for implementing the Code and the persons responsible.

One of the commitments expressed in the Code is to provide evidence, in the Sustainability Report, of the implementation of the Company's environmental and social policy, as well as of consistency between objectives and the results achieved.
The Code of Ethics is available in Terna's website, under Corporate Governance, in the "Investor Relations" section.

HR5
HR6
HR7

Global Compact

In becoming a member of the Global Compact (2009), the multistakeholder network of the United Nations, Terna further consolidated its commitment to complying with the Global Compact's 10 principles on human rights, labor, the environment and the prevention of corruption. These principles were already referred to in Terna's Code of Ethics as a benchmark for the Company's initiatives regarding sustainability and corporate social responsibility.
During 2011, Terna joined the Steering Committee of the Italian Network. Additional information on Terna's activities in the Global Compact Network Italia are described below.

Terna's Commitment in the UN Global Compact

"Public-Private Joint Efforts Towards Rio+20": plenary session at the Ministry of Foreign Affairs - Rome

In 2011, Terna increased its commitment in the Global Compact Network Italia, the Italian multistakeholder organization that in line with the directives of the headoffice in New York, promotes the culture of corporate citizenship through the "Global Pact" launched in 1999 by the UN General Secretary at the time, Kofi Annan.
The network's activities have registered a significant increase also with respect to the annual meeting of the European networks that was held in Rome in October.
"Public-Private Joint Efforts Towards Rio+20" is the subject that was discussed by representatives from the business world, non-profit organizations, universities and civil society for making a contribution toward implementing a more inclusive and sustainable global economy, in line with the 10 universal principles on human rights, labor, environment and the prevention of corruption.
During the annual meeting of European networks, that coincided with the closing of the European Year of Volunteering, Terna organized at the Ministry of Foreign Affairs, the institutional venue of the Global Compact's event, the photographic exhibit by Daniele Tamagni on the electrification of the Andes region of Kami, in Bolivia, made possible thanks to the profit/non-profit partnership with the NGO COOPI - International Cooperation.
During 2011, Terna participated in the Working Group focused on the environment and formed by Acea, Altran, Coca Cola HBC Italia, Consorzio CBI, Edison, Eni, Fondaca, Fondazione per lo sviluppo sostenibile, Intesa Sanpaolo, Italcementi, Snam Rete Gas, Studio Legale Cocchi, Fondazione Sodalitas, Terna and Unicredit.
Terna's commitment to Global Compact was expressed also by improving Communication on Progress (CoP), the annual reporting of its activities in support of the 10 principles that the organizations belonging to the Global Compact must submit to the headoffice in New York. As of 2011, Terna has been one of the 10 Italian companies, out of the 114 participating in the network with an "advanced" level (the highest, above "basic" and "active") for its CoP. In order to obtain this result, Terna submitted its 2010 Sustainability Report to an analysis based on 24 criteria regarding Strategies, Governance and Stakeholder involvement, UN objectives and purposes, protection of human rights, labor, environment, prevention of corruption and creating a value chain. The results of this self-assessment are published in the area dedicated to Terna on the Global Compact's official website at www.unglobalcompact.org.
As of November 2011, Terna joined the Steering Committee of the Italian network.

Management policies and systems

The principles and criteria of conduct expressed by the Code of Ethics have been translated into consistent corporate policies and management systems. Among these, the following should be stressed:

Quality-Environment-Occupational Safety integrated management system

The activities in the important areas of the environment and occupational safety, which are crucial in Terna's view of sustainability, are coordinated and guided by its **ISO 9001, ISO 14001, and OHSAS 18001**-certifed Quality-Environment-Occupational Safety Integrated management system. Compliance with certification requirements demonstrates Terna's ongoing search for improvement, which ensures consistency with the commitments expressed in the Code of Ethics and in the Company's policies. **The integrated system covers 100% of Terna's activities**, both those carried out on existing infrastructures and those regarding the planning, design, and construction of new plants. In 2010, following inspections performed by the IMQ certification body on the Quality-Environment-Occupational Safety management systems, Terna's UNI EN ISO 9001:2008 - UNI EN ISO 14001:2004 - and BS OHSAS 18001:2007 certifications were renewed for the three-year period 2011-2013, with the consequent issuance of the new certificates. In 2011, the certification bodies issued their annual confirmation.

On September 14, 2011 Terna also obtained the ISO/IEC 27001:2005 certification for TIMM applications (Integrated Text for Monitoring the Electricity Market), with reference to the Operational Unit of the Rome Headoffice that is in charge of this (see also page 70).

The ISO 27001:2005 standard is an international rule that determines the requirements for the Information Security Management System (in Italian SGSI) for physical, logical and organizational safety (Information Security Management System-ISMS) and is in line with Terna's approach to the ISO 9001 Quality System and Risk Management (see also page 65 of the 2010 Sustainability Report).

231 Organizational Model (pursuant to Legislative Decree 231/2001)

In 2002, Terna's Board of Directors resolved to adopt the Organizational and Management Model to comply with the provisions of Legislative Decree no. 231 of June 8, 2001, which introduced into Italian law a regime of administrative (but *de facto* criminal) liability of companies for several kinds of crimes committed by directors, executives, or employees in the interest or to the benefit of the company. In particular, the law was intended to fight corruption. The possibility for a company to be exempted from liability depends on specific actions, including:

- having adopted and implemented (before the crime is committed) an organizational and management model consistent with Legislative Decree 231 and appropriate for preventing crimes as the one that was committed;
- having entrusted the operation, respect and updating of the Model to an internal Vigilance Body endowed with autonomous powers of initiative and control regarding the application of the Model.

Terna's adoption of the 231 Organizational and Management Model is thus aimed at ensuring "conditions of fairness and transparency in conducting the Company's business" and activities so as to safeguard its position and image, as well as the expectations of its stakeholders, in keeping with the provisions of Legislative Decree no. 231 of June 8, 2001. The Model has subsequently undergone a number of revisions to adapt it to law provisions and for the inclusion of additional crimes in Decree 231.

The Model currently consists of 11 parts, a general one and 10 special ones (A, B, C, D, E, F, G, H, I, L). In particular, after Legislative Decree no. 121/2011 became effective, which extended the application field to certain environmental crimes, Terna S.p.A. adapted its Organizational and Management Model by introducing Special Part L, which regards environmental crimes.

Specifically, the 11 special Parts of the Model regard the following:

A – crimes towards the Public Administration
B – corporate crimes
C – crimes of terrorism
D – crimes against individuals
E – market abuse
F – money laundering crimes
G – crimes of involuntary manslaughter and grievous bodily harm
H – computer crimes, unlawful data processing, copyright violation
I – organized crime
L – environmental crimes

In March 2011, the Corporate Security Department published and distributed to all employees a manual for personnel entitled "Legislative Decree no. 231 of June 8, 2001 – A Model for Organizing and Managing the Procedures" to further support the provision of information and training on the subject (see also page 177). An awareness campaign was also conducted adjusted according to crime "at risk" areas in which each one operates.

Further information on Terna's organizational Model is available at www.terna.it under Corporate Governance, in the "Investor Relations" section.

Balanced Scorecard and incentive systems

In monitoring and auditing corporate activities, the Company utilizes a Balanced Scorecard (BSC) system, a panel of indicators that allow it to follow quarterly the progress made with respect to the operating objectives into which – according to the economic/financial, organizational/processes, strategic/customers, and innovation/development areas – the annual objectives of the Strategic Plan are divided. Particularly significant from the point of view of sharing Terna's sustainable approach to business, is the **inclusion in the BSC system of sustainability objectives**. Thanks to the link between the Balanced Scorecard and variable-pay schemes for managers (MBO), the sustainability objectives are also supported by the incentive systems based on pay.

Internal organization

Particularly important from the point of view of sustainability are:

- the presence of a Corporate Security and Safety Department entrusted with, among other things, Risk Management, Fraud Management and the safeguard of the Company's physical, human, and financial resources, as well as occupational safety. Risk Management has the objective of assessing the types and outcomes of possible disturbances to the regular carrying out of corporate activities. The method for risk management allows identifying various causes that can lead to deviating from the established goals and quantifying their consequences so as to support decisions regarding the possibility of preventing, limiting, transferring or accepting corporate risks. Risk Management is focused on analyzing causes that have not yet been determined, assuming that determined, certain, or highly probable causes should have already been addressed and preventively eliminated. The Fraud Management unit has the objective of safeguarding the Company's assets (material and human resources, direct and indirect benefits) in the face of illegal events that could compromise them with activities aimed at preventing and managing corporate fraud. This activity takes the form of constantly monitoring processes, checking reports of illegal activities, implementing memorandums of understanding and assessing and monitoring compliance risk.

In managing corporate risks, Terna adopts procedures suitable for guaranteeing operating efficiency and market growth opportunities.

- the presence of a Corporate Social Responsibility Unit in the External Relations and Communication Department, which – in cooperation with all the corporate departments and referring to the best practices – contributes to establishing the Company's sustainability objectives regarding the ethical, social and environmental context as well as sustainability governance and communication of the objectives and results of Corporate Social Responsibility. The unit also constantly monitors the risks connected with aspects of sustainability that entail potential negative repercussions on the Company's reputation and intangible value through the analysis of the ratings of the leading agencies (such as SAM - Sustainable Asset Management; Vigeo, and Eiris) which periodically prepare sustainability assessments;
- the creation in 2009 of a Sustainability and Environmental Steering Committee, whose members are the heads of the departments that share the responsibility of implementing sustainability projects and monitoring their impacts;
- the use since 2009 of SDM (Sustainability Data Manager) dedicated software for managing the sustainability information system, which currently includes more than 1,500 indicators linked to textual information, data, conversion factors, and formulas for monitoring Terna's environmental and social performances;
- the presentation to the Board of Directors, upon the approval of the Sustainability Report, of sustainability objectives and results.

Sustainability results and objectives

2011 registered important progress in all areas of responsibility. According to the order listed in the table, the following **results** are highlighted corresponding to the objectives delineated for 2011 and included in the previous Sustainability Report.

- The scheduled survey on the reputation was postponed owing to the need of re-focusing the group of monitoring tools of the stakeholder opinions.
- The Sustainability section of the website www.terna.it was significantly modified based on the need for improving organization of contents, expanding the reference documents and above all, for providing an easier and more dynamic subject structure with pages whose central, more concise texts are accompanied on the right by links to documents, videos and references to other pages of the website. The experts viewed these changes favorably: Terna's Sustainability Section ranked fifth among the first 50 companies listed in the special Lundquist ranking (see box page 61), representing the expectations of the web users regarding sustainability information.
- The central responsibility for the electricity service was confirmed by the excellent result obtained with respect to the targets set by the AEEG for 2011; greater revenues were consequently obtained (see the paragraph "Revenue Structure and Regulatory Framework").
- Developing non-regulated activities was successfully concluded in October 2011 with the sale of the second group of photovoltaic plants that was carried out in only a few months (see box "Terna's second photovoltaic project", page 36) with positive consequences on the Company's revenues and profits.

- In the environmental field, action plans and targets for controlling SF_6 leakage are still being re-examined; even if equipment with recurring leakage has been identified, installing high-performance equipment continued and the percentage of the leakage on the total of gas installed registered the lowest amount of the past years. Research continues for comparative data for developing a benchmark and some of the first results are included in this Report (see pages 135-136).
- Guidelines were defined for constructing Terna's office buildings according to the best energy efficiency practices. The Guidelines will represent input for adopting energy saving technology and solutions in the future construction of Terna's offices.
- Reforestation was increasingly used for offsetting CO_2 emissions connected to the production of various Terna publications; moreover, offsetting emissions was a contract requirement in the bid for purchasing batches for renewing the corporate vehicle fleet (see pages 137-138).
- All mitigation and improvement measures regarding usability in the three Oases identified in the WWF-Terna agreement were completed and officially presented (see box pages 122-123).
- Applying the GPS performance management system was extended to include more employees with respect to 2010, as part of a project for gradually including a growing number of professional areas (see page 162) within the official performance evaluation process, fundamental for development and meritocracy-based management.
- 2011 registered intensive activity also regarding the tools for allocating and controlling solidarity and charity expenses that also led to defining regulations for freely selling corporate goods and for improving management of external requests on the part of non-profit organizations (see pages 179-180).
- Regulations for employee volunteering are currently being developed. In addition to the above-mentioned initiatives with the WWF, in 2011, an important collaboration agreement was signed with Legambiente, along with the ones already signed in the previous years with the WWF and with Lipu (see page 140).

Objectives for 2012 represent further steps along the directions already taken: the following table provides a summary. These objectives include:

- revising ethical, environmental and social responsibility supervision with respect to the re-organization of the Group and its strategic objectives, particularly:
  - adopting the Code of Ethics and the 231 Model on the part of the new companies of the Group;
  - revising, updating and, if necessary, strengthening this supervision along the supply chain;
  - preventive analysis of environmental impact connected to business expansion (new operating activities);
- actively participating in the Pilot Programme of the International Integrated Reporting Council, by studying and implementing a greater integration of financial and sustainability information both in the Report on Management and in the website;
- continuing activities for planning a management system based on energy efficiency, in line with the ISO 50001 criteria;
- defining an action plan with practical initiatives to be implemented in the principal areas for improvement indicated by the organizational satisfaction survey conducted in 2011.

Area of responsibility	2011 objectives	2011 results		2012 objectives
Governance and general aspects	Conducting survey on Terna's reputation	Initiative postponed	●○○	Adopting the Code of Ethics and Model 231 by the Group's new Companies
	Revising the website's sustainability section	New website's sustainability section created (page 61)	●●●	Revising and updating supervision of responsibilities (environment, human rights, prevention of corruption) in the supply chain
	2010 Sustainability Report online within mid-June	2010 Sustainability Report online July 5th	●●○	Integrated Reporting: participation in the Pilot Programme of the International Integrated Reporting Council
Responsibility for the electricity service	Respecting the continuity indicator targets	Respecting the continuity indicators targets (page 72-73)	●●●	Respecting the continuity indicators targets (page 72-73)
	Progress of the Safety Plan	Progress of the Safety Plan (page 67)	●●●	Progress of the Safety Plan (page 67)
	Positive result of AEEG incentives	Positive result of AEEG incentives (page 72)	●●●	Positive result of AEEG incentives (page 72)
Economic responsibility	Corporate Profitability	Corporate Profitability (1)	●●●	Corporate Profitability
	Implementing grid development investments	Implementing grid development investments (1)	●●●	Implementing grid development investments
	Developing non-regulated activities (photovoltaic energy)	Second group of photovoltaic assets completed (page 90)	●●●	Developing non-traditional activities
Environmental responsibility	Revising action plans on SF_6 leakage	Initiative in progress	●●○	Revising action plans on SF_6 leakage
	Defining an energy efficiency plan for Terna's buildings	Guidelines implemented	●●●	Defining a management system for energy efficiency in compliance with ISO 50001 criteria
	Increasing offsetting of CO_2 emissions	Increase implemented (page 124 and page 127)	●●●	
	Completing measures in the Oases included in the agreement with the WWF	Measures completed and officially presented (page 122)	●●●	Initiating environmental impact analyses of new business
Social responsibility	Expanding the plan for the performance assessment system	Increasing the number of personnel assessment (page 162)	●●●	Defining and implementing action plans in response to the results of the 2011 organizational satisfaction survey
	Defining rules for volunteering of employees and for donations of corporate property	Rules defined for donations of corporate property (page 179)	●●○	Defining rules for employee volunteering
	Partnership initiatives with non-profit organizations	Agreement signed with Legambiente (page 140)	●●●	Partnership initiatives with non-profit organizations

Legenda

●●● Objectives achieved
●●○ Partly achieved
●○○ Postponed or suspended

(1) The result achieved corresponds to a performance in line with the objectives approved by the Board of Directors for the Strategic Plan presented annually to financial analysts (see page 30).

Controversies and litigation

Opposition to the construction of new lines

Terna considers respect for the environment and local communities to be an integral part of grid planning and makes every effort to carry out its activities in agreement with local authorities. However, projects for constructing new infrastructures entail adverse reactions manifesting the NIMBY (not in my backyard) syndrome. In these cases, Terna's stance is one of willingness to seek alternative solutions, even ones that are technically more complex than those originally planned, provided they are compatible with the requirements of security, efficiency, and cost-effectiveness of the electricity service. The pursuit of shared solutions requires difficult negotiations and lengthy time. The outcomes are usually positive, however local opposition may continue during the process. During 2011 and in early 2012, the following cases were reported:

- **"Dolo-Camin":** the line was authorized in April 2011 by the Ministry for Economic Development (MiSE) in agreement with the Ministry of the Environment (MATT). In 2011, the Municipality of Vigonovo, together with the Municipalities of Fossò and Camponogara filed a petition against the MiSE's Decree. 2010, contrarily, was characterized by opposition to the project by various Municipalities that requested the segment of line that concerned their respective territories to be buried. The Cat (Committee for the Environment and Local Communities) also protested strongly in favor of the project of the buried power line. Three petitions have presently been filed with the Regional Administrative Court (TAR).
- **"Trasversale in Veneto":** the line is in the coordination stage. There are many problems with the local communities, in particular with an environmental association in the Municipality of Paese. Among the local bodies involved, particularly the Provinces of Treviso and of Venice, the first is generally in favor of the project. The Committees request totally burying the 380 kV (approximately 33 km) power line. The "Trasversale in Veneto" power line is the fruit of a lengthy process that began in 2001 and is currently in progress. The project is included in the works for implementing the provisions of Law 443/2001, known as "Legge Obiettivo", the legislative tool that establishes the procedures of funding modalities for building large strategic infrastructures in Italy for the 2002-2013 ten-year period. Terna has voluntarily chosen, based on a responsible approach, to involve the municipalities in the pre-authorization phases and since 2011 has intensified meetings with the municipalities to concur on a written agreement – after 5 years of dialogue – for determining the feasibility segment for placing the power line's route and thus allowing to associate the possible removal of old lines with the building of the new one. Terna will begin the work in the authorization stage in 2012: submitting the project will activate the procedures of the "Legge Obiettivo" (also see the dedicated box, page 58).
- **"Redipuglia-Udine Ovest":** the line has been in the authorization stage since December 2008. On July 26, 2011, the environmental compatibility decree was issued. In 2009, and throughout 2010 and 2011 there was strong opposition – led by the Committee for the Defense of Rural Friuli – to the project, requesting the construction of the work as a buried line. The controversy was also directed against the information and awareness rising campaign that Terna launched in Friuli to inform the people in the communities affected by the power line project.
- **"Sorgente-Rizziconi":** the work is under construction. After the authorization Decree was issued on July 8, 2010 by the Ministry for Economic Development, citizens in the municipality of Serro (hamlet of Villafranca Tirrena) carried out protest actions, requesting that some of the pylons of the overhead segment "Sorgente-Villafranca", which crosses Serro, be buried or shifted. Similar requests were made by communities from the Municipality of Pace del Mela, both regarding the new power line under construction and the presence of the existing 380 kV "Sorgente-Rizziconi" located near the urban center of Passo Vela. Despite the power line's route is the fruit of over 2 years of technical-environmental assessment and analyses that have led - in agreement with Sicily's Regional Authorities, Messina's Provincial Authorities, the Municipality of Villafranca and the Municipality of Pace del Mela, together with other 11 municipalities involved of the Messina area - to defining an overhead route that would meet in the best possible way the needs of environmental, social and health needs, fully respecting the limits established by law. Coordination and dialogue with the local governments began in 2004: over 100 meetings were held between Terna, the authorities and the local bodies involved for identifying the best solutions for protecting the territory. During 2010, the Municipality of Villafranca Tirrena, of San Filippo del Mela and of Pace del Mela filed an appeal for canceling the single authorization issued by the Ministry for Economic Development; a similar initiative was undertaken by some private citizens and environmental associations.
- **"Italy-Montenegro":** the work was authorized in July 2011. The electricity interconnection project between Italy and Montenegro was included in 2008 among the priority infrastructures (Corridor 8) as a strategic connection between the entire Balkan area and Europe through Italy, by the European Commission that also co-financed all the studies and research as part of the program for supporting Trans-European Network (TEN) electricity infrastructures. Following the favorable stance with a unanimous vote by the Local Authorities Planning Conference (November 2010), as of March 2011 controversies arose in Pescara against the cable's route. Terna, in line with its practice of willingness to dialogue with the local governments and the communities involved, modified the route to meet the needs of the Municipality of Pescara. In February of this year, the "Futuro e Libertà per l'Italia" council group at the Municipality of Pescara announced its intention of wanting to promote a consulting referendum to hear the opinions of the community regarding the building of the power line. The Municipality of San Giovanni Teatino officialized the appeal at the Tar (Regional Administrative Court) in Lazio against the project's authorization.

- **"Fano-Teramo":** the work is currently being coordinated. As of 2006, technical consulting began with the regional authorities involved (Marche and Abruzzo). The optimal corridor for the project was agreed upon and coordination is still in progress for defining and sharing a feasibility segment for the future power line. In January of this year, the Municipality of Pesaro expressed its opposition, through a specific amendment, against having the power line pass through its territory. Even Coldiretti, the Comitato di Belforte and the Municipalities of Ostra, Senigallia, Monte San Vito, Polverigi, Osimo and Santa Maria Nuova expressed opposition against building the power line.

Preliminary inquiries of the Electricity and Gas Authority

The following inquiries by the Authority that involved also Terna, among others, should be noted.

Outages in Sicily in June 2007

Fact-finding investigation on the outages that occurred in Sicily on June 25 and 26, 2007, which the Authority initiated with its Resolution no. 155/2007. On June 26, 2007 Terna took anti-blackout measures to avoid loss of control of the system and prevent more critical situations from arising; electricity distributors consequently carried out planned rotating disconnections of ordinary users. The measure was necessary owing to a series of concomitant factors: very high consumption, widespread fires that entailed shutting down several lines to allow them to be extinguished, breakdowns, and failures. The investigation is still pending.

Preliminary inquiry on unassigned power

With its Resolution VIS 16/11 of February 7, 2011, the AEEG imposed a 420,000 euros administrative fine on Terna. The inquiry followed the fact-finding investigation (VIS 171/09), begun in 2009, regarding non assigned energy. The preliminary inquiry followed the conclusions of the fact-finding investigation, begun in 2007, regarding anomalies noted in the determination of the electricity lots withdrawn from the grid and not correctly assigned to dispatching users. With the imposition of the penalty, the AEEG criticized Terna's conduct for lack of diligence in performing several activities of the transmission and dispatching services for which it is responsible. The AEEG also acknowledged Terna's proactive conduct in mitigating the negative effects of the improper behavior of other companies providing the electricity service and took the same into account in quantifying the penalty.

Fact-finding investigation on supplying the connection service to the grid for the electricity production plants by the grid operators

With its Resolution VIS 42/11 of March 16, 2011, the Authority began a fact-finding inquiry for further analyzing the situation regarding grid connections of the electricity production plants, particularly the low and medium voltage connections of productions plants from renewables, also following reports from operators and category associations indicating possible criticalities in carrying out connection procedures in various areas.
During the inquiry, all the grid operators and principal associations of electricity producers were requested to provide information regarding the grid connection service for production plants and also to differentiate this information according to the various reference resolutions that regulate the issue (281/05, 89/07, 99/08-ICA, TICA modified). (See box page 81).
Also Terna, as the National Transmission Grid operator, received the requests and provided all the information under its responsibility.
The fact-finding investigation closed with Resolution VIS 99/11, without any further provisions being expected to be taken against Terna.
The outcome of the inquiry, included in the Report attached to the Resolution, indicated a substantial compliance of the grid operators' activity with respect to the terms of the regulation. Nonetheless, the Authority deemed it necessary to continue inquiry procedures with the grid operators analyzing in detail various random sample connection applications.

Litigation regarding environmental issues

Litigation for environmental issues is based on the installation and operation of electricity plants and mainly regards damages that could derive from exposure to electrical and magnetic fields generated by the power lines. The Parent Company and the subsidiary Terna Rete Italia were parties in various civil and administrative proceedings where a request was made for moving or modifying the operation modalities of the electricity lines on the basis of the alleged damage they cause, even if installed in full compliance with the existing laws on the matter (Law no. 36, February 22, 2001, and D.P.C.M. (Decree of the Presidency of the Council of Ministers) July 8, 2003). Requests for damages compensation for health owing to electromagnetic fields were very few.
Regarding decisions on the matter, it should be noted that only in few litigation cases, unfavorable decisions against the Parent Company were issued, which were appealed and whose relative proceedings are still pending and negative outcomes are considered unlikely.

Litigation regarding concession activities

The Parent Company, as the owner of the concession for transmission and dispatching activities as of November 1, 2005, was summoned in various proceedings largely for appeals to provisions issued by the AEEG and/or the MSE (Ministry for Economic Development) and/or by Terna itself and relative to such activities. Only in the cases where the appealers claim, in addition to irregularities in the provisions appealed, also Terna's alleged violation of the rules established by the above-mentioned authorities, the Company started a legal action. As part of this litigation, although various proceedings ended in first and/or in second instance trials with the annulment of the AEEG Resolutions and of Terna's consequent provisions, it is unlikely that there will be any negative outcomes for the Company, since these are considered normally as let through lots, as is also gathered by the information provided by the external attorneys that assist the Company in proceedings. Terna, the Parent Company, as the owner of the concession of the transmission and dispatching activities, in application of the Resolutions of the Authority, adopts deeds and provisions that can be appealed, even if the relative economic charges, in the presence of certain conditions, can be recognized by the sector's Authority.

Other litigation

Some proceedings are pending regarding the environment and city-planning in connection with the construction and operation of several transmission lines. A negative outcome in these cases could generate unpredictable effects and thus they are not included in the determination of the "Provision for litigation and sundry risks".
For a small number of proceedings we cannot presently absolutely exclude unfavorable outcomes, whose consequences – in addition to the payment of damages – could consist in, among other things, sustaining the expenses connected with modifying lines or the temporary unavailability of the lines themselves. In any case, negative outcomes would not compromise the operation of the lines.
Taking into account also the opinion of the Company's external lawyers, an examination of the abovementioned litigation leads to believing that negative outcomes are highly unlikely.

Penalties

In the 2009-2011 three-year period:

EU25 S04 S07 S08
- there were no definitive criminal convictions or plea bargaining for injuries to third parties caused by Terna's assets;
- as of December 31, 2011 there was no pending litigation nor had any legal proceedings ended regarding corruption, unfair competition, anti-trust, or monopolistic practices. Also with regard to corruption, unfair competition, anti-trust, or monopolistic practices, no definitive administrative or judicial, monetary or non-monetary fines were recorded for non-compliance with laws or regulations, including environmental ones, that imposed on Terna an obligation to "do/not do" (e.g., prohibitions) or convicted its employees for crimes.

EN28 In the three-year period 2009-2011 no significant penalties were recorded regarding the environment, or in general, compliance with law provisions.

PR9 On the basis of Resolution VIS 16/11 by the AEEG, in 2011, Terna S.p.A. paid an administrative fine of 420,000 euros to settle the preliminary inquiry begun with Resolution VIS 171/09, for having violated AEEG's provisions regarding electricity transmission, dispatching and metering services. The dispute particularly referred to anomalies noted in the determination of electricity lots withdrawn from the NTG and not correctly assigned to dispatching users.

Promotion of Corporate Social Responsibility

IIRC - The International Integrated Reporting Council – Pilot Programme

Terna joined the bi-annual Pilot Programme created by the IIRC, the international organization involved in researching and experimenting a framework for integrating financial, environmental, social and governance information. 61 leading global companies are part of this program of which 4 are Italian, in addition to Terna.

Fondazione per lo Sviluppo Sostenibile (Sustainable Development Foundation)

In 2011, Terna joined the Fondazione per lo Sviluppo Sostenibile, whose activity mainly consists in analyzing – from both a cultural and technical point of view – sustainable development themes through research, seminars and meetings. During 2011, Terna actively participated in the Fondazione's initiatives.

LBG The London Benchmarking Group – Corporate Citizenship

After having joined LBG – The London Benchmarking Group, the British organization which groups over 120 companies around the issue of measuring the contributions and impacts of Corporate Community Investment, Terna adapted the monitoring tools established by the LBG methods to the Italian context and to its specific aspects for a more timely measuring of the output of its initiatives in the community. For more information on 2011 activities see the paragraph "Community Initiatives", page 179; the model is described in the box - page 179.

Sodalitas

Terna is one of the companies that, in 2008, created the Foundation for the Development of Entrepreneurship. The Foundation continues the commitment undertaken by the Sodalitas Association for the dissemination of social responsibility and the promotion of dialogue between the business and the non-profit world. The Foundation presently counts on the contribution of 82 supporting companies, which generate an economic value equal to 25% of Italy's GDP, and on 80 volunteer managers.

Together with other 22 companies belonging to the Foundation, in 2011, Terna was among the promoters of the first "Sodalitas Social Innovation", the program created for aiding non-profit organizations in defining quality social business plans capable of attracting the interest of companies for creating new partnerships.

202 non-profit organizations participated in this first edition, presenting 231 projects whose evaluation was assigned to Commissions formed by representatives from the Sodalitas Foundation, the Istituto Italiano della Donazione (Italian Institute for Donation), companies and authorities. Terna participated in the Commission that examined the international projects for the area "Youth and Territory" and in the final Jury that selected and awarded the best 13 projects.

Terna also participates in the Corporate Volunteering Laboratory promoted, in addition to the Sodalitas Foundation, also by Ciessevi and by SDA Bocconi.

CSR Manager Network Italia

Through the professional contribution of its own managers, Terna supports the activity of the CSR Manager Network Italia, the reference point for professionals, consultants, and university researchers whose work regards sustainability and corporate social responsibility.

The Network offers its members the possibility of comparing their experiences, identifying elements of innovation, learning about the best practices in Italy and abroad, having at their disposal an organization that represents them vis-a-vis public authorities, associations and non-profit organizations, that can participate in discussions at the national and international levels.

During 2011, Terna participated in the joint CSR Manager Network-ISTAT project aimed at establishing a connection between GRI indicators, national statistics and international projects for assessing the collective well-being.

Anima per il sociale nei valori dell'impresa

In 2010 Terna joined *Anima per il sociale nei valori d'impresa*, ("Soul for society in business values"), a non-profit association founded in 2001 and promoted by the Unione degli industriali e delle imprese di Roma – Rome association of enterprises – which groups managers and companies wishing to disseminate in their community a new entrepreneurial culture that is able to combine profit with the creation of welfare for the community.

In the year of the 150th anniversary of the Unification of Italy, Terna has supported the "Premio Anima – Per la crescita di una coscienza etica" (Anima Prize – For developing an ethical conscience"), the association's initiative that enhances the contribution made by representatives from the art and cultural worlds towards developing an ethical conscience and creates an awareness among companies and the public opinion on social responsibility and sustainability issues.

ABI's VI CSR Forum (Rome, January 20-21, 2011)

Terna supported the sixth edition of the CSR Forum promoted by ABI - Associazione Bancaria Italiana, in collaboration with the Forum per la Finanza Sostenibile and the CSR Manager Network, focused on the theme "Sustainability and corporate core business: integration that gives value".

Terna also organized with Etica Sgr, a saving management company that exclusively promotes socially responsible common investment funds, a co-building session on active shareholding.

Other activities

The dissemination of the culture of sustainability and the promotion of its own experiences were the objective of many of Terna's external events, including teaching in Degree Programs on CSR, promoted by the KPMG company, at the Università Europea Roma (Rome, January 2011), the report on sustainability indicators at the conference "Measuring organizational performance" created by the magazine "Sviluppo e Organizzazione" (Rome, March 2011), the two experiences regarding the partnership between Terna and COOPI during management training courses at Siemens and participation in the conference on donating responsibly promoted by the Istituto Italiano della Donazione (Rome, May 2011).

Also in 2011, Terna supported the activities of the Centro Studi "Politeia" for research and education in politics and ethics participating in the 7th CSR Forum held in May.

Sustainability Indexes

The ongoing improvement of its ESG performances (Environmental, Social, Governance) allowed Terna to constantly increase its sustainability ratings, to being included in the main international sustainability indexes, and to being recognized by socially responsible investors.

TERNA'S PRESENCE IN SUSTAINABILITY INDEXES (AS OF 31/12/2011)

Index	Year included	Characteristics of the indexes
FTSE4Good - Global - Europe	2005	FTSE indexes include the best companies in terms of sustainability performance on the basis of the analyses of the EIRIS agency.
AXIA - Ethical - CSR	2006	Axia indexes select the best practices regarding sustainability among the companies with greater capitalization in the Eurostoxx50 (Ethical) and Eurostoxx60 (CSR).
ECPI - Ethical Global - Ethical Euro - Ethical EMU	2007	These indexes were designed to be used by customers for investment analysis, benchmarking, and performance assessment based on the analyses by the ECPI agency.
MSCI - Global Sustainability - Europe Sustainability	2007	These indexes continue the KLD Indexes, which were among the first to trace the non-financial performances of companies and still represent one of the most highly regarded references in the United States.
ASPI Eurozone	2009	Among the 600 European companies with greater capitalization, this index selects the 120 leaders in terms of sustainability according to the Vigeo rating agency.
Ethibel - Excellence - Sustainability (ESI) Europe	2009	These indexes are developed on the basis of the ratings provided by the Vigeo agency. Inclusion is subject to the positive opinion of the Ethibel Forum, a panel of independent experts in the different aspects of sustainability.
Dow Jones Sustainability - World - Europe	2009 2010	DJS indexes select the companies with the best sustainability performances among those with greater capitalization (for the World Index the first 2,500 companies in the world and for the Europe Index the first 600 European companies) on the basis of the rankings of the SAM agency - Sustainable Asset Management.
FTSE ECPI - Italia SRI Benchmark - Italia SRI Leaders	2010	Introduced in 2010, these are the only sustainability indexes that include only companies listed on Borsa Italiana, the Italian stock exchange, based on the analyses of the ECPI firm.
STOXX® - Global ESG Leaders Index - Global Environmental Leaders - Global Social Leaders - Global Governance Leaders	2011	Launched in 2011, these indexes are developed on the basis of evaluations made by the rating agency Sustainalytics and select the 300 best shares for ESG performance among the 1,800 present in the STOXX Global index. To be included in the Global ESG Leaders Index it is necessary to be present in at least one of the 3 specialized indexes (Global Environmental Leaders, Global Social Leaders and Global Governance Leaders). Terna is the only Italian utility included in all three.

Awards

SAM 2012 Gold Class

Terna was included in the Gold Class of the "SAM Sustainability Yearbook 2012", based on an a detailed analysis conducted by SAM - Sustainable Asset Management, the sustainability rating agency that conducts all the assessments for the Dow Jones indexes. On the basis of this assessment, Terna ranks among the first three electricity companies in the world for sustainability performance out of a total of 104 companies in the sector. Belonging to the Gold Class indicates a score that is within 1% of the Sector Leader's.

Carbon Disclosure Project

For the second consecutive year, Terna was included in the "Carbon Disclosure Leadership Index" drafted by the Carbon Disclosure Project, the International initiative supported in 2011 by 551 investors that manage 71,000 billion dollars and aimed at guaranteeing transparency on CO_2 emissions generated by companies and on programs implemented for limiting their release. In 2011, Terna ranked – among the Italian companies – second for utilities and absolute third for transparency in communication regarding its carbon footprint. For additional information see box, page 130.

IV CSR Online Awards

In 2011, Terna ranked fifth in the research "CSR Online Awards" on web communication regarding Corporate Social Responsibility.
The research conducted by Lundquist, the Swedish financial communication company, analyzes the modalities adopted by the first 50 Italian listed companies for communicating, through their websites, the corporate social responsibility commitments and initiatives (also see box, page 61).

Ethic Award 2011

Terna won the Ethic Award 2011, in the category reserved to sustainable development projects for "The South of the World", with the electrification of Kami, in Bolivia.
The award, promoted by the publication GDO Week of the "Il Sole 24 Ore" Group, has now reached its ninth edition and enhances sustainability initiatives in the environmental, social and cultural fields carried out by Italian retail, consumer goods, services and equipment companies. In the 2011 edition, 72 projects participated in 7 theme categories.

Medium-term prospects

Projected onto a medium-to-long-term horizon, the issues of sustainability intersect with Terna's development strategies mainly in the aspects of relations with local communities and environmental impact. Also in the next few years, a major generational turnover will keep the issue of core competence management topical, along with those of the quality and security of the electricity service, which are always top priorities.
The development of foreign activities that can be presently foreseen does not seem to include any challenges that are not already considered in the current approach to social responsibility activities, requiring, however, a constant monitoring of the appropriateness of instruments and processes.

Local communities

In the medium and long term, the creation of value for shareholders and the quality of the electricity service are linked to developing the grid and interconnection relations with other countries.
As far as the grid is concerned, the following aspects are crucial:

- **acceleration of authorization processes:** in Italy, obtaining authorization for new power lines may take four times longer than actually building the line, with significant consequences of a financial nature, as well as on the efficiency of the NTG. Terna has chosen the path of dialogue and early discussion with local authorities believing that the identification of shared solutions that respect communities may facilitate the issue of authorizations, also thanks to the trust generated over time by the consistency of the Company's conduct. In the next few years, therefore, it will be important to optimize the process to make it more effective - with regard to relations with local authorities - and more efficient;
- **acceptance by local communities:** in addition to relations with authorities, increasing the level of acceptance of electricity infrastructures by the communities involved is an extremely important objective, as can also be seen in the disputes described in the present Report. Terna is presently identifying the most effective ways to present its development projects. With regard to these objectives, an important role is played by communication and the involvement of associations representing society at the local level, in addition to the authorities. (see dedicated box, page 115).

Environment, climate and renewables

Current issues focused on by Terna include electromagnetic fields, climate change and developing electricity production from renewables.
With regard to electromagnetic fields, Terna's commitment is demonstrated above all by scrupulously complying with the Italian laws, among the most stringent ones internationally. Considering the sensibility of the public opinion on the issue, Terna dedicates **constant attention to the development of scientific research on electromagnetic fields** for assessing any risks connected with its activities. Moreover, it will continue to contribute toward correctly informing the public opinion on the issue.
Climate change and greenhouse gas emissions represent one of the most significant global problems. Terna is not subject to obligations for reducing emissions or bound by emission trading regulations, nor does it see particular risks connected to the climate change for its own economic situation. (see paragraph "Risk management", pages 93-96). Nonetheless, both as a sign of its awareness to environmental issues and in response to the growing attention concerning all electricity companies toward this matter, **Terna has already defined control and limiting programs for direct and indirect emissions**, and will maintain its commitment for achieving greater energy efficiency. Terna's major contribution for reducing CO_2 emissions into the atmosphere is represented by grid development, that allows for the electricity system's overall greater efficiency and **allows accepting an increasing amount of production from renewables**. In its Strategic Plan, Terna also identifies a series of activities also regarding energy efficiency (see paragraph on the Strategic Plan). Terna is

involved in various ways to supporting, within the limits of the regulations on non-discrimination among operators, the development of electricity production from renewables. Applied research and Smart Grid initiatives (see box, page 68) and participation in international initiatives and projects for developing an integrated Euro-Mediterranean electricity grid are part of this direction taken, which are referenced to on page 38.
Lastly, Terna carefully considers developing non-traditional activities included in its Strategic Plan in the upcoming years (i.e., energy storage systems), according to an approach that is consistent with its commitment for assessing and limiting environmental impacts.

Activities abroad

Focusing on the North African Mediterranean area and on the Balkans limits the potential criticalities that could emerge by operating abroad. With the gradual shifting from the current preparatory phase to that of implementing the projects, Terna will intensify monitoring environmental and social conditions – including the prevention of corruption – in the countries where it is present, for adopting adequate prevention and control measures.

Human resources

Constant concern for human resources, first of all with regard to **safety**, but also to t**raining for ongoing updating the technical expertise that is distinctive of its sector**, will continue to be a priority for Terna.
The issue of professional updating will be particularly significant with regard to the generational turnover that will concern Terna's personnel in the coming years even if the turnover impact was distributed over a longer period of time than planned, following the retirement reform approved by the Italian government in December 2011. The response strategy – a distinctive element of which is the exchange of knowledge through the Campus faculty – is described in details in the box entitled "Management of the generational turnover", page 153.

Stakeholder engagement

Building a relationship based on mutual trust with our stakeholders begins with considering their interests and analyzing their compatibility with those of the Company in order to adopt a consistent and transparent conduct.
In preparing its Code of Ethics, Terna identified – through the active participation of its top executives and top management – eight most significant categories of stakeholders in terms of the continuity of the relationship and of the importance of the Company's impact on them and vice versa.
For each stakeholder category, the following table shows the most important commitments expressed in the Code of Ethics and the specific engagement instruments, such as monitoring and checking expectations and opinions. The various instruments are used with different time frequencies.

Stakeholders	Commitments	Instruments for monitoring and checking
Shareholders, financial analysts and providers of capital (Shareholders, financial analysts, providers of capital, banks, creditors, rating agencies)	• Balanced management of financial objectives and of those regarding service security and quality. • Creation of value for shareholders in the short and long term. • Corporate governance aligned with the best practices. • Adoption of systems to prevent and control risks. • Attention to shareholders and informing them in a timely and equal fashion. • Commitment to avoiding insider trading.	Road shows, dedicated meetings, website, dedicated e-mails. Sustainability Rating.
Employees (Employees, Directors, Collaborators, Employee Representatives, Labor Unions)	• Safeguard of the physical integrity of employees and their personal dignity. • Nondiscrimination and equal opportunities. • Investment in professional growth. • Recognition of individual capabilities and merit.	Survey on people satisfaction. Focus group on specific topics. Consulting, exchanges and negotiations with the Labor Unions.
Suppliers	• Opportunity to compete on the basis of quality and price. • Transparency and fulfillment of agreements and contractual commitments. • Transparent procurement processes. • Supplier qualification, also through quality, environmental and social certification. • Anti-mafia and anti-money laundering prevention with suppliers.	Procurement portal, direct meetings.
Grid users, customers and business partners (Private customers, grid users – producers, distributors, traders, interruptible users – users of the electricity system, grid owners, other grid operators, business partners)	• Efficient, quality service aiming at constant improvement. • No arbitrary discrimination among operators. • Confidentiality of information regarding grid users.	Consultation Committee on Grid Code, dedicated meetings. Section “Operator Consulting” in Terna’s website.
Regulatory authorities and institutions - AEEG (AEEG-Electricity and Gas Authority, other sector regulatory authorities, government bodies with decision-making powers, Antitrust Authority, CONSOB, stock exchange bodies, strike committee)	• Transparent, complete, reliable information. • Meeting deadlines. • Fair and collaborative approach to facilitate the regulatory task.	Periodical meetings
Authorities and associations (EU and International bodies, National authorities and government representatives, Civil Protection, National Safety Authority and Police forces, regions, provinces and autonomous provinces, associations representing economic interests, ETSO, UCTE)	• Representation of the Company’s interests and positions in a transparent, scrupulous, consistent way, avoiding collusive attitudes. • Ensuring utmost clarity in relations.	Direct participation in technical committees and in steering bodies.
Media, opinion groups, scientific community (Media, universities and scientific associations, environmental organizations, consumer associations, opinion makers, opinion groups, national and international technical standardization bodies, political parties)	• Public and widespread dissemination of information. • Exclusion of exploitation and manipulation of information to the advantage of the Company. • Pursuit of cooperation areas of mutual interest with associations representing stakeholders.	Presentation and dissemination of the Sustainability Report and of the Development Plan. Organization of seminars, workshops, targeted surveys. Collaboration and partnership initiatives.
Society and local communities (National society; the country, local communities and the environment, end users of the electricity service, local bodies directly affected by Terna’s activities).	• Ensuring security, continuity, quality, and cost-effectiveness of the service over time. • Assessing the long-term effects of the Company’s choices. • Reducing the environmental impact of corporate activities. • Advance dialogue with local authorities to carry out investment that is respectful of the environment, landscape, and local interests. • Supporting initiatives having a social, humanitarian, and cultural value. • Providing evidence for the implementation of the environmental and social policy.	Coordination process in planning the electricity grid. Sample surveys of the population.

Shareholders, financial analysts and providers of capital

Information transparency and timeliness characterize the relationship between Terna and its institutional and individual investors. Specifically, the Investor Relations Department interfaces with market operators and the Corporate Secretary Department with retail investors.
Retail investors can contact the Company by phone at (+39) 06-8313.8136 and (+39) 06-8313.8359 and by e-mail at: azionisti.retail@terna.it.
For institutional investors, the phone numbers are (+39) 06-8313.8106 and (+39) 06-8313.9041 and the e-mail address is investor.relations@terna.it.
To further facilitate dialogue with its investors, Terna activated a dedicated Investor Relations Section on its institutional website, www.terna.it, which offers everyone interested **the opportunity to be promptly updated on the Company's economic results and strategic objectives**. The section provides financial information (financial statements, half-year and quarterly reports, sustainability reports, presentations to the financial community), data, and updated documents of interest to most shareholders (press releases, composition of the corporate bodies, the Bylaws and shareholders' meeting regulations, documents and other information regarding corporate governance, the Code of Ethics, the Organizational and Management Model pursuant to Legislative Decree 231/2001). In addition to the complete documentation produced by the Company also in an interactive version, web streaming also enables visitors to the site to follow the conference calls organized both when the Company's results (quarterly, half-year, and annual) are published and when significant extraordinary transactions take place. Live participation in these events through the two channels exceeds on average fifty connections, including the analysts who follow Terna's shares and publish studies.
During 2011, retail investors made 29 e-mail requests (23 in 2010, 29 in 2009). The requests regarded dividends and interim dividends, the related policy and the right to receive dividend payments as well as the documentation for shareholders' meetings.
During Terna's 2011 annual Shareholders' Meeting and throughout all the period that was strictly functional to its being in session, the Company has made available to all entitled shareholders a certified email (Posta Elettronica Certificata – PEC) for receiving documents and any questions regarding the Shareholders' Meeting and the items on the agenda.
The Corporate Social Responsibility Department maintains relations with sustainability rating agencies and, in collaboration with the Investor Relations Department, with analysts and investment managers providing them with the information necessary to assess the Company's ESG performance. In 2011, the following organizations requested and obtained information: Carbon Disclosure Project, ECPI, EIRIS, Etica Sgr, Goldman Sachs, Natixis, SAM – Sustainable Asset Management, Sustainalytics and Vigeo.

Employees

2011 Survey on People Satisfaction

In 2011, Terna once again conducted a survey among its employees regarding people satisfaction, reopening a listening exchange that began in 2007 and that was temporarily suspended in 2010, after three editions, based on the need to revise and improve the survey tools. For the new survey, a method was adopted that refers to people satisfaction, allowing to explore not only the quality of relations and of the working environment, but also the company's capability to be effective and productive by promoting and maintaining an adequate level of employee satisfaction.
The initiative was addressed to all employees part of the labor force as of December 31, 2010. The investigation, in strict anonymity, was conducted by an external company during the 2011 May-November period in two phases:

- an online questionnaire for executives, managers, employees; a hard copy questionnaire for technicians without an individual PC;
- 5 Focus Groups with employees characterized by belonging to professional groups and to different offices, aimed at analyzing the data of the questionnaires.

The areas surveyed were: Efficiency/Being Open to Innovation; Work Organization; Comfort/Occupational Safety; Management; Equity; Relations among colleagues; Conflicts.
Confirming the validity of the survey methods, the participation rate was 63%, in line with the interest demonstrated by the employees also in the previous years (without workers, for which in 2009 a sampling criteria was used, participation was 71% compared to 70% in 2009).
The general picture of employee satisfaction at Terna was positive. The average points being 58/100, not comparable to the results of the previous years owing to the different method used, were higher by 10 points with respect to the average results registered with the same method used by other companies. Terna is perceived as an efficient and innovative company, attentive to its employees' safety and comfort. People experience their working life in a dynamic context within a spirit of collaboration and confidence in the management's capabilities. The company's full range of know-how and expertise is considered as a resource to be proud of and as an element in which to invest an increasing number of resources. The work pace is intense involving a high level of physical and mental energy. This is matched with the

willingness on the part of the personnel to dedicate their commitment to the company also based on a strong feeling of belonging and an overall high level of satisfaction. The prevailing feeling is being part of a team, being satisfied with personal relations forged at work, perceiving that the company's activity is appreciated also externally and sharing the company's activities.
Within this positive situation, certain areas are underlined requiring improvement, among which a more complete recognition of merit through improved evaluation tools and performance enhancement, a more intensive communication among departments and among the head office and branches and the need for improving flexibility of the procedure system. Generally, expectations are based on the company maintaining and strengthening an exchange with employees and enhancing human resources. Following the analysis of the survey's results, at the beginning of 2012 Terna created interdepartmental working groups to define improvement proposal.

Relations with labor unions

The Protocol on the System of Industrial Relations that governs relations with labor unions at the corporate level establishes a system of relations and arrangements based on advance and/or periodical bargaining, discussion, consultation, and information (see the section on Industrial Relations).

In the 2009-2011 three-year period, bargaining with the industry labor unions led to signing 44 agreements.
For 2011, industrial relations activity was characterized by negotiations with the national labor union secretariats regarding collective bargaining agreements or second level bargaining agreements.
Two principal agreements were signed defining the new economic-regulatory framework for the 2011-2013 three-year period regarding performance related pay and expense reimbursement for travel. The latter agreement replaced the previous system, based on 20 different regional agreements, providing for the gradual establishment – to be completed by January 1, 2013 – of single amounts at the national level for itemized reimbursement costs.
The memorandum signed on September 21, 2011 also implemented specific occupational safety training projects (managing building site safety, fire safety training, safe driving in snow and ice), with the willingness to consolidate a participatory industrial relations model also by sharing training objectives and purposes. A preliminary exchange also began with the national labor union secretariats regarding the project for the Terna Group's new organizational structure.

Grid users and companies in the electricity industry

Consultation Committee

As in the last few years, in 2011 Terna continued to promote the engagement of the electricity operators concerned by the regulation of the transmission and dispatching services performed by Terna, also through the activities of the users' Consultation Committee.
The Committee is the technical consultation body established in compliance with Prime Minister's Decree of May 11, 2004, which regulates the unified ownership and management of the grid. It is the permanent place for consultation of electricity operators: the Committee indeed includes representatives of the different operator categories, namely: distributors, producers from both conventional and non conventional sources, major industrial customers, wholesalers and consumers, with the participation of the Electricity and Gas Authority and the Ministry for Economic Development as observers.
The Committee, whose members are renewed every three years, has an advisory role (expressing non-binding opinions on the general criteria for grid development, interconnections, grid safety protection and on the general criteria for classifying sensitive information and their access); it proposes amendments to the existing regulations and carries out conciliatory duties since, upon request of the parties, it may facilitate the settlement of disputes among grid users deriving from the application of Grid Code regulations.
During 2011, the Committee was involved in the consultation process and in expressing its opinion on the following issues:

- the agreement that regulates the relations between Terna and distribution companies regarding the metering aggregation service whose contract standard represents an attachment to the Grid Code (Attachment A.58);
- the proposal for dividing the relevant grid into zones pertaining to the 2012-2014 three-year period in compliance with article 15 of the Resolution no. 111/06 issued by the Electricity and Gas Authority. This document also represents an attachment to the Grid Code (Attachment A.24);
- proposals for new technical attachments to the Grid Code. A first document regards the minimum requirements for connecting and operating photovoltaic plants connected to the relevant grid; a second document pertains to the technical regulation of the system's requirements for distributed electricity generation. Both documents were drafted based on the development of photovoltaic technology for producing electricity and on the growing number of grid connection requests of this type, requiring specific technical requirements in order to safely manage the electricity grid. An additional technical document defines criteria and operational connection modalities of the production plants used for Terna's defence system;
- the document integrating the 2011 Development Plan, in order to include a specific section regarding electricity storage

systems aimed at facilitating the dispatching of production plants from non-programmable renewable sources, on the basis of the provisions of article 17, paragraph 3, of Legislative Decree no. 28 of March 3, 2011, "Implementing Directive 2009/28/EC for promoting the use of energy from renewables containing the amendment and subsequent repeal of Directives 2001/77/EC and 2003/30/EC";

- the amendments made to dispatching rules (chapters 4 and 7 of the Grid Code and Attachment A.25).

In addition to the above-mentioned topics on which the Committee was officially called to express its opinion, also in 2011, Terna ensured that the members in the Committee received ongoing updates and information regarding its activities in progress that were of interest to the operators.

In this context, the Committee received information and updates on the progress of the National Transmission Grid's Development Plan with particular reference to work in progress in the building sites, the medium and long term forecasts of the national electricity demand and the required power supply, to initiatives underway for defining Grid Codes particularly focusing on the Network Code "*Requirements for Generators*", and on the implementation of the Gaudì project (see box page 109).

As part of facilitating the broadest participation in establishing the technical regulation for transmission and dispatching services, concomitantly with revising the company's website, the homepage contains a specific box "**Operator consulting**" through which interested operators can dialogue with Terna regarding amendment proposals for modifying the regulations included in the Grid Code.

S01 Society and Local Communities

S010

Consultation with Local Governments

Terna's approach to local communities comes into play especially when the Company builds new lines (see chapter on Environmental responsibility) and consists in the early engagement of local authorities (regional and local authorities, parks, etc.).This process includes sharing the development needs of the National Transmission Grid (NTG) with local authorities, listening to stakeholders' opinions and the pursuit of an agreed solution for the location of the new infrastructures and the reorganization of the existing ones. To encourage the acceptance of electricity infrastructures on the part of the local communities, Terna believes it is fundamental to advance as much as possible the coordination phase with the Local Authorities as of the moment the need is determined for implementing new development projects for the NTG. In this way conditions are "built" together for developing the grid, allowing the projects to be more sustainable and acceptable. This approach can also help expediting authorization processes that for the Local Authorities become a way to recognize the advance work coordinated with Terna, rather than being the first opportunity for learning about the existence of projects involving one's own territory planned by others, without any prior involvement. The dialogue between Terna and local authorities requires nearly 20 resources of the Institutional Affairs Department, who deal with institutional meetings and joint on-the-spot investigations with all the bodies concerned. This is an intense activity, since the process before and after the authorization of new projects is very complex.

The **voluntary pre-authorization process** lasts on average from one to three years and includes various specific activities, particularly meetings, for:

- defining and finalizing cooperation for sustainably developing the NTG as part of the Strategic Environmental Assessment;
- defining a system of criteria for analyzing the local area and selecting the alternatives with the least impact;
- applying the criteria to the local area and identifying the best corridor in which the work is to be built;
- defining the feasibility range inside the corridor and finalizing the related memorandums of understanding;
- defining and finalizing agreements on offsetting any remaining environmental impact.

As established by the law, the authorization process is implemented through "conferenza dei servizi" (meetings of all authorities and players involved) and lasts on average from one to two years.

EU19 The following table summarizes the level of participatory decision-making processes with the stakeholders concerned on energy planning and infrastructure development, as well as the results of their engagement.

MAIN COORDINATION ACTIVITIES

Project	Type	Length	Authorities involved	Number of meetings in 2011
"Foggia-Villanova (PE)" power line "Foggia-Gissi (CH)" segment - Abruzzo, Molise and Puglia)	380 kV	Nearly 120 km	3 Regions 3 Provinces 19 Municipalities	71
"Fano (PU)-Teramo" power line	380 kV	Nearly 190 km	2 Regions 6 Provinces 45 Municipalities	46
Interconnection of the islands in Campania (part of the work)	150 kV	30 km	3 Municipalities	6
"Deliceto-Bisaccia" power line (Campania and Puglia)	380 kV	Nearly 35 km	2 Regions 2 Provinces 5 Municipalities	35
"Montecorvino-Avellino Nord-Benevento II" power line ("Avellino Nord - BN II" segment)	380 kV	65 km	1 Region 3 Provinces 23 Municipalities	15
Station north of Bologna (Emilia-Romagna)	380 kV	25 km of overhead lines 20 km of dismantlement	2 Municipalities	5
Upgrading Reggio-Emilia Area (Emilia-Romagna)	132 kV	38 km of overhead lines 14 km of cable lines 44 km of dismantlement	1 Province 7 Municipalities	6
Riccione-Rimini ring	132 kV	Work to be defined (*)	Municipalities of Riccione, Rimini, Coriano	4
"S.ta Teresa-Tempio-Buddusò" power line (Sardinia)	150 kV	Nearly 95 km	1 Region 1 Province 9 Municipalities	7
"Selargius-Goni" power line (Sardinia)	150 kV	Nearly 30 km	1 Region 1 Province 12 Municipalities	2
Station in Mulargia (Sardinia)	150 kV	–	1 Region 1 Province 1 Municipalities	3
"Chiaramonte Gulfi-Ciminna" power line (Sicily)	380 kV		22 Municipalities 6 Provinces 1 Region	11
Grid restructuring in Lucca area (Tuscany)	380 kV e 132 kV	Work to be defined (*)	Coordination presently underway with the Municipality of Lucca	2
Upgrading HV grid in Umbria (Umbria)	120 kV	Work to be defined	1 Region 2 Provinces (as of today, 1 Municipality involved in coordination)	16
Station in Schio (VI) - (Veneto)	220 kV	–	1 Municipality	25
Trasversale in Veneto power line	380 kV		2 Provinces 9 Municipalities 1 Park	50
Upgrading Valle Sabbia (integration)	380/220/132 kV	(*)	1 Municipality 1 Mountain community	6
Upgrading HV line in Potenza area	380/220/150 kV	(*)	2 Provinces 11 Municipalities	8
380 kV Sorgente-Ponte Cinque Archi power line	380 kV		4 Provinces	3
Upgrading Valle D'Aosta	380/132 kV	Work to be defined (*)	1 Province 12-13 Municipalities	10
220 kV Partinico-Fulgatore power line	220 kV		2 Provinces	1
Grid restructuring in Ferrara	380/220 kV	Work to be defined (*)	1 Province 1 Municipality	3
Grid restructuring in Penisola sorrentina	380/220/150 kV	Work to be defined (*)	3 Provinces	10

(*) In the event of restructuring/upgrading, this does not involve only one line but a series of measures, that cannot be grouped only into one figure.

S01

Trasversale in Veneto: complete online information

At the beginning of 2011, within the section "Terna's buildings sites in Italy" on its website www.terna.it, Terna published online a focus on the reasons for building the new "Trasversale in Veneto" electricity line, its impacts and advantages, with charts, data and overhead photographs of the territory, updates on the coordination in progress and on the authorization process that started at the beginning of 2012.
This initiative, a first of its kind, intends to provide all the communities of the provinces of Treviso and Venice involved by the new electricity line, easy and immediate access to complete, transparent and timely information on this essential and urgent work for solving the risk of blackouts and guaranteeing stability to the regional electricity system.
The detailed section "Trasversale in Veneto" is divided into five parts: "Reasons for implementing the project", "The project and its advantages" (with details for each Municipality) "The Authorization Process", "Communication" and "Questions and Answers" and illustrates to all the communities involved by the presence of the power line (Venice, Martellago, Scorzé, Zero Branco, Quinto di Treviso, Morgano, Paese, Istrana, Trevignano and Volpago del Montello) and to those involved only by possible removal and modernization of old lines (Ponzano Veneto, Povegliano and Treviso) the need for the project, its progress and advantages for each territory in the event an agreement is reached between the Municipalities and Terna, prior to the authorization request for the new line.

Reasons for implementing the project

The Veneto region is characterized by a high level of electricity consumption, but produces less than half the quantity it consumes: for this reason it must import the electricity it needs from neighboring regions, using the "energy highways", i.e., the system of transmission lines that must be efficient and safe.
Veneto's transmission grid currently represents a critical segment of the entire Italian electricity system: the region only has two main EHV electricity lines crossing it from the North to the South, part of a grid system (built prior to 1950) characterized by a low level of interconnection and of meshing. The region's inadequate transmission grid also emerges from the direct comparison with other regions having similar characteristics owing to the presence of extensive industry. A malfunction or maintenance work along a segment of the two existing EHV lines are sufficient for risking blackouts in the Treviso and Venice provinces. In order to solve **the risks of blackouts** to which families and businesses living in the Marca Trevigiana and in the Venice area are exposed to, it is essential to build as soon as possible the power line named "Trasversale in Veneto" – connecting the two existing EHV lines. Thanks to building the new line, all the area involved in the project will solve the risk of outages.

The project's environmental advantages

The "Trasversale in Veneto" electricity line includes building approximately 34 km of a new 380 kV electricity line between the existing power station in Venezia Nord and a new power station to be built in Volpago del Montello. The electricity line, far away from urban centers, will be built fully respecting the safety distances from urban areas exceeding by far law requirements which are the most stringent ones in Europe for electromagnetic fields. It will also be possible to **remove 86 km of old electricity lines** currently included in urban centers: approximately 1,000 buildings, built near (if not actually under) the power lines could benefit from the removal of the electricity lines. Over 1,800 buildings located within a 100 meter reach from the electricity lines that could be removed, would benefit from an economic re-evaluation thanks to the removal of the pylons.
The new electricity line will allow reducing by 12 thousand tons/year the quantity of CO_2 emissions in the environment. The old electricity lines that will be replaced by the new Trasversale were built with obsolete technology and with grid losses that the new, more efficient, electricity line will drastically reduce.

Suppliers

The usual place where Terna and its suppliers meet is the "**Procurement Portal**", the section of the institutional website through which it is possible to learn about tenders, participate in online tenders, and go through the qualification process for being included in the supplier register.
The Procurement Department also maintains direct contacts with suppliers to manage contractual relations and improve the Company's knowledge of the specific problems of groups of suppliers. In this regard the Company periodically organizes meetings with the qualified companies or industry associations to inform them of new developments regarding requirements or concerns connected with the ethical conduct expected in relations with Terna.
Terna presents and discusses its most important investment projects – as well as the related procurement plans – **with the electro-mechanical companies in the electricity industry** (many of which are members of Confindustria ANIE).

The Company's large program of works requires an even greater effort by suppliers, which are called on to transform themselves from simple contractors into veritable technological partners. The new challenge is entrusting all the works, in which the contractor will be involved from the earliest stages of planning. Lastly, Terna actively participates in the main occasions for meeting its suppliers, such as industry meetings, expos, and conferences.
In order to expand its portfolio of suppliers, Terna permanently engages in "**procurement marketing**" through market scouting, benchmarking, and monitoring the performance of suppliers, which entails constantly meeting with both Italian and foreign supplier firms.

Media, opinion groups and the scientific community

Presenting the Development Plan to category associations

For the first time, Terna has organized a series of meetings with category associations for a direct dialogue regarding the National Transmission Grid's (NTG) Development Plan. With this initiative, Terna has created mutual exchange on common interest topics. For more information see the box below.

S01

A network of relations with stakeholders

According to Terna's vision, a sustainable approach to business must occur through transparent relations with its reference stakeholders.
In this respect, 2011 was a year filled with novelties: for the first time systematic meetings were held with the top management of three types of associations representing the interests of entrepreneurs, consumers and environmentalists. The object of the meetings was the presentation of the grid's Development Plan, which is the document drafted every year by the Company with the projects scheduled for the next 10 years and a progress report of the works included in the Plans of the previous years.
The law establishes that the Development Plan, prior to being approved by the Ministry for Economic Development, is submitted to the Strategic Environmental Assessment (SEA). The SEA, adopted by Terna since 2002 and ahead of time with respect to its becoming effective, establishes that the Development Plan be submitted to the appropriate authorities for consultation on the part of the interested public which then have a timeframe of 90 days for presenting any comments.
This year Terna wished to enhance this phase by promoting direct meetings with the associations placing them in the condition to fully understanding the Plan.
Terna's invitation, extended to all the principal associations, was accepted by Coldiretti, Confapi, Adiconsum, ADOC, Assoconsum Roma, Assoutenti, Codacons, CODICI-Centro per i diritti del cittadino (Center for Citizen's Rights), Federconsumatori, ENPA - Ente Nazionale Protezione Animali (National Animal Protection Association), Fare Ambiente, LIPU – Lega Italiana Protezione Uccelli (Italian Bird Protection Association), VAS - Verdi Ambiente Società (Green Environment Association), WWF Italia and WWF Research and Projects. Explanatory meetings for the Development Plan were held also with representatives of Confindustria and with the entrepreneurial Associations of the electricity and energy sectors belonging to it. Particularly significant was the meeting with the consumer Associations representing the national community, a primary stakeholder to which Terna must guarantee a safe, cost-effective and high quality electricity service.
The presentations held in June 2011 were attended by the Director of Operations Italia, head of grid planning and development activities and also of the Development Plan.
All the meetings were characterized by a positive acceptance of the initiative by the associations invited which, also thanks to the materials provided by Terna, became promoters with their respective organizations for disseminating the information.
Knowledge of the Development Plan and of the energy needs determining it, also generated understanding of the complexities and of the lengthy authorization processes for the various projects; many associations expressed their willingness to support Terna's requests submitted to the local authorities based on proper coordination.
Explaining the Single Authorization, the procedure that combines the authorization process for new plants from renewables with that for the relative grid connection work, determined the willingness of various associations to oversee its proper application in the specific territories.

Terna-Greenpeace exchange on the grids of the future

In July 2011, Terna hosted a technical meeting open to authorities, companies operating in the sector and consumer associations, with the environmentalist association Greenpeace on grid development in light of the increase of renewable sources and of the European 20-20-20 objectives.
The starting point of the debate was "The Battle of the Grids", the research commissioned by Greenpeace International to the German research center EnergyNautics. For more information see the box below.

The Battle of the Grids: joint Terna-Greenpeace initiative

On July 12, 2011 the technical debate "The Battle of the Grids" was held in the Auditorium at Terna's headoffice in Rome. The meeting was organized by Terna together with the environmentalist association Greenpeace to discuss grid development in light of the increase of renewable sources and of the European 20-20-20 objectives. The seminar's focus, to which authorities, companies operating in the sector and consumer associations were invited, was the presentation and a debate on the research "The Battle of the Grids", commissioned by Greenpeace International to the German research center EnergyNautics.
The research outlines a scenario up to 2050 where production from renewables will cover up to nearly 100% of the European electricity demand: an attainable result with different combinations of investments in the European production and in the large grid interconnection works, with significant implications in all segments of the electricity production process, from generation and transmission to distribution.
The research's results were presented by the CEO of EnergyNautics Thomas Ackermann and discussed in a panel formed by Terna's technicians and by experts from the energy sector.
The seminar's joint organization was also an opportunity and the result of a constructive exchange between Greenpeace and Terna on energy production from renewables in Europe and on the role of the transmission grid in promoting an increased production from renewables.

Agreement with Legambiente

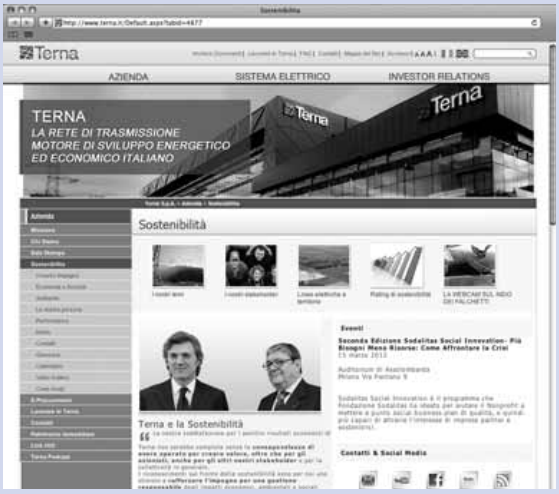
At the end of 2011, Terna signed a Memorandum of Understanding with Legambiente for sustainably developing the country's electricity grid and for promoting the spread of an energy sustainability culture that joins developing the electricity system as well as renewables. For further information see box, page 140.

KWD Webranking Italy, Europe and Lunquist Assessments

Terna's online communication received important recognition in the principal analyses of the year; all the rankings registered improvements, even significant ones.

The reference stakeholders reward Terna's web communication

2011 registered a general improvement in the company's online communication that reached the top of the most important rankings in the sector.
The KWD Webranking annual research (previously known as H&H Webranking), that reached its tenth edition in Italy, examined 101 leading Italian companies for capitalization assessing their corporate web communication.
Terna's website was included in the Top 10 thanks to a score (71.3 points, Italian average: 36.8) that allowed it to climb three positions (from 13th to 10th) ranking fifth among the "best improver" websites, i.e., those that improved the most in the last year. Terna's website performance is even more significant when considering that the first two companies in the ranking maintained their position even in the analysis that was extended to Europe.
In the KWD Webranking Europe 500, i.e., the analysis extended to the 500 leading European companies for capitalization (source: FT Europe 500), with its 71.25 points (European average: 44.2) Terna entered into the Top 20 (19th place, climbing 33 positions) standing out as the company that improved the most compared to the previous edition.



The reference stakeholders reward Terna's web communication.

KDW Webranking's research method is based on 3 principal phases, the first of which includes stakeholder engagement by collecting feedback from professionals in the sector, drafting assessment criteria based on information collected and data analyzed and comments regarding the results.
These two rewards for Terna's online corporate communication were added to the one obtained in October 2011 in the website's "Sustainability" section ranking fifth in the fourth edition of the "CSR Online Awards" research conducted by the Swedish financial communication company Lundquist in collaboration with Il Sole 24 Ore (see Awards, page 50). This analysis is also based on the initial involvement of experts that responded to the questionnaire (312 from 37 countries) that was followed by an assessment of 79 criteria which could not exceed a maximum of 100 points assigned. In particular, Terna was indicated among the "best in class" in the Ethics & Governance areas (maximum obtainable points: 6.5) with 6, closely behind Telecom Italia and Fiat (6.5) and in Contents (58 available points) with equal points (46) with Fiat after Telecom Italia (51.5), Enel and Hera (47).

TOP TEN 2011 - KWD WEBRANKING

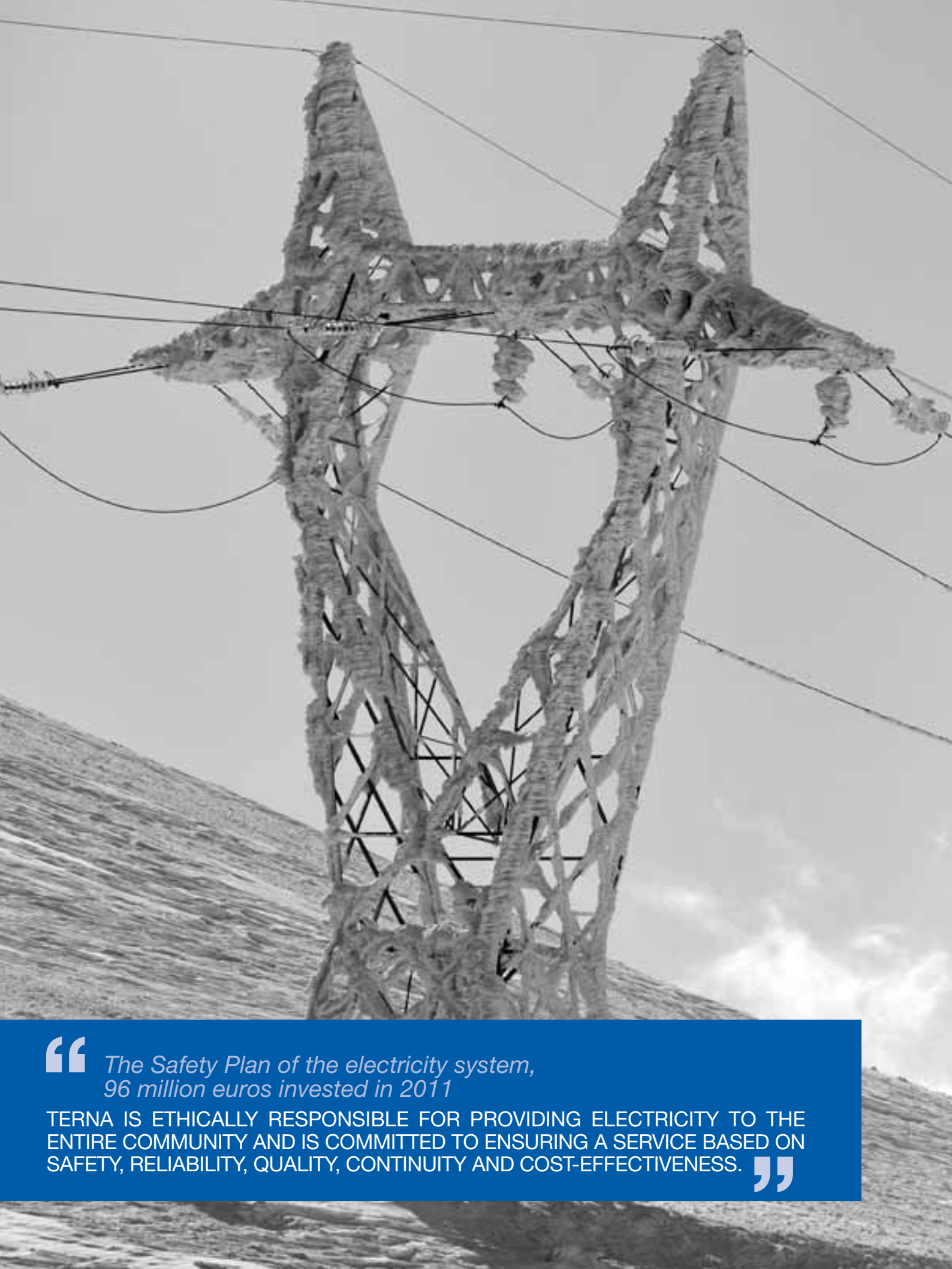
Company	Points
Telecom Italia	89
Eni	87
Hera	85.5
Piaggio Group	81.5
Pirelli & C.	80.3
UniCredit Group	77.3
Edison	76
Snam Rete Gas	76
Assicurazioni Generali	71.5
Terna	71.3

TOP TEN 2011 - LUNDQUIST

Company	Points
Telecom Italia	82
Fiat SpA	79.5
Eni	79
Hera	79
Terna	74.5
UniCredit	74.5
Enel	74
Snam Rete Gas	72
Intesa Sanpaolo	71.5
Banca MPS	71

Demoskopea Survey "*City Giornalisti* 2011"

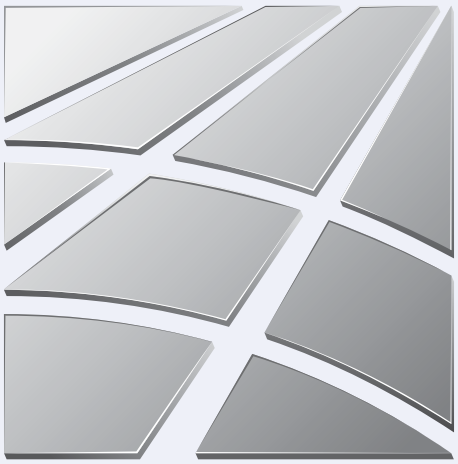
The 2011 edition of the Demoskopea survey "*City Giornalisti*", conducted with 80 economic and financial journalists out of a sample of 48 companies for assessing the quality of press offices, this year also revealed excellent results for Terna that ranked sixth in the overall ranking and fourth among the energy companies.
Another important result was achieved regarding the "familiarity" of journalists with the company: in this special ranking Terna ranked absolute fifth, climbing eighteen positions compared to the previous edition and third among energy companies. Terna is the company that improved the most compared to 2010: rising by 4 percentage points compared to an average of -4%. The financial press, lastly, judges Terna's profile positively and appreciates its press office for the timeliness in providing information.



The Safety Plan of the electricity system,
96 million euros invested in 2011

TERNA IS ETHICALLY RESPONSIBLE FOR PROVIDING ELECTRICITY TO THE ENTIRE COMMUNITY AND IS COMMITTED TO ENSURING A SERVICE BASED ON SAFETY, RELIABILITY, QUALITY, CONTINUITY AND COST-EFFECTIVENESS.

2011



Responsibility for the electricity service

Terna

Our approach

Terna's core business is electricity transmission and dispatching. These are general interest services that, as in other European countries, are carried out based on a concession by the government, which assigns Terna the role of National Electricity System Operator (TSO). The service provided by Terna is indispensable for the operation of the entire electricity system and thus for supplying electricity to the population.
Given the nature of the service, Terna is not affected by the problems of product responsibility typical of producers of goods or services for end customers, such as the explanatory content of labels, marketing, and advertising.
Even though the end users of the electricity service are not direct customers of Terna, but rather of companies that distribute and sell electricity, **the role it performs in the electricity system makes Terna ethically responsible to all of Italian society for the service**; the sense of responsibility for a public service is part of the work culture of the Company's personnel.
Thus Terna strongly feels the responsibility entrusted to it by the government concession and takes on its objectives. In particular, in Italy, the Company undertakes to:

- provide a service characterized by security, reliability, quality, continuity, and cost-effectiveness, constantly maintaining a balance between electricity demand and supply;
- keep the transmission system efficient and develop it;
- comply with the principles of impartiality and neutrality to ensure that all grid users are treated equally.

The responsibility regards both everyday operation and the medium and long term. The grid is Terna's asset, but it is also an essential infrastructure for the country, and its current management, maintenance, and development must ensure its efficiency and security in the near future, as well as for future generations.
Our managerial objectives are therefore first of all **connected to complying with regulations and meeting the specific targets established by the industry's regulatory authority** (the AEEG, Electricity and Gas Authority). Particularly important among these are the different measures for service continuity. Terna's performance in the last few years has always been in line with or exceeded the targets set.
Terna's role in the Italian electricity system entails specific objectives regarding the security and development of the grid. **The security objectives are stated in the Security Plan for the electricity system**, in which the investments are planned that are necessary to improve various aspects affecting the security of the electricity system.
The grid development objectives are published in the Development Plan, which is approved every year by the Ministry for Economic Development and sets forth the construction of new electricity lines and stations necessary to ensure the efficiency and cost-effectiveness of the system. Terna selects development projects also according to the condition that overall benefits for the electricity systems are greater than their costs.
The task as operator of the electricity system entails knowledge of confidential data of transmission and dispatching services users, particularly electricity producers. Furthermore, **Terna is entrusted by the National Statistics System with the task of compiling the statistics of the Italian electricity industry,** for which information is collected from the companies concerned. For these data and those it processes to manage its economic relations with grid users, Terna follows the best practices for protecting confidential data in order to prevent the information in its possession from being accessible or communicated to third parties that are not entitled to it.

The security of the electricity system

Ensuring the security of the Italian electricity system which is interconnected with the European grid is a sensitive task, which Terna performs through a series of actions based on a scrupulous assessment of operating risks.
The objective is to maintain the risk of service outage within pre-established limits and mitigate as much as possible the negative consequences of malfunctioning in the event this occurs.
To keep high security levels, Terna must maintain an excellent performance in all the phases of its activities, from the development and construction of infrastructures to plant maintenance and real-time operation. The benchmark for the criteria to adopt is the best European practices in the field of managing interconnected electricity systems. These practices are the result of the cooperation that has taken place for some time within the international organizations in which Terna participates as a transmission system operator (TSO). It is particularly in the ENTSO-E, the European Organization that groups TSOs, that Terna cooperates for writing international Grid Codes and the ten-year Development Plan for the European electricity grid, with the objective of managing service security and at the same time favoring the integration of renewable sources into the interconnected system and the development of electricity markets (see box, page 79).
For Terna, preventing and limiting the risk of outages means monitoring and protecting the physical integrity of its plants, preparing defense plans to limit the consequences of outages, carrying out preventive operation planning, improving real-time control, and training the employees involved also through modern simulation instruments that reproduce the system operation; it also means developing new methods for supporting the planning and control processes, improving the reliability of support tools and coordinating the management of the interconnected system with neighboring TSOs. EU6
Terna's commitment to continual improvement is expressed in the Plan for the Security of the Electricity System prepared by the Company and approved by the Ministry for Economic Development. The Plan is drawn up every year with a three year time horizon. In the different editions of the Plan since it was introduced in 2003, the approach to the security of the electricity system has become increasingly complex.
The initiatives that were presented in the past editions of the Security Plan regarding planning, control, regulation and protection, restoration and monitoring of the electricity system, have been confirmed and partly reviewed in order to better focus on new requirements, such as a more flexible management of the system, in coordination with neighboring TSOs and distributor companies.
The presence of a subject area dedicated to renewable sources, which was introduced during the previous edition of the Plan, was confirmed due to their importance with regard to the security of the system and the objective of ensuring the full integration of renewable energy plants into the interconnected system.
The following are the main objectives achieved in 2011:

- consolidating optimization tools for the procurement of dispatching resources and the verification of congestions (of the following types: *Optimal Power Flow* and *Optimal Reactive Power Flow*);
- improving the process of and the tools for the assessment of the risk conditions related to non meeting the demand (of the *Advance Dispatching* type);
- improving the forecasting of wind power production and introducing the forecast of PV power generation also of the distributed type;
- automatically correcting congestions occurring in the most critical segments of the grid also in the sub-transmission grid to which renewable energy plants are connected;
- launching testing activities of the new control System;
- strengthening the telecommunication infrastructure in support of the Control System and defense systems.

The 2011 Security Plan also highlights the need to identify ways to operate the electricity system over the medium term that are characterized by new elements such as the significant development of renewable energy sources, the widespread presence of electric vehicles and an active demand that is increasingly aware of price indications from energy markets.
These new elements indeed increase the complexity of managing the system and the need to adopt new control systems of the Smart Grid type (see box page 68). The initiatives that are currently under study include coordination proposals to be made to distributor companies for the control of the distributed power generation and the active demand, the management of energy storage systems for the management of the variability in the renewable energy production (see box, page 69) and the dynamic management of grid elements.
In 2011, the investments associated with the Security Plan totaled 96 million euros.
The eighth edition of the 2011-2014 Security Plan provides for investments of 206 million euros.

EU8

Terna and Smart Grids

The development of generation from renewable energy sources – which is bound to continue in the near future at high growth rates, also thanks to the European strategy for limiting CO_2 emissions – poses new challenges for the transmission and distribution of electricity.
In particular, the unpredictable variability of wind and sun availability and the increasing production by small plants located along the distribution grids and the prospects of a greater role of active demand (daily consumption based on price variation), conflict with the traditional structure of the electricity system, which is based on a transmission grid that transfers huge quantities of power from large production centers concentrated in the connection points with the distribution grids, where it is consumed in a widespread way.
The need to change this structure renders it necessary to develop networks and control techniques capable of fostering the dissemination of renewable energy sources without lowering service security: the so-called Smart Grids. Multifunctional smart grids can regulate multi-directional power flows, integrate renewable sources, and make access to the electricity system more flexible for grid users.
Even though transmission grids are already capable of managing variable and multi-directional flows, the increased production of electricity from renewable sources also affects Transmission System Operators, requiring the introduction of innovative solutions for the security and efficiency of the dispatching service.
Furthermore, the system must be able to cope with malfunctions and other abnormal situations by redistributing power flows without suffering service outages and permanently violating the working limits of the equipment that forms the entire system.
It is on the basis of these objectives that Terna has concentrated its development priorities regarding Smart Grids on 4 main aspects:

- **Non conventional storage systems** (see box, page 69) through which the coordinated management is ensured of production injections from renewable sources and energy storage, maximizing production from renewable sources and the system's efficiency and increasing the regulation capability of the electricity system.
- **SPS - Special Protection Systems**, i.e., technologically advanced automatic devices that react to large malfunctions. These systems require the construction on a large scale of immediate-remedial-action schemes that can limit the consequences of a malfunctioning and even trigger self-healing mechanisms.
- **Advanced forecasting instruments** for obtaining a more accurate prediction of production from renewable sources based on real time processing of meteorological data and of the production from wind and photovoltaic plants.
- **Dynamic line rating**, i.e. the dynamic determination of the capacity limits of lines according to environmental conditions, aimed at maximizing the use of the transfer capacity or at a more efficient grid use, as opposed to fixed and excessively reductive limits in favorable meteorological conditions.

Energy Storage, a solution to the problems associated with Non-Programmable Renewable Energy Sources

The sharp increase in power generation plants from Non-Programmable Renewable Energy Sources (NPRS), especially in Southern Italy and on the islands, has a significant impact on the management, operation and cost of the national electricity system.

A high concentration of production distributed by the NPRS compared to the amount of local power load often requires limiting its injection into the grid – in particular with regard to wind power production – to solve local congestions on the high voltage segments of the grid. The presence of NPRS often increases the number and extent of grid congestions. The result is **higher production costs for the national electricity system** which is linked to the need to resort to less efficient electricity production with higher marginal costs.

With regard to the **security of the electricity system**, the widespread presence of production from NPRS implies a reduced availability of primary reserve (that is the capability of automatic regulation, which is typical of thermoelectric groups, in case of deviation from the default parameters of grid frequency) caused by a reduction of regulating production units, based on equal electricity demand, which are excluded from the market by the presence of renewable generation with dispatching priorities. Moreover, scant predictability and high intermittency, especially of wind power, require the availability of greater secondary and tertiary reserve margins in order to allow for real time regulation.

Grid development activities planned by Terna only partially address the critical issues posed by the increase in production from NPRS, given that – due to the long implementation timetable – they can provide a solution to the congestions but not to the safe management of the National Electricity System. For this reason, Terna has identified storage systems – **in particular electrochemical storage (batteries) and hydroelectric pumping** – as a proper technical response to promote the development of electricity production from NPRS and improve the overall efficiency of the National Electricity System, along with the construction of new power lines and stations, based on the same security levels. There are in fact many advantages stemming from the use of storage systems.

The installation of energy storage systems in areas with the largest presence of NPRS' would help reduce congestion during excessive power production times. Furthermore, storing energy during off peak hours (when the demand is low) followed by electricity output in peak hours (i.e., during periods of high demand) would reduce the problems associated with the management of "exhausted" electricity grids during off peak periods and avoid having to resort to less efficient systems during peak periods (a strategy called "peak shaving"). This method would have a positive impact on the costs and security of the system and would help reduce CO_2 emissions.

Storage systems may also be used to satisfy the increased need for real-time regulation reserves. The capacity of storage systems to rapidly inject or withdraw electricity from the grid allows every MW installed to potentially generate twice the capacity amount in terms of reserves, since it can modulate the absorption or injection into the grid as well as quickly goes from full absorption to full injection of electricity into the grid. Storage systems could also guarantee primary frequency regulation where performance is higher than that of conventional power plants.

Considering both technical specifications and the implementation timetable, Terna's technical experts and a group of professors from Massachusetts Institute of Technology performed an analysis which has allowed them to identify **batteries as the storage system that can provide the best solution to current problems in a short period of time**. Pumping units, indeed, cannot be built everywhere and require longer periods of time to be implemented.

Batteries not only allow for the storage of adequate amounts of electricity with a return capacity of the stored power lasting several hours each cycle, but they are also characterized by a high modularity, thus they are easy to install, and can be used with considerable flexibility. A very short timetable for implementation, especially if compared to that of other types of storage systems, the capability of widespread location on the grid also in the vicinity of the numerous NPRS injection points, and the fact that they are not dependent on the suitability of the site, are further elements playing in favor of batteries.

Overall, Terna's plans include the installation of a mix between batteries and pumping units that are properly deployed on the territory according to the specific needs of the electricity system, so as to increase the grid capacity to manage an electricity system where the NPRS play an increasing role.

EU21 Information security

For its role in the electricity sector, Terna has in its databases confidential information of the users of the transmission and dispatching services, in particular electricity producers and traders. Such information includes, for example, specific data regarding plants, with the related production capacity and injection plans presented to the electricity exchange.
Considering its significant commercial value, this information **is classified and handled as sensitive data** and specific protection measures are in place for preventing information being accessible to unauthorized third parties or subjected to undue violations. The same also applies to:

- the data collected from industry companies for the purpose of compiling the industry statistics, a task performed by Terna within the framework of the National Statistics System;
- the data made available by the industry Authority for monitoring the electricity market (as established by Resolution no. 115/08 of the AEEG).

Terna also increasingly uses "Information & Communication Technologies" (ICT) systems to support its core activities regarding the electricity system, joining high standards of operating continuity with efficient cyber-security practices.
To guarantee security to corporate information and ICT systems, Terna adopted an advanced **Information Security Governance Model**, based on the main international standards, where the **framework** and **policies** are established for also protecting law requirements regarding handling of personal data provided to Terna in compliance with the Security Planning Document, with relative roles, responsibilities and executive modalities.
2011 registered an increase in the application level of the Security Framework within the ICT field and verification, control and monitoring systems were finalized for the security level. The year was also characterized by an extensive plan for training and creating awareness within the company of the security of information resources, with the twofold objective of increasing the widespread awareness and trust of people involved in these issues with the framework's rules and methods.
The most significant initiatives and projects include the following:

- achieving, in July 2011, **the ISO/IEC 27001:2005** certification of the TIMM (Integrated Text for Monitoring the electricity market) application, an accomplishment that marks Terna's concern for security governance and improves trust between the Company and its stakeholders. The new certification, even if it refers to a specific corporate area with a reduced ICT boundary, underlines a high management / organization standard. Many of the controls provided by the standard and verified by the certifying Body, indeed, do not only have positive effects on the field being certified, but rather they generate cross-cutting benefits for protecting the entire Company's information assets. The structure of the ISO / IEC 27001 standard, by adopting a continuous improvement approach, is consistent with that of other corporate management systems at Terna (Quality-Environment-Security);
- establishing an **advanced corporate platform for vulnerability management** of ICT infrastructures, capable of rendering systematic the technological assessment and vulnerability analysis activities that can expose Terna to cyber-risks. The platform functions – applicable to the whole ICT assets (networks, workstations, servers, etc…) – provide detailed information on the vulnerabilities, as well as correction or deletion methods and have the ability to perform trend analysis. In the 2012-2013 two-year period, they will be further enhanced by the addition of new features, such as testing and reporting;
- extending the real time security monitoring services with **new functions in the SIEM system** (Security Information Event Management) which is active within the Security Operations Center, i.e. the control center which monitors the security of facilities and of computer networks. By strengthening this event management platform, a greater capacity is ensured to monitor the security status and provide a timely response to any anomalous events affecting grids and IT assets.

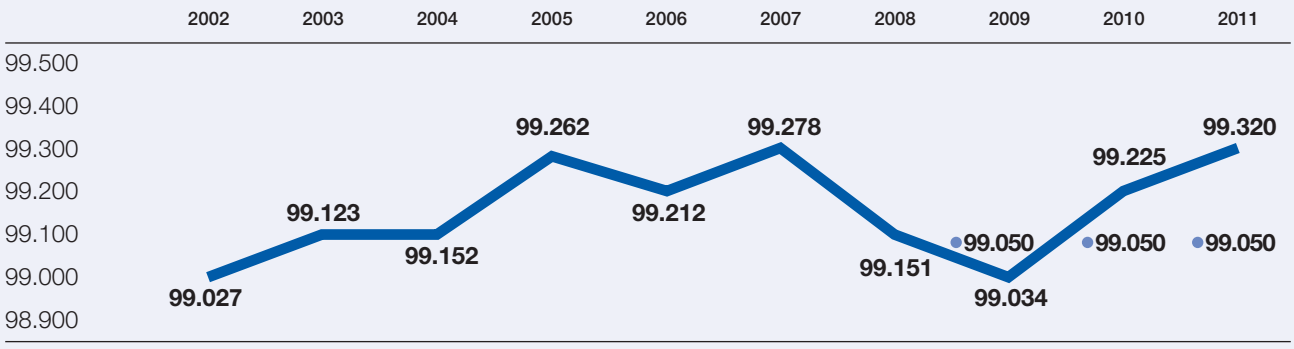
PR8 Regarding personal data protection, as in previous years, in 2011 no complaints were recorded regarding violations of privacy or imprudent use by unauthorized users of personal data entrusted to Terna, neither through the specific email for reporting (privacy@terna.it), nor through or any other reporting channel.

EU28 EU29 Service continuity and quality

Continuity is the most important parameter for measuring the performance of the electricity service. All the segments of the electricity system (generation, transmission and distribution) contribute to the final result: to ensure society the availability of electricity with outages below pre-established thresholds and with appropriate standards of technical quality. Terna has always monitored service quality by means of various indexes and identifies specific targets as annual goals for improvement. The following pages show benchmarking trends of "service quality and practices of Terna's NTG plants", as defined by AEEG Resolution 250/04 and Terna's Grid Code.
It should be noted that the variation of the indexes within the given time period does not indicate significant trends: each index undergoes indeed minimal changes in relation to the whole service measured. Moreover, among the causes of variation, are both external factors, such as weather conditions, and events (e.g. failures) attributable to the management of the NTG: an analysis of the latter shows no systematic trends.
Service continuity is a goal that since 2008 has also been the subject of incentives by the Electricity and Gas Authority (AEEG) through specific bonus/penalty schemes based on performance compared to predetermined targets. (See

AVAILABILITY INDICATOR

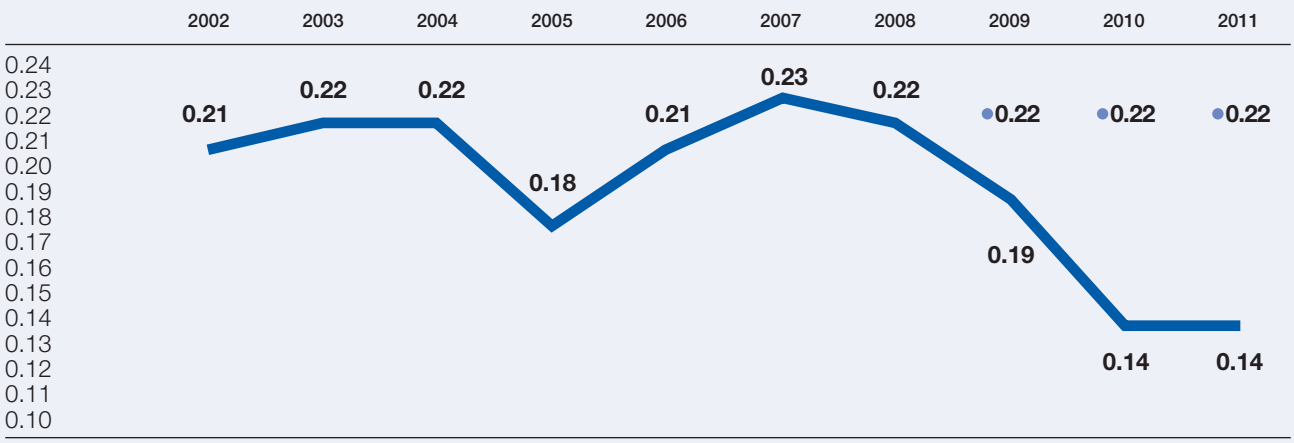
ASA (Average System Availability)
This measures the average availability of the electricity grid components for use in a given period. This index can be expressed with regard to specific categories (for example, by voltage level), grid areas, or – as in this case – the entire National Transmission Grid. Service performance improves as the indicator level rises. The performance achieved in 2011 exceeded the target set.



Target 2010 **99.050%** → Target 2011 **99.050%** → Target 2012 **99.050%**

CONTINUITY INDICATOR

Short Average Interruption Frequency Index + Medium Average Interruption Frequency Index (SAIFI+MAIFI)
This interruption frequency index is calculated as the ratio between the number of customers involved in short (less than 3 minutes) and long (more than 3 minutes) interruptions and the number of users of the National Transmission Grid. A lower indicator level indicates better service performance.
The performance achieved in 2011 exceeded the target set.



Target 2010 **0.22** → Target 2011 **0.22** → Target 2012 **0.22**

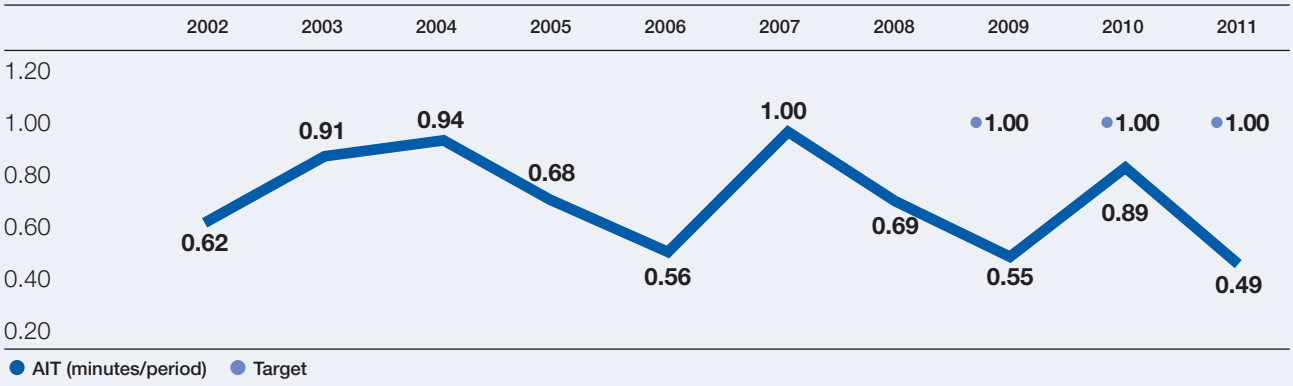
paragraph, page 92). In 2011, the two indexes for which incentives were provided have performed better than the targets set by the AEEG:

- Regulated Energy Not Supplied (R-ENS) amounted to 1,210 MWh, lower than the target of 1,369 MWh;
- Number of Outages per Users (NOU) equaled 0.179, lower than the target of 0.209.

During 2011, the Company continued the campaign to measure the voltage quality data in its plants through the monitoring network that has been operating since 2006. The campaign also included cooperation with end HV customers and distributor companies. Devices installed on the grid provide important information on the quality of electricity supplies.

SYSTEM CONTINUITY INDICATOR

Average Interruption Time (AIT)
The average interruption time of the electricity system (NTG) in one year. It is calculated as the ratio between the energy not supplied in a given period (ENS value) and the average power absorbed by the system in the period in question. The figure is rounded to the second decimal. A lower indicator level indicates better service performance. The performance achieved in 2011 exceeded the target set.

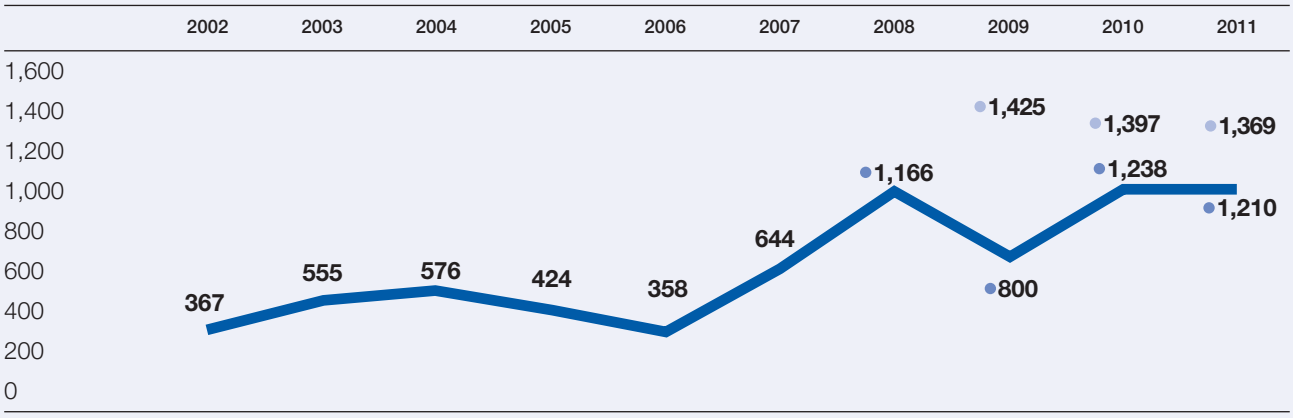


Target 2010 **1.00** → Target 2011 **1.00** → Target 2012 **1.00**

SERVICE CONTINUITY INDICATOR

Energy Not Supplied (ENS)
Until 2007 the ENS indicator was used as an internal process indicator for the purpose of constantly improving Terna's performance. This indicator regarded the energy not supplied to users directly connected to the NTG because of events that affected the latter and did not consider the shares that were due to significant incidents [1].

Regulated Energy Not Supplied (RENS)
Since 2008, with AEEG Resolution 341/07, the Authority regulated the quality of the service provided by Terna through a mechanism based on incentives and penalties, which, among other things, revised the ENS indicator. The new index also includes the energy not supplied to directly connected users caused by events on other connecting grids that are not part of the NTG and a share of the energy not supplied because of force majeure events or by significant incidents [2]. A lower indicator level indicates better service performance. The performance achieved in 2011, based on the new index, exceeded the target set.



Target 2010 **1,425 MWh** → Target 2011 **1,397 MWh** → Target 2012 **1,369 MWh**

(2) "Significant incident" means any interruption with net energy not supplied exceeding 250 MWh. The share that affects the ENSR index is a percentage that decreases as the energy not supplied increases during a single significant incident.

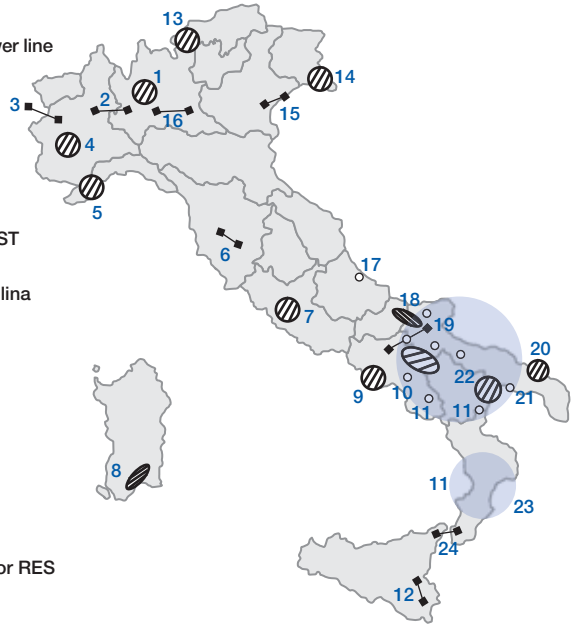
Grid Development

The transmission grid must be gradually modified and expanded in compliance with the developments of electricity production and consumption.
Electricity demand and supply grow at different rates in the different areas of Italy: the combination of these elements changes electricity flows and can cause congestion on the existing grid.
For this reason, Terna prepares **investment plans for grid development**, in order to increase its efficiency and to keep up with the evolution of the power plants and of consumption. The works that Terna plans and implements also have positive repercussions on society: the condition for their construction is that the collective economic benefit they generate is greater than the cost. **Every year Terna prepares a Grid Development Plan with the works scheduled for the following 10 years**, as well as the progress made on the works planned in previous years.
Since 2008, Terna has been submitting its Development Plan to the Strategic Environmental Assessment (SEA) procedure, as provided for by the European Union's Directive no. 42 of 2001.
Like the previous editions, the 2012-2021 Development Plan is organized in two sections. The first section contains a detailed analysis of grid status and the new development requirements that emerged in 2011; a chapter is dedicated to grid infrastructures for the development of renewable energy sources and to new widespread energy storage devices, aimed at facilitating the achievement of national targets with maximum utilization of installed capacity; there is also a new chapter containing the environmental description of areas affected by the new measures set forth in the Plan. The second section describes the progress made on the works and the environmental assessments on the development measures included in the previous Plans.
Furthermore, there is an attachment named "Connections" which contains the details of the development work that has been planned for the connection of third party plants to the NTG.
The Development Plan is available on Terna's website www.terna.it, in the Electricity System section.
Approved by Terna's Board of Directors on January 31, 2012, the 2012-2021 Plan was sent for approval to the Ministry for Economic Development and to the Electricity and Gas Authority on January 31, 2012, while in March 2012 the consultation stage of the proposed 2012 Development Plan and the related Environmental Report began, according to the SEA procedure. To verify the main expectations of our stakeholders, the Plan was submitted for prior assessment to the Grid Users' Consultation Committee (see the "Stakeholder engagement" section), both for the new development projects and for the Plan as a whole.

Grid Development Activities in 2011

SUMMARY OF THE MAIN WORKS THAT HAVE BEEN COMPLETED OR AUTHORIZED OR THAT ARE STILL BEING IMPLEMENTED

- 1. Restructuring City of Milan
- 2. 380 kV Trino-Lacchiarella power line
- 3. HVDC Italy-France Interconnection
- 4. Upgrading Turin
- 5. Strengthening Italy-France PST
- 6. S. Barbara-Tavarnuzze-Casellina
- 7. Restructuring Rome
- 8. Cagliari Sud-Rumianca
- 9. Restructuring Naples
- 10. Power Station Avellino N.
- 11. Measures along the HV line for RES
- 12. 380 kV Melilli-Priolo cables



- 13. Upgrading Alta Valtellina
- 14. Upgrading the Monfalcone area
- 15. Upgrading between VE and PD-Dolo-Camin power line
- 16. 380 kV Chignolo Po-Maleo and stations
- 17. Installing PST in power station Villanova
- 17. HVDC Italy-Montenegro interconnection
- 18. power station S.Martino in Pensilis + 150 kV P.cannone-S.Severo power line
- 19. Foggia-Benevento II power line line and installing PST in S/E Foggia
- 20. Power station Brindisi Pignicelle
- 21. Power station 380 kV collection: (Bisaccia,Troia, Deliceto)
- 22. Power station 380 kV collection: Spinazzola, Castellaneta, Montesano M., Gravina, Erchie, Scandale, Cerignola, Manfredonia, Belcastro
- 23. Power station Aliano and Raccordi
- 24. Sorgente-Rizziconi power line

In progress Completed Authorized

Main works implemented

In 2011, an increase in processing capacity of nearly 1,500 MVA was reported and more than 70 km of new high and extra-high voltage lines entered into operation.
During 2011 and in early 2012, in addition to the two 380 kV Chignolo Po-Maleo power stations, the new 380 kV d.t power line connecting Chignolo to Maleo was also completed, as part of the "380 kV Upgrading Plan in the Province of Lodi" (see box 86).
During the year the following works were also completed:

- 220 kV Camporosso station and installation of a PST on the 220 kV "Camporosso-Trinitè Victor" power line;
- 220 kV cable power lines and overhead lines included in the 220 and 132 kV upgrading in the province of Turin;
- new 220 kV station in Torino Nord and relative connections;
- 220 kV Gadio-Porta Volta buried cable power line, as part of the upgrading of the electricity grid in Milan;
- installing a condenser battery in the Cislago and Cremona stations;
- new 220 kV power station in Cardano, Trentino Alto Adige;
- 150 kV "Portocannone-S.Martino in Pensilis" power line;
- 220 kV Frattamaggiore-Secondigliano buried cable power line, as part of the upgrading of the electricity grid in Naples;
- new 380/150 kV station in Deliceto, bypass connection for the 380 kV "Candela – Foggia" lines and 380 and 150 kV connectors: "Agip Deliceto-Ascoli S." power line, functional for connecting renewable source plants being built;
- new 380/150 kV station in Troia, bypass connection for the 380 kV "Foggia-Benevento II" line and 380 kV connectors, functional for connecting renewable source plants being built;
- new 150 kV PS 380/150 kV Bisaccia connectors: 150 kV "Bisaccia-Calitri" power line, functional for connecting renewable source plants being built;
- significant measures for strengthening the 150 kV main lines for wind power production in Campania, Basilicata and Puglia;
- 380 kV station in Brindisi Pignicelle with finishing and adapting the 150 kV section;
- installing a new reactor in the 380 kV stations in Scandale and Rossano;
- strengthening the HV grid in Gallura.

Main works authorized

During 2011, Terna obtained authorization for a number of important development works, including:

- new HVDC "Piemonte-Savoia" cable interconnection and related works;
- 220 kV Baggio-Ric. Ovest cable power line as part of the upgrading of the electricity grid in Milan;
- new 380 kV "Dolo-Camin" power line and related works as part of the upgrading of the HV grid in Venice and Padova;
- new 150 kV switching station in S. Salvo and related connectors;
- new "Italy-Montenegro" HVDC submarine cable interconnection;
- installing a PST at the 380 kV station in Villanova;
- 380 kV "Foggia-Benevento" power line between Puglia and Campania;
- installing a PST in the 380 kV station in Foggia;
- 380 kV buried cable connectors between the 380 kV power stations in Priolo Gargallo and Melilli and related works as part of the new 380 kV "Paternò-Pantano-Priolo" power line.

Main works being authorized

During 2011 Terna began the authorization process for a number of important development works, including:

- new 220 kV "Torino Sud-Politecnico" buried cable power line linked to the 220 kV upgrading of Turin;
- 220 kV Ponte-Verampio bypass (upgrading of HV grid in Val Formazza), in concomitance with the new 380 kV Trino-Lacchiarella power line;
- a new part of measures linked to the 220 kV upgrading of Milan;
- new 380/132 kV station in the Southeastern area in Brescia and related works;
- new 220/132 kV station in Agnosine, as part of the upgrading of Val Sabbia;
- first upgrading phase of the HV grid in the province of Lodi;
- new 220 kV Polpet station involved in the upgrading and development of the NTG in Media valle del Piave;
- new 380/132 kV station north of Bologna and related connectors to the HV and EHV grid with burial of existing 132 kV line segments;
- new 150 kV switching station in Celano and related connectors to the NTG;
- other measures linked to the upgrading of Rome's metropolitan area;
- new 150 kV Sorrento station, new 150 kV marine cable connection "CP Castellammare-Sorrento-Capri" and new 220/150 station in Scafati and connectors, as part of the restructuring of the HV voltage in the Sorrentina peninsula;
- significant measures linked to the 220 kV upgrading of Naples;
- other measures on the HV grid for collecting wind power production in Campania and Calabria;
- new 380 kV power line between the power station in Deliceto and the 380 kV power station in Bisaccia and the new d.t. connectors of the power station in Deliceto to the existing 150 kV "Accadia-Vallesaccarda" line and the new 150 kV d.t. PS Troia-SE Roseto power line, functional for connecting renewable source plants being built in the area between Foggia and Benevento;
- upgrading the HV grid in the municipality of Castrovillari, functional for restructuring the Nord Calabria grid;
- initial restructuring of Palermo's metropolitan area;
- new 380 kV "Chiaramonte Gulfi-Ciminna" power line.

Main building sites open

In 2011, upon receipt of the approvals, Terna opened several sites for important development works, including the following:

- construction for the new 380 kV "Trino-Lacchiarella" connection which will allow for greater transfer capacity between Piedmont and the load area of Milan and greater benefit for the electricity system between segments of the NTG in Piedmont and Lombardy, by improving the flexibility and operational safety of the grid on the territory, thereby reducing the risk of grid congestion;
- measures for strengthening the 380 kV "Foggia-Benevento II" power line which will help increase the production from small generation centers and power exchange between the two regions, improve the dispatchability of high-efficiency renewable and thermal energy sources, improve the reliability and quality of the electricity transmission service, thereby reducing the probability of energy not supplied;
- works for installing a power flow controlling device (PST - Phase Shifting Transformer) on the "Foggia-Benevento II" line, to optimize the use of transmission assets and reduce the risk of congestion and any subsequent production limitation regarding the new plants in Southern Italy, specifically the renewable power plants that are being built between Foggia and Benevento.

Terna has also opened sites for installing a flow controlling device (PST) at the 380/150 kV Villanova power station; this will regulate power flows on the extra-high voltage grid and will be functional for connecting renewable power plants which are being built in the area.

Also in 2011, Terna started work on the new 380 kV "Dolo-Camin" connection which will improve the security of power loads and facilitate power exchange between eastern and western areas, thereby achieving a reduction in transmission losses.

Of significant importance are the many sites that Terna has opened during the year for the construction of new 380/150 kV power stations which will be used for collecting renewable power produced in central and southern Italy.

In keeping with its fully transparent approach to stakeholders, Terna has developed a new web platform which as of March 2011 has enabled users to view online updates on the progress status of the works indicated in the Development Plan. Available at: www.terna.it/default/Home/SISTEMA_ELETTRICO/CantieriTernaPerItalia.aspx.

Measures for the use of renewable energy sources as provided in the Development Plan

By implementing Directive 2009/28/EC, the National Action Plan (NAP) drawn up by the Ministry for Economic Development, Terna has added a special section to the National Development Plan that contains the measures needed to fully utilize electricity produced by renewable energy plants.

The analysis of the power grid aimed at promoting the use and development of electricity produced from renewable sources has identified a number of measures to be implemented on the primary 380-220 kV transmission grid as well as on the 150-132 kV high voltage grid. The schematic diagram below shows the main development measures affecting the extra-high voltage grid.

MEASURES NEEDED TO MAKE FULL USE OF THE ELECTRICITY PRODUCED BY RENEWABLE ENERGY PLANTS

1. HVDC Sardegna-Corsica-Italia (SA.CO.I. 3)
2. 80/150 Tuscania
3. 380kV Foggia-Benevento power line
4. 380KV Deliceto-Bisaccia power line
5. 380kV Calabria-Basilicata-Campania power line
6. 380/150 kV M. sulla Marcellana
7. 380kV Laino-Altomonte power line
8. 380/150 kV Feroleto (extension)
9. Partinico-Fulgatore
10. 380 kV Sicilia ring
11. Doubling the Adriatic main line
12. 380/150 kV Larino (extension)
13. 380/150 kV Rotello

14. 380/150 kV S.Severo (extension)
15. 380/150 kV Foggia (extension)
16. 380/150 kV Spinazzola
17. 380/150 kV P. del Colle (extension)
18. 380/150 kV Brindisi S. (extension)
19. 380/150 kV Castellaneta
20. 380/150 kV Aliano
21. 380/150 kV Galatina (extension)
22. 380/150 kV Scandale (extension)
23. 380/150 kV Belcastro
24. Trasversale Calabra
25. 380 kV Sorgente-Rizziconi
26. 380/150 kV Sorgente 2
27. 380/150 kV Mineo

Development measures on the 150 kV transmission grid are taking place in several Italian regions, especially in the South, and include the construction of new 380/150 kV collecting and transforming stations, new switching stations, strengthening existing lines and the installation of energy storage devices on the 150 kV grid segments which are more likely to experience problems over the short to medium term.

ENTSO-E: European Network of Transmission System Operators for Electricity

Terna belongs to the ENTSO-E, the European Network of Transmission System Operators for Electricity that represents 41 Network Operators belonging to 34 European countries including the South-East European ones (excluding Albania and Kosovo).
As of March 3, 2011, the date on which the EU Third Energy Package was applied, ENTSO-E, with its head office in Brussels, is the EU cooperation body for all Network Operators. ENTSO-E's activities are conducted in close coordination with the European Commission and the Agency for the Cooperation of Energy Regulators (ACER).

European Grid Codes

ENTSO-E has the task of drafting European Grid codes, on the basis of annual priorities established by the European Commission in line with the framework guidelines adopted by ACER, following consulting with stakeholders. European grid codes, adopted by the Commission, will become supranational and binding legislative deeds that will prevail over the national ones regarding cross-border issues.
In 2011, the European Commission, ENTSO-E and ACER established a three-year work plan that includes twelve European grid code projects in the electricity sector, pursuant to the political conclusions of the European Council of February 4, 2011, which set 2014 as the target date by which the integration of electricity markets should be completed.
Terna is working within the ENTSO-E on the establishment of European grid codes for network connection (generators, distributors and end users), with regard to the market and operation of the electricity system.
The first European grid codes will be adopted in 2012. Among them, the code on generation connection is at the most advanced level and will be approved by ENTSO-E by mid-2012, after an extensive consultation process. Upon approval of this code, the market grid codes will follow. Lastly, in 2012, the adoption process of codes for the connection of distributors and the operation of the electricity system and cross-border balancing will begin.

Market transparency

Among its activities, ENTSO-E is also responsible for increasing electricity market transparency, also through the use of a centralized management platform for publishing data and sensitive information. These activities are instrumental in adopting future European Commission guidelines on transparency.

Ten-year Development plan of the European Network

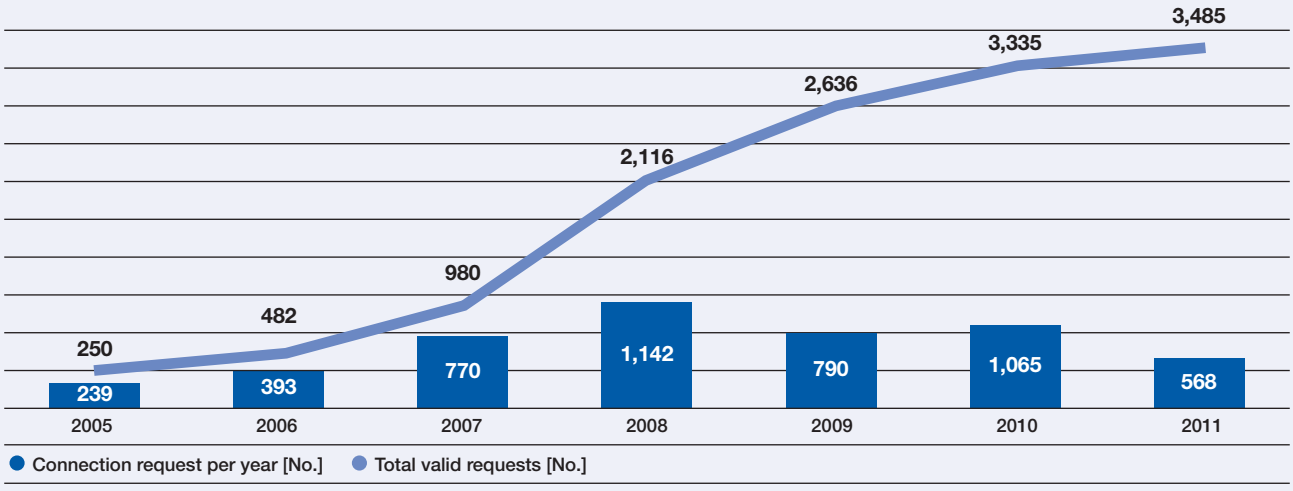
Pursuant to EC Regulation no. 714/2009, ENTSO-E has the task of adopting every two years and publishing a non-binding EU-wide ten-year network development plan that includes integrated market and network models as well as new scenarios and forecasts on the adequacy of supply and demand in Europe. The development plan of the European network is based on national investment plans and takes into account Community guidelines for the development of trans-European energy networks.
The plan also identifies the development needs of cross border transmission capacity and any obstacles, such as those due to authorization procedures.
Although it is not binding by its nature at the national level, the ENTSO-E Development Plan enables national Regulatory Authorities to verify the compliance of national development plans with the European plan. ACER also issues its opinion on this matter.
Terna is working within the ENTSO-E to define the ten-year network development plan which will be published at

the end of June 2012, following an extensive consultation process started in March 2011. The 2012 Community development plan consists of six regional investment plans, of the development plan of the European network and of the report on forecast scenarios and adequacy of the European electricity system. Overall, the plan provides for development investments amounting to nearly 104 billion euros for the 34 countries belonging to ENTSO-E to be made over the next 10 years.
According to the Regulation, ENTSO-E ensures coordination of the European Electricity network operations through common tools in ordinary and emergency conditions, adoption of European research plans and security and adequacy assessments of the electricity system during the summer and winter periods.
In addition to performing activities and tasks under the third energy package, ENTSO-E carries out advisory activities and makes proposals to the European Commission and ACER on several aspects related to the regulation of the electricity transmission sector. For example, it carries out activities aimed at promoting the development of smart grids or defining a modular development plan of "Electricity Highways" by 2050 that is in line with the '"Energy Roadmap 2050" objectives of the European Commission.
Within ENTSO-E's current Governance structure, Terna is present, for the second consecutive term, in the Board, a body limited to the participation of 10 grid operators, with coordination tasks and decision-making powers on the issues assigned by the General Assembly. Terna also supervises the activities of various working groups established in the System Development Committee and participates in the Legal and Regulatory Group, in the "System Operation", "System Development", "Market" and "Research & Development" Committees and in the respective working groups, with the commitment of over 60 employees.

Connecting new plants

Terna is obliged to connect to the Grid all potential users that so request and identify connection solutions based on criteria that allow continuity and security in operating the grid where the new plant will be connected. In particular, Terna is entrusted with the task of connecting to the National Transmission Grid plants with 10 MW of power or more, and of coordinating the interconnection among grids belonging to other operators, if the requests they receive determine the need of strengthening also the NTG.
Access to grid infrastructure is regulated by the Electricity and Gas Authority (AEEG).
Current regulations govern many stages of the process of accessing the grid, establishing timeframes and costs.
During 2011, Terna received more than 550 new connection requests, of which 64% regarded renewable-energy plants, which together with those received previously, raised the total to over 3,400 dossiers being processed at the beginning of 2012. Among these there were:

- nearly 2,700 requests with an accepted estimate (not yet authorized), of which nearly 2,400 regarding renewable-energy production plants;
- nearly 70 dossiers regarding authorized initiatives, of which 64 for renewable-energy plants.



In compliance with AEEG resolutions, Terna has also created an IT system to manage connection requests, which makes the process transparent and traceable, as well as making more information available to the counterparty.
During 2011, Terna completed the main grid works to connect 4 renewable energy plants and 1 production plant from conventional sources.

Provision of service connection

Pursuant to the preliminary inquiry established by the Electricity and Gas Authority (Resolution VIS 42/11), with regard to grid connections of electricity production plants by grid operators, all grid operators, including Terna, as the national electricity transmission grid operator, as well as the main category associations, were requested to provide information on the grid connection of electricity production plants and to differentiate the data provided in relation to the reference resolutions. The inquiry results contained in Resolution VIS 99/11, show that Terna's activities are substantially in line with the requirements set forth in the Regulation.
The table below shows the level of compliance with the maximum estimated time – set forth in the various resolutions adopted by the Authority on the matter – for activities carried out by Terna to fulfill connection requests received between 2005 and 2011. These activities include the preparation of a Minimum General Technical Solution (STMG), a document that is created in response to a connection request, and of a Minimum Detailed Technical Solution (STMD), a document that is needed to carry out the final planning of a grid apparatus by the producer upon receipt of the proper authorization.

OVERVIEW OF THE INQUIRY RESULTS RELATED TO THE AVERAGE RESPONSE TIME

	Response time by TERNA				
	Connection estimate (STMG) (days)		STMD (days)		Building the connection
	As per resolution	Actual	As per resolution	Actual	Average time
Reference Resolution for Connection Requests					
Resolution 281/05- AEEG	90	Between 59 and 88	90	Between 39 and 59	13 Months
Integrated text of active connections AEEG	90	Between 68 and 89	90	Between 30 and 77	14 Months
Integrated text of active connections modified AEEG	90	Between 43 and 93	90	15	-

Plant maintenance

EU6

Plant maintenance is essential for ensuring service quality and continuity.
To ensure that plants can be immediately identified, especially in the event of malfunctions, as well as reached as quickly as possible, Terna's staff uses a handheld device integrated with a navigation system that shows all the plants superimposed on a geo-referred map.
The main activities performed in 2011 with regard to power stations and lines were the following:
Plant monitoring and inspection: in addition to mandatory checks established by the law, Terna:
- performed 21,900 periodical technical and surveillance checks on stations at the different voltage levels;
- inspected 144,000 km of three-phase circuits with on-site checks, including 4,500 km by helicopter, with nearly 2 inspections a year on average;
- carried out 16,900 instrumental checks of lines, using thermal cameras to identify hot points, DayCor UV cameras to pinpoint the corona effect on insulators and conductors, also climbing the supports using the "works on live wires" technique (LST).

Ordinary maintenance: Terna identifies the work to be done on the basis of deterioration signaled by the integrated remote-management system, online sensors, and plant monitoring. For this purpose, since 2005, it has also been using

an expert system to assist line and station maintenance called MBI (Maintenance and Business Intelligence), which enables the Company to optimize its maintenance work.

Controlling vegetation: the proper operation of lines also requires ongoing monitoring to assess the growth of vegetation in order to prevent the latter from getting too close to the conductors and the consequent risk of short circuits and line interruption. EN12

Vegetation control normally consists in cutting it down to the ground or – if there are particular environmental restrictions – in branch removal aimed at keeping trees at a safe distance. Herbicides are never used.

During 2011, vegetation was cut along 16,300 km of power lines.

Work on live wires (LST): maintenance work on live wires was performed nearly 3,300 times.

Performed with the line in operation, such work increases system availability and contributes to the improvement of service quality and continuity.

Special maintenance: during 2011 Terna reconstructed 54 km of overhead lines and 19 km of buried cable lines.

Line inspection by helicopter: the LIDAR project

In the second half of 2009, Terna started the LIDAR (Laser Imaging Detection and Ranging) project, with the objective of creating a geo-referred platform of the National Transmission Grid thanks to the use of laser imaging by helicopter.

The project was implemented to respond to the Ministerial Decree of May 29, 2008, which establishes the criteria for calculating the areas of limited safety along power lines and obliges Terna, as the owner and operator of power lines, to provide municipalities, regions, and other institutions entrusted with the inspections with a series of data such as, for example, the geographical coordinates and heights of pylons, the spatial position of conductors, approximate distances, and the limited-safety areas. For its latest-generation power lines, Terna already had this information, while for its lines with inadequate or obsolete mapping, it had to develop a project to obtain the data quickly. Therefore, the Company decided to use the laser technology, developed by the military, to “photograph” the lines quickly and in detail by installing the required devices on a helicopter.

The laser technology made it possible not only to create an up-to-date database for the HV grid, but also to thoroughly survey the position of the main elements, such as buildings, vegetation, and roads, interfering with electricity lines. In particular, on the entire HV grid, it was possible to measure the distance of each element from the conductors, which had been previously possible only with targeted surveys. Since 2012 the goal has been to define and test a new method of inspection of HV lines using helicopters to optimize resources, express results and comply with the best practices of the main Transmission System Operators in Europe.

A new method of working on high voltage power line conductors: the three-dimensional isolated platform

In 2011, a new methodology was implemented to facilitate work on overhead power line conductors, which up to now was only possible by climbing a pylon and walking directly to the conductors or by lowering them to the ground: the use of a truck equipped with an insulating bucket for accessing the workplace on the line, while the power line is in operation, thereby increasing the availability of the systems and improving service quality and continuity. The vehicle has been in use since early 2011; it is located at the territorial area of Milan but it is also available for other areas. This type of work has already been carried out at all voltage levels for repairs in case of malfunction, replacement of spacers and resolution of hot spots, for a total of 70 components that were either repaired or replaced.

EU8 Engineering and innovation

To introduce new technological and plant-engineering solutions, new instruments and methods aimed at improving plant reliability and thus service quality, Terna mainly uses internal engineers, who base their work on careful monitoring and analyzing the operation of equipment and plants. Terna also makes use of the specialist assistance of builders, of cooperation with universities, of RSE S.p.A. (Ricerca Sistema Energetico), and of CESI S.p.A., a company providing specialist services, in which it holds a 42.4% equity interest.

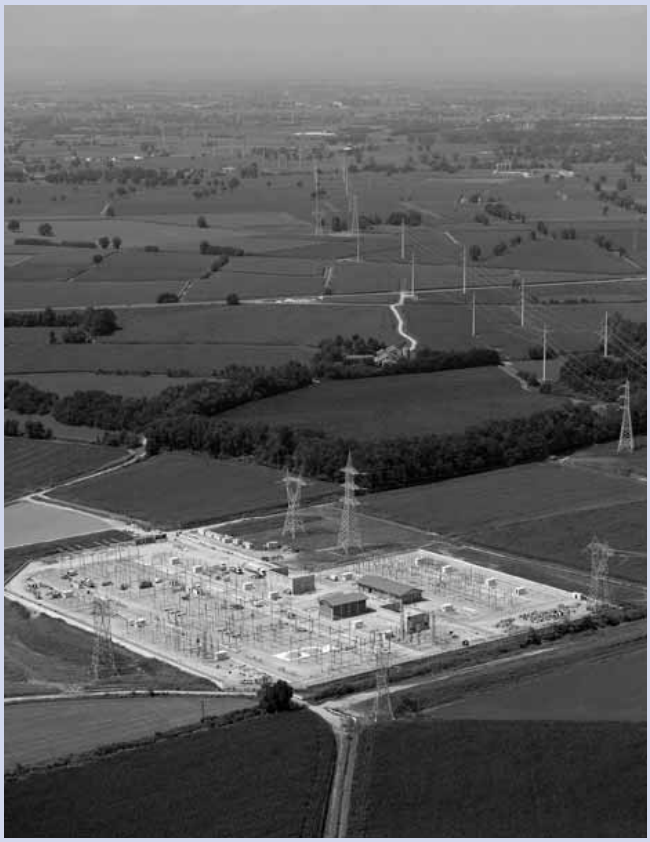
Research on innovation and the development of new engineering solutions is organized in four categories.

Aim	Projects and progress made in 2011
STRUCTURE AND MATERIAL OPTIMIZATION	
Designing towers with less visual encumbrance and/or better environmental integration	**High-performance tubular single-pole towers** Designing completed of special high-performance towers for 380 kV lines. (See box on page 86) **International "Pylons of the Future" competition** Executive designing begun of single and double circuit prototypes of the Dutton-Rosental winning pylon.
Upgrading the transmission capacity of existing lines	**Innovative, high-performance conductors** Experience consolidated of the INVAR-ZTAL conductors, featuring a high temperature limit and reduced elongation, which are useful for solving problems connected with distance from sensitive places. Feasibility studies have begun for the installation of high-temperature conductors of a type other than INVAR-ZTAL. A first type of these conductors has a highly resistant steel support and aluminum cladding. A second type uses carbon fiber cables. For these conductors, experiments are under way on a segment of a high-altitude line. An experimental installation has also been developed with a carbon fiber conductor on a mountain stretch. The study and experimental installation have been completed of an innovative conductor that limits overload by wet snow.
New technology for high voltage cables	**P-Laser** The new generation HV cable (using technology that has already been consolidated on MV), completely produced with recyclable raw materials, is currently being experimented. It will ensure a reduction in the environmental impact of grids and, at the same time, a rise in the capacity to transfer energy.
EQUIPMENT DIAGNOSTICS	
Early warning of abnormalities	**New sensors on equipment and machinery** In the Lacchiarella station, installation of the new sensors on the equipment and machinery of the 380 kV section was completed. Another kind is currently being installed on the 132 kV section. They will be closely observed for a period in view of their potentially widespread installation.
Analysis and monitoring of line components	**Insulator Test Laboratory** A project is currently being planned for developing an experimental station for the study and monitoring of insulators. At present, the feasibility study has been concluded, which has enabled the identification of the most appropriate sites.

Aim	Projects and progress made in 2011
EQUIPMENT DIAGNOSTICS	
Temperature monitoring on high voltage cables	**DTS (Distributed Temperature Sensing)** On cable connections, in order to monitor and exploit transfer capacity to the fullest, a study has begun on temperature monitoring systems available on the market with an analysis of their reliability. The technical specification for the purchase of this technology is being defined.
NEW EQUIPMENT	
Reduced space and time of power station construction **Compact, rapidly installable stations**	**Integrated compact station equipment (MCI)** This new equipment was introduced, which performs several functions within a single container, thus reducing the space occupied by station construction. By now the installation of this innovative equipment is routine in plants requiring greater compactness and more rapid construction time. To ensure that service will be quickly restored in the event of "Disaster Recovery", a 150-kV mobile station was designed and built. It is entirely mounted on three trucks that can be transported to the site of use without the need for special means of transportation The mobile station was conceived to be quickly installed on 150 kV lines through connections with connector cables. Everything has been factory-tested. The SCRI (Compact, rapidly installable stations) was first used to connect a photovoltaic plant in Aprilia; it entered into regular operation on December 21, 2010. As of 2011, the installation of other stations has continued (in the regions of Lazio, Apulia, Sardinia and Sicily). Given the advantages of this solution, a 380-kV mobile station has also been designed. Contact is currently being made with constructors to assess the possibility of developing it.
PLANT SAFETY	
Transformer Safety	**New power-transformer project** Owing to serious malfunctioning in power transformers, a series of improvements was introduced aimed at increasing their safety. In particular, polymeric insulators will be installed, which tolerate stress better. In addition, a series of measures will be taken to reinforce windings and cases, which will be tested with the "short-circuit trial" carried out for each type of transformer. "Short-circuit trials" will be repeated on all types, since the majority of the previous trials date back to several years ago.

EU8

The first sustainable “super grid” in Lombardy: “Chignolo Po-Maleo”



In the early months of 2012, the extra-high voltage “Chignolo Po-Maleo” power line entered into operation, an energy highway that runs for 24 km between the provinces of Pavia and Lodi. Built by Terna in record-breaking time - since the opening of the construction sites, the works were completed after only 18 months - this energy infrastructure has become operational 6 months ahead of schedule. More record-breaking results for this power line: the “Chignolo Po-Maleo” is in fact the most ecological power line in Italy with about two thirds of the track built using low environmental impact “single-pole” tubular pylons. Terna has installed 88 of these pylons, out of a total of 136 pylons making up the work, of which 11 are of a high performance, special type, mounted for the first time ever on this line: they are unique in the world, since they can also be used on non-linear routes and on impervious and mountainous terrains. Single-pole pylons represent for Terna a breakthrough in sustainable technology; they stand between 24 and 51 meters high, weigh between 20 and 70 tons, have a base diameter between one and a half and four meters, and reduce the occupied ground volume by 15 times compared to traditional truncated-pyramid pylons.

The environmental data of the first phase – already completed – involving the removal of the old line are also particularly important: 91 pylons removed for a total of 31 km of old power lines; 310,000 square meters of land freed from the power line, 910 cubic meters of concrete removed, 1,000 tons of steel recovered and re-entered into the production cycle, 246 km of power conductors recovered for disposal and recycling (a length of more than 7 times the distance between Pavia and Lodi).

The “Chignolo Po-Maleo” power line, approved in November 2009, is of strategic importance for the Lombardy region and will allow the electricity system to save over 25 million euros a year compared to 250 million euros invested. It will create greater efficiency for the electricity system in one of the country’s most critical areas that alone represents 20% of the entire national demand and is the most important industrial pole in Italy and a crucial hub for central Europe.

The INTEGRIT project

The INTEGRIT project (integration of power transmission cables into large road and highway infrastructures), launched in 2011, is aimed at studying and identifying technical solutions useful in developing cabling projects in synergy with road and highway infrastructures. In addition to Terna, the Universities of Padua and Turin and a number of specialized companies will take part in this project.

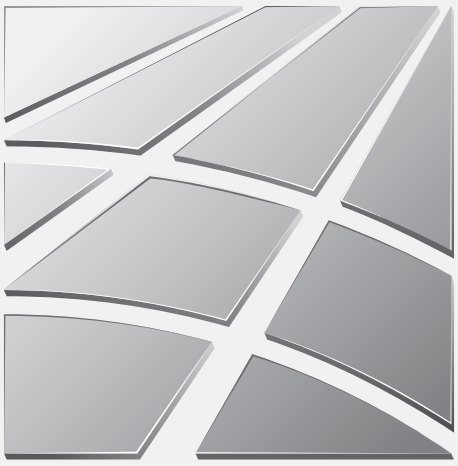
The project is partially funded by the CCSE (Electricity Equalisation Fund) and will run for three years.

The solutions developed during the project may be used for the future cable connection linking Piedmont to Savoy (Italy-France) and for the new HVAC submarine cable for future submarine connections with the islands of Campania and the Island of Elba.

Coil of the SA.PE.I (Sardinia-Italian mainland) submarine cable

WITH 750 MILLION EUROS, THE SA.PE.I. WAS THE LARGEST INVESTMENT EVER MADE IN ITALY FOR A SINGLE ELECTRICITY INFRASTRUCTURE. BUILDING THE CABLE INVOLVED 177 COMPANIES FOR OVER 200,000 WORKING DAYS AND ALLOWED SAVING 70 MILLION EURO A YEAR FOR THE ELECTRICITY SYSTEM.

2011



Economic responsibility

Terna

Our approach

For Terna service objectives are integrated with those of economic performance. The synthesis of the two aspects lies in the search for operating efficiency and opportunities for growth, while fulfilling service obligations, in particular the security of the electricity system.
In Italy, Terna manages the transmission of electricity as a monopolist. Therefore, it cannot increase its business or revenues by enlarging its market share and pursues these objectives mainly by:

- promptly carrying out the investments provided for by the Grid Development Plan, which are at the same time useful for improving the electricity service for society and a source of corporate income;
- seeking operating efficiency and optimizing its capital structure;
- developing non-traditional activities linked to transmission, such as storage (see dedicated box - page 69);
- seeking business opportunities in industries other than transmission, such as the project for exploiting its assets by constructing photovoltaic plants on land adjacent to its power stations (see the box entitled “Terna’s second photovoltaic project” page 36) and other non-traditional ventures specified in the 2012-2016 Strategic Plan.

Other opportunities for growth lie in the expansion of activities abroad. The search for new investment possibilities in the transmission industry has focused on the Southern Mediterranean area and the Balkans, where a number of projects regarding in particular the construction of interconnection lines are being developed.
For a detailed presentation of the economic and financial results achieved by the Group, see the Annual Reports available online at www.terna.it in the “Investor Relations” section, especially the 2011 Annual Financial Report. In any case, the main results of the last three years are reported in this chapter in conjunction with the subject discussed: for example, the share and dividend performances are reported in the “Relations with shareholders” section, while the investments carried out are presented in “Terna’s economic impacts” section.
The “Revenues and risk management” section provides information on the different sources of Terna’s revenues – with particular regard to the effects of the regulatory framework – and their respective relative weights, as well as the measures implemented by the Company to prevent and cope with the risks connected with its business.
The economic effects of Terna’s business do not end with its financial results. “Terna’s economic impacts” section includes the most important qualitative and quantitative information connected with the Company’s relationship with specific stakeholders. The most significant of these relationships are described in the final sections of the chapter, which also illustrate Terna’s commitment to developing initiatives and management instruments that are consistent with the provisions of its Code of Ethics. In particular, the following should be noted:

- the pursuit of transparency and communicative clarity in relations with shareholders;
- the selection of suppliers conducted according to compliance criteria with qualification requirements, including respecting regulations regarding the environment and occupational safety;
- concern for the companies in the electricity industry, both in applying the non-discrimination principle and beyond the obligations established by the regulatory Authority.

Revenues and risk management

Revenue structure and regulatory framework

In 2011, the Terna Group’s revenues from continuing activities amounted to 1,636 million euros. Most of this (nearly 94%) derived from activities subject to remuneration as established by the Electricity and Gas Authority (AEEG) and only 6% regards other activities, which consist mainly of the provision of specialized services by the Terna Group to other companies, such as HV plant maintenance belonging to other owners, plant engineering, maintenance of the fiber optics grid owned by third parties, housing TLC equipment, and other consultancy activities in the transmission field.

Regulated revenues

Regulated revenues are generated by different tariff components – the most important of which is the transmission fee – paid to Terna by different categories of companies in the electricity industry (Distributors, Acquirente Unico (the single buyer) and Dispatching Users), based on specific allocation drivers established by the AEEG (energy quantity, available power, number of injection/withdrawal points).

The AEEG annually determines the unit sum of the tariff components on the basis of rules established at the beginning of every four-year regulatory period. The contributing factors are, on the one hand, costs including margins that are recognized to Terna, and on the other, the reference quantities (forecast) of the above-mentioned allocation drivers. The cost components considered for determining the transmission tariffs mainly belong to three categories:

- **Remuneration of the RAB.** The value of the RAB (Regulated Asset Base) is annually revalued on the basis of the Istat number on the change in the gross-fixed-investment deflator and updated on the basis of Terna's net investments. These investments are for both the construction of electricity infrastructures (lines and stations) to renovate or develop the grid (work included in the Grid Development Plan) or of a different nature (i.e., IT systems or technologies aimed at improving the security of the electricity system). The RAB is remunerated by the AEEG at a rate of return linked to the market one, which was established at 6.9% up to 2011, and at 8.4% as of 2012. This rate is increased for a limited number of years for categories of development investment that are considered to be of particular strategic importance. In 2011, remuneration of the RAB represented nearly 47% of Terna's recognized costs.
- **Amortization.** Provision is made for the annual adjustment of the amortization recorded because of the effect of new investments, divestments, the termination of the useful life of assets, and the revaluation based on the change in the deflator of gross fixed investment. The share of amortization remuneration represented in 2011 approximately 27% of the total recognized costs.
- **Operating costs.** These are the costs regarding the activities of transmission, dispatching, and metering: in general, the costs of labor and the procurement of goods and services that do not represent an investment. The component covering these costs, which in 2011 amounted to nearly 26%, is revalued annually on the basis of inflation and it is subject to a price cap mechanism, i.e. reduced yearly by an efficiency factor. At the end of the previous regulatory periods, the efficiency increase achieved exceeding the pre-established efficiency factor was equally divided between Terna and end users in terms of tariff reduction.

Once the unit amounts of the different tariff components have been established, Terna's revenues will depend on the actual trends of the allocation drivers of recognized costs, particularly, of transferred energy: in effect, because of the volume effect, they can be higher or lower than expected. The sharp business contraction that began in the second half of 2008 together with the increased energy injected into distribution grids (that "locally" meets part of the demand and consequently reduces the energy transmitted along the transmission grid) made the trend of transmitted energy more uncertain and led the AEEG to confirm only for 2012 the mechanism of partial neutralization of the volume effect introduced with its Resolution ARG/Elt 188/08. This mechanism provides for the AEEG to:

- supplement Terna's remuneration regarding the volume share exceeding the maximum limit of 0.5% if the final volume is smaller than the one used for the tariffs;
- require Terna to return the increased earnings regarding the volume share exceeding the maximum limit of 0.5% if the final volume is larger than the one used for the tariffs.

As of 2013, the transmission tariff will become binomial, i.e. based on two allocation drivers: approximately 95% of the recognized transmission costs, currently allocated on the basis of transmitted energy, will be divided based on available power in the interconnection points between the transmission grid and the distribution grids, while the remaining part will be allocated according to transferred energy; this should guarantee a greater stability of the tariff revenue and will eliminate the need for the neutralization mechanism of the volume effect.

Pass-through items

To keep the electricity system in a balanced condition, the Parent Company Terna has to regulate it. This involves transactions for buying and selling energy in particular on the Market for Dispatching Services (MDS). Rules require that the economic balance of these transactions be zero for Terna: they are pass-through items that do not influence the net income in the Terna Group's Income Statement. These items also include the remuneration that Terna receives from distributors and pays to other owners of segments that are part of the National Transmission Grid.

In 2011, the Terna Group's pass-through revenues and expenses totaled 5,026 million euros (4,831 million euros in 2010). Valued by the application of specific tariff payments, these items are regulated by Terna with the industry companies. An important pass-through item is the so-called uplift, a payment covering the net expenses incurred to procure resources on the MDS, which for 2011 amounted to nearly 1,261 million euros (nearly 1,153 million euros in 2010). The uplift is included in the user's bill. Even if it does not influence Terna's profitability, pass-through revenue – among other things, also owing to its size – has important repercussions on its relation with the industry companies with regard to the commercial and administrative management of contracts and receivable and payable billing.

2011 Incentive Schemes

The AEEG has introduced specific bonus and penalty schemes aimed at incentivizing service improvement, both in technical and economic terms. Implicit in the incentive schemes is the assumption that if the objectives are achieved, the benefit for the users of the service will be a multiple of the incentive paid to Terna. In particular, in 2011, incentive based mechanisms were provided for:

- the quality of the transmission service. For the period 2008-2011, the AEEG's Resolution 341/07 established a framework of incentives and penalties linked to two indicators: the ENSR (relevant energy not supplied) and the NDU (number of outages per user), measured respectively nationwide and at the level of each Transmission Operating Area (AOT). The bonus/penalty is calculated by multiplying a pre-established sum (15,000 euros per MWh in the case of ENSR) by the difference between the actual value and the target value of the indicator net of an exempted range (+/-10% of the target value in the case of ENSR and +/-5% in the case of NDU). The benchmark levels were determined in 2008 and the first economic effects of the mechanism regulating service quality were generated in 2010;
- improvement of forecasts regarding energy demand and wind power production (applicable for the 2008-2011 period);
- reduction of the volume of resources procured on the MDS. The mechanism, originally introduced in 2007 for a four-year duration, was modified by Resolution ARG/elt 213/09 and extended to the whole 2012. The current mechanism provides for a differentiated unitary incentive for each year of the period without a bonus cap;
- acceleration of investment to develop the NTG. This mechanism was introduced by Resolution ARG/elt 87/10 and provides for a 3% additional incentive for the work in progress on development projects with the most value added for the electricity system (elimination of congestion, increased transfer capacity with other countries), which is conditional on the achievement of a series of milestones agreed on with the AEEG. Beginning in 2012, the application of a mechanism based on bonuses and penalties in the event development works go into operation ahead of or behind schedule.

The bonuses earned for achieving the objectives established as part of the incentive schemes in 2011 are included in Terna's total regulated revenue. In the case of the incentive for reducing the volume of resources procured on the MDS Terna in view of the result attained in 2010 amounting to nearly 160 million euros and considering the three-year duration of the incentive mechanism and of its characteristics, recorded 66 million euros revenues in its 2011 Financial Statement (compared to 77 million euros in 2010) as the related fair value adjustment, taking into account the regulatory risks and those connected with the performance of the electricity market.

INCENTIVE MECHANISMS ACTIVATED IN 2011

Objective	Year introduced	Period applicable	Penalty-bonus range	2011 result
Quality of transmission service	2007 (Resolution 341/07)	2008-2011		Bonus 7.7 million euros
Improved forecast of wind production	2007 (Resolution 351/07)	2008-2011	Penalty maximum 1.5 million euros Bonus maximum 3 million euros	Bonus 3.0 million euros
Improved forecast of demand	2007 (Resolution 351/07)	2008-2011	Penalty maximum 5 million euros Bonus maximum 5 million euros	Penalty 2.5 million euros
Reduced volumes of resources procured on the MDS	2009 (Resolution 213/09)	2010-2012	-	Bonus 16.7 million euros
Acceleration of investment to develop the NTG	2010 (Resolution 87/10)	2010-2011 as a trial, from 2012 definitively	-	Bonus 12.9 million euros

The cost of transmission on the final user's bill

On the basis of the current regulations, most of Terna's recognized costs (margins) is billed to the end users of the electricity service by the distributor companies. While an official cost breakdown is lacking for the end domestic user that directly indicates the impact of costs deriving from Terna's activities, on the basis of data published by AEEG, it can be estimated that transmission costs weigh approximately 3% on the electricity bill of a typical domestic user [3]. These costs are the main part of Terna's recognized costs (considering other minor tariff components would have no relevance), net of the let-through items.

(3) Ratio between CTRE and the gross electricity price for a typical domestic user (a family with 3 kW of power and 2,700 kWh of annual consumption); AEEG data processed by Terna.

The new regulatory framework

At the end of December 2011, resolutions no. 199/11 and 204/11 of the Electricity and Gas Authority, concluded the review process of the tariff regulation that occurs every four years and that established new tariff regulations applied to Terna's activities for the 2012-2015 period. These are very important decisions for Terna: over 90% of the Group's revenues for its continuing core activities depend on the transmission and dispatching service tariffs in Italy. The review determined a re-establishing of the various tariff components – such as the remuneration of the transfer and dispatching service – and of incentives recognized for various investment categories; this will lead to a consequent adjustment of selection criteria for Terna's investments. Below the main novelties are listed:

Investments
Returns recognized to Terna increase from 6.9% to 7.4% of the net invested capital, essentially as a consequence of the trend of the market rates. Only for new investments, a remuneration component is introduced equal to 1% of the net invested capital to be used for compensating the delay the investments find for being reflected in the tariffs, while the additional remuneration incentives recognized for 12 years for development investments are reduced; in particular, they decrease from 3% to 2% for interconnections with foreign countries and for works aimed at solving congestions within market areas (category I3 investments), from 3% to 1.5% for works aimed at solving internal congestions within market areas and from 2% to 1.5% for other development works.
As in the past, the recognized amortizations will be determined each year on the basis of investments actually made, while as of 2012, they will no longer reflect the application of the price cap mechanism during the second regulatory period.

Operating costs
The reduction objective – through the price cap system – of the operating costs recognized in real terms increases from 2.3% to 3.0% annually for transmission, to allow the system to gradually reabsorb the extra-efficiency shares obtained during the second and third regulatory period and held by Terna for applying the profit sharing, and is reduced from 1.1% to 0.6% for dispatching.

Incentive mechanisms
The previous bonus/penalty mechanism linked to the quality of the supplied service was simplified. As of 2012, the incentive remuneration will be linked to objectives of service continuity measured only by the reference non-supplied energy indicator.
The bonus/penalty mechanisms are connected to the accuracy of the demand and production forecast from wind power and were not renewed.
The incentive mechanism for accelerating development incentives was re-established following its experimental application in 2010-11. In particular, as of 2012 the reward/penalty mechanism became operational linked to the date of entrance into operation of the works. Moreover, Terna's participation in the incentive mechanism for accelerating investments (optional with no other consequences until 2011) has become the necessary condition for accessing a 2% extra-remuneration for category I3 investments.
The incentive mechanism linked to reducing the volumes of resources supplied on the Market for Dispatching Services (MDS) will remain active throughout all of 2012, as a last year of validity of a plan that was previously introduced.

Risk management

The analysis, prevention, and management of risk regard the different aspects of corporate activities. Terna's business is exposed to market and financial risks (regarding the interest rate, inflation, liquidity, and credit), risks connected with financial requirements, operating risks connected with malfunctioning of the grid, regulatory risks and litigation risks. For a description of the procedures for preventing and managing such risks, see the 2011 Annual Report, pages 81-82.
The following pages describe other aspects of risk, their relation with Terna's activities and the related measures for coping with them. The aspects considered are:
- risks and opportunities connected with climate change;
- risks connected with the electricity market and the electricity system.

The coverage of several obligations connected with employee benefits is also described.

EC2 Risks and opportunities connected with climate change

Terna is a utility whose main business is electricity transmission of, i.e. the electricity transfer service from producers to distributors, to whose networks end users are connected. The Company is not involved in any way in electricity generation, and thus is not subject to any obligation to reduce emissions or to any emission trading scheme.

Therefore, government taxation measures (e.g., carbon tax) or regulatory measures (emission-reduction targets, inclusion in emission-trading schemes) with direct consequences on Terna's business and financial performance are to be excluded.

Climate change does not represent a threat for Terna as far as its foreseeable business prospects are concerned. On the contrary, climate change has led to a favorable development of legislation for renewable energy sources, which has already offered Terna new business opportunities.

Terna's management recognizes the increasing importance of climate change and has identified – in addition to opportunities – potential, albeit remote, risks linked to global warming and the reactions that it might cause in governments and in the habits of consumers.

Potential risks and opportunities for Terna's business regard the following aspects:

- the task of keeping electricity injections and withdrawals on the transmission grid in balance, which Terna performs in Italy as the transmission system operator, becomes more difficult when the climate is extreme, for example when water is scarce or the temperature is extremely high or low. The possible occurrence of critical situations increases, which can entail the temporary disconnection of users in various Italian areas and consequently cause public authorities and the mass media to focus their attention on Terna. Such situations do not threaten corporate accounts, but rather Terna's reputation. On the other hand, good management of critical situations constitutes an opportunity for Terna to consolidate its reputation as a reliable company;
- concern about climate change or the increase in the price of energy raw materials could lead to a reduction of energy demand flexibility as the GDP increases. Based on other conditions being equal, the trend to energy saving and the effort to improve energy efficiency could cause the growth of electricity demand to be lower than it is currently. However, the rules adopted so far by the sector Authority for the remuneration of the transmission service exclude the possibility that a reduction in volumes could lead to a reduction in Terna's revenues. In 2008, during a period of decreasing electricity consumption due to the international economic crisis, the AEEG introduced a mechanism that partially neutralizes the volume effect for the remaining part of the regulatory period (2009-2011). With the activation of this mechanism ensuring the level of revenues recognized, subsequently confirmed for 2012, we can say that the transmission industry has actually switched from a price-cap system, in which revenues also depend on the volume of electricity transmitted on the NTG, to a revenue-cap one, in which revenues are set *ex ante* and can vary with respect to the revenues used to establish the annual rates only by +/- 0.5%. With the regulatory review at the end of 2011, the AEEG identified a different mechanism, also oriented toward stabilizing the financial revenues that will eliminate the need for a neutralization mechanism of the volume effect. As of 2013, the transmission tariff will become binomial, based on two allocation drivers: approximately 95% of the recognized transmission costs, currently allocated on the basis of transferred energy, will be divided on the basis of available power in the interconnection points between the transmission grid and distribution grids, while the remaining part will be allocated according to transferred energy (in this chapter, see the paragraph "Revenue Structure and Regulatory Framework" and the box page 93).
- Electricity production from renewable energy sources represents various challenges for Terna, linked to increased grid connection requests for renewable energy plants and to the need to plan and implement investments for solving grid congestions problems and for efficiently and safely managing non-programmable production.

  Critical aspects. New power plants running on renewable energy with more than 10 MW of power must request Terna to connect them to the transmission grid. There have been numerous requests in the last few years. Up to the present, Terna has issued connection solutions for plants that – if they were all constructed – could produce up to 130,000 MW, i.e. more than twice the power consumed in Italy at times of peak demand. After the connection solution was obtained from Terna, only some of these proposals have been developed into projects and initiated the authorization process. Sometimes there has been a time gap between the plant authorization and authorization of the connection work, which has now been solved by the use of a single authorization process. This situation, together with lengthy time frames necessary for implementing development investments required for fully utilizing the production capacity from renewables, can expose Terna to reputational risks independently from its proper conduct. Moreover, intermittent production – particularly wind power – makes dispatching activity more difficult, increasing the need for reserves.

  Opportunities. Investments in the transmission grid made necessary by the connection of renewable-energy plants are a source of revenues for Terna. Furthermore, as explained in detail in the chapter on the Environmental responsibility, investments to develop the grid also entail significant consequences in terms of emission reduction in the entire electricity system (reduction of losses, improvement of the production mix, and connection of new renewable-energy plants). Terna's image can be enhanced by this positive role. The Company can also develop business opportunities regarding the long-term development of solar plants in Africa to satisfy European consumption, which requires the parallel development of infrastructures to interconnect the two continents. In the short term, Terna has planned investments in energy storage systems (pumping, batteries) that can strongly favor the use of renewables while also solving problems of grid regulation. For Terna, these investments open new business opportunities indirectly connected with climate

change, as occurred in 2010-2011 with the building of photovoltaic plants on land available inside or near Terna's power stations, later sold with significant positive impacts on the company's financial performance;
- The increase in the production of energy from renewable sources – for which incentives are often provided by specific law provisions – requires Terna to prepare technical instruments that are appropriate for the new scenario. Because of its unpredictable variability deriving from changes in the atmospheric conditions, wind production entails particular problems for the regulation of the system. An incentive scheme has been in place for the period 2008-2011 that assigns Terna bonuses or penalties on the basis of the Company's ability to correctly forecast wind production (maximum bonus: 3 million euros, maximum penalty: 1.5 million euros). In each year of the three-year period the scheme has generated a bonus of 3 million euros for Terna (the maximum obtainable) thanks to the improvement of forecasts.

Risks connected with the electricity market and the electricity system

Terna procures the resources it needs to safely manage the national electricity system through the Market for Dispatching Services. This activity is critical for the security of the electricity service and also has significant repercussions in economic terms (see the "Pass-through items" and "Incentive schemes" sections).
The analysis of the processes regarding the interaction of Terna with the electricity market and the related risks has enabled the Company to identify the risks with the highest probability and the greatest impact. A dedicated system, called SIMM (Security Index Market Monitor) has also been set up to constantly monitor such risks. This system enables the Company to follow the overall performance of the electricity market through several key indicators and to promptly pinpoint any deviations from pre-established benchmarks.
Terna monitors the electricity market data also on behalf of the AEEG. The Risk Management Unit, which is part of Terna's Monitoring Division ("Integrated text on the monitoring of the wholesale electricity market and the market for dispatching services", AEEG Resolution no. 115/08), must ensure impartiality, transparency, and security in acquiring and presenting information. For this purpose Terna created the TIMM data warehouse, with the objective of monitoring the magnitudes and indicators required by the AEEG. During 2011, certification for the TIMM process has been obtained according to the ISO 27001 standard (see the "Information security" section - page 70).
Its responsibility for making the national electricity system work securely requires Terna to identify the related threats and vulnerabilities (for example, external events or failure to respect the Grid Code) and to adopt appropriate mitigation measures. The status of the national electricity system is monitored in various ways, such as:
- monitoring the status of the national electricity system;
- checks on the performance of the plants connected to the grid through the self-certification process and the analysis of the related documentation;
- inspections of the interruptible sites and checks on compliance with the technical requirements required by Terna;
- inspections of production plants under construction in cooperation with the Ministry for Economic Development to monitor delays in the entrance into operation of such plants and at the same time checking the application of the Grid Code and the obligations of future production;
- monitoring the design and construction of station defense systems and automation techniques.

Coverage of obligations connected with employee benefits

EC3

There are no defined benefit corporate pension plans in the Terna Group. In Italy, the pension coverage provided by the public system, which originally was one of the highest in OECD countries, has been reduced by a series of reforms that began in the 1990's. Terna offers its employees defined-contribution supplementary pension coverage on a voluntary basis. Specifically, senior executives may enroll in the Fondenel pension fund (http://fondenel.previnet.it), which provides for contributions by both the executive and the Company. In both cases, the amount varies according to the date of hiring and the date the executive first joined a supplementary pension plan. The other employees (blue-collar workers, white-collar workers, and junior executives) may enroll in the Fopen pension fund (http://www.fondopensionefopen.it). In addition to the pension plans, employees of Italian companies receive other defined benefit payments, specifically:
- during their working life, all employees receive a contractual "loyalty bonus" when they reach their 25th and 35th year of employment at a company.
- when they terminate their employment they receive benefits that are owed all employees (severance pay – TFR), senior executives hired or appointed by February 28, 1999 (allowance in lieu of notice), and blue- and white-collar workers and junior executives hired by July 24, 2001 (IMA- additional special allowances).
- senior executives are entitled to post-employment supplementary health care (ASEM).
- employees hired by June 30, 1996 are granted reduced rates on the electricity consumed for household use (electricity discount).
- the composition and changes of the TFR and other personnel funds as of December 31, 2011 are as follows:

Million euros	31.12.2010	Provision	Interest cost	Drawdowns and other movements	31.12.2011
Benefits owed during employment					
Loyalty bonus	4.2	0.0	0.2	-0.6	3.8
Total	**4.2**	**0.0**	**0.2**	**-0.6**	**3.8**
Benefits owed at termination of employment					
Severance pay	67.9	0.0	2.4	-5.9	64.4
IMA bonus	6.7	0.4	0.4	-1.0	6.5
Allowance in lieu and similar benefits	3.0	0.0	0.0	-0.3	2.7
Total	**77.6**	**0.4**	**2.8**	**-7.2**	**73.6**
Post-employment benefits					
Electricity discount	29.3	0.8	1.3	-0.5	30.9
ASEM	11.2	0.0	0.2	-0.5	10.9
Total	**40.5**	**0.8**	**1.5**	**-1.0**	**41.8**
Total	**122.3**	**1.2**	**4.5**	**-8.8**	**119.2**

Amounting to 119.2 million euros as of December 31, 2011 (122.3 million euros as of December 31, 2010), the item recorded a 3.1 million euros decrease with respect to the previous year, attributable to the year's drawdowns (8.8 million euros), which were partially offset by the appropriations and the recording of the time-discounting expense of the period (a total of 5.7 million euros).

The following table breaks down the costs regarding liabilities for benefits to employees recorded in the Income Statement.

Million euros	TFR	Allowance in lieu and similar benefits	IMA	Loyalty bonus	ASEM	Electricity discount	Total
Current cost	0.0	0.1	0.3	0.2	0.2	0.8	1.6
Financial expenses	2.4	0.0	0.4	0.2	0.2	1.3	4.5
Disbursements and transfers	-0.1	-0.4	0.1	-0.2	-0.5	0.0	-1.1
Total	**2.3**	**-0.3**	**0.8**	**0.2**	**-0.1**	**2.1**	**5.0**

The following table shows the main assumptions used in the actuarial estimate of the liabilities for employee benefits.

Percentage values	2011	2010
Discount rate	4.1%	4.1%
Rate of increase of labor cost	2.0% - 4.0%	2.0% - 4.0%
Rate of increase of health-care cost	3.0%	3.0%

EC1 Terna's economic impact

Value added

In the 2009-2011 period, the value added generated by the Group increased by 25% with regard to its continuing operations.
Also considering the value added of discontinued operations, the 2010-2011 variation is of 2.4%, while the comparison with 2009 was influenced by the significant positive impact deriving from the extraordinary sale transaction of the Brazilian Group Terna Participações that was finalized that same year.
During the 2009-2011 three-year period, the incidence on the total net value added of the remuneration of employees (on average 25%) and borrowed capital (on average 14%) was essentially stable.
With reference to direct and indirect taxes, the "second corrective measure", approved with Legislative Decree no. 138 of August 13, 2011 (named the Robin Hood Tax), determined an increased tax incidence, on average equal to 25%, compared to the total net value added (+13.8% compared to the 2009 data). Without considering this phenomenon, that led to registering higher taxes by 153.8 million euros, the incidence of direct and indirect taxes on the total net value added, would have remained substantially unvaried (approximately +1%).
As a proportion of the total net value added, the remuneration of risk capital has increased as opposed to 2009 (+4.6%). During the three-year period, the allocations to reserves decreased (from approximately 29% to approximately 1%), considering the strongly negative impact on the 2011 results of the so-called Robin Hood Tax and the dividend policy adopted by the Parent Company, as established in the 2010-2014 Strategic Plan, that was defined taking into account the extraordinary sale transaction of the Brazilian companies that characterized the 2009 results.

TERNA GROUP – VALUE ADDED STATEMENT [1]

Values in euro	Financial period 2011	Financial period 2010	Financial period 2009
A. Production value			
1. Revenue from sales and services	1,591,278,319	1,533,102,227	1,346,812,023
4. Other revenue and proceed	44,323,144	56,077,819	43,379,376
Standard production revenue	**1,635,601,463**	**1,589,180,046**	**1,390,191,399**
5. Non-standard production revenue (self constructed assets)	100,980,008	91,972,485	77,407,493
Total production revenue	**1,736,581,471**	**1,681,152,531**	**1,467,598,892**
B. Costs of production			
6. Raw materials	33,699,422	38,433,650	31,236,973
7. Services	156,814,420	157,561,339	135,829,303
8. Leasing and rental expense	12,536,915	12,050,835	13,893,976
9. Provisions for risks	6,577,183	2,009,949	3,620,822
11. Other expense	10,367,402	12,824,885	26,422,832
Total intermediate cost of production	**219,995,342**	**222,880,658**	**211,003,906**
Standard gross value added	**1,516,586,129**	**1,458,271,873**	**1,256,594,986**
- Accessory revenue	391,985,314	107,370,164	91,961,322
- Accessory costs	326,332,709	83,607,472	86,900,793
12. Accessory balance	65,652,605	23,762,692	5,060,529
Gross net standard value added	**1,582,238,734**	**1,482,034,565**	**1,261,655,515**
Amortization intangible assets	50,822,429	45,118,232	54,832,235
Depreciation tangible assets	345,381,259	315,602,303	257,711,993
Net global value added	**1,186,035,046**	**1,121,314,030**	**949,111,287**
Value added of discontinued operations held for sale	**112,703,809**	**146,847,712**	**416,976,119**
Total net global value added	**1,298,738,855**	**1,268,161,742**	**1,366,087,406**
Non-subordinate personnel	1,957,413	1,621,627	2,063,354
Subordinate personnel: direct remuneration	217,416,887	214,860,807	182,908,901
Subordinate personnel: indirect remuneration	63,742,596	64,879,119	64,796,883
A. Remuneration of personnel	**283,116,896**	**281,361,553**	**249,769,138**
Direct taxes	387,281,919	246,825,990	177,969,448
Indirect taxes	6,133,331	6,620,414	5,579,516

TERNA GROUP – VALUE ADDED STATEMENT [1]

Values in euro	Financial period 2011	Financial period 2010	Financial period 2009
B. Remuneration of government	**393,415,250**	**253,446,404**	**183,548,964**
Short-term loan expense	45,248	185,869	14,975
Interest on bank loans	92,634,544	80,378,970	89,763,459
Interest on bonds	89,522,207	40,810,758	57,855,170
C. Remuneration of borrowed capital	**182,201,999**	**121,375,597**	**147,633,604**
Dividends [2]	422,098,320	421,650,343	380,523,323
D. Remuneration of risk capital	**422,098,320**	**421,650,343**	**380,523,323**
Allocations to reserves	17,906,390	190,327,845	404,612,377
E. Remuneration of the Company	**17,906,390**	**190,327,845**	**404,612,377**
Total net global value added	**1,298,738,855**	**1,268,161,742**	**1,366,087,406**

(1) The sums regarding the creation and distribution of value added are taken from the Consolidated Financial Statements, which were prepared in compliance with the IFRS/IAS international accounting standards, Specifically, the Terna Group has used IFRS/IAS international accounting standards since 2005. It should be noted that the "Total Net Global Value Added" refers to the value added generated from continuing activities.
It should also be noted that various comparative economic balances for 2010 and 2009 were modified considering the changed accounting model adopted by the Terna Group for goodwill taxation. Particularly with this restatement, current taxes (direct taxes) were modified for 2010 and 2009 (respectively for +1.6 million euros and for -14.2 million euros) with a consequent variation of the relative allocations to reserves for the respective years, It should be noted that referring to 2009 balances, in accordance with IFRIC 12 – "Service Concession Arrangements", as from January 1, 2010, the Income Statement records the costs and revenues regarding dispatching as construction costs and revenues, without any effect on, respectively, the Group's results and the total net value added.
(2) The 2011 dividends regard the interim dividend distributed in November 2011 (160.8 million euros) and the balance proposed by the Board of Directors on March 20, 2012 (261.3 million euros).

Other economic effects

EC9

Terna's economic impact does not end with the creation and distribution of value added. One must also consider, **first of all, the economic repercussions of the electricity service:** Terna ensures over time a service of general interest and thus contributes to Italy's economic growth.
The Company's grid development activity is of particular importance. The development of interconnections between bordering countries makes it possible to import electricity at prices that are more competitive than those of domestic production, to have an additional power reserve and to be more competitive in energy markets. The reduction of grid congestion improves the exploitation of generation resources for covering requirements and makes it possible to use the most competitive plants, with positive effects on competition in the generation segment and on end prices.
In compliance with the regulatory framework, all of Terna's investments in grid development are examined from the technical and economic points of view by comparing the estimated cost of the work with the related benefits in terms of the reduction of the overall system expense in order to maximize the cost/benefit ratio. Consequently, every euro invested by Terna generates on average a multiple of savings for the users of the grid, as reflected ultimately on the end consumer. It is therefore significant that Terna's investments (most of which for grid development) have constantly increased in the last few years.

INVESTMENTS - TERNA GROUP

	2011	2010	2009	2008	2007	2006	2005
Million euros	1,219.80	1,161.70	900.4	764.9	606	345.5	263.5

As for 2010, also in the 2011 financial period the number in the table regards only the Terna Group's core investment in continuing activities; it does not include investments in non-traditional activities, which amounted to 9.4 million euros.
As decreed in the Ministry for Economic Development's Directive of January 21, 2000, in determining possible development investments, the Company also pays the utmost attention to the need for service improvement in Southern Italy and other areas in which the electricity transmission system is less efficient in terms of reliability and continuity, also because in such areas the upgrading of the transmission grid can be decisive for social and economic development.
In 2011, public contributions to the plant account – recorded directly to reduce the value of the plants – amounted to 2,316,994.17 euros (3,652,564.86 euros in 2010 and 5,843,139.83 in 2009).
Another aspect to consider is the **creation of employment and the expense for procurement**. As of December 31, 2011 Terna had 3,493 employees, of which 960 in Rome at the company's headoffice, the National Control Center (CNC) of the

EC4

transmission grid and Rome's Transmission Operating Area (AOT). The other employees (nearly 2,500) were uniformly distributed throughout Italy at the 7 other local operating areas of Turin, Milan, Padua, Florence, Naples, Palermo, and Cagliari – under which 32 Line Operating Groups (GOL) and 32 Station Operating Groups (GOS) work – 8 Distribution Centers (CR), and 3 Remote-Control Centers, which have offices throughout the country.
Through the construction and maintenance of power lines, in 2011, Terna indirectly determined the employment of labor by **contractors and subcontractors totaling the equivalent of 2,076 full-time employees**.

EC6

In 2011, the **economic value of Terna's procurement** of services, supplies, and works was equal to nearly 1.2 billion euros. Most of these were purchased from Italian suppliers, although the share of foreign suppliers is growing.
The predominance of Italian suppliers does not conflict with the Group's policy, which excludes selecting suppliers on the basis of their location, and is due to the need for fast maintenance work on plants to ensure the utmost security of the electricity system. Furthermore, suppliers located nearby ensure greater competitive costs regarding the transportation of heavy and bulky supplies.
Terna S.p.A. makes most of its purchases from companies that are qualified pursuant to EU directives or through EU-wide tenders. Italian companies constitute a large majority of those that apply and qualify. However, it should be noted that a significant share of the sum spent on local purchases actually regards Italian branches of internationally significant industrial groups such as ABB, Siemens and Prysmian, which are predominant worldwide in the specific markets concerned.
The following table breaks down Terna's total procurement expenditure in the period 2009-2011 (including non-traditional activities):

PURCHASES FROM LOCAL AND FOREIGN SUPPLIERS (PERCENTAGE OF TOTAL PROCUREMENT) (1)

	2011	2010	2009
Local suppliers	91	94	99
Foreign suppliers	9	6	1

(1) Data regarding Purchase percentages made with the Associazioni Temporanee di Imprese (ATI) (Temporary Business Associations), previously published, was reclassified among Italian and foreign suppliers according to the nationality of the purchasing agent.

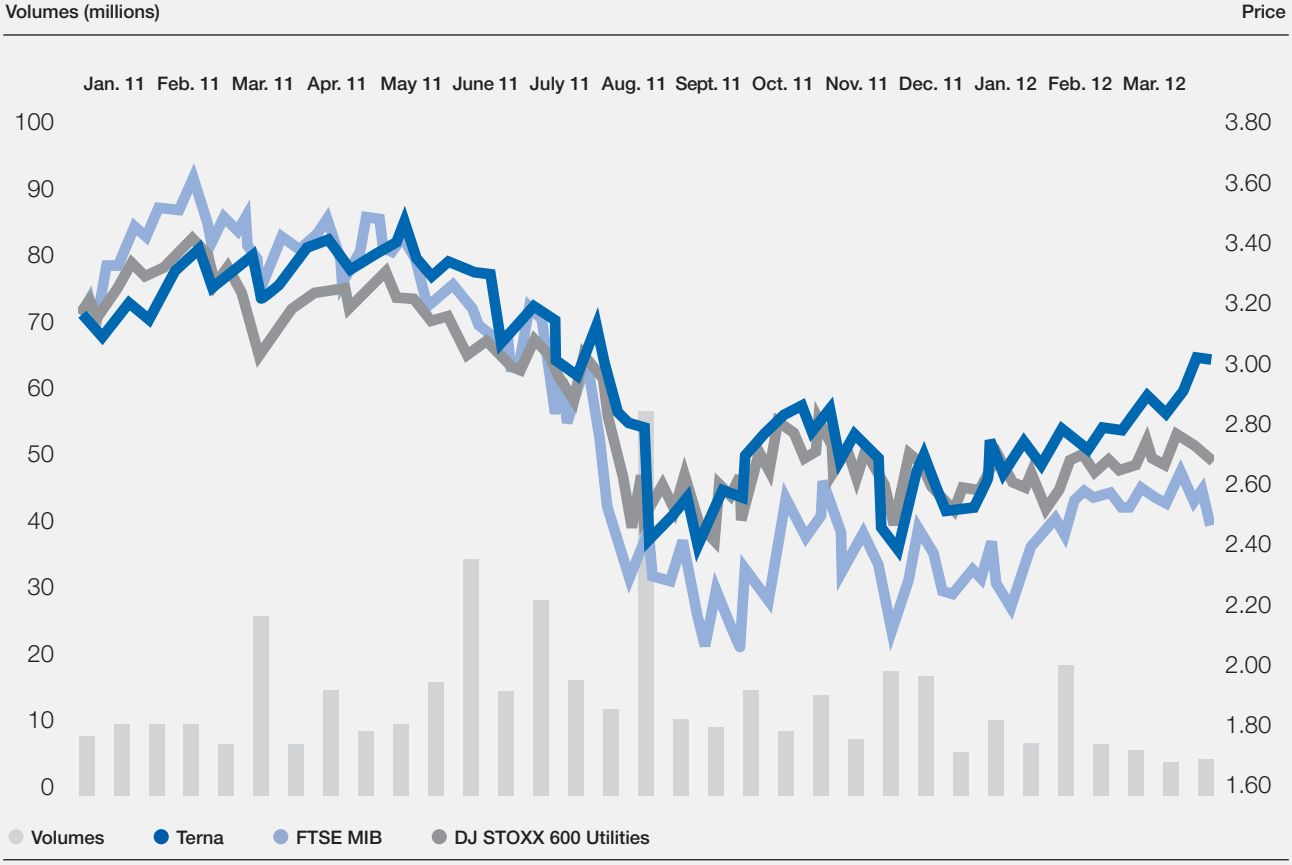
The share of expenditures with foreign suppliers is equal to 9% of the total, increasing compared to the previous year (6%). This increase is mainly owed to the assignments made through European tenders for the supply of armored station equipment and HV cables by new Asian operators.
Other economic impacts connected with the resources that Terna dedicates to the support of charitable initiatives and in the artistic and cultural fields, are described in the section entitled "Community initiatives", page 179.

Relations with shareholders

Share performance

In 2011, the European stock markets recorded strong negative trends owing to the worsening of the economic situation, characterized by a weak economic recovery and by high unemployment rates. The lasting crisis of the sovereign debt called for new economic stimulus plans on the part of governments and contributed to creating further instability among investors and increasing the volatility of exchanges.
In this context and despite the negative impact of the increased taxes in August 2011 (extending the Robin Hood Tax to the electricity transmission sector), the defensive nature of Terna's shares allowed registering a performance that was better than that of the Italian Blue Chips (Terna -17.6% vs FTSE-MIB -25.2%). The share's average daily volume was equivalent to approximately 10 million shares traded, decreasing with respect to last year.

TERNA'S SHARE PERFORMANCE AND FTSE MIB AND DJ STOXX 600 UTILITIES INDEX PERFORMANCE



Source: Bloomberg. Data as of March, 30 2012

From its listing (June 23, 2004) to the end of 2011, Terna's shares had an appreciation of 53.2%, compared to the negative performance of FTSE-MIB equal to 45.9%.
In the first quarter of 2012, Terna recorded a rise of 16%, definitely out-performing both the market (FTSE-MIB +6%) and the European reference sector (DJ Stoxx Utilities +2%).

Total Shareholder Return

The most complete measure of the value created by a company for its shareholders is the TSR (Total Shareholder Return), which is calculated by adding the increase in the price of the shares, in a given period of time, and the effect of the dividends per share paid in the same period. The calculation of the TSR thus shows the annual rate of return for an investor who bought Terna's shares on a certain date and sold them on another date. This calculation considers all the dividends paid by the Company as of the ex-dividend date of the related coupon.
In terms of total shareholder return, in 2011, Terna over-performed the index of Italian Blue Chips (Terna -11.4% vs. FTSE-MIB -22%).
Since listing to the end of 2011, the TSR reached 140.6%, in net counter-trend compared to the average return of Italian Blue Chips that in the period lost 27.4%.

DIVIDENDS DISTRIBUTED BY TERNA S.P.A. (1)	Year	Ex-dividend date	Payment	Dividend (euro)
Interim dividend 2004	2004	October 18	October 21	0.045
Dividend balance 2004	2005	May 23	May 26	0.070
Interim dividend 2005	2005	November 21	November 24	0.050
Dividend balance 2005	2006	June 19	June 22	0.080
Interim dividend 2006	2006	November 20	November 23	0.053
Dividend balance 2006	2007	June 18	June 21	0.087
Interim dividend 2007	2007	November 19	November 22	0.056
Dividend balance 2007	2008	June 23	June 26	0.095
Interim dividend 2008	2008	November 24	November 27	0.0592
Dividend balance 2008	2009	June 22	June 25	0.0988
Interim dividend 2009	2009	November 23	November 26	0.07
Dividend balance 2009	2010	June 21	June 24	0.12
Interim dividend 2010	2010	November 22	November 25	0.08
Dividend balance 2010	2011	June 20	June 23	0.13
Interim dividend 2011	2011	November 21	November 24	0.08

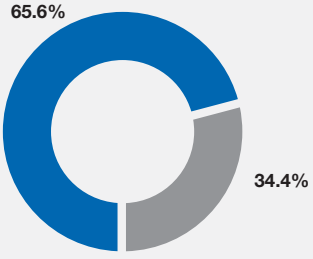
(1) Terna has adopted a policy providing for the payment of dividends twice a year.

Terna's concern for its shareholders

Terna's concern for its shareholders has enabled the Company to create a solid, enduring, and internationally diversified shareholder base over the years. This shareholder base now includes more than 470 funds with a medium-long investment time horizon and nearly 115,000 individual investors. Foreign institutional investors are located in 39 different countries, with North American ones being the most numerous (over 18% of the total).
Socially responsible institutional investors have become increasingly significant. 95 such institutions are indeed present in the shareholder register (compared to 32 in 2005) and their weight in the share capital has increased from 2% in 2005 to over 11%.

TERNA'S SHAREHOLDER BASE ACCORDING TO GEOGRAPHICAL AREA

● Italian shareholders	
of which CdP	29.85%
of which Retail	27.8%
of which Institutional Investors	8%
● Foreign institutional investors	
of which UK	6.7%
of which Usa/Canada	4.8%
of which Europe (excl. UK)	11.5%
of which Others	11.3%
Total 100%	



Relations with suppliers

As stated in its Code of Ethics, Terna considers as priorities transparency and fairness in its relations with suppliers (2,314 contracted in 2011). Suppliers that satisfy conditions of non-involvement in illegal activities, compliance with safety standards, respect for human rights and organizational and professional solidity, are welcomed to compete on quality and price as equals. Procurement is normally carried out on the basis of the outcome of **tenders** that ensure equal opportunity and the utmost transparency to the participating companies. The objective of purchasing at the lowest cost for the level of quality and security required is always integrated with also checking the requirements of suppliers with regard to **ethical, social, and environmental aspects**.

In general, all procurement contracts include clauses regarding the supplier's commitment to comply with Terna's Code of Ethics and its 231 Organizational Model (see also page 41).

HR2

Since 2008 Terna has required suppliers to sign a specific "Integrity Agreement" obliging them to base their conduct to the principles of honesty, transparency, and fairness and committing them to avoiding conduct that could limit competition. Furthermore, as of 2010, Terna introduced in its procurement contracts a specific clause that obliges suppliers to provide the Company with detailed information regarding all its sub-contracts, with the objective of preventing the risk of criminal infiltration through contractors, hires, supplies, or other kinds of services for the construction of the infrastructures of the National Transmission Grid (NTG), implementing the Memorandum of Understanding signed with the Finance Police.

With regard to tenders, one of the criteria provided for in the selection of suppliers is the UNI EN ISO 9001 quality certification as a guarantee of an efficient corporate management and organizational system. Terna also requires substantiated procedures adopted for the protection of the environment and of the health and safety of workers as a criterion in selecting its contractors. As part of the revision of the contractual documentation carried out in 2010, contracts now include clauses to ensure the utmost protection of the personnel used by contractors, and failure to do so will result in the termination of the contract.

During 2011, the focus on sustainability was expressed also in attributing technical points for awarding tenders (see box "Sustainability in criteria for awarding tenders" page 106).

The most important areas for Terna's core business are supplies, contract work and services regarding electricity transmission, telecommunications and Information Technology. Only companies considered suitable on the basis of the **supplier qualification system** are included in the register of qualified companies and are allowed to take part in the tenders held by Terna for their respective product categories.

Scrupulous management of the ethical, social, and environmental aspects in compliance with Terna's policies is a condition for inclusion in the register of suppliers for companies that belong to the product categories subject to qualification.

The qualification process and the monitoring of suppliers

The qualification process enables Terna to assess suppliers with regard to their compliance with the law, their technical, organizational, and economic solidity, and their respect for the ethical, social, and environmental requirements of Terna's policy as expressed in the Company's Code of Ethics.

Among other things, the qualification requirements include:

- the application of conditions regarding rules and wages that are not lower than those provided for by the collective-bargaining agreements applicable for the same kind of work;
- the application of laws regarding environmental protection and occupational safety;
- the existence of substantiated procedures, adopted for the protection of the environment and of the safety and health of workers.

The purpose of the monitoring is to ascertain whether the requirements are maintained throughout the three years in which the qualification is valid.

Such monitoring includes the use of IT systems to continuously screen information such as, for example, reports by the Company's departments, external ones, or news reported by the media. In particular, the vendor rating info sheets written by the engineers who locally supervise the construction sites of qualified companies are used to analyze the latter's performances monthly, enabling Terna to promptly take action and disseminate the information recorded among its Operating Areas. During 2011, the Company monitored 749 supplier performances.

During 2011, in compliance with the laws on the waste tracking system – SISTRI – a new merchandise sector was created named "*Waste management*" that defines the technical-quality requirements that businesses must have to be qualified and included in the supplier register. This activity regards collecting, transporting, storing, recovering and disposing of special hazardous and non-hazardous wastes produced by Terna.

In line with the objective of continuously improving qualification, the last three years marked a consistent increase of the sectors and qualified businesses, as well as of the monitoring conducted.

In the event their conduct is not in compliance with the qualification requirements, suppliers may be warned or temporarily suspended from the supplier register. In the most serious cases, cancellation is provided for. Following an analysis of their noncompliance, in 2011, 2 suppliers were temporarily suspended while none were cancelled from the supplier register.

The entire company qualification process – from the initial qualification to the monitoring of actual conduct and to the infliction of sanctions – is entrusted to Terna's **Company Qualification Committee**, which consists of eleven members of the Top Management and an independent external Chairman with recognized legal and technical expertise.

PROCUREMENT AND SUPPLIERS	2011	2010	2009
No. of suppliers under contract	2,314	2,316	2,308
Procedures adopted for awarding contracts (1)			
European tenders	51	53	58
Non-European tenders	35	35	27
Without tender	14	12	15
Qualification			
Companies qualified for entry in supplier register (2)	353	260	180
Supplier categories subject to qualification	41	40	36
% purchases from qualified suppliers (3)	43	48	39
No. of monitoring	749	593	263

(1) This is the percentage on amounts awarded excluding non-traditional activities.
(2) Considering also the qualified companies that are associated in consortiums, in 2011 the total companies qualified for entry in the supplier register would equal 372.
(3) Only orders with amounts of over 500,000 euros.

Sustainability in criteria for awarding tenders

Vehicle Fleet Tender

As part of the tender for purchasing the operational vehicle fleet, the criteria for awarding the technical points also included the best vehicle performance based on eco-sustainability. The aspects rewarded included criteria regarding **Antipollution Approval** (EURO 4/EURO 5), **Consumption – C (liters/100Km)** and **Emissions – E (CO_2 (g/Km)**. The companies awarded the tender were also requested to provide a **forestation certificate for total neutralization of the pollution produced from the total of the vehicles** included in the tender (see also page 137 of the chapter Environmental responsibility).

Ticket Tender - Meal plan

Awarding the tender for supplying tickets and meal plans included among the aspects rewarded implementing ecosustainable **Projects**.

Supplying furniture and furnishings

Awarding the tender for supplying furniture and furnishings is based on the most competitive offer. The technical points will be awarded on the basis, among others, of demonstrated "Ecosustainability", including in the technical documentation envelope the following documents: ISO Certifications, FSC Certification, Ecologic Panel Certification, etc.

Tender for architectural planning and designing of the new power station in Capri

In areas having a particular landscape value, Terna specifically focuses on the environmental impact and on installing its works in the ecosystem. Within this context, the tender for the architectural planning of the new power station in Capri was of particular interest and all the most prestigious architectural firms were invited to participate. The project's predominant requirements that were rewarded, were "the project's reduced landscape impact" and the "completeness and analytical aspects of the landscape impact analysis", in addition to aesthetic and functional aspects. Special attention was devoted to selecting materials and details proposed, that not only met specific architectural choices, but were also aimed at reducing building site time frames as well as maintenance.
Even the choice of the "greenery", that is the second natural element on which the project is inspired, included typical vegetation belonging to the local ecosystem that favored the use of evergreen shrubs and plants to guarantee the constant mitigation effect during the year and reduce maintenance activity. The planned irrigation system allows optimizing the use of water without waste.

Contract work

Considering the use of external labor on Terna's construction sites (see page 118), contract work is subject to stricter rules regarding qualification and subsequent management. This is due to Terna's particularly scrupulous approach, as well as to the strictness of regulations.

Italian law requires Terna to perform an analytical assessment of the risks regarding the health and safety of the workers employed by contractors and subcontractors for all the work done on the construction site. This risk analysis must be performed by an external expert. It should be emphasized that the consequent assessment of the cost of the safety measures to adopt is excluded from the price competition for the contract award.

With the objective of further reducing the risks regarding contract work, Terna requires additional specific certifications concerning contractor employees, such as: EU16

- certification that they know Italian, so as to ensure their access to information on construction site safety;
- on sites, for the construction of overhead electricity lines, certification that all the workers (mainly blue-collar ones) have examined and have been appropriately instructed on the use of the personal protective equipment, the risks established in the Construction Site Safety Plan ("PSC") and the Operating Safety Plan ("POS") prepared by Terna, and the environmental protection measures as established in the specific operating procedure called "Management of the environmental aspects during plant construction", which is attached to each contract; EU18
- for several specific roles (e.g. workers assigned to the installation and maintenance of overhead lines and to cutting vegetation, foremen, and safety heads), certification of specific training courses lasting between 24 and 32 hours designed – according to the content required by Terna – in cooperation with SINCERT-certified training schools specialized in the electricity industry;
- verification of the actual training of the personnel through a web platform – the Qualified Company Personnel project – which records the actual training of the personnel of the companies doing contract work on Terna's construction sites by comparing the information provided by the schools authorized to train personnel for work in the electricity industry with the names of the employees registered by the companies;
- the appointment of a person in charge of Health, Protection, and Prevention ("RSPP"), a head of construction-site safety, a person in charge of managing emergencies and his or her substitute, and an assigned doctor.

To reduce as much as possible the risk of violations of human and labor rights to the detriment of contractor employees Terna also requires: HR2 LA4

- a declaration that the collective-bargaining labor agreement is applied to all employees;
- certification that all social-security and other contributions have been duly paid;
- a copy of an insurance policy covering third party liability, personal injuries, and damage to property, including the contractor's, for the entire duration of the work and in an amount appropriate for the kind of work performed;
- a periodical copy of the payment of social-security and other contributions;
- certification by the competent doctor that the contractor's employees are fit for their jobs.

Monitoring has enabled Terna to identify the areas that are most exposed with regard to the issue of occupational safety. For companies operating in these areas, in addition to the activities already described, there are provisions for assistance in interpreting the law and in communicating during safety training for workers.

In 2011, Terna monitored 100 sites entrusted to contractors for the construction of lines and stations for electricity transmission (see also "Occupational health and safety", page 169).

The construction sites were chosen with regard to the duration of the work, considering that work that lasts longer is probably more complex.

Relations with companies using the electricity service

Terna mainly deals with companies operating in the electricity industry and belonging to one or more of the following categories:

- **owners of grid segments**, to which Terna must guarantee the right to connection in compliance with regulatory and technical provisions;
- **dispatching users**, i.e. producers, end customers, or wholesalers with which Terna regulates the dispatching service;
- **interruptible customers**, i.e. end customers of withdrawals that grant Terna the right to interrupt their load;
- **distributor companies and owners of production plants**, with which Terna regulates the electricity transmission service along its grid.

Relations between the industry companies and Terna are mainly regulated by the industry Authorities and are defined technically and commercially in the Grid Code.

In particular, with regard to the dispatching service, Terna regulates with the users of the injection dispatching service the economic items regarding the **procurement of the resources necessary to safeguard the security of the national electricity system**, thus maintaining a balance between injections and withdrawals, as well as ensuring that grid parameters, such as voltage and frequency, are at their appropriate levels.

EU3

The economic items regarding procurement on the dispatching service market ("MSD") and imbalances for injection users are negative and in 2011 amounted to nearly 1.2 billion euros.

With the users of both injection and withdrawal dispatching, Terna regulates the economic items regarding imbalances, understood as the difference between the plans the users presented on the electricity markets and the actual value of the electricity injected or withdrawn.

The economic items regarding imbalances for withdrawal users, including the invoicing of system charges, are positive and in 2011 amounted to nearly 2.4 billion euros.

The most important interactions with electricity companies are managed through My Terna portal, which is the sole channel of access for all the services dedicated to the electricity companies, such as master data management – so that the portal is supplied through the data managed by the Gaudì system (see following box) – connection requests to the NTG, contracts stipulated for dispatching, the management of contacts and viewing the operator's main data.

It includes a front office and a back office controlled with a single instrument that enables processes to be traced and the progress of paperwork to be monitored, following an e-ticketing logic.

In 2011, Terna procured resources for **the interruptibility and instant-load-reduction services** aimed at making the operation of the national electricity system secure in the event the resources procured on the market turned out to be insufficient. There were nearly 170 assignees of the interruptibility and instant-load-reduction services in 2011, with nearly 4,362 MW of power, and the related negative economic item amounted to nearly 650 million euros on an annual basis.

RELATION WITH TERNA OF COMPANIES OPERATING IN THE ELECTRICITY INDUSTRY- NUMBER OF COMPANIES

Companies	2011	2010	2009
Interruptible users (1)	171	154	134
Distributors directly connected to the NTG	20	19	19
Injection dispatching users (Producers and traders)	91	86	77
Withdrawal dispatching users (Traders and end customers, including the Single Buyer)	110	109	106

(1) Beginning in 2011 these also include the assignees of the instant-withdrawal-reduction service.

Master data of electricity production plants started

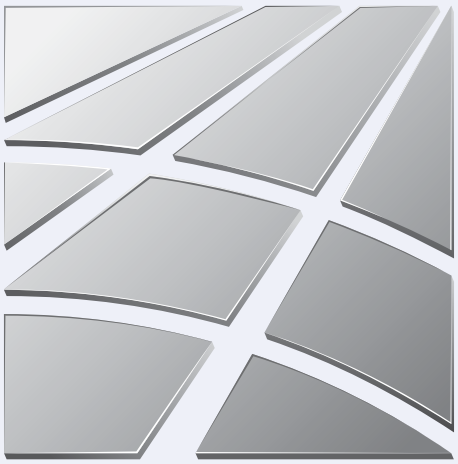
In 2011, Terna was involved in initiating and implementing the Gaudì system (plant master data management).
The system, whose creation was planned by specific provisions issued by the Electricity and Gas Authority, allows transmitting all master and technical data of the plants and of the electricity production units. The purpose is to centralize within the transmission system operator the master data of all the production initiatives implemented and in progress across the national territory, independently of plant size and type, ensuring the constant update of information. In particular, the Gaudì system attributes a code to each production plant that allows uniquely identifying the plant by all the bodies that operate in the electricity system and that, each one for its own purposes, establish contact with the plant (i.e., Terna or the distributors for connection purposes, the GSE for any incentive purposes, Terna for dispatching activities purposes, etc.).
This centralized platform also organizes the information flows among the various bodies that operate in the sector with the objective of avoiding the duplication of information reports required for the operators.
Effective as of January 2011, Gaudì was created by integrating three principal master data archives managed by Terna: CENSIMP for conducting a census of the plants, RUP relative to the master data of the Significant Production Units [1] and UPN6 relative to the master data of the non-relevant Production Units.
With subsequent releases scheduled during 2012, the system will be further updated with new functions principally aimed at implementing a control dashboard capable of monitoring the sequence of activities involving the access to the production plants system: from the plant's "physical" connection up to the injection of energy produced into the grid.
The various bodies that operate in the electricity system will be called to contribute, each one according to its field of activities, to the master data validation process in order to create transparent access of the electricity production plants to the system services.

(1) Significant production units are the production units with a total production power of the associated generation groups not lower than 10 MVA.

Installing a dissuader for birds in flight

ALONG 171 KM OF 40 LINES CHARACTERIZED BY THE FREQUENT TRANSIT OF BIRDS, TERNA INSTALLED OVER 9,000 SPECIAL “DISSUADERS” WHICH, WITH THEIR ENCUMBRANCE AND THE NOISE MADE WHEN THEY ARE BLOWN BY THE WIND, MAKE THE LINES EASIER TO PERCEIVE BY THE BIRDS IN FLIGHT.

2011



Environmental responsibility

Terna

Our approach

Terna acknowledges the importance of a right balance between energy requirements and the safeguard of the environment and local communities and seeks in its activity appropriate solutions to ensure Italy the electricity it needs in the most reliable, cost-effective, and environmentally-sustainable way.
Terna's business consists in providing the service of transmitting electricity, which is performed through the high voltage electricity grid. Therefore, from the environmental point of view, the most obvious impact of this activity is not so much in the use of natural resources or the emission of polluting substances as in the **physical presence of electricity lines and stations** and in their interaction with the surrounding natural and anthropic environment.
Increasing environmental awareness and widespread local opposition to the construction of new infrastructure – a typical feature of many industrialized countries and certainly of Italy – have led Terna to develop an approach that is very attentive to the environment and the needs of local communities. The way it has chosen for the construction of new lines is **consultation with local institutions** (Regions, Provinces, Municipalities, park boards, etc.) in order to consider environmental needs from the earliest stages of planning and take the related details increasingly into account up to the construction stage.
Respect for the environment and local communities represents the credentials with which Terna intends to establish a relationship based on trust with the national government (e.g., the relevant ministries and regulatory authorities) and local institutions, which are also empowered to authorize new infrastructures. In this way, the consideration of environmental issues matches Terna's interest in investing in the development of the grid and the broader interest of society in the continuity, safety, and efficiency of the electricity service.
As far as the existing lines and their management is concerned, Terna's concern for the environmental impact of its activities is embodied in its Environmental Management System, which is **ISO 14001** certified. The certification regards all of Terna's activities and covers 100% of the transmission grid (stations and lines) and offices.
The following **significant environmental issues** should be noted in particular:
- the visual impact of stations and lines;
- the impact of lines on biodiversity, with particular regard to birdlife;
- special waste and its disposal;
- the emission of electric and magnetic fields;
- emissions of greenhouse gases.

Terna does not produce electricity, therefore the emission of greenhouse gases is not a feature of its activities. Our concern for emissions – which takes the form mainly of **controlling leakage of SF_6**, a gas that is present in station equipment, as well as controlling the emissions of the corporate vehicle fleet – is thus the result of a general sensitivity to the problem of climate change. It should therefore be noted that the investment included in the Grid Development Plan can have positive indirect effects on emission reduction by the national electricity system.
Terna has established an Environmental Policy, which expresses its commitment to practices to limit and reduce its environmental impact even beyond the limits imposed by law whenever this does not compromise the defense of the other general interests that Terna is obliged to ensure: the safety and continuity of the electricity service, keeping the electricity system efficient, adapting the system to the country's production and consumption needs, and equal access to the grid for industry companies.
Among Terna's main commitments for the environment, the following should be noted:
- in the planning of investment to develop the grid, paying attention to the needs expressed by stakeholders (especially local institutions and environmentalist associations) and seeking agreement on solutions;
- in the construction, management, and maintenance of the grid, adopting procedures in compliance with law provisions and, whenever possible, reducing the environmental impact;
- in relations with suppliers, requiring them to gradually adapt to the standards of respect for the environment adopted by Terna;
- with regard to magnetic fields, strict compliance with regulations and attention devoted to the development of scientific studies, while contributing to the correct presentation and understanding of the phenomenon;
- with regard to biodiversity, commitment to limit the impact of the grid, particularly on birdlife, and carry out mitigation actions, including programs agreed on with environmentalist associations;
- with regard to climate change, recognition of the importance of the problem and commitment to actions that foster the reduction of greenhouse gases.

As far as improvement programs are concerned, Terna continues its commitment to reducing emissions through limiting SF_6 leakage and energy efficiency, while the continuation of cooperative projects with leading environmentalist associations will allow guidelines – in addition to mitigation instruments – to be established for the environmental integration of electricity lines as well as in-depth scientific examination of the interactions between electricity lines and biodiversity.

In organizational terms, environmental responsibility is divided among several corporate departments, which participate in an Environment and Sustainability Steering Committee to coordinate activities and establish priorities and objectives to propose to the top management. The participating departments are: Operations Italy, Corporate Security (which is in charge of the integrated Quality-Environment-Safety management system), Institutional Affairs, Organization and Human Resources, and External Relations and Communication. The Corporate Social Responsibility Unit acts as the secretary of the Committee. Monitoring of the environmental indicators is entrusted to a permanent group of experts working within the framework of the Environmental Management system.

Compliance with laws and regulations

EN28
EN30
EN23

In the three-year period 2009-2011 there were no final administrative or judicial penalties, pecuniary or non-pecuniary, for non-compliance with laws or regulations regarding the environment. Further information on environmental litigation is reported in the section dedicated to the indicator tables and the "Disputes and litigation" section.
In 2011, as in 2009, no significant spills of polluting liquids were recorded. In 2010 a fire in a transformer in Calenzano (Florence province) caused oil to spill on the surrounding land. Following this event, 400 cubic meters of earth (from an area of 450 square meters) were promptly removed mechanically to avoid possible environmental damage.
In order to avoid the risk of potential spills, an assessment of the types of oil collection tanks installed at Terna's plants was completed in 2011.
Following monitoring, a work group charged with providing Guidelines for the proper maintenance of the different types of oil collection tanks in use was formed.
In the 2010-2011 two-year period, with the support of accredited external bodies, Terna completed a survey on noise produced by its transforming stations. The criticalities uncovered have been dealt with and are in the process of being resolved (e.g. by replacing old equipment, by erecting anti-noise barriers) so that the level of noise can be brought within the limits allowable by law and by municipal regulations.
Finally, in 2011, Terna, together with ANIE (National Federation of Electricity Companies) started up a technical work group on environmental matters connected specifically to the construction, maintenance and demolition of power lines; the work group was established based on the need to compare and share experiences, problems and the relevant proposals for proper management of environmental safety at work sites. The comparison concerns, in particular, waste management and the analysis of reference regulations in order to allow the standardization of practices and the management of activities at work sites.

Lines and local communities

SO10
SO9
SO1

The construction of new lines meets the technical requirements of the electricity system, such as the elimination of congestion and the risk of overload, as well as the increased production and consumption of electricity that accompanies the economic growth of Italy or of specific areas of the country. Terna includes the necessary new building activity in its Grid Development Plan, which every year follows a complex authorization process (see the "Integrated-planning Process" box, page 115). The development of the grid aims at the general interests of society, however, the environmental impact connected with the construction of new power lines focuses on the territory crossed by the line route. Furthermore, the population density of many parts of Italy and the artistic, cultural, and landscape value of many others increases the complexity of planning and the difficulty in implementing the projects. In response to these problems, Terna adopted an approach based on dialogue and consultation with local institutions to seek solutions that allow the local treasures and potential of the country's environmental and cultural heritage to be preserved.
The necessity of working on the existing lines is usually connected with the fact that many lines were constructed tens of years ago. The gradual urbanization of rural areas and the adoption of new regulations that change the parameters previously in effect with regard to the interaction between electricity lines and the surrounding territory, determine the need to update portions of the existing grid.

Consultation

EN26
EU19
EC8

Since 2002, Terna created a completely new scenario regarding the construction of infrastructures in Italy. In the practice that had been followed until then, discussion with local institutions started only at the beginning of the authorization process, when the planning of the infrastructure was already at the execution stage. Environmental considerations were

introduced at that stage through the Environmental Impact Assessment (EIA) procedure. This approach led to strong opposition by the local institutions involved and the related population, with the result that often changes in the original plan were required and the work suffered delays. In some cases, it was even impossible to find a feasible solution.
Terna decided to carry out **the discussion with local institutions before the strategic planning stage of the work** – the construction of new lines and stations – included in its Development Plan. Participation of local institutions in defining works that concern the territory reduces opposition during the authorization phase for the infrastructures, and facilitates acceptance and sustainability of the planned works. The method used provides for early consultation with local governments and other institutions at different levels (regions, provinces, and municipalities), based on shared criteria for characterizing the territory and aimed at finding the **optimal location for the new plants**. The solutions reached in this way are ratified by the signing of specific agreements between Terna and the above-mentioned governments. Ultimately, Terna's approach has entailed the voluntary development of a method of relating to local stakeholders based on the Strategic Environmental Assessment (SEA) of environment integration in the planning process. At that time the subject of EC Directive 2001/42/EC, the SEA was to be adopted by Italian law only many years later – in 2007, with Legislative Decree 152/2006 – and with considerably less complex implications as far as relations with local institutions are concerned. The choice of following the SEA method to construct a transparent, documented, repeatable, and participatory planning process was agreed on and developed by Terna with a national work group (the "SEA" Negotiating Group) formally established in 2005, in which the Ministry of the Environment, the Ministry of Cultural Heritage and Activities, the Ministry for Economic Development, and the governments of the regions and the autonomous provinces participated. The group's work has been supplemented by the gradual signing of memorandums of understanding and planning agreements with regional and local governments to formally establish the progress of the mutual commitments. Since 2002, Terna has signed agreements on the application of the SEA method with 18 Regions, including the Autonomous Province of Trento.

Over the years, the model based on the SEA has undergone significant changes, according to a complex and fruitful cooperation among the parties, and is currently organized into different levels of discussion, analysis, and assessment:

- **at the strategic level**, the reasons for developing the National Transmission Grid – i.e., the new work to plan in response to the problems identified – are presented (1:250.000 scale);
- **at the structural level**, the process shared with the territory of finding possible locations for the corridors begins. These are strips of land up to several kilometers that are suitable for hosting the planned work (1:50.000 scale);
- **at the execution level**, possible alternative locations for the project infrastructure are identified inside the chosen corridor as feasibility ranges for the route (1:10.000 scale), i.e. segments of land up to several hundreds of meters inside of which the project's route can be developed.

Criteria of territorial characterization

As part of consultation with local institutions, one of the most effective instruments for selecting the alternatives with the least impact consists in agreeing on the **ERPA location criteria (Exclusion, Repulsion, Problems, and Attraction)**.
The area in question, with its soil use classifications and its relative protection restrictions, is characterized according to criteria that express its greater or lesser suitability to host the different kinds of work. Working within the SEA group, Terna and the Regions agreed on a system of criteria based on four classes:

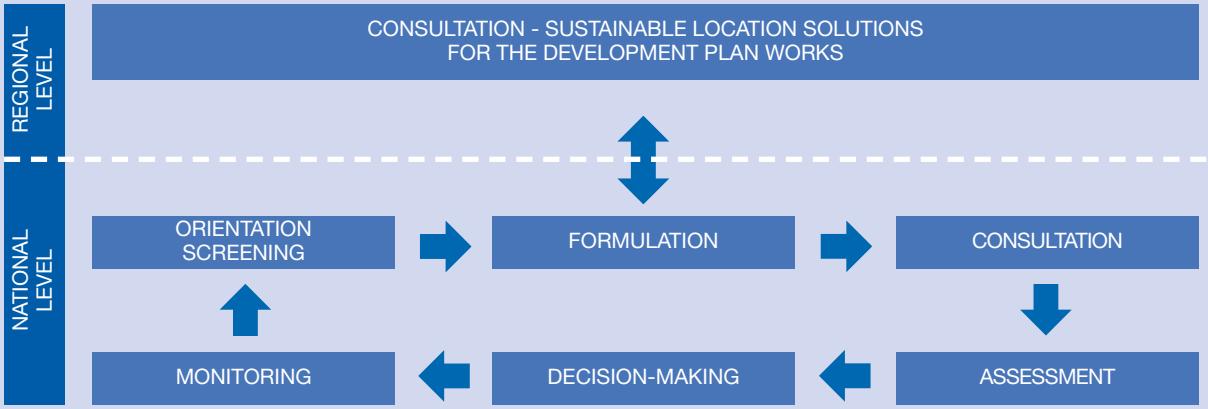
- **Exclusion:** areas in which any kind of construction is excluded.
- **Repulsion:** areas where it is preferable not to construct, unless there is no alternative or there are only ones that are even less environmentally compatible, and in any case in compliance with the prescriptive framework agreed on.
- **Problems:** areas in which the landscape is problematic for an objective reason documented by the bodies involved and that therefore require further territorial analysis.
- **Attraction:** areas to favor whenever possible after checking the area's load capacity.

Every class of the ERPA criteria includes several categories. Currently, the Exclusion criterion includes the areas the law recognizes as to be excluded absolutely, such as airports and military zones, and areas the law does not directly exclude, but which are restricted by specific agreements beforehand between Terna and the bodies involved.
The Repulsion criterion includes areas that may be taken into consideration only in the absence of alternatives; protected natural areas, with regard to which specific agreements are made, and areas that are to be taken into consideration only if there are no alternatives that are more environmentally compatible.
The Attraction criterion includes areas with good landscape compatibility and areas that already host line infrastructure, such as infrastructure and energy corridors, in which the location of a new line – if it is compatible with the area's load capacity – is more sustainable than in new areas that do not have any line infrastructure.
By using GIS (Geographic Information System) technology, all layers of information concerning the above-mentioned different types of soil use and protection restrictions (territorial, naturalistic, cultural, landscape, etc.) can be considered integrally, and can be suitably redistributed within the different ERPA criteria classes in order to identify localized possibilities – in terms of "corridors" – sustainable for development works of the NTG and consistent and compatible with the layout of the territory that they will affect.

The integrated planning process

S01

COEXISTENCE AND INTEGRATION OF DIFFERENT DECISION-MAKING LEVELS



The diagram shows the integrated planning process Terna developed in agreement with the national "SEA Group". This process promotes the consultation approach developed over the years by Terna ("regional level"), which has harmonized it with the procedure required by the regulations in force ("national level").
"Integrated planning" means that the activities of planning the electricity system are engaged in a constant dialogue with the activities of consultation. Terna believes that in this way it can contribute to ensuring the sustainability of NTG development planning, since it concretely incorporates the environmental considerations that arise from its dialogue with local institutions in the planning itself.
The national level is the formal level of the SEA procedure as established by law (Legislative Decree 152/2006 and similar), which applies to the Development Plan and provides for the preparation of an Environmental Report (ER) in which the effects that the implementation of the plan or program could have on the environment are identified, described, and assessed. The different stages into which the national level is organized are those of orientation, formulation, consultation, approval, and monitoring of the Development Plan, the related Environmental Report and the Preliminary Report (PR), which defines the orientation or screening stage.

The regional level represents the concrete level of the "dialogue with local institutions", i.e. of the precautionary consultation that Terna has carried out since 2002 with regional and local governments to seek and agree on the most viable and sustainable solutions for the location of the infrastructure necessary for the development of the NTG. Whenever agreements are reached with regional and local governments they are recorded in the Development Plan (DP) or in the related Environmental Report. An essential aspect of the integrated planning process described above is the coordination between the two levels, leaving appropriate decision-making autonomy to the regional level, which proceeds in any case according to the criteria and methods established by the national level (national "SEA Group").

The SEA portal

To improve quality and transparency with its stakeholders, in 2011 Terna created a new interactive corporate portal dedicated to the SEA procedure of the NTG Development Plan.
Through the SEA Portal (http://portalevas.terna.it) it is possible to consult not only the Environmental Report, with reference to mapping, but also data concerning the SEA monitoring of the implementation of the Plan.
Through the cartographic portal, moreover, one can follow the structure of the Plan on a regional basis, in the sole environmental, social, technical and economic aspect, or in its whole, utilizing evaluation indicators and concise sustainability indexes.
From the SEA portal it is possible to monitor via web, also from a cartographic point of view, the progressive implementation of the Plan, on the basis of specific indicators defined for evaluating variations, if any, that can occur between the coordinated action, the authorized project and the action taken.

EN26 Reducing the environmental impact

To reduce the impact of electricity lines on local communities and the environment, Terna can implement a series of solutions, which are described below.

Measures on the grid

Upgrading is complex work, which involves several grid components at the same time and often includes the dismantling of some grid segments and the construction of new lines.
Upgrading work consists mainly in:

- replacing plants with more advanced ones, such as, for example, introducing new 380kV connections to replace a larger number of lower-voltage lines;
- eliminating parts of the grid that are useless, following the construction of new infrastructures representing an upgrade;
- integrating new grid components, for example stations, to avoid having to upgrade saturated lines.

When upgrading is possible, the construction of a new plant may lead to the reduction of the space occupied by electricity lines, because of the removal of the old lines. Especially in the vicinity of cities, upgrading represents a solution to problems connected with the presence of infrastructures in areas that are being gradually urbanized. Overall, in the upgrading work provided for by the Development Plan, infrastructure demolition greatly exceeds construction, with a net positive effect in terms of freeing the local communities from the presence of electricity lines. The demolition of stretches of line made possible by the construction of new lines represents the most significant contribution in favor of the environment entailed by the development of the grid.
Laying cables underground eliminates or reduces the negative impact on the landscape that is typical of the overhead stretches of lines. For this reason, local institutions often request underground cables as their first option for the construction of new lines. Underground cables actually have a number of technical and economic drawbacks. They are less reliable over time than overhead lines and take much longer to repair in case of malfunction. For this reason they often do not adequately ensure the security of the electricity system and service continuity. Furthermore, underground cables imply a greater impact in the construction site stage, i.e. in terms of road systems, and entail construction costs that are higher than those of overhead lines (normally five to ten times).
Reclassification includes the upgrading of existing electricity lines to a higher voltage through the construction of new lines and towers to replace the existing ones. This work may entail the replacement of the old towers with larger ones that occupy more space, as occurs when, for example, a 130kV line is upgraded to 220kV. However, with respect to the construction of a new line, upgrading has the advantage of generally using already existing infrastructure corridors, thus avoiding the occupation of new portions of land.
Enhancement work aims at reducing the exposure of the local population to magnetic fields (See in this regard the box on "Electric and magnetic fields: the legal limits"), by for example, using higher pylons. Enhancement work may also include changing the corridor, while at the same time dismantling stretches near clusters of population.

Electric and magnetic fields: the legal limits

The main reference values for the emission of electric and magnetic fields currently provided for by the law (Minister's Decree of July 8, 2003) are the following:

- exposure limits: in case of exposure to electric and magnetic fields at a frequency of 50 Hz generated by electricity lines, the limit is 100 microteslas for magnetic induction and 5 kV/m for the electric field, understood as effective values;
- values of concern: as a precautionary measure of protection from possible long-term effects connected with exposure to magnetic fields generated at the grid frequency (50 Hz), in children's play areas, homes, schools, and places where people stay for at least four hours a day, the value of concern for magnetic induction is 10 microteslas, understood as the average over 24 hours in normal operating conditions;
- quality objectives: in planning new electricity lines near children's play areas, homes, schools, and places where people stay at least four hours a day and in planning new settlements and areas such as the aforesaid in the vicinity of electricity lines and installations already present, in order to gradually minimize exposure to electric and magnetic fields generated by electricity lines operating at a frequency of 50 Hz, the quality objective is set at 3 microteslas for the value of magnetic induction, understood as the mean value over 24 hours in normal conditions of operation.

The values of the three parameters, and in particular the value of concern (10 microteslas) and the quality objective (3 microteslas) show that Italian legislation has adopted the precautionary principle expressed by article 15 of the Rio Principles. Compliance with the law in its activities implicitly entails Terna's adoption of the same principle.

The online thematic mini-site on electromagnetic fields (EMF)

The "Sustainability" section of the website www.terna.it has been expanded to include a mini-site dedicated to electromagnetic fields (EMF), which provides accurate and easy to understand information on a subject that often raises unjustified alarmism.
Terna benchmarks the sites of other grid operators in order to evaluate the type and quality of information given. Subsequently, in collaboration with Fondazione Ugo Bordoni (FUB), the institute of high culture and research in Italy that boasts the best experience and expertise on the subject, the company created a work group to create a dedicated site.
The result is a site that combines scientific accuracy with direct and straightforward language on electromagnetic fields.
The site has 5 sections:

- electromagnetic fields, with general information;
- 10 Things to Know, a series of answers to frequently asked questions about EMFs, in particular concerning the effects they may have on health, the legislation in force, and what happens in the proximity of a power line;
- electricity grids and electromagnetism, with definitions, graphics and pictures which clarify the characteristics of the electric and magnetic fields generated by power lines;
- true or false, a quiz to test one's knowledge;
- more in-depth, with links to the sites of the World Health Organization and other institutions of reference, including the Bordoni Foundation.

Measures adopted in the planning stage

Terna can reduce the impact of its electricity lines on the landscape by identifying **routes in areas with good landscape compatibility and choosing towers that blend in well with the environment**. In the last few years, Terna has increased the alternatives at its disposal, among other things by having internationally famous architects design new towers.
Similar considerations hold for the construction of power stations. Stations have a much greater, albeit more limited, impact. In some cases, Terna plans to plant masking trees.

Mitigation

With regard to existing plants, mitigation measures aim at **reducing their visibility and/or improve their integration in the surrounding area**. In particular, Terna devises masking systems for station fences, upgrades the buildings, and uses naturalistic engineering techniques. (For further examples, see the "Management of impacts on biodiversity" section.)
These solutions also represent the basis for developing criteria for the design of new plants.

EU13

Construction-site management

For the management of construction sites, Terna has equipped itself with Operating Instructions – "Management of environmental aspects during plant construction" – to ensure compliance with the environmental policy adopted by the Company. It provides in particular for **the construction site and the new service roads to be located in areas of lesser vegetative value** (agricultural areas) whenever this is compatible with the technical requirements of the plan.
However, if the areas regard natural or semi-natural habitats, after the work has been completed, the area concerned must be environmentally restored to a condition that is as close as possible as the previous one. Scheduling the stages of construction must take into account the vital needs of the species that are potentially affected and avoid the activities with the greatest impact during the periods when the species reproduce.
Furthermore, particular care must be taken in managing the waste produced on the construction site in compliance with the relevant regulations in force, such as avoiding spills and the temporary storage of polluting substances.

Contract work

The Operating Instructions "Management of environmental aspects during plant construction" provide instructions for minimizing environmental impact along the supply chain.
The obligations regarding the environment that apply to contract work entrusted to other companies were established according to the provisions of the applicable environmental laws and prescriptions of the ISO:14001 standard and include aspects such as: preventive measures against contamination of groundwater, the limitation of damage to vegetation, the management of accidents, minimization of air emissions and noise, vehicle use, and the correct management of waste and excavated land (also see the paragraph "Relations with suppliers", page 104 on the subject).

The “Energy Bridge” between Sicily and Calabria: the Sorgente-Rizziconi power line

In June 2011, Luigi Roth, Chairman, and Flavio Cattaneo, CEO, in the presence of Stefania Prestigiacomo, Minister of Environment, presented the project and the works underway for the new 380 kV power line, the “Energy Bridge”, which is being built between the Sorgente (Messina) power station and the Rizziconi (Reggio Calabria) station, and which will be completed by the end of 2013.
The work will join Sicily and Calabria through the world’s longest 380 kV alternating current connection – a 105 kilometer long connection, 38 kilometers of which consist of a submarine cable. The power line will improve the quality and safety of the Sicilian electricity grid, which is obsolete and poorly connected with the rest of Italy. Once finished, the work will yield numerous benefits, also in terms of the environment: while 82 kilometers of new lines will be built in the provinces of Messina and Reggio Calabria, 67 kilometers will be buried and 170 kilometers of existing overhead lines will be demolished.

Safety and economic benefits

The work will allow for an overall savings for companies and families of nearly 800 million euros a year, thanks to the annulment of the price differential of energy in Sicily, which is currently 40% higher than the rest of Italy. The difference is due to an energy generation capability on the island that is less efficient than the rest of Italy, resulting in less competition. The construction of the power line, which will improve the connection between Sicily and Calabria, will allow for a greater use of energy flow produced by more efficient production plants in the south of Italy, thereby increasing competition which will result in a decrease in energy prices.
The work will also reduce the risk of blackouts in Sicily and will increase the safety, efficiency and quality of the electricity service in the entire area.

Environmental benefits

The “Sorgente-Rizziconi” connection will allow the removal of more than 170 kilometers of obsolete overhead lines (87 in Sicily and 85 in Calabria), significantly reducing the impact of electricity infrastructures on the territory involved.
The overhead part of the new connection, characterized by lines with a record single span of 1.3 kilometers in Scilla, uses huge single pole pylons - high tech innovative tubular supports built, for the first time in Europe, with mechanical characteristics that make them particularly suitable for installation in inaccessible areas. For example, a 20-kilometer long overhead connection from the station in Villafranca to the station in Sorgente will be entirely built using a total of 45 new supports. Due to their compactness, which reduces visual impact and has a minimal encumbrance on the ground, which is 25 times lower than that of the traditional truncated pyramid pylons – 5/6 sqm versus 150 sqm – the tubular supports are a valid alternative to traditional pylons.
The submarine part of the work, on the other hand, which runs 38 kilometers under the Strait of Messina, will be constructed by laying cables in a single phase and reaching over 370 meters in depth in the Tyrrhenian Sea.
Moreover, in order to safeguard the territory, care was taken by Terna to avoid crossing the “Dorsale Peloritana” (Peloritana main line), in the province of Messina, and, in particular, the Site of Community Importance, “Antennamare-Curcuraci”, with an overhead line; the existing energy corridor (on the Sicilian side) will be used, so as not to occupy non-infrastructured areas. Furthermore, attentive environmental monitoring will be carried out on the construction sites through periodic inspections on the status of water, vegetation and fauna.

EN26
EN12

Biodiversity

Terna's plants are disseminated throughout Italy in a grid that extends for nearly 57,000 kilometers. The grid's relation with the surrounding natural environment and its impact on biodiversity take on different characteristics during the construction of new lines and the operation of existing ones. **During the construction stage, the impact on biodiversity is connected with the activities on the work site:** the opening of passageways in order to build the towers, excavation of the earth, and the removal of left-over materials. The construction of new lines and stations requires special attention if it takes place in the vicinity of or inside protected areas.
Once the line has been constructed, it has a two-fold relationship with biodiversity. On the one hand, **the route of the line can be a factor of growth for biodiversity** and protection for several species. For example, when lines cross large open areas or extensive areas of grain monoculture, the towers and their bases represent "islands" of concentrated biodiversity. Tower bases – especially the larger ones that support high-voltage lines – are the only zones spared from intensive agriculture, with its land transformation and use. These are places where spontaneous grasses and brambles flourish in which wild rodents find shelter, since their den systems are not periodically destroyed by plowing. They are also places with concentrations of predators of the rodents, i.e. birds of prey. Birds, especially rapacious ones, commonly use electricity lines and their towers as both posts for observing the surrounding area and structures for nesting.
On the other hand, lines have potentially negative effects on biodiversity, that regard birds in particular. The risk of electrocution should not concern Terna's lines, since it is connected with the narrow space between the typical wires of low- and medium-voltage lines, which can electrocute birds – especially large ones – that cross their route. However, high-voltage lines can entail the risk of collision. The actual occurrence of collisions depends on the density of the birdlife and the frequency with which birds fly in the vicinity. The important factors in this regard are the routes of migratory bird – which are especially important in Italy, a bridge between Europe and Africa – the location of wetlands in the area, and the presence of protected areas, reserves and parks.

EN26

A radar for migratory birds

For the construction of the Sorgente-Rizziconi line, whose route includes an overhead part in the proximity of the Strait of Messina, for the first time in Italy, Terna has experimented with using radar to monitor birdlife passing by the future route of the line. This particular attention is justified by the importance of the Strait of Messina for migratory birds who arrive in Sicily from Africa and then travel on to the peninsula through the strait in the area around Scilla. Observations were carried out for two weeks during the migration in spring 2010.
The radar system punctually registered the number of crossings, the altitude and the flight direction of the birds in transit. The experiment scientifically measured the potential impact of the projected line on the migratory area of the trans-Saharan birdlife by clearly identifying their flight pathways and altitudes. This made it possible to avoid that the lines involved significant risks for migratory birds.
The new line will play a principal role in developing the "green" energy sector, and will bring about significant benefits for the electricity system; it will, in fact, allow more wind farms, which are experiencing rapid growth in Sicily and in all of southern Italy, to connect to the Sicilian grid, which will make it possible to export renewable production (wind and solar) of over 700 MW from the island to the mainland.

EN11

Lines in protected areas

Considering the importance of the proximity of protected areas or in any case of natural interest areas for the risk of a negative impact by Terna's plants on birdlife, the interaction between lines and such areas is constantly monitored. Given the extension of the grid all over Italy, the main instrument for identifying the critical stretches of line is a complete territorial database with data from ministries and the Regions. These data were acquired through data-exchange protocols for the purpose of applying the SEA to the NTG Development Plan.

The data collected were harmonized and included in a standard cartographic system at the national level. In addition to the location of electricity lines, the main information included in the data base regards geological, hydro-geological, naturalistic, and landscape aspects, including:

- degree of seismicity;
- climate data;
- polluted sites;
- the official list of protected areas, fluvial parks, natural parks, reserves, terrestrial and marine national parks;
- Sites of Community Importance (SCIs) e Special Protection Zones (SPZ);
- Important Bird Areas (IBA);
- landscape-risk map;
- legislative restrictions and administrative boundaries.

With the support of the database, Terna has made an **inventory of possible interference between its structures (lines) and protected areas or areas with high biodiversity**, by cross-referencing data (through the use of cutting edge GIS - *Geographic Information System* - instruments) relative to electricity grids with data regarding the land. Considering all the kinds of protected areas established by different laws (national and regional parks, national and regional reserves, SCIs – Sites of Community Importance, SPZ – Special Protection Zones) and eliminating overlaps, **9.3% of Terna's grid (5,385 km)** crosses protected areas for stretches that range from a few hundred meters to several tens of kilometers.
In all, net of overlaps, protected areas cover 22.3% of Italy's territory.

Management of impacts on biodiversity

Terna manages its impacts on biodiversity with a series of integrated instruments that consider such impacts right from the planning stage and, whenever necessary, the adoption of appropriate mitigation and compensation measures.
The approach is primarily preventive. Beginning in the planning stage, Terna considers **the need to preserve the environment by seeking solutions agreed on with local governments** regarding the location of its electricity infrastructure. Like other environmental variables, biodiversity – and in particular the presence of protected areas – therefore represents an important input in the sustainability-based planning of grid development. The biodiversity features of the areas that could potentially host new infrastructure are carefully studied. The information collected becomes part of the criteria determining the final route and is available in the parts of the Environmental Report containing regional details that accompany the Grid Development Plan.
This approach was confirmed in the memorandum of understanding signed by Terna and the WWF (see the box below), which provides for, among other things, the incorporation of environmental criteria consistent with the WWF's conservation strategy in the planning of new lines.

EN13

Completion of Terna's works in three WWF Oases

WWF Oasis in Padule-Orti Bottagone (LI).

Started in 2010, the first three environmental restoration and mitigation projects envisaged by the strategic partnership between Terna and WWF Italia and prepared in collaboration with WWF Research and Planning, were implemented and presented to local institutions and media.
In spring 2011, following the occasional suspension of activities at the worksite so as not to interfere with the nesting season, the works in the Tuscan Oases of Stagni di Focognano, on the Florentine plain, and Padule Orti-Bottagone, in the municipality of Piombino (Livorno) were completed.
In **Focognano**, a lake Oasis that spans 35 hectares and is only 10 kilometers from the

historic center of Florence, the presence of two HV electricity lines with two supports placed directly in the pond, and two at the edge of the area, has oriented the works in the direction of mitigation of impact on birdlife. High voltage cables are not easily seen and pose a potential danger to birds in flight who use this Oasis as a stop-over, such as the blackwinged stilt, the red heron, the little egret and the little bittern. In order to minimize such risk, Terna has constructed actual road signs for birds that cover over 1000 meters of electricity line. The installation of 108 "anti-collision spires" was carried out by specialized technicians thanks to a spectacular helicopter maneuver. These are special colored visible spiral-shaped devices wrapped around guard- wires whose purpose is to avoid collisions, while the hissing of the wind also makes them effective at night. In Focognano, Terna has also set up artificial nests on some pylons, complete with webcams, in order to encourage reproduction of Kestrels and allow for monitoring.

With respect to the **Padule Orti-Bottagone** Oasis, the WWF-Terna goals are to significantly increase the naturalistic potential of the area together with the strengthening of infrastructures for the management, fruition and monitoring of the species present. In this area, which includes six different habitats of community interest, and which is divided in two by the provincial road, the first ever "condo" for birds in Italy was built. It is a special watchtower where 154 nests of different shapes and sizes have been placed and which welcomes, apart from visitors and birdwatchers, martins, sparrows, swallows and swifts. Only a few months after the installation of the condominium, 5 couples of Italian sparrows and 4 couples of starlings nested and all the species arriving from Africa that the "houses" are intended for (martins, swallows and swifts) have already gone inside and surveyed the special structure, and may nest there in the upcoming seasons. As a result of this structure, Orti Bottagone was awarded the prize of "Most Beautiful Oasis" at the end of 2011 by EBN Italia, the Italian Bird Watching Organization for the promotion and enjoyment of oases and nature reserves.

Terna also built in Orti-Bottagone a watching post, a watchtower, an underpass that guarantees visiting continuity despite the provincial road that cuts across the Oasis and new paths for exploring the beauties of the area, including a special pathway on piles, shielded by a wall with slits for enjoying walks only a few centimeters from the water without disturbing the flamingos, blackwinged stilts, teals and cormorants stopping in the marsh.

Terna's initiatives in these two Tuscan oases were presented to the citizens, institutions and local media at an event organized by WWF Italia in the Palazzo Appiani in Piombino, which was followed by a guided tour of the Orti Bottagone Oasis. The meeting in Piombino was also an opportunity to present video and hardcopy materials (brochures and maps of the Oasis) which were prepared for visitors to the Stagni di Focognano and Orti-Bottagone Oases.

In the fall, the works on the third WWF Oasis, the Sicilian Torre Salsa (Agrigento), were concluded and it, too, was chosen because it is typically representative of Italian territory.

The main objective of the project was to increase the use of the Oasis in terms of nature tourism and didactic and scientific research activities. The result is an outfitted overlook facing the sea from which one can admire the hundreds of egrets, herons, spoonbills, the European honey buzzard, and cranes who in the spring and fall pass through one of the most important migration routes on the peninsula, as well as the peregrine falcon who nests on the imposing rocky sea cliffs along the coast. An open-air green room was created, protected by a tensioned structure in wood and cotton, fully removable, as well as a pathway with benches, informative lecterns and boards so that everyone can discover and enjoy the incredible variety of life that the Oasis hosts.

Terna wanted to contribute to better management, surveillance and monitoring of the area by strengthening the physical and technological infrastructures (fences, railings and a system of closed circuit cameras) that will help to protect it from fires, poaching, littering or straying off-trail, which are the main threat factors for this delicate ecosystem. In November, the works undertaken in the Sicilian Oasis of Torre Salsa were presented to the citizens, the institutions and local media at an event hosted by the Province of Agrigento.

Once this first plan has been completed, the agreement between the WWF and Terna envisages restoration and environmental requalification projects in the Gran Sasso National Park and Monti della Laga in Abruzzo, as well as the Pollino National Park in Calabria. In both cases, upgrading of the National Transmission Grid will take place, with the subsequent removal of stretches of lines, which is an interesting opportunity for environmental requalification of the old line routes. The environmental restoration works will begin once the removal activity has taken place.

In spite of the measures adopted in the planning stage, there may be interference between a given infrastructure component and several species or habitats. To reduce such interference to a minimum, measures of environmental mitigation are adopted during both its construction and its operation. In the event such measures are not sufficient to reduce the interference to levels of little significance, environmental compensation measures are adopted, i.e. actions in areas near the electricity lines.

The main **mitigation** and **compensation** measures involve:

- **environmental restoration** consisting in the construction of naturalistic engineering works to regulate the surface outflow of meteoric water and thus control the phenomenon of soil erosion;
- **reforestation**, through the planting of native species of trees and shrubs belonging to the vegetation of the area;
- **turfing** by sowing seeds belonging to native species together with natural fertilizers and adhesives that help them take root. The use of native species prevents the phenomenon of floristic pollution via the introduction of species that are extraneous to the environment;

EU13

- **compensation**, i.e. offsetting the cutting down of trees along the planned lines by planting trees of the same species in equivalent places.

EN13

With regard to the species of flora and fauna potentially involved, see the 2011 Environmental Report, published in the "Electricity System" section of Terna's website.

During the construction of infrastructures, the habitats and species of the flora and fauna concerned are monitored. This is to check the actual appropriateness of the mitigation and compensation measures adopted in order to constantly assess their effectiveness and, if necessary, to make corrections. Specifically, environmental analyses are performed before construction; the data obtained are then compared to those from samples taken subsequently in order to promptly identify the appearance of any signs of deterioration.

As far as existing lines are concerned, Terna has tried out systems of mitigation regarding in particular the interference between lines and birdlife, which are described in the following section.

Terna is also investigating the possibility of using the lines of the NTG to support environmental monitoring. The installation of specific sensors on pylons would enable the implementation of programs for environmental data collection agreed on with local governments and park agencies. In this way, in addition to expanding the range of potential uses of its transmission infrastructure, Terna could make a significant contribution to the monitoring and management of biodiversity and the environment.

EN13

EU13

Masking the power stations in Chignolo Po and Maleo

Following the construction of the power stations in Chignolo Po and Maleo, work was undertaken to mask the infrastructures through the use of natural engineering techniques.

The works concerned the perimeter area of the power station (nearly 30 sq m) and included planting and hydro seeding, with the two-fold objective of consolidating the land and masking the electricity infrastructure. In addition, native trees and shrubs were transplanted, such as, for example, four oak trees at the Chignolo Po station.

Works commenced September 2011, upon the definitive closure of the civil work site, and were terminated in November 2011.

For the next three years the plants will be inspected to ensure they have rooted, and general maintenance will be performed.

EN14

Studies on electricity lines and bats

Interest in bats is on the rise. The UNEP Convention on Migratory Species and the European Agreement for the Protection of Bats (EUROBATS) celebrated 2011 as the European Year of the Bat and 2012 as the International Year of the Bat.
At present, however, there are no studies that discuss the effects electricity lines might have on bats, and what mitigating measures could be taken.
Terna has started research with the goal of:

- describing what aspects of bat ecology could be affected by possible interaction with high voltage (HV) and extra high voltage (EHV) lines;
- analyzing the literature on a national, European and international level concerning the subject and other potential problems connected thereto;
- going into depth on the subject by consulting with international experts in the field;
- providing technical charts concerning the biology of species potentially affected by the construction of new HV and EHV lines.

Through bibliographic research and consultation with international professionals and experts in the sector, the study went into depth on the biology and ethology of the species.
An in-depth examination showed that the subject matter has not been developed yet in Europe and no data exist in this regard. The study concluded that as far as bats are concerned, HV and EHV electricity lines do not pose obstacles for them. In fact, the examination excluded the possibility of collisions, or interference with hunting, flight or migration. With respect to the loss of habitat, a catalogue containing possible mitigating actions that can be undertaken has been proposed. Such actions, after adjustment to tailor-fit exact needs, can be included into future Environmental Impact Studies. For each species of Italian bats, a file has been prepared that summarizes the distribution, the ecology of the species, potential impact and an analysis of flight in relation to the presence of different supports.
Of special interest is how the pylons are used, in particular how the space between the pillars of the pylon and the wall of the nesting house for birds of prey is being used by bats as a daytime shelter, first discovered in 2011 by ornithologists who collaborate with Terna (see box page 125).

EN13
EU13

Recovery and restoration of building site areas in Val D'Ossola Sud

Within the upgrading of the electricity grid in Val d'Ossola Sud, works have been undertaken for the restoration, mitigation and environmental compensation of the areas affected by the works.
The works, which were carried out between March and April 2011, provided for:

- the forestation of the areas through the planting of dense, tall shrubbery that have a fast growth rate;
- inspection and pruning of volunteer plants and exotic invasive plants around the areas affected by the forestation.

The choice of planting shrubs was determined also by the desire to have a type of tree that reaches a maximum adult height of 5/6 meters, so as not to interfere with the line cables.

EN14 Lines and birdlife

Lines have potentially negative effects on birdlife. While the risk of electrocution characterizes low- and medium-voltage lines, Terna's high-voltage lines can be dangerous particularly for the risk of collision. This is why on stretches of line characterized by the frequent presence of birds in transit, the Company has installed special devices called "dissuaders", which, with their encumbrance and the noise made when they are blown by the wind, make the lines easier to perceive by the birds in flight.

DISSUADERS FOR THE BIRDLIFE PRESENT ON THE NTG

	2011	2010	2009
No. of lines concerned	40	37	30
Km of lines concerned	171	159	146
Total No. of dissuaders	**9,116**	**8,917**	**8,845**

EN14

Criteria for location of dissuaders in the planning phase: the Trino-Lacchiarella power line

In 2011, work began on the construction of the 380 kV Trino- Lacchiarella line. 70% of the line will be built with low environmental impact supports. This solution was decided on taking into consideration the context of the landscape being crossed, as the more harmonic shape of a single pole minimizes the visual impact of the future line.
In compliance with the requests of the Technical Commission for the Environmental Impact Assessment EIA-SEA, the Region of Piedmont and the Ministry for Cultural Heritage and Activities, Terna investigated the technical feasibility of placing dissuaders in order to mitigate the potential impact of the power line on birdlife.
With the aid of the scientific contribution of the Animal Biology Department of the University of Pavia, Terna identified the segments of the power line that should be made more visible with the installation of spirals. An analysis also indicated that only the guard wires needed to be made more visible, whereas the conductors, having three circuits, (i.e. there will be three cables for each phase), are easily seen and recognized by birds, and do not pose a threat.
Once the segment was identified, and the need to place dissuaders only on guard wires was assessed, the structure of the planned supports was verified, taking into account the installation of the spirals on the guard wire with a center distance of not less than 25 meters. This distance is based on the most cautious indications for birdlife recommended by the Department of Animal Biology of the University of Pavia.

In 2008, **Terna signed an agreement with the LIPU** (the Italian partner of Birdlife International) **for a scientific study of the interaction between high-voltage lines and birds**.

The project represented an important opportunity to systematically study for the first time, and on a large national scale, the actual interactions of birdlife with the high- and extra-high-voltage lines of the National Transmission Grid (NTG). The only studies available regarded the phenomenon of the electrocution of birds whose wings touch two wires at the same time, which is typical of low- and medium-voltages lines.
LIPU's study highlighted that collision risk for birds with HV and EHV electricity lines is low in 4 out of 7 areas monitored. Near the lake in Montepulciano and in the Mezzano area – which are wet areas subject to migratory flows – increased risks seem to exist for birds, suggesting additional observations also with new experimental approaches, for a correct risk assessment and identification of possible mitigation measures. The study conducted on the Strait of Messina stressed the need of a more detailed monitoring with the aid of appropriate technology, such as the use of radar.
For some time Terna has been involved in experimenting with alternative uses of electricity lines to benefit biodiversity. Worthy of particular mention is the placement of nest boxes for predatory birds atop the pylons. Numerous studies have indicated that electricity lines function as observation points for predatory birds on the hunt, who perch on the supports due to the height and protection they offer from predators.
In 2011, Terna continued its support to the "**nests on pylons**" initiative in collaboration with the ornithological association *Ornis italica*, which, through the years, has resulted in the installation of nearly 500 boxes suitable for bird nesting. The

constant monitoring of the boxes by a group of researchers has allowed for the collection of biological and ethological data, and has shown a positive effect in terms of biodiversity. Among the main species that have occupied the boxes is the kestrel, a species of small falcons that have adapted to living in manmade areas, the horned owl, and the European roller. Also in the 2011 reproductive season, the boxes on the pylons were monitored to collect data on reproduction (see the following box).
In 2011, Terna continued its collaboration with *Ornis italica* with the Birdcam Project, which entailed installing cameras in artificial nests so that the reproductive period of the birds could be followed online at www.birdcam.it, as well as on Terna's website. The webcam connection also allows for the remote scientific observation of animal behavior by researchers.

The 2011 reproductive season in the nests on Terna's pylons

Kestrels, cuckoo falcons, peregrine falcons, horned owls and European rollers are the species of birds that have chosen to spend their reproductive seasons in the artificial nests on Terna's high voltage pylons.
The monitoring of artificial nests was carried out by *Ornis italica*'s ornithologists, who, in 2011, inspected nearly 10% of the over 500 nests placed on the grid's pylons in Lazio, Tuscany, Umbria and Emilia-Romagna.
In the Parma area, 31 kestrel nests were monitored and 99 chicks were ringed. For the first time, a nest with a pair of cuckoo falcons was spotted with three chicks, all of which were ringed two weeks after birth. The nature of colonial falcons to reuse old nests lends hope that in 2012 this first couple and their chicks will return to settle more permanently in the area. The other new nests which were created to foster the reproduction of this medium/small-sized migratory falcon were, instead, occupied by kestrels. In the same area there was no evidence of European rollers or horned owls in the nests.
Also nests in the Mazzano area, in the province of Ferrara, which were installed for the cuckoo falcons, were occupied instead by kestrels. Completely unexpected, on the other hand, was the presence of bats (the Lesser Noctule) in daytime rest in a very tight space between a nest wall and the pylon support (see picture page 125).
Two nests located in the Ferrara area hosted pairs of European rollers, from which 8 chicks flew away: considering the rareness of the species in this area, the occupation of the nests is an important success, perhaps the beginning of a greater future colonization.
In Lazio, nearly 60 nest boxes intended for European rollers and horned owls have been monitored. With respect to 2010, the presence of pairs of European rollers has almost doubled (there were 15 in 2010, and 25 in 2011) and the number of horned owls has also increased. In all, 98 European rollers and 12 horned owls were born, the majority of which were ringed. No monitoring of the reproduction of kestrels took place in 2011.
In some cases, the nest box is outfitted with a webcam that provides the scientific community 24/7 – as well as enthusiasts – with round-the-clock viewing of all phases of reproduction, from the laying of the egg to its hatching and up to the moment the chicks spread their wings to fly away.
The adoption of new technology for the audio and visual transmission in HD has further improved the quality of the streaming. An "eggcam" was tested, which allowed for close-up shots of the egg being laid and, subsequently, cracking open. These novelties broadened the vast audience of enthusiasts: the first posting on YouTube showing an egg being laid was uploaded by an American birdwatcher.

Energy efficiency and climate change

Terna's business is the transmission of electricity and the Company does not carry out any production activities, which are among the most responsible for greenhouse-gas emissions in the electricity industry and businesses in general. For this reason, Terna is not subject to obligations to reduce emissions according to the Kyoto objectives, nor to emission trading schemes of any kind. Terna decided anyhow to being committed to limit its emissions on a voluntary basis.
In addition to monitoring and programs for containing its own direct and indirect emissions, illustrated in the following pages, some of the activities Terna undertakes account for significant reductions of CO_2 emissions from the electricity system as a whole. In particular:

- investments provided for in the Development Plan (page 138);
- management improvement for the safe operation of the grid (page 135) and a reduction in the resources supplied to the dispatching services market, which result in fewer production requests given the same service (page 92);
- the construction of photovoltaic plants completed in 2011 (page 36).

EN3-4 Energy consumption

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

- fuel for the Company's vehicles (used for line inspections, repairs, and other activities mainly connected with the maintenance of lines and stations);
- gas oil for emergency generating sets, which are used only in cases where electricity – the normal energy source for equipment – is lacking, in order to ensure the control and restoration of the normal operation of the electricity system;
- gas oil and methane for heating, particularly in offices.

The indirect consumption of energy is represented by the electricity used to run stations and operating systems (more than 86% of the total) and in offices and workshops.
The following tables show Terna's direct and indirect consumption. The database for energy consumption is still being improved. In some cases (gas oil for heating) monitoring regards purchases, with the consequence that the changes from one year to another can reflect procurement cycles rather than reductions or increases in consumption; with respect to the indirect consumption of electricity (offices and stations), in 2011 the changeover from estimated data to data based on measurements begun. The published value is the result of an estimate allowing to cover 100% of plants and offices, and is based on exact measurements from meter readings of 79% of the power stations.
A comparison between the consumption registered and the estimated data obtained by using the same calculating method of past years indicated an overestimation of consumption for previous years, which were, therefore, revised downwards consistent with the new measurements. (Values published for energy consumed and for the corresponding CO_2 emissions differ, therefore, from those published in the previous two years).
In detail, in 2011:

- consumption of fuel (gas and gas oil) has increased by 3% as a consequence of an increase in the grid perimeter and managed assets, resulting in company vehicles having to cover increased distances;
- consumption of methane gas for heating has increased due to more severe climates in some areas. The increase in the consumption of methane in three years should be viewed in relation to the simultaneous reduction of heating gas consumption (representing 87% of the value shown on the table under the entry "Gas oil for generating sets and heating").

An increase in the consumption of electricity was registered, due to an increase (+5%) in the number of stations in 2011.

DIRECT AND INDIRECT ENERGY CONSUMPTION BROKEN DOWN BY PRIMARY SOURCE - GIGAJOULES [1]	2011	2010	2009
Direct consumption			
EN29 Gasoline for vehicles [2]	7,504	7,113	6,981
Gas oil for vehicles [2]	75,731	74,588	72,528
Methane for heating	9,468	7,277	6,144
Gas oil for generating sets and heating	11,289	12,890	13,279
Total direct consumption	**103,993**	**101,869**	**98,933**
Indirect consumption			
Electricity for stations and offices [3]	627.480	591,840	555,120
Total direct and indirect consumption	**731.473**	**693,709**	**654,053**

(1) The data regarding direct consumption in thousands of tons and thousands of m^3 are reported in detail in the indicator tables. The parameters specified in the Global Reporting Initiative's GRI-G3 protocols were used to convert the quantities of resources into gigajoules.
(2) Only the consumption of operating vehicles is considered and not that of managerial vehicles. The 2011 data is a result of exact measurements for the first half and an estimate – based on variations registered between the 2nd half of 2010 and the first half of 2011 – for the second half.
(3) Throughout 2011, surveying and in-depth investigation on electricity to supply stations and offices were carried out. In light of the results of said activity, it was possible to include more exact data into the table not only for 2011, but also with respect to what was previously published for 2010-2009.

In 2011, Terna created an internal work group, coordinated by the energy manager, for the rational use of energy. Through the Initial Energy Analysis, the group's activities will allow for fine-tuning the energy consumption database and will be aimed at:
- identifying different uses for energy, underscoring areas of criticality and the elements that primarily influence consumption;
- forecasting expected consumption and comparing it with actual consumption;
- including the evaluation of energy consumption into corporate processes;
- implementing energy policies.

Direct and indirect emissions of CO_2

EN16

Greenhouse-gas emissions connected with Terna's activities are caused by:
- direct consumption of energy sources (gasoline and gas oil for vehicles, gas oil for generating sets and heating and methane for heating);
- indirect consumption of energy sources (electricity consumption);
- leaks of SF_6 (sulfur hexafluoride), a greenhouse gas used in station equipment for its high insulating power;
- leaks connected to R22 refrigerant gas, used in air conditioners.

Leakage of SF_6 is the main direct source of Terna's greenhouse-gas emissions. From 2009 to 2011, the quantity of SF_6 present in Terna's plants increased by 77 tons (+23%). This trend is common to many transmission companies and is bound to continue in the near future because of technical reasons connected with the higher insulating performance of the gas and the reduced encumbrance of stations constructed with equipment containing SF_6 with respect to more traditional solutions. For this reason, the indicator that Terna considers is the percentage of leakage compared to the total quantity of gas contained in the equipment. Containment programs of incidence of SF_6 leakage are illustrated in the paragraph provided on page 135.

TOTAL DIRECT AND INDIRECT EMISSIONS OF GREENHOUSE GASES TONS OF CO_2 EQUIVALENT (1)	2011	2010	2009
Direct emissions			
SF_6 leakage (2)	57,406	60,313	68,522
R22 leakage (2)	25	240	1,104
Gasoline for vehicles	520	493	483
Gas oil for vehicles	5,605	5,520	5,368
Methane for heating	531	408	344
Gas oil for generating sets and heating	836	954	983
Total direct emissions (2)	**64,922**	**67,928**	**76,805**
Indirect emissions			
Electricity (3)	71,463	70,692	66,306
Total direct and indirect emissions (2)	**136,385**	**138,620**	**143,111**

EN29

(1) The conversion of direct consumption into emissions of CO_2 equivalent is made using the parameters specified by the Greenhouse Gas Protocol (GHG) Initiative. For indirect consumption of electricity, the conversion is made taking into account the weight of thermoelectric production in total Italian electricity in 2011. The reference for the breakdown of the production mix is the "Monthly report on the electricity system" for December 2011, which is available online at www.terna.it.

(2) From this year, with respect to direct emissions it was decided to report the amount of the leakage associated with the consumption of R22 (value previously included in the text). The data was also included in 2010-2009. As of this year, IPCC AR 4 conversion factors have been used, which brought about a variation of tons of SF_6 and R22 equivalent with respect to what had been previously published. The two above-mentioned variations consequently led to a variation in total direct and indirect emissions with respect to those previously published.

(3) Throughout 2011, surveying and in-depth investigation on electricity consumption to supply stations and offices were carried out. In light of the results of said activity, also data from 2009-2010 was reviewed downward, which were found to be over-estimated. Consequently, also the total emissions data has been modified.

CO_2 emissions: comparative data

Comparison between Terna and other companies on the subject of greenhouse gas emissions takes as a reference the total of direct and indirect emissions in thousands of tons of CO_2 equivalent.
Both the data from transmission companies (TSO panel) and the data from large Italian listed companies (FTSE-MIB) as well as from international leaders in sustainability (SAM - Supersector Leaders) were examined.
The data in absolute value are not representative of company performance concerning the efficient use of energy and the containment of climate altering emissions, which should be evaluated over time and with reference to normalization factors that eliminate the differences stemming from the different type of activities and the size of the company.
In the absence of normalization factors that are significant and valid for all sectors, it was decided that it would nevertheless be of interest – despite the limited comparability – to present company data on CO_2 emissions in absolute values. Said data, which according to the case takes on very different orders of magnitude, provides at least an indication on the relevance of greenhouse gas emissions – therefore of the materiality of their reduction in terms of sustainability – in different sectors and in different companies.
For example, within the TSOs, the highest data refers to Eskom, which operates in South Africa and which, among its activities, counts also the generation of electricity, whereas the lowest data refers to TDE, a small-sized TSO that operates in Bolivia and that works only in the field of electricity transmission.
In 2011, greenhouse gas emissions linked to Terna's activities totaled 136.4 thousands of tons of CO_2 equivalent; in 2010, for which comparison data is available, emissions totaled 138.6 thousands of tons of CO_2 equivalent.

TSO Panel: 16 available data; average CO_2 emissions: 25,938.9 thousand tons CO_2; lowest figure: 0.8 (TDE - Bolivia); highest figure: 230,300 (Eskom - South Africa). In this comparison, Terna ranked below the average, which is the highest among the averages of the three panels and is influenced by four transmission operators that also have electricity generation activities. The lowest figure refers to the smallest operator out of all those considered.

FTSE-MIB Panel: 18 available data; average CO_2 emissions: 10,802.5 thousand tons CO_2; lowest figure: 15.1 (Ubi Banca); highest figure: 116,645.0 (Enel). Terna ranked among the major Italian companies with the fewest emissions, well below the average and with total emissions just above those of banks and insurance companies which registered the lowest values.

SAM - Supersector Leaders Panel: 18 available data; average CO_2 emissions: 13,647.8 thousand tons CO_2; lowest figure: 34.2 (Itaúsa - Financial Services); highest figure: 146,274.0 (Stockland - Real Estate). Also in comparison with the global best practices of sustainability, Terna confirmed a quantity of emissions well below the average. The high standard deviation points to great variability among sectors, some of which are characterized by high quantities of CO_2 (for example, companies from the Oil & Gas sector).
The great variability of company data renders a graphic illustration of little importance; the table shows the lowest, average and highest figures of the three panels.

	Greenhouse gas emissions – thousands of tons CO_2 - 2010		
	TSO	FTSE-MIB	SAM - SUPERSECTOR LEADERS
Average	25,938.9	10,802.5	13,647.8
Max	230,300.0	116,645.0	146,274.0
Min	0.8	15.1	34.2
Standard Dev.	63,799.6	30,159.0	35,703.4
Terna		138.6	

For additional information on panel structure and generally on comparisons with other companies, refer to the Methodological Note, page 16.

Other indirect emissions of CO_2

EN17

In addition to the emissions corresponding to the consumption of electricity, other indirect emissions caused by Terna's activities are connected with:

- grid losses;
- employee flying.

Grid losses

EU12

Grid losses are defined as the difference between the energy injected by producers and imports and end consumption. The losses that are significant for Terna are those associated with the transmission grid. Both measurements are the result of an estimate, which breaks down the total losses of the electricity system (including the distribution networks) in proportion to the voltage levels, beginning with calculations performed assuming particular grid configurations and considering the losses on lines because of the corona effect, directly proportional to the voltage and because of the joule effect, directly proportional to the current, as well as losses in the transformers.

GRID LOSSES

	% with respect to energy demand			GWh		
	2011 (1)	2010	2009	2011	2010	2009
EHV grid	1.23	1.23	1.27	4,077	4,055	4,067
HV grid	1.39	1.39	1.44	4,633	4,608	4,612

(1) For 2011, data was calculated on "temporary operational data of the 2011 national electricity system"; the 2010 data refers, instead, to definitive available data and, therefore, differs from what was previously published.

It should be noted that Terna can only contribute to determining the extent of the losses, which are not completely under its control. To explain this, it is useful to distinguish between dispatching activities and activities for developing the grid.
Dispatching is necessary to ensure the constant balance between injections and withdrawals and to avoid problems of grid security and poor service. These activities take place, according to regulated criteria, within the framework of production set-ups determined by the energy market and therefore cannot be conditioned by Terna with the objective of minimizing losses. On the other hand, it should be noted that the energy market implicitly favors the more efficient productions and thus entails a trend of emission reduction that is much greater than that of grid losses.
With equal production set-ups, the activities of grid development would determine greater efficiency and therefore a reduction of losses. However, the development of the grid leads to production set-ups that were not previously possible and also enables consumption to increase. Furthermore, grid development itself is partly dictated by the need to connect new plants, whose location is not determined by Terna. The overall effect of grid development on losses is therefore not predetermined and not even under the control of the grid operator. Other factors can significantly offset the increase in efficiency ensuing from the development of the grid, in terms of both the absolute quantity of the losses and the losses as a percentage of the total energy consumed.
The CO_2 emissions associated with grid losses in 2011 were as follows:

- for the EHV grid, 1,671,570 tons/year;
- for the HV grid, 1,899,530 tons/year.

Terna is developing new specifications for the acquisition and use of medium-voltage/low-voltage transformers with "low losses of electricity". The adoption of the new specifications is in line with Terna's environmental and energy policy and with the Electricity and Gas Authority's resolution ARG/elt 348/07. The objective of the new specifications is the construction and acquisition of Ak class transformers, the highest performing, with an average reduction of load losses of 11% with respect to the current values. As far as no load energy losses are concerned, the adoption of the B0 class will lead to an average loss reduction of 28% with respect to the current values, which is non-negligible, given the fact that 50% of the transformers installed are in this working condition to guarantee a reserve that is ready in the event of a breakdown. The reduction will also have an impact on grid losses.

Employee flying

The emissions corresponding to employee flying recorded a slight increase with respect to 2010 (+3%), mostly miles and emissions related to international travels have risen (+36%), because of the increase in the Company's activities in the Balkans and the Mediterranean area (see Profile page 36).

INDIRECT EMISSIONS OF CO_2 FOR EMPLOYEE FLYING

	Miles			CO_2 emissions (tons)		
Kind of flight	2011	2010	2009	2011	2010	2009
Domestic	3,174,881	3,065,573	3,511,970	1,048	1,010	1,013
International	1,523,415	1,128,909	1,223,462	367	271	260
Intercontinental	521,433	945,914	1,618,459	109	195	306
Total	**5,219,729**	**5,140,397**	**6,353,891**	**1,523**	**1,477**	**1,578**

Other atmospheric emissions

Several refrigerating gases affect the environment since they damage the ozone layer, due to their greenhouse effect, or because they entail both of these effects. In the 2009-2011 period, Terna gradually extended its monitoring of the refrigerating gases contained in its equipment. The extension of the recording boundary included equipment that operates non-stop for the security of the electricity service and requires a larger number of cooling systems to maintain the temperature constant. In 2010, the monitoring of the refrigerating gases contained in Terna's equipment was extended to all corporate headquarters and local operating areas.

REFRIGERATING GASES – QUANTITIES KG	2011	2010	2009
R22	2,972	4,716	4,380
R407C	2,470	1,647	817
R410A	2,973	494	334
Other refrigerating gases (1)	686	210	6

(1) The quantity of "Other refrigerating gases" for 2011 regards by 80% the Rr134a gas, which is present in the headoffice in Rome.

Among the gases contained in Terna's equipment, only R22 has harmful effects on both the ozone layer and the greenhouse effect. The other types of gases present do not have any effect on ozone, but only a potential greenhouse effect.
For the R22 gas, the reading also includes consumption and implies an overestimate of the gas actually released into the atmosphere.
Actually, consumption includes the quantity of new gas injected in equipment during maintenance work, which consists initially in the controlled emptying of the above-mentioned equipment. These consumption quantities, which can represent 40% of the total, do not reflect actual atmospheric emissions with effects on the environment.

EN19

REFRIGERATING GASES – CONSUMPTION KG	2011	2010	2009
R22	23	221	1,017

The 2011 figure shows a substantial decrease in R22 consumption with respect to 2010-2009, reflecting the program for eliminating the gas in line with the restrictions introduced by the European regulations on the use of substances that reduce the ozone layer (EC Regulation n. 1005/2009 of the European Parliament and the Council).

EN18

Initiatives to reduce own emissions

With regard to the reduction of greenhouse-gas emissions, Terna concentrates on several voluntary programs concerning its main sources of such emissions:

- **a program for containing the incidence of SF_6 leakage:** Terna has implemented a number of initiatives, such as the early detection of leakage through on-line monitoring systems and the search for technological solutions to increase the air-tightness of the equipment and of components;
- **feasibility studies for initiatives on energy conservation** in power stations;
- **a program for reducing the consumption per km of the corporate vehicle fleet**, which entails a reduction of CO_2 emissions per km (g/km);

• **a program dedicated to the energy efficiency** of the buildings (corporate offices).

The first two cases are initiatives that can have a significant quantitative effect, but only in the medium-to-long term. The results of the third program are already tangible, but regard a source of emissions that is less significant from the quantitative point of view.

Reduction of SF_6 leakage

Thanks to its physical and chemical properties, which make it an excellent insulator, SF_6 (sulfur hexachloride) is used as an insulator in some kinds of electrical equipment, such as switches, current transformers and armored systems. The latter allow building power stations in smaller areas and with less maintenance needs. Because of these properties, it is foreseen that equipment with SF_6 will be increasingly used, as it is by other transmission companies abroad.

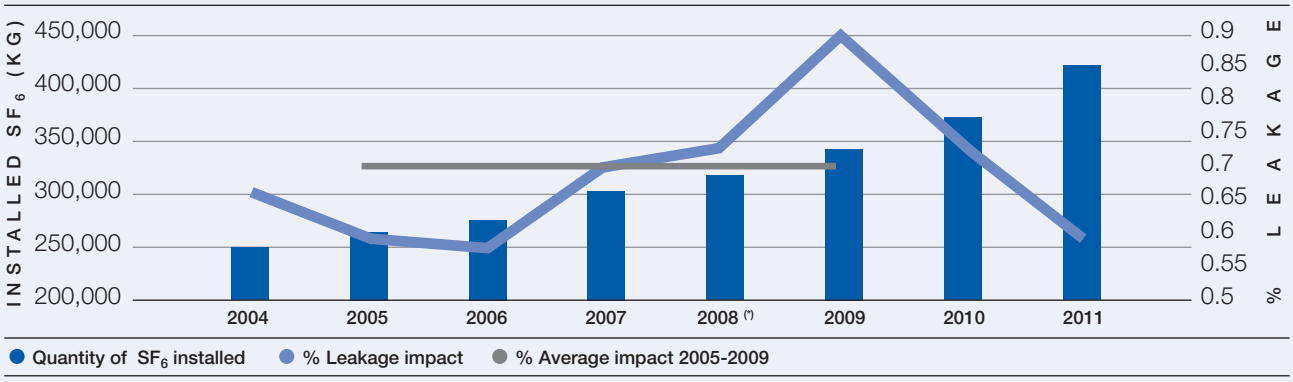
Part of the gas present in infrastructure is dispersed in the air because of the defective tightness of gaskets, during failures and sometimes also during pressure restoration. SF_6 is classified as a greenhouse gas. Terna therefore intends to keep SF_6 leakage under control to contain and, if possible, reduce its incidence with respect to the total quantity of the gas used. If the quantity of dispersed gas could be larger, because of the increased use of equipment insulated with SF_6, a reduction in the incidence of leakage would have a significant impact in terms of emissions avoided.

Although the way in which SF_6 leakage was handled as an indicator of its own performance with reference to climate change, identifying a target is still being examined carefully. In fact, there are several elements of uncertainty:

- a rise in awareness and attention to the subject is reflected in improved measurements of leakage, resulting in – for the years in which the containment activities were started (2009-2010) – what apparently seems to be deteriorating performance;
- the occurrence of breakdowns resulting in the significant leakage of gas – the probability of which increases given the growing use of SF_6 gas in the equipment of large stations – can considerably alter the trend;
- if, on the one hand, the installation of equipment with better withstanding performance tends to reduce the incidence of leakage, on the other, the obsolescence of equipment already installed could cause an increase in leakage;
- Terna already registers low values of SF_6 leakage in comparison to other TSOs (see the dedicated box in this paragraph), therefore, further reductions, which have growing marginal costs, can only be contained, with a high probability of being counterbalanced by adverse factors, already mentioned, of potentially greater impact.

Net of exceptional breakdowns, and possible effects of obsolescence of equipment in operation, it is estimated that the installation of new devices with greater withstanding (such as increased reliability transformers), begun in 2009 and continued in 2010 and 2011, may bring about an estimated reduction of 0.1% in the incidence of leakage over the five year period starting from the start of the installation campaign, without prejudice to the effective availability of the new equipment. Based on this estimate, and always net of the factors mentioned, it is expected that by 2014 the incidence of leakage may converge on values varying around 0.6%, considering that the average incidence for the period 2005-2009 was 0.7%.

SF_6 LEAKAGE



(*) Losses net of an exceptional event (1.07% event included).

In 2011, the incidence of leakage was 0.60%, down from the previous two years (2010: 0.73%; 2009: 0.89%). As illustrated up to this point, from the information available it is not possible to interpret the results as a convergence towards the objective. In 2011, the application of the registration procedure of SF_6 gas top ups has successfully continued aiming at identifying equipment with anomalous leakage and assess the feasibility of a program of targeted maintenance. The study results will enable the Company to establish a more precise target value for the incidence of SF_6 leakage.

Programs and initiatives for SF_6 gas management existing since 2008 are reported below:

- **procedure for monitoring leakage and reduction of dispersion** of the gas during pressure restoration: the procedure for reading requires the registration of the gas used and dispersed for every single station (up to 2007, measurement of the leakage was provided by the overall quantities of SF_6 acquired, net of new plants);

- **multi-function compact modules** (set of different kinds of equipment) with a reduction of at least 30% of the SF_6 necessary for insulation with respect to other equipment. After the positive trial results, the equipment is considered an applicative standard and will be installed as necessary;
- **detection systems with remote transmission of leakage of the gas in equipment:** after having completed the installation of the Lacchiarella power station, assessment of results for a possible widespread application is under way. The early detection by the remote-maintenance center of the equipment where the pressure of the gas is falling anomalously allows the Company to do targeted work on the equipment, thus also avoiding plant downtime because of insulator leakage;
- **new highly reliable (TA) measurement transformers sealed**, with maximum leakage of 0.1% a year: since 2010, the plan for replacing old equipment with new transformers is under way.

Energy saving in stations

Electricity is used in power stations to enable the equipment and its remote control to function.
The main sources of consumption are:
- cooling power transformers;
- external lighting;
- air-conditioning and heating systems in technical locations;
- auxiliary command, control, and protection circuits of all equipment and machinery.

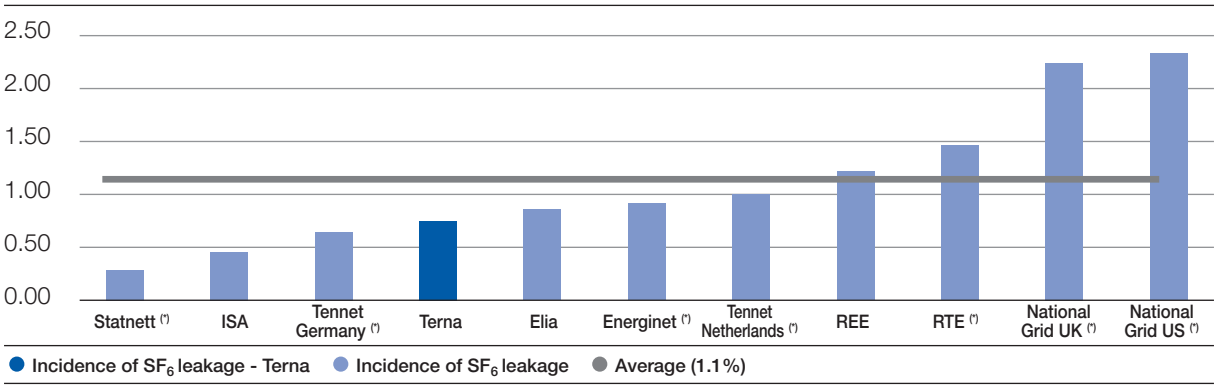
Although the energy consumed is only the quantity that is strictly necessary to ensure the operation, research of opportunities to save is sought for through:
- natural or automatic circulation systems that optimize the functioning of cooling pumps and fans in transformers;
- the installation on station buildings of photovoltaic panels that at least cover the consumption of the computers that manage the plants.

The measurement of the effects of the initiatives described will be possible only in the medium term, when the projects have reached a more advanced stage.

SF_6 leakage: comparative data

The comparison between Terna and other operators concerning SF_6 leakage is made by taking as the reference point the incidence, i.e. the percentage of leakage with respect to the total gas used.
Since the use of SF_6 gas is unique to grid operators, only the data of the companies belonging to the TSO panel were taken into consideration.
In 2011, the average incidence of SF_6 leakage for Terna was 0.6%; in 2010, the year for which comparison data is available, the incidence percentage was 0.7%.
When compared to other grid operators, Terna indicates an incidence of SF_6 leakage lower than average, confirming the results reported in last year's Sustainability Report.
TSO Panel: 11 items of data available; average incidence of SF_6 leakage: 1.1%; lowest figure: 0.3%; highest figure: 2.3%; standard deviation: 0.7%. Terna ranks well below the average for the incidence of leakage.
By comparing data with those belonging to 2009, which were published last year, for 7 out of 8 available data, no significant changes in incidence were recorded, which increases or decreases by 1-2 decimals.

INCIDENCE OF SF_6 LEAKAGE



(*) The incidence of leakage was calculated as a percentage of loss on the total gas installed in the equipment.
For additional information on panel structure and generally on comparisons with other companies, refer to the Methodological Note, page 16.

Reduction of emissions connected with energy consumption in offices

Since 2011, "Criteria for Energy Efficiency in Terna's Buildings" guidelines have been operational. These guidelines establish a common standard for constructing buildings with the lowest energy impact, and provide integrated criteria for the planning/upgrading of buildings. The aim of the document is to save energy over time, thereby reducing direct greenhouse gas emissions. For 2012, an information campaign and relative dissemination is scheduled, also for activities linked to the energy management system (see page 134 in this chapter on this subject).

EN5

In offices the main sources of energy consumption are connected with lighting, heating and air-conditioning, and the use of computers and printers.

In 2011, the Company measured the reduction of consumption obtained by the replacement of 156 personal computers models (only desktop). The new desktop models allow for an average saving of energy consumption equal to 80%.

Reduction of emissions connected with mobility

EN29

The Company's vehicle fleet – which is used mainly for inspecting and repairing lines – is not concentrated in only a few locations, but is used over a widespread area. Therefore, there is no problem of impact on specific areas, but a general pollution effect. The most important measure for reducing the impact of transportation on the environment consists in renewing the fleet every 48 months, carefully indicating technical specifications during the purchasing of the vehicles (devoting attention to the environmental impact) and carrying out scrupulous maintenance.

TERNA VEHICLE FLEET (1)	2011	2010	2009
Hybrid	9	9	9
Euro 5	138	97	79
Euro 4	985	1,009	1,033
Euro 3 (or lower)	219	273	346
Total vehicles	**1,351**	**1,388**	**1,467**

(1) The table shows the vehicles in Terna's fleet by December 31, that during the period in question refueled at least once as recorded in the fuel documents. Only operating vehicles are considered excluding managerial vehicles.

During 2011, Terna has confirmed the actions undertaken to reduce the impact of employee mobility on the environment consisting of:

- optimization of its offices localization in large towns (already carried out for Rome and Milan and planned for Florence);
- monitoring of employee travel;
- introduction of the use of equipment for videoconferences which can be connected with the equipment of suppliers, partners, and other Terna's offices;
- incentives for the use of public transportation through:
  1. easy terms for employees in purchasing annual passes (agreements have been signed with the public transportation companies of Rome and Milan, with 167 employees in Rome and 63 in Milan having purchased passes in this way);
  2. creation of services connecting two offices in Rome and one in Milan with the closest public transportation junctions at no charge to employees;
- courses on off-road vehicles regarding safety and emission reduction.

Terna uses operating vehicles daily to inspect lines and reach operating plants located throughout Italy. Such inspections often require the use of 4WD vehicles, since pylons can only be reached through unpaved trails.

Since July 2008, the Company has participated in Quattroruote's "10X10" project. So far, 35 companies participating in the project are committed to reducing the CO_2 emissions of their vehicle fleets. In joining the project, Terna confirmed its concern for reducing the impact caused by emissions deriving from its corporate mobility, and ultimately the fuel consumption and efficiency of its corporate fleet.

In November 2011, a campaign was launched to replace the remaining Euro class 3 and Euro class 4 vehicles, which should be completed in 2012 (see box "Sustainability in awarding tenders", page 106 of this Report).

The change in the vehicle classes – compared to what is provided for in the table – and the renewal of the vehicles will lead to improving the fleet's efficiency, with a reduction in consumption and emissions.

The replacement campaign, which involves nearly 80% of the fleet's vehicles, envisages, with respect to CO_2 emissions of vehicles used for business transportation, a compensation plan through the creation and protection of new green areas in Rome, Parco della Madonnetta, Madagascar and Costa Rica.

Reaching this objective is ensured through the collaboration between Terna, the vehicle suppliers and LifeGate's Zero Impact project.

Thanks to the creation and preservation of these wooded areas, in the next four years the carbon-dioxide emissions – quantified as more than 10,222,763 kg – generated by Terna's 840 operating fleet vehicles, will be offset.

Emissions were estimated on the average carbon dioxide per vehicle (from data supplied by the manufacturer) per kilometer driven and on the estimated number of kilometers covered each year by Terna's fleet.
The areas involved cover 14,000 sq m in Rome, 510,756 sq m in Madagascar and 2,019,848 sq m in Costa Rica.
Reforestation will compensate over 42% of the Terna fleet's annual CO_2 emissions.

The Development Plan and reduction of the electricity system's CO_2 emissions

The construction of the new lines and stations provided for by the 2012 Development Plan will produce positive effects not only in terms of service security and the end cost of electricity, but also of reduced emissions by the electricity system. Achievable upon completion of the Plan, the effects will be of three kinds:
- reduction of grid losses;
- improvement of the production mix and interconnection with other countries;
- connection of plants using renewable energy sources.

Overall, the reduction of emissions within the time frame of the 2012-2021 Plan could reach the value of nearly 11 million tons a year.

Reduction of grid losses

Grid losses depend mainly, but not only, on the length the electricity travels on the transmission grid. To simplify: with equal consumption the farther the point of withdrawal (i.e., consumption) of electricity from the NTG is from the point of injection into the NTG of the electricity produced, the greater the losses. Furthermore, holding length constant, losses are greater on lower-voltage lines.
Therefore, losses can be reduced by work that improves the mesh of the grid, i.e. brings the points of injection and those of consumption closer to one another. They can also be reduced by upgrading a grid segment, for example by replacing a 150kV line with a 380kV one on the same route.
When all the work included in the 2012 Development Plan has been completed, the decrease in peak losses could reach 200 MW of power, which corresponds to a reduction of energy losses in the grid quantifiable as nearly 1,200 GWh a year. Assuming that the reduction of such losses is equivalent to a reduction in production from fossil fuels, it is estimated that the above-mentioned work will lead to a reduction in CO_2 emissions ranging from 500,000 to 600,000 tons a year [(1)].

Improvement of the production mix and interconnection with other countries

One of the main objectives of the transmission grid development is to overcome the limits of electricity transfer among "electricity zones". These limits impose several restrictions on the possibility of production by generation units that are more efficient – i.e. less polluting in terms of CO_2 emissions – and at the same time render production from obsolete and inefficient power plants necessary for the security of the grid.
Together with the upgrading of interconnection with other countries, the work provided for by the 2012 Development Plan will render a production mix possible that is more efficient than the current one, with a larger share of production from plants with higher yields. The same quantity of end consumption will be possible with a smaller quantity of fuel, and the benefits can be quantified as a reduction of CO_2 emissions of up to 4,800,000 tons a year.

Connection of plants using renewable energy sources

The main contribution to the reduction of CO_2 emissions is due to the connection of plants producing from non programmable renewable sources (NPRS) which are considered in the 2012 Development Plan works. The production of energy from renewable sources has grown rapidly in the last few years. In particular, NPRS generating plants have considerably increased, especially in southern Italy and in the islands.
During 2011, new wind and photovoltaic plants have gone into service, with nearly 8,990 MW and 815 MW respectively of new installed capacity. One of Terna's main tasks is to plan the upgrading of the NTG in order to encourage production of electricity from renewable energy sources by trying to overcome any grid and operating limitations that could condition the injection into the grid of such energy, which is entitled to dispatching priority.
In this regard, the works included by Terna in the 2012 Development Plan will release nearly 4,700 MW of power from renewable energy sources, to whom the beneficial effects should be added related to the installation of widespread storage systems of total capacity amounting to nearly 240 MW, thus obtaining a reduction of emissions amounting to nearly 6,000,000 tons of CO_2.

(1) The estimate was made assuming equal conditions. A change in consumption or the location of production plants could lead to different results.

MAIN WORKS OF THE DEVELOPMENT PLAN WITH EFFECT ON ENERGY EMISSIONS FROM RENEWABLE SOURCES

Category	Works	Power from renewable sources (MW)
Grid upgrading indirectly functional for the reduction of operating limitations in dispatching generation, which favors production from non programmable renewable sources	380-kV "Sorgente-Scilla-Rizziconi" line and upgrading of the EHV grid in Sicily	1,000
	Upgrading of interconnection capacity between Sardinia and Corsica/continental Italy	500
	New 380-kV "Aliano-Montecorvino" line	900
	380-kV "Foggia-Villanova" line	700
	Upgrading of 380-kV "Foggia-Benevento" line	500
Work to upgrade and decongest EHV and HV grid sections into which production is injected from non programmable renewable sources	Upgrading the transmission grid in southern Italy	1,100

EU8

Priority to energy from renewable sources

In 2011, the injection into the grid of energy from plants powered from renewable sources has increased sharply with respect to previous years, by 18.8 TWh (6.5% of electricity demand in Italy) [4].
This increase is due to the growth of installed wind power (+13% year-on-year, for an installed capacity at the end of 2011 of nearly 6,200 MW) and to an increase of installed solar power (+260% year-on-year, for an installed capacity at the end of 2011 of nearly 12,500 MW).
The increase in the production from renewable sources satisfies environmental sustainability requirements, entailing a reduction of greenhouse gases, however, it has repercussions on the complexity of managing the electricity system, which is a consequence of the intermittence of the primary source and its unpredictability.
In order to adjust management of the electricity system to increased production from non programmable renewable sources, Terna has invested in technology and work methods for:

- improving real-time forecasts;
- optimizing the allocation of maintenance and the adjustment of operating procedures;
- adjusting defense systems;
- technical regulation.

Improving real-time forecasts

An accurate forecast of the injection of energy from renewable sources enables better dimensioning of operating reserve margins to be made available in substitution of renewable energy (if not available), with advantages in terms of both cost-effectiveness and security.
The investment made by Terna to improve wind forecasts through the use of self-learning expert systems has enabled the Company to reduce errors in forecasts of the injection from wind plants in 2011 to 11% – against 18% recorded in the previous year – reaching for the third year the improvement objectives as defined by AEEG (see the "Revenue structure and regulatory framework" section page 90).
The process of wind forecasts was also modified calculating, in addition to the forecasts up to the prior day, a re-forecast during the day of reference, with evident advantages in terms of reducing uncertainty concerning meteorological forecasts and consequent advantages in terms of the accuracy of the wind forecasts.
As a result of the growth of photovoltaic facilities, in 2011, instruments for forecasting solar production were introduced, with additional difficulties with respect to what was already developed for wind resources, due to a greater widespread presence of such systems, which are outside of Terna's control, given their connection to the distribution grid.

(4) Provisional 2011 data as of February 2012.

Optimizing the allocation of maintenance and the adjustment of operating procedures

The unavailability of grid elements because of maintenance work can result in a limitation of the grid's transfer capacity and, thus, of the production of the renewable sources plants concerned, in particular wind power plants connected to Terna's sub transmission grid.
Therefore, in order to maximize production from renewable sources, Terna equipped itself with instruments and methods for optimally allocating maintenance, which include the following criteria:

- long periods of unavailability, including those regarding grid developments in preparation of the upgrading of main lines with a high level of installed wind power, are allocated in periods with low windiness, which are identified through appropriate medium-term systems for forecasting;
- brief periods of unavailability are allocated according to short-term forecasts of wind production (for example, allocation 24-48-hours in advance on the basis of the forecast of wind in specific areas of Italy).

Operational procedures for real-time dispatching by renewable source plants underwent further revision, also coordinated with operators that were owners of the plants, in order to be able to define on short notice possible limitations to wind production based on more certain information.
Thanks to such instruments and work methods, Terna has managed to limit considerably the limitations of wind production regarding the maintenance of grid elements (63% reduction of limitation hours).

Adjusting defense systems

The defense systems of the islands have been revised to include corrective automatic controls in the event of accidents connected to a higher amount of renewable generation, also through inclusion of renewable sources plants in defense systems.

Technical regulation

In 2011, greater growth in solar installations has made it urgent to develop applicable technical regulations.
In this connection, Terna has updated the Grid Code to include technical descriptions of solar plants and a definition of management methods so that they can be fully integrated into the electrical system.
With reference to distributed solar generation connected to distribution grids, technical regulation has been started in concert with distribution companies, due to the need for greater coordination in managing the transmission and distribution grids to safeguard the service continuity of reciprocal users.

Terna-Legambiente agreement for a sustainable energy culture

Legambiente's President Vittorio Cogliati Dezza (left) and Terna's CEO Flavio Cattaneo (right).

The comparison with the environmentalist associations on themes of common interest was further enriched with a new and significant collaboration agreement.
On December 12, 2011 Terna signed a Memorandum of Understanding with Legambiente to promote all the initiatives necessary for disseminating an energy sustainable culture joining the development of the electricity system with that of renewable sources. Terna and Legambiente are both committed to promoting and disseminating knowledge on the energy world and to initiate joint activities for an environmentally sustainable energy transportation, starting from reducing CO_2 in the atmosphere.
The Memorandum, that is valid until the end of 2013, includes sharing an operational plan for exchanging information and opinions on themes of common interest, particularly regarding the need

for developing the National Transmission Grid (NTG) and the renewable energy sources.
To promote a proper approach on the first theme, Terna will arrange for technical analyses for measuring territorial and environmental integration of the works included in the 2012 and 2013 Development Plan and will analyze together with Legambiente the hypotheses of locating new electricity lines that will cross through sensitive areas of the national territory. The location choices for the electricity works will also involve Terna and Legambiente sharing any type of mitigation and compensation action for reducing to a minimum the visual and environmental impact. With respect to "green" energy, the Memorandum includes specific analyses and studies on the state of the art and the development scenarios of the renewable sources sector also in relation to the connection to Terna's grid of the renewable energy plants. This action is necessary for supporting the growth of the installations for which the company will provide on a quarterly basis, updated and additional information regarding development projects planned for promoting production.

Resource use and waste management

The production of a service does not normally require significant materials and similarly does not entail treatment of significant quantities of waste. The electricity transmission service is no exception. As far as the materials that enter and leave the production cycle of the service are concerned, the most significant consumption concerns energy and has already been discussed in the "Energy consumption" section.
However, the provision of the transmission service requires the construction and maintenance of a large endowment of capital goods: power lines (towers, wires, insulators), transforming stations (transformers, switches, other station equipment), and control systems are the main components.
Terna's use of materials regards preponderantly the construction of electric and IT infrastructure. Terna's waste management mostly relates to electrical infrastructures maintenance.

Resources

EN1

As far as materials are concerned, **Terna does not use raw materials, but electrical equipment**, wires, and other elements, which are combined to be utilized in providing the transmission service. The following table shows the main non-renewable raw materials used by Terna. The weight is calculated on the basis of the quantity used, the average or typical weight of the single elements, and the share of raw materials contained. In some cases the elements consist of a single raw material (for example, insulators are 100% glass or ceramic, terminals 100% aluminum), while in others an estimate was made of the main raw material (for example, copper accounts for 60% of the weight of an ATR transformer). Information is not currently available on the use of recycled materials by the supplier of the materials and equipment used (with regard to environmental criteria used in procurement, see the box in the chapter on Economic Responsibility).
The increase in the use of raw materials, in particular aluminum and steel, is due to the progress made on the construction of the new 380kV connecting lines included in the Development Plan.

PREDOMINANT RAW MATERIALS IN SUPPLIES – TONS	2011	2010	2009
Porcelain	967	663	494
Polymeric	322	350	244
Copper	2,569	3,853	2,628
Aluminum	9,588	4,927	2,224
Steel	23,875	17,114	6,496
Glass	2,078	1,523	1,191
Dielectric oil	974	1,413	781
SF_6	54	23	21

As of this year, quantities of dielectric oil and SF_6 gas found in supplies were included in the table. Both used as insulators in transformers in Terna's 454 stations.
In office work, the main consumable is paper.

PAPER CONSUMPTION - TONS	2011	2010	2009 (1)
FSC paper	70	83	53

(1) Coverage of paper consumption was not complete in 2009, the data in the table (53 tons) refers to 81% of employees classified as managers and workers.

Paper consumption refers to the quantities purchased, therefore the variation between 2011 and the previous year primarily refers to management of 2010 stocks during 2011. The 2010-2009 difference is connected, instead, to the data gathering perimeter, which was increased in 2010 with the inclusion of the headoffice in Rome where the company's day-to-day office and staff activities are concentrated.

EN2 **All the paper purchased since the end of 2009 has been made with FSC pulp** – that is, without any chlorine whatsoever – certified by the FSC (Forest Stewardship Council – www.fsc.org), which guarantees that the forests providing the cellulose are managed in accordance with sustainability criteria from the point of view of both the environment and human rights.

EN8 **Water is not part of the production cycle of the transmission and dispatching** of electricity. Normally the water used – for personal hygiene, cleaning offices, and air-conditioning systems – comes from aqueducts for civil uses. Consumption increased in the three-year period under consideration, being affected by the effects of the increase in the number of Terna's stations (+ 19%). The 2010 data, higher compared to the one registered this year, was due mainly to the leakage of two pipes in two local offices, which in one case was connected with ice on the plumbing and in the other with work carried out in the vicinity of the pipe.

WATER CONSUMPTION CUBIC METERS	2011	2010	2009 (1)
Water withdrawal (1)	176,525	184,979	158,942

(1) The data are recorded from the meters and bills of suppliers for the entire recording boundary.

It should be emphasized that the water supply regards not only the main headoffices, but also the over 400 stations belonging to Terna that are scattered across Italy. With the objective of being able to timely report any anomalies (high consumption, losses, etc.) the inclusion of water meter readings into the MBI information system used in managing lines and stations – once the monthly registration of consumption for all stations becomes routine – will allow for quick action to solve any problems which may arise.

Water consumption: comparative data

The comparison between Terna and other companies on the subject of water usage is made by taking as reference both total consumption and per capita consumption in cubic meters.
Both the data of individual transmission companies (the TSO panel) and that of large Italian listed companies (FTSE-MIB) and international leaders of sustainability (SAM – Supersector Leaders) have been examined.
In all the panels, the data indicate substantial non-comparability among companies, in that consumption reflects the different importance of the use of water in production processes, as well as the size of the company, not necessarily reflected by the number of employees. The highest per capita data among the three panels concerns Xstrata, a company in the United Kingdom that works in the field of resource extraction, whereas the lowest was Air France. Companies dealing with electricity generation that use water in the production cycle rank in the top of the per capita consumption ranking; companies that provide intangible services (such as banks) rank lowest.
Despite the intrinsic limitations present in the comparison, and lacking more efficient normalization factors for the number of employees, it was decided that it would nevertheless be of interest to present the main data on water consumption. Said data, in fact, though it could not be interpreted as significant of company performance in the efficient use of the resource, provide at least an indication of the relevance of water usage – therefore of the materiality of the subject in terms of sustainability – in the different sectors and in the different companies.
For 2011, the total and per capita amount of Terna's water consumption was 176,525.0 and 50.5 cubic meters, respectively; in 2010, the year for which comparison data is available, water consumption was 184,978.7 cubic meters in all, and 53.3 cubic meters per capita.

TSO panel: 12 available data (10 companies, one of which had different data per country);
- total water consumption – thousands of cubic meters: average 1,808,338.8, lowest figure: 1.5 (Resedur - Peru); highest figure 16,443,032.7 (AEP - USA);
- per capita water consumption – cubic meters: average 106,362.7, lowest figure: 10.3 (ISA - Latin America); highest figure: 878,742.7 (AEP - USA).

In this comparison, Terna ranks well below the average both for total and per capita consumption. The average is strongly influenced by the data of operators that handle not only electricity transmission and dispatching of electricity, but also electricity generation (4 companies) or the transportation of natural gas (3 companies).

FTSE-MIB panel: 24 available data (23 companies, one of which, Ansaldo, has different data per sector);
- total consumption of water – thousands of cubic meters: average 24,878.6 (Stmicroelectronics); lowest figure: 17.4; highest figure 328,700.0 (Enel);
- per capita consumption of water – cubic meters: average 478.8; lowest figure 12.9 (Banca Mediolanum); highest figure 4,729.7 (Enel).

Also in this case, Terna's consumption (total and per capita) ranked below the average. In particular, Terna's per capita consumption ranked slightly above the average of the 10 companies in the panel that handle services (39.5 average).

SAM - Supersector Leaders panel: 5 available data;
- total water consumption – thousands of cubic meters: average 18,800,828.8; lowest figure: 65.0 (Enagas - Utilities); highest figure: 280,236,000.0 (Xstrata - Basic Resources);
- per capita water consumption – cubic meters: average 559,410.3; lowest figure: 9.0 (air France - Travel & Leisure); highest figure: 7,267,342.7 (Xstrata - Basic Resources).

In comparison to global best practices of sustainability, Terna ranks well below the consumption average. The high standard deviation indicates a great variety of sectors considered, some of which consumed large quantities of water, such as companies which handle resource extraction.
The great variability of company data renders a graphic illustration of little importance; the table indicates the lowest, average and highest figures and the standard deviation in the three panels concerned.

Water consumption - 2010

	TSO		FTSE-MIB		SAM - SUPERSECTOR LEADERS	
	Thousands cubic meters	Cubic meter/ employee	Thousands cubic meters	Cubic meter/ employee	Thousands cubic meters	Cubic meter/ employee
Average	1,808,338.8	106,362.7	24,878.6	478.8	18,800,828.8	559,410.3
Max	16,443,032.7	878,742.7	328,700.0	4,729.7	280,236,000.0	7,267,342.7
Min	1.5	10.3	17.4	12.9	65.0	9.0
Standard Dev.	4,721,590.1	255,706.3	74,882.6	1,046.1	72,324,715.5	1,877,642.9
Terna	185.0	53.3	185.0	53.3	185.0	53.3

Per capita consumption, if not directly available, was obtained by dividing the total consumption of water by the number of employees.
For additional information on panel structure and generally on comparisons with other companies, refer to the Methodological Note, page 16.

Waste

Much of Terna's waste is recycled for production. Only a small part is delivered to dumps and therefore entails an environmental impact. **The waste recycled amounts to 83%** of the total (89% in 2010, 83% in 2009).
Similar to the resources being utilized, also waste results mostly from modernization and maintenance of infrastructures. Such activities depend on technical considerations on matters of system safety and efficiency, therefore the quantity of waste may also change consistently from year to year.
With respect to the percentage of recycled waste, according to Terna's Environmental Policy, recovery of materials is the first option to evaluate and possibly choose. Actual recycling, however, depends on the materials that compose the waste. Some materials can be easily separated and sorted and then recycled (i.e., iron parts of pylons, for example). In some

cases, on the other hand, it is not possible, or it is too expensive, to separate the parts, in particular for equipment purchased years before. **For these reasons, it is difficult to see a clear trend of the annual variations of recycled waste.**

WASTE BY CATEGORY [1] - TONS	2011	2010	2009
Waste produced	**7,198,1**	**5,515.9**	**7,053.3**
hazardous	3,887.3	3,013.3	3,995.7
non hazardous	3,310.8	2,502.6	3,057.5
Recycled waste	**5,997.3**	**4,912.8**	**5,856.3**
hazardous	3,380.1	2,849.5	3,322.0
non hazardous	2,617.2	2,063.3	2,534.4
Waste delivered to dumps [2]	**1,153.3**	**626.4**	**1,043.1**
hazardous	450.8	191.5	630.9
non hazardous	702.5	435.0	412.3

(1) Only waste stemming from the production process is included. Waste produced by service activities (urban waste) is excluded. Until 2012, also excluded was waste belonging to the "excavated earth and rocks" and "sewage" categories, because – especially in the case of significant quantities – it has an exceptional aspect connected with the construction of particular work in stations and would make the data series non-homogeneous. The figures for the excavated earth and rocks and for the sewage amounted to 1,541 tons in 2010 (16,053 tons in 2009). For the year 2011 only produced sewage have been excluded, because the "excavated earth and rocks" category is not relevant anymore; the figures for sewage amounted to 675 tons in 2011.

(2) The values regarding waste delivered to dumps may differ from the simple difference between waste produced and waste recycled because of the temporary storage of waste straddling two years.

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

- **metal** (nearly 50% of the total non hazardous waste produced) from discarded **transformers, electrical equipment, and out of order machinery** (for example, generating sets), more than 93% of which is recycled;
- **glass and ceramic** from discarded insulators (materials used to insulate conductor cables from support towers), more than 95% of which is recycled;
- **wood**, mainly from the packaging of the materials purchased, more than 90% of which is recycled.

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

- **metal** (nearly 70% of total hazardous waste) from discarded **transformers, electrical equipment, and machinery** contaminated by hazardous substances, of which – after treatment by other companies – more than 95% is recycled;
- **batteries** (lead and nickel), which, in the event of blackouts, enable emergency generating units to be turned on to keep the service of electricity transformation and transfer operating during emergencies, 100% of which is recycled;
- **dielectric oils** for insulating transformers replaced after the periodical checks performed for transformer maintenance, which represent hazardous waste and of which nearly 95% is recycled. This decreases to 77% including the non-recyclable oils present in the collection tanks mixed with rainwater, substances which are very difficult to recycle.

Waste delivered to dumps consists mainly of materials used in the maintenance and cleaning of plants (mud, oily emulsions, and rags containing oils and solvents) and insulating materials containing asbestos for which no kind of recycling is provided. All these items together weigh nearly 70% of the total delivered to dumps (for further details regarding the quantities and kinds, see the Indicator Tables).

Waste Production: comparative data

The comparison between Terna and other companies on the subject of waste is made by referring to both total production in tons and production in kilograms per employee.
Both the data from transmission companies (TSO panel) and the data from large Italian listed companies (FTSE-MIB) as well as from international leaders in sustainability (SAM - Supersector Leaders) were examined.
The data in value – both absolute and per employee – indicate substantial non-comparability in that they reflect differences in the type of activity carried out, in the generation of waste as a result of the production process, as well as in the size of the company, not necessarily reflected by the number of employees. The highest per capita data among the three panels concerns Xstrata (SAM - Supersector Leaders panel), a company in the United Kingdom that works in the field of resource extraction, whereas the lowest concerned the bank Intesa Sanpaolo (FTSE-MIB panel).
Despite the intrinsic limitations present in the comparison, and lacking more efficient normalization factors for employees, it was decided that it would nevertheless be of interest to present the main data on waste production. Said data, in fact, though it cannot be interpreted as significant of company performance in limiting environmental impact, provide at least an indication of the relevance of waste – therefore of the materiality of the subject in terms of sustainability – in the different sectors and in the different companies.
In 2011, Terna produced a total of 7,198.1 tons of waste. Production per employee was 2,060.7 kg; in 2010, for which comparative data is available, production was 5,515.9 tons in all and 1,590.5 kg per capita.

TSO panel: 14 available data (12 companies, one of which has different data for each country);
- total waste production – tons: average 266,747.3; lowest figure 0.9 (Resedur-Perù); highest figure 1,700,000.0 (National Grid-UK);
- waste production per capita – kg: average 12,346.1; lowest figure 48.1 (Resedur-Perù); highest figure 62,756.1 (National Grid-UK).

In this comparison, Terna ranks below an average strongly influenced by four transmission operators that also carry out in the field of electricity generation activities.

FTSE-MIB panel: 22 available data;
- total waste production – tons: average 763,684.9; lowest figure 1,040.9 (Ansaldo); highest figure 11,482,000.0 (Enel);
- per capita waste production – kg: average 18,099.4; lowest figure 42.8 (Banca Intesa Sanpaolo); highest figure 146,616.8 (Enel).

With respect to companies listed in the FTSE-MIB, Terna ranks below average, with figures comparable to those of companies that work in the service fields, such as banks and insurance companies.

SAM - Supersector Leaders panel: 16 available data;
- total waste production – tons: average 70,860,928.1; lowest figure 1,814 (Westpack Banking-Banks); highest figure 1,130,000,000.0 (Xstrata-Basic Resources);
- per capita waste production – kg: average 1,839,267.1; lowest figure 46.6 (Westpack Banking-Banks); highest figure 29,304,219.3 (Xstrata-Basic Resources).

In comparison to global best practices in sustainability, Terna ranked well below the average, which was strongly influenced by the high variety of the sectors considered, some of which produce large quantities of waste, such as companies that deal with resource extraction.
The great variability of company data renders a graphic illustration of little importance; the table indicates the lowest, average and highest figures and the standard deviation in the three panels concerned.

Waste production - 2010

	TSO		FTSE-MIB		SAM - SUPERSECTOR LEADERS	
	t	kg/employee	t	kg/employee	t	kg/employee
Average	266,747.3	12,346.1	763,684.9	18,099.4	70,860,928.1	1,839,267.1
Max	1,700,000.0	62,756.1	11,482,000.0	146,616.8	1,130,000,000.0	29,304,219.3
Min	0.9	48.1	1,040.9	42.8	1,814.0	46.6
Standard Dev.	503,450.5	21,330.1	2,444,709.3	37,251.8	282,437,299.5	7,324,008.4
Terna	5,515.9	1,590.5	5,515.9	1,590.5	5,515.9	1,590.0

Per capita production, if not be directly available, was obtained by dividing the total of waste produced by the number of employees.
For additional information on panel structure and generally on comparisons with other companies, refer to the Methodological Note, page 16

EN1

Disposal of equipment containing PCB oil

Polychlorinated biphenyls (PCBs) were used all over the world as insulators in transformers and other electronic equipment, because they constituted a good alternative to inflammable mineral oils. However, subsequent studies showed that PCB is extraordinarily bio-resistant and can thus have dangerous effects on living organisms.
Legislative Decree 209/99, CEI regulation 10-38, the Ministry of the Environment's guidelines, and EC law 62/05 introduced the obligation to declare the quantity of oil contaminated by PCB possessed and established procedures and deadlines for its disposal.
In compliance with this provision, Terna implemented a disposal program, setting objectives for completing the work before the deadlines prescribed by law. Since 2009, there has been no equipment containing oil with more than 500 ppm of PCB. For oil contaminated by PCB with concentrations of 500 ppm or less and more than 50 ppm, the plan provided for a reduction of the quantity to less than 20,000 kg by the end of 2010. The result obtained (11,766 kg) went beyond the target and in effect ends the disposal program. In 2011, a further decrease of quantities found in Terna equipment was registered. Residual oil is present in small quantities in much of the equipment, which will be used up to the end of its life cycle, as allowed by law, due to the excessive burden of early replacement.

DISPOSAL OF EQUIPMENT CONTAINING PCB OIL

	Kg of oil		
	2011	2010 (1)	2009
PCB concentration			
PCB > 500 ppm	0	0	0
50 ppm < PCB < 500 ppm	7,616	11,766	131,852

(1) The data (8,266 kg) published in the 2010 Sustainability Report was corrected to reflect the data listed in the table (11,766) following evidence which emerged following publication.

EN30

Costs for the environment

Terna's commitment to the environment is shown in the costs it incurs for environmental reasons, as both investment and current expenses. The separate representation of its environmental costs has been developed according to the definitions referred to below, by aggregating information provided by the Company's general and industrial accounting.

Recording methods

The identification of environmental costs is based in the first place on the available definitions, in particular those of Istat (National Statistical Institute), Eurostat, and the GRI, as well as on the recommendation of the European Commission regarding the recording and disclosure of environmental information in annual accounts and reports (Recommendation 2001/453/EC). According to this recommendation, "the term 'environmental expense' includes the cost of measures taken by a company, directly or indirectly through third parties, to prevent, reduce, or recover damage to the environment caused by its operating activities. The costs in question include, among other things, the disposal of waste and measures aimed at preventing its formation, the protection of the soil and surface and groundwater, the protection of the air and climate from pollution, the reduction of acoustic pollution, and the defense of biodiversity and the landscape".
In the second place, the above-mentioned definitions were applied to the environmental aspects considered significant (for example, the noise of stations, electromagnetic fields) in the Company's ISO-14001-certified Environmental Management System to identify in the main corporate processes, Terna's operating and investment activities with environmental significance.

Many of Terna's activities described in this Report entail environmental expenses. However, several limitations were introduced in determining the recording boundary:

- exclusion of integrated costs, i.e. regarding activities whose purpose is not exclusively environmental (for example, the use of towers with features that are innovative also from the point of view of their environmental integration) because of the subjectivity of recording only the environmental components;

- exclusion of the additional costs connected with the consideration of restrictions or requests for the safeguard of the environment during the stage of planning and designing new lines (detours, burials).

Other conditions were that the costs were a) significant, b) consistent with the annual reporting of accounts (operating costs and investments clearly distinguished), and c) directly recordable by the existing corporate accounting system. The last condition regards the need to minimize recourse to estimates based on off-the-books analysis.

Costs for the environment

In the light of the foregoing, the following table constitutes the best representation of the costs incurred by Terna for the environment.

These costs exclude expenses regarding internal resources and consider only expenses for external purchases. The "Environmental activities – existing plants" item, which includes the costs of internal personnel, is an exception.

In compliance with the method adopted and the footnotes to the table, it should be noted that the environmental costs shown constitute a subset of the total environmental costs, as defined above, actually incurred.

The costs shown in the table regard Terna S.p.A..

COSTS FOR THE ENVIRONMENT – INVESTMENTS AND OPERATING COSTS - MILLION EUROS

	2011	2010	2009
Investments			
Environmental offset (1)	15.6	24.1	28.9
Environmental impact studies (2)	1.4	1.5	0.4
Environmental activities – new plants (3)	4.2	4.0	2.8
Environmental activities – existing plants (4)	14.2	15.7	7.8
Demolitions (5)	2.8	5.8	2.7
Total Investment	**38.3**	**51.2**	**42.6**
Costs			
Costs for environmental activities (6)	10.3	9.7	9.0
Total operating costs	**10.3**	**9.7**	**9.0**

(1) These are the sums for offsetting the works provided for by the Grid Development Plan, as determined by special agreements entered into with local institutions. They are recorded as investment at the time the commitment is made, i.e. when the agreement is signed, while the cash flow depends on how long it takes to obtain the authorization and construct the works. The reduction in the figure compared to previous years highlights the actual activity phase, i.e. many projects having passed the coordination and the authorization phases.

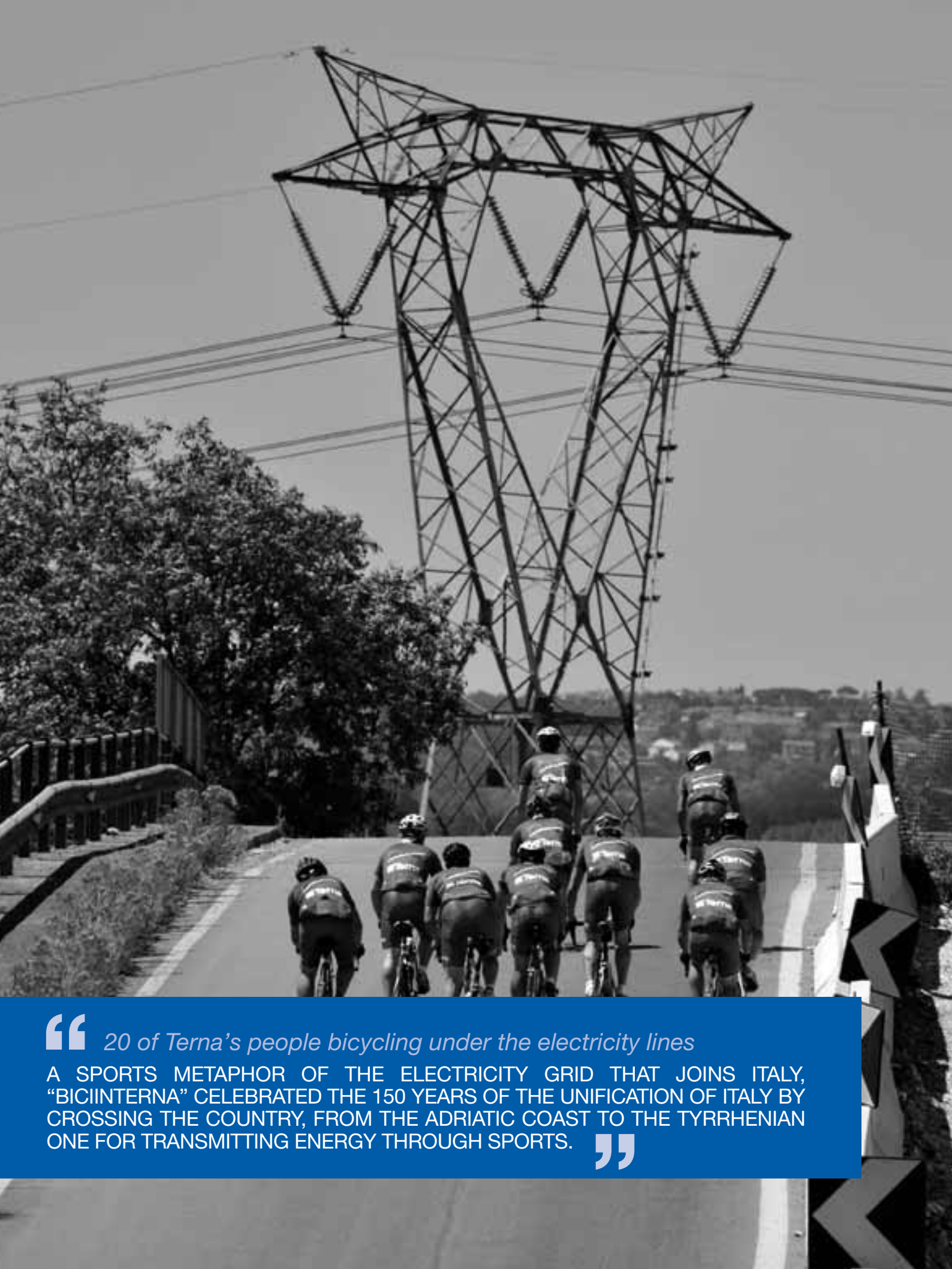
(2) Studies of environmental impact regarding plants included in the Grid Development Plan that are at the construction stage or in the process of being authorized by the relevant governments.

(3) The amount shown is the result of an estimate. On the basis of an analysis of several large investment projects, it turned out that at least 1% of the total expenses of the project regard environmental items, usually determined by obligations (for example, masking with trees, barriers against noise, installation of dissuaders for birdlife, environmental monitoring, analysis of excavated earth and rocks). Therefore, a value of 1% of 2009-2011 investment costs for projects with similar features was considered.

(4) Expenses for upgrading existing plants in accordance with prescriptions and new regulations in the environmental field (for example, noise, visual landscape aspects).

(5) Costs for the definitive dismantling of lines as part of Upgrading projects. For 2011 only the amount regarding the most significant demolition (Santa Barbara-Tavarnuzze and Chignolo Po-Maleo) is reported, because the determination of the sums corresponding only to demolition activities requires an off-the-books analysis.

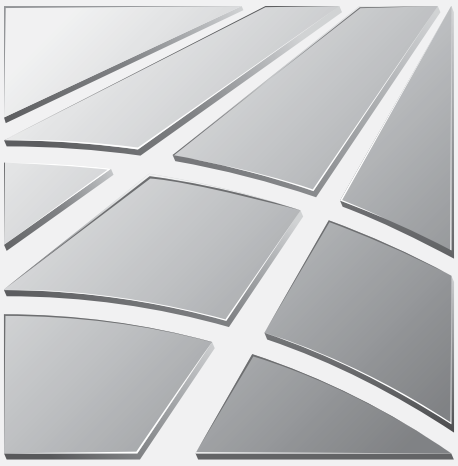
(6) Cutting plants, cutting grass, and waste management and removal activities of limited amounts that are not included in investments. These cost items – the only ones so far determined directly by the industrial accounting – do not exhaust the year's total environmental costs, but they constitute the preponderant part of them.



20 of Terna's people bicycling under the electricity lines

A SPORTS METAPHOR OF THE ELECTRICITY GRID THAT JOINS ITALY, "BICIINTERNA" CELEBRATED THE 150 YEARS OF THE UNIFICATION OF ITALY BY CROSSING THE COUNTRY, FROM THE ADRIATIC COAST TO THE TYRRHENIAN ONE FOR TRANSMITTING ENERGY THROUGH SPORTS.

2011



Social responsibility

Terna

Our approach

Human resources play a crucial role in Terna's activities. It is people who have the peculiar, rare, or unique technical expertise regarding electricity that enables Terna to carry out its activities as well as possible, with a high level of professional competence and operating efficiency, and to implement the Company's strategy and achieve its objectives. Diligence in renewing these capabilities constitutes an essential element of Terna's managerial approach to human resources. Equally important is another element: concern for occupational safety, which is required by operating activities featuring particular risks, such as tasks performed at heights of many meters above the ground and maintenance work on live lines.
Over time, the importance of these aspects has led to an approach based on:

- **concern for safety** and the prevention of injuries to ensure the physical integrity of employees;
- the design of management and development systems aimed at **improving performance and developing individual capabilities**;
- **investment in training** to enable the Company and its employees to grow;
- **compensation and welfare policies** aimed at aligning individual performances with the Company's goals and providing economic security for employees and their families;
- a well-organized system of **industrial relations based on the involvement of the labor unions** in numerous aspects of corporate life;
- listening to employees through surveys of their opinions.

Policies regarding employees are established by the Human Resource and Organization Department, while resource management is entrusted, in addition to the above-mentioned Department, also to the heads of other departments. Aspects regarding safety are the responsibility of the Corporate Safety Department.
As far as relations with employees and the unions are concerned, see the section on stakeholder engagement in addition to the following pages.

LA1
LA2
LA13

Changes in personnel composition

In 2011 the Group's personnel recorded a slight increase over 2010. The three-year trend is in line with the Company's plans regarding efficiency, marking a decrease with respect to the 2008 level (3,524 employees in Italy).
Retirement is by far the most important cause of employee terminations, which are concentrated among the oldest workers. The turnover rate due to spontaneous resignations continues to be very low (0.5%); the overall turnover rate essentially reflects retirements. The average number of years worked at the Company by employees who quit in 2011 was 32.3.

AVERAGE YEARS OF EMPLOYMENT OF EMPLOYEES LEAVING THE COMPANY (1)	2011	2010	2009
Total terminations	**32.3**	**31.6**	**32.3**
Men	32.1	31.2	33.0
Women	34.4	37.2	25.5
Less than 30 years old	3.5	1.6	1.0
Between 30 and 50 years old	6.7	9.1	8.6
More than 50 years old	35.1	34.1	34.1

(1) In the case of employees hired by Terna following acquisitions of divisions, the length of employment takes into account their previous employment.

For the sake of completeness, it should be noted that during 2011 Terna had 34 temporary workers (28 in 2010 and 33 in 2009), who were employees of agencies that supply labor to Terna. Although they were not employees of the Company, these 34 people were involved in Terna's activities for a pre-determined period of time and fall under the GRI's definition of "total workforce" as "supervised workers". These workers are not included in the personnel data shown in the tables.
For the Group, the increase in the number of fixed-term employees (from 3.1% to 4.1%) reflects the use of 18-month beginner contracts, which are generally transformed into permanent ones at the end of the period of training and professional integration.

PERSONNEL CHANGES	2011	2010	2009
Total employees	**3,493**	**3,468**	**3,447**
Employees hired during the year	176	178	57
Employees leaving during the year	151	157	134
- men	139	147	122
- women	12	10	12
- less than 30 years old	2	7	1
- between 30 and 50 years old	13	7	8
- more than 50 years old	136	143	125
Turnover rate terminations (%) [1]			
Total	**4.4**	**4.6**	**3.8**
Men	4.0	4.3	3.5
Women	0.4	0.3	0.3
Less than 30 years old	0.1	0.2	0.0
Between 30 and 50 years old	0.4	0.2	0.2
More than 50 years old	3.9	4.2	3.6

(1) Turnover rates report the percentage of terminations with respect to the number of employees as of December, 31 of the previous year.

PERSONNEL COMPOSITION	2011	2010	2009
Total employees	**3,493**	**3,468**	**3,447**
By contract type			
- permanent	3,350	3,361	3,374
- fixed-term	143	107	73
By employment type			
- full time	3,463	3,438	3,417
- part time	30	30	30
By gender			
- men	3,105	3,095	3,092
- women	388	373	355
By age			
- less than 30 years old	522	472	393
- between 30 and 50 years old	1,496	1,494	1,553
- more than 50 years old	1,475	1,502	1,501
Average personnel age (years)			
Average biographical age	45.2	45.6	46.4

To facilitate the interpretation of several indicators regarding personnel composition, the following table breaks down the employees of Terna S.p.A. by professional category as of December 31, 2011.

PERSONNEL COMPOSITION BY CATEGORY	2011	2010	2009
Total	**3,493**	**3,468**	**3,447**
Senior executives	60	59	65
Junior executives	490	502	488
White-collar workers	1,966	1,890	1,874
Blue-collar workers	977	1,017	1,020

Personnel turnover: comparative data

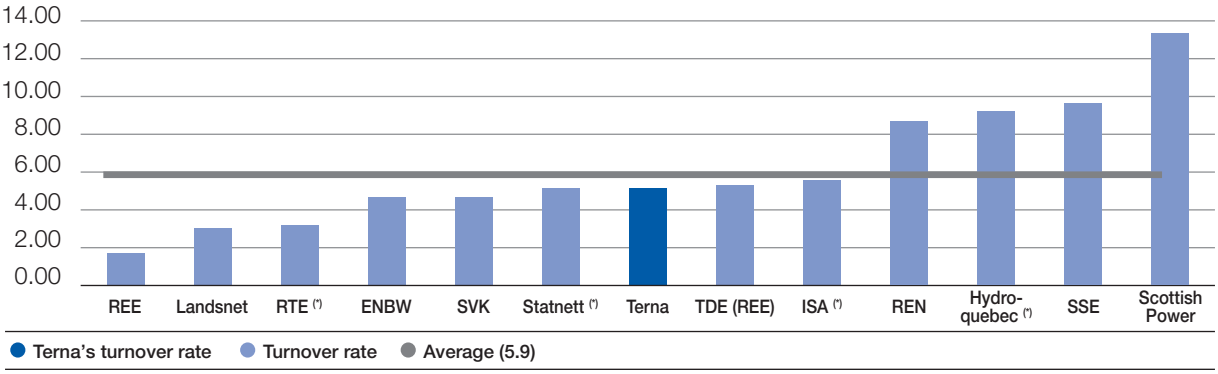
The comparison between Terna and other companies regarding personnel turnover was conducted based on the rate calculated of employees leaving as of December 31 of the previous year.
Since the personnel turnover rate is an indirect indicator of the corporate climate that generally regards all sectors, data was examined both from only transmission companies (TSO panel), from the leading Italian listed companies (FTSE-MIB) and from the international sustainability leaders (SAM - Supersector Leaders).
In 2011, Terna registered a turnover rate equal to 4.4%; in 2010, the year of available reference data, the turnover rate was equal to 4.5%.
In the comparison with other companies, Terna registered a turnover rate lower than the average with respect to all the reference panels. In particular, it registered figures that were among the lowest in the FTSE-MIB panel and in that of the international best practices.

TSO panel: 13 available data (12 companies of which one present with different data according to country); average turnover rate: 5.9%; lowest figure: 1.7%; highest figure: 12.8%; standard deviation: 3.2%. In this comparison, Terna ranked below the average, with the lowest figure with respect to the other panels, influenced by three companies that registered a rate below 4%.

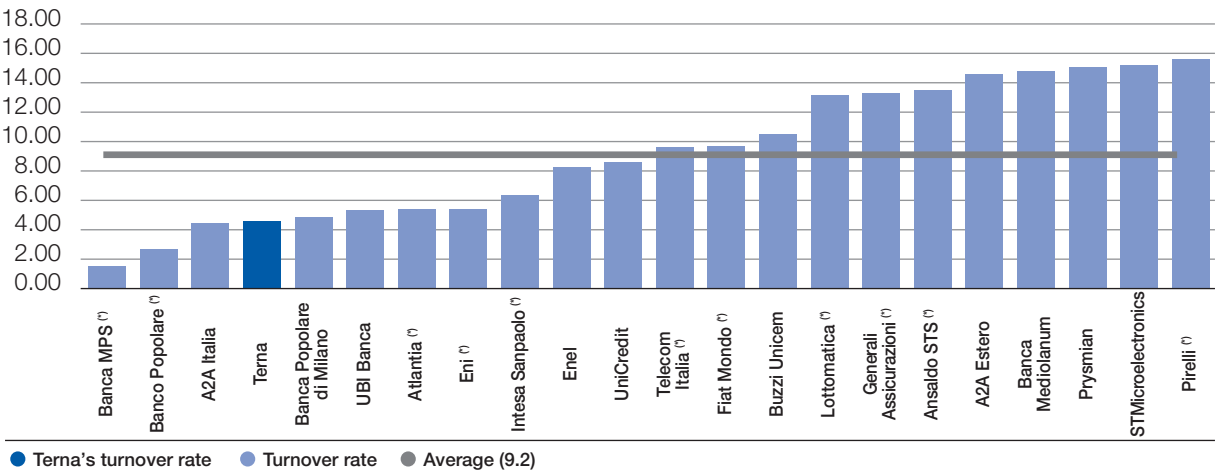
FTSE-MIB Panel: 22 available data (21 companies, one of which present with different data for activities in Italy and abroad); average turnover rate: 9.2%; lowest figure: 1.6%; highest figure: 15.4%; standard deviation: 4.5%. Terna ranked much below the average of the 21 companies of the FTSE-MIB that published data.

SAM - Supersector Leaders Panel: 15 available data (13 companies of which two present with different data according to sector or country of activity considered); average turnover rate: 8.5%; lowest figure: 1.0%; highest figure: 20.0%; standard deviation: 5.7%.
Even in the comparison with the global sustainability best practices, Terna registered a low turnover rate for employees leaving the company.

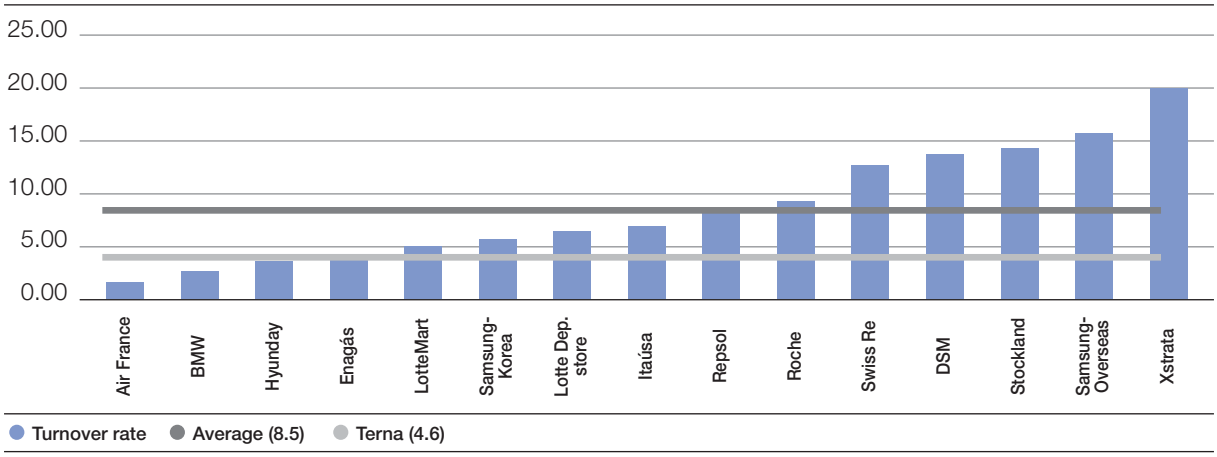
TSO TURNOVER RATE



FTSE-MIB TURNOVER RATE



SAM - SUPER SECTOR LEADERS TURNOVER RATE



(*) Turnover rates were calculated using available data.
For additional information on panel structure and generally on comparisons with other companies, refer to the Methodological Note, page 16.

Terna has offices all over Italy – among other things, because of the necessity of prompt maintenance work on its entire grid. Working days in 2011 for employees hired by contractors for work carried out for Terna totaled 456,807, equal to 2,076 FTE employees (*Full Time Equivalent*) (mainly workers assigned to building electricity lines and power stations) across the national territory. The increase recorded during the three-year period reflects the growth of investing activities that include assigning work to contractors. This data takes into account the duration of the contract work, as well as the variability of the use of personnel therein, and regard all of Terna's contract work, from the construction sites of large-scale work to the cutting of vegetation under overhead lines. The days worked and FTE employees are estimated on the basis of the average and daily number of workers on the largest construction sites and of the amounts paid for contract work on the smaller ones. No additional information is available regarding the types of contracts applied by the contractors.

EU17

EMPLOYEES OF CONTRACTORS AND SUBCONTRACTORS	2011	2010	2009
Days worked	456,807	434,044	336,600
Full Time Equivalent	2,076	1,973	1,530

EU15

EU21

The management of generational turnover

The new recently approved Italian legislation regarding retirement (Art. 24 of Law no. 214/2011), that raised the age and seniority requirements necessary for accruing the right to retirement, significantly reduced, also for Terna, the potential "group" of employees leaving, that last year were estimated to be equal to 728 in the 2011-2015 period. The table below summarizes the potential number of employees leaving in the 2012-2016 five-year period, on the basis of data available in the Company's information services.

POTENTIAL NUMBER OF EMPLOYEES LEAVING IN THE 2012-2016 FIVE-YEAR PERIOD

People that accrued the right to retirement (based on the old laws) as of 31.12.2011	
Senior executives, junior executives, white collar workers	125
Blue collar workers	40
People that will accrue, for various reasons, the right to retirement for the 2012-2016 period	
Senior executives, junior executives, white collar workers	92
Blue collar workers	49

It is necessary to note that the actual probability for leaving work during the five-year under consideration is very high only for the first group of employees, for which the reform includes the application of the previous requirements. For those belonging to the second group, instead, a greater use is expected of the possibility for opting to continue working and consequently accrue a better retirement plan. Regarding a forecast for retirements for the 2012-2021 period, the new legislation established that, along with the biographical requirements established for accessing the different retirement modalities, a mechanism is periodically applied that is connected to the "life expectancy", aimed at balancing medium and long term social security management. Consequently, it is currently not possible to make an accurate forecast of the people expected to leave over the ten year period.
For some time, Terna has implemented various initiatives for managing the generational turnover, the main ones being:

- transferring know-how and expertise, often specific only to Terna, by strengthening the organization of training courses held by internal instructors;
- professional orientation projects aimed at creating and transferring technical and managerial expertise for adequately covering critical roles.

It should also be considered that the entry of new resources having a higher education will make it possible to carry out the same activities as today more efficiently.

EU14 Search and selection

The search-and-selection process aims at ensuring the Company the expertise it needs to achieve its objectives.
The people hired from the external labor market are mainly recent university and secondary-school graduates, in particular electrical engineers (and to a lesser extent ones in other fields) and technicians with diplomas from vocational schools, mostly in the field of electricity. These are young people, who are assigned roles as professionals, as well as technical and operating employees. They receive the basic training required through post-hiring processes that continue throughout their working life and acquire the specific knowledge and capabilities needed. To a lesser and very targeted extent, the Company also hires resources with experience regarding specific professional roles of the core business (for example, project and program managers, construction site managers, experts in authorization processes, expert environmental impact analysts, technical designers, etc.) or in business-support areas (mainly with an economic background).
Over time, the generational turnover the Company is experiencing and its hiring policies entail a decrease in the average age and an increase in the education of the corporate population.

PERSONNEL COMPOSITION BY SCHOOLING

Percentage of employees out of the total of employees as of 31.12.2011	2011	2010	2009
Degree	21.6	19.2	18.0
High school diploma	46.6	46.5	45.6
Vocational school diploma	15.8	16.2	17.0
Elementary/middle school	16.0	18.2	19.4

The process of searching for and selecting personnel is managed by the Human Resource and Organization Department, which also handles relations with schools, universities, employment agencies, etc.
The most important channel for finding candidates is the ***Lavorare in Terna*** **("Working at Terna") section of the Company's website**, where applicants can enter their CVs and automatically receive an e-mail of confirmation. The section has been enhanced with information on Terna's policies regarding the management and development of human resources. To guide candidates, there are descriptions of the profiles and professional qualifications sought for in the Company's different areas. For viewers of the section who would like further information, a dedicated e-mail address is available (hr@terna.it).
When particular profiles are sought for or are hard to find, the Company uses channels that are alternative to the website database: lists provided by schools and universities, job meetings, career days, employment agencies, newspaper announcements, and online sites. The methods and instruments used in the **selection process** are differentiated according to the profile (recent graduates, junior, middle/expert, senior) and to the number of resources sought for.
To select recent university and secondary-school graduates, the Company generally uses the assessment center (a series of tests aimed at ascertaining whether candidates possess the basic motivational and behavioral requirements) and one

or more interviews aimed at assessing their technical and professional knowledge and capabilities. The assessment center and the first technical/professional interview are often carried out at the same time. Experts from the departments or units concerned participate in the selection process, together with HR specialists, and handle the technical/professional investigation in a methodological framework for which the Human Resources and Organization Department is responsible.
For the selection of senior resources the Company uses a sequence of interviews that aim at establishing whether candidates totally match the profile wanted. The first interview is always handled by HR specialists to identify a short list of candidates who will then be invited for a technical/professional interview. The final interview is carried out by HR personnel and the Heads of the departments to which the resources will be assigned.
In line with the Company's policy of transparency and fairness in its relations with stakeholders, at the end of the selection process Terna always informs all the participating candidates of the results, whether positive or negative.

Relations with schools, universities and centers of excellence

Terna is expanding its relations with the world of universities, post-graduate training, and institutional training in general to support the process of finding new resources and create a virtuous circle of exchange between the Company and the outside world.
The numerous kinds of cooperation provide for possibilities regarding dissertations, internships, traineeships, project work, scholarships and the exchange of know-how, with university lecturers participating in our courses and our experts in university or secondary-school courses, as well as guided tours of our plants.
The *Lavorare in Terna* section of the corporate website provides information on the procedures for implementing these initiatives, a list of the agreements already in effect with universities, and the job meetings and career days in which the Company participates.
In 2011, to the 25 agreements already existing with the main Italian universities and business schools (framework agreements with all faculties and master's programs of a given university or agreements with individual departments/faculties), 2 were added and 3 others are being finalized.
There were a total of six master's programs, promoted by universities, business schools or centers of excellence, that have received economic contribution in 2011 and that had the possibility of having students carry out project work.
During the year, Terna's experts were also instructors for advanced university training courses (including Corso Smart Grids Politecnico di Bari), master's programs promoted by leading national associations or corporate universities in the sector for a total of 12 projects; six visits to plants were also added for a total of over 170 visitors.
The Company hosted 38 interns, trainees, and students writing theses (34 in 2010, 12 in 2009). Some of these were subsequently admitted to the selection process and hired.
The Company participated in 14 career days (8 in 2010) in collaboration with the principal universities in the following cities: Bologna (February and October), Rome (March and May), Turin (March and May), Naples (April), Milan (May and December), Padua (June and October), Bari (October) and Pisa (November).
Activities continued that are part of the FiGi (Engineering School and Large Enterprises) Project, the Memorandum of Understanding between the Engineering Faculty of the University of Rome "La Sapienza" and several large companies that operate in Rome. Terna participated actively in the teaching of the Electrical Engineering course by organizing 5 seminars, as well as guided tours of its plants, in which 41 students participated. Terna is also engaged in promoting and enhancing the Electrical Engineering course, whose enrollment has decreased in the last few years, with consequent problems in finding resources for all the companies concerned, especially in Rome.

EU14 Training

At Terna, training is strategically important for developing human capital in keeping with the Company's mission, strategy, and objectives.
It constitutes a joint individual and corporate investment continuously enclosing an employee's entire professional life, aimed at creating value for both individuals – by increasing and diversifying expertise (*employability*) – and the Company – by making their contribution more motivated and qualified.
Maintaining, sharing and transferring Terna's specialized and unique know-how is ensured by a training model that is based on the availability of the most expert resources for acting as project managers and instructors with the Faculty Campus, while also promoting a sense of belonging and integration within the Company. Collaboration with universities, business schools and more in general with external centers of excellence, guarantees the necessary contamination of corporate know-how with that coming from the external world.
In choices implemented, Terna's training model promotes active methods in classroom training and on the job training; if in line with objectives and contents, it adopts innovative methods such as outdoor training, the development center, the business game and the use of simulators. E-Learning is used for campaigns aimed at transferring specific knowledge and information and can also have an integrative/replacement function to classroom learning.
Systematic evaluation of training results enables the Company to collect useful feedback and continually improve its model. The instruments used at the end of courses range from rating questionnaires to achievement tests. At least every two years (last edition: 2010) a survey is carried out among all heads of resources to ascertain the level of effectiveness they perceive (how well the courses satisfy needs, their quality and contribution to resource development) with respect to all the initiatives implemented during the year.
In 2011, the Campus portal – which is accessible from the corporate intranet since the end of 2009 – has been the main support for disseminating information on training possibilities and making available the documentation accompanying the courses, in particular those organized by the Terna Faculty. Works on the Campus premises, which have begun at the end of 2010, have been delayed; they are expected to be available by the end of 2012.
Training provided by Campus includes:
- centrally planned courses/pathways/campaigns for targeted beneficiaries;
- internal or external specific courses assigned upon request to individuals or small groups;
- local Transmission Operating Area courses (to satisfy needs not covered by the centrally organized ones);
- special events.

Training initiatives are categorized by subject area:
- **Context & Business Model** for learning about the internal and external business context in which Terna operates and promoting Corporate Identity. It includes, for example, the "Company Presentation" courses for new hires and the training programs on corporate governances issues (i.e. Code of Ethics, 231 Model – see page 159 of the chapter "Social Responsibility"). The Faculty Campus is often directly in charge of the activities;
- **Education** for managerial and personal development. This training increases role capabilities and fosters the acquisition of the values and sensibilities on which Terna's organizational culture is based;
- **Training** for developing technical and professional expertise and acquiring cross-cutting skills (e.g. foreign languages, Office Automation);
- **Pathway**, which are short- medium- and long-term training processes dedicated to specific target individuals and consisting in a mix of initiatives belonging to the three previous subject areas. The proposals are addressed to both recently hired resources and ones already in service. In the latter case, they belong to homogeneous professional families, for which the Training Pathway aims at aligning capabilities, updating, training, or upgrading.

PERSONNEL TRAINING	2011	2010	2009
Average number of training hours			
By employee	51	49	47
By category			
Senior executives	*19*	*27*	*25*
Junior executives	*30*	*40*	*43*
White-collar workers	*55*	*47*	*45*
Blue-collar workers	*55*	*58*	*53*
By gender [1]			
Men	*51*	*n.a.*	*n.a.*
Women	*44*	*n.a.*	*n.a.*
% of employees covered [2]	*97*	*96*	*91*
Training hours			
Total	**178,734**	**171,146**	**164,416**
Hours of internal instruction	132,190	n.a.	n.a.
Hours of training by course type			
Education	21,664	22,915	11,558
Context and Business Model	31,919	29,928	8,562
Training	125,151	118,303	144,296
Training method			
% of classroom training	98	97	99
% of online training	2	3	1

(1) Data according to gender, calculated for the first time in 2011, was calculated differently from that by category, considering personnel working as of December 31 and not the average number of employees.
(2) Percentage of employees that attended at least one training course.

In 2011, corporate training investments increased by 4% compared to 2010. The sharing knowledge operation, also in support of generational turnover and aimed at creating the Campus in 2008 – underlined by the pay off of *Esperienze in Rete* – is now fully operational. The contribution of the Faculty Campus, at central and/or local levels, was significantly predominant, particularly for training activities belonging to the sections Context & Business Model and Training, especially where knowledge and expertise regarding Terna's specific and typical know-how needed to be developed.
In short, **in 2011, 97% of Terna's employees took at least one course** (+1% compared to 2010), with more than 178,000 hours of training provided (nearly 4% more than in 2010), 98% of which were in a classroom and 2% online. The average number of training hours per employee was 51 (+4% compared to 2010).

Training for employees: comparative data

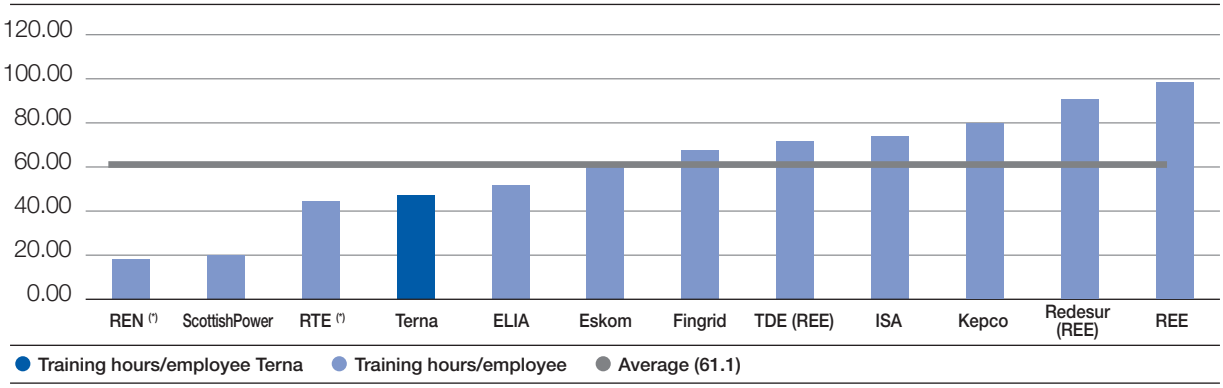
The comparison between Terna and other companies regarding training was conducted based on the annual training hours per capita. Since employee training is a sustainability aspect that generally concerns all sectors, data was examined both from only transmission companies (TSO panel) and from the leading listed Italian companies (FTSE-MIB) and the international sustainability leaders (SAM - Supersector Leaders).
In 2011, Terna's training hours totaled 51 per capita; in 2010, the year of available reference data, training hours per employee totaled 49.
In the comparison with other companies, Terna ranked among the first places in two of the three reference panels, including the one for international best practices.

TSO Panel: 12 available data (10 companies, one of which, REE, present with different data according to the country); average per capita hours: 61.1; lowest figure: 19.4; highest figure: 99.0; standard deviation: 24.8. In this comparison, Terna ranked below the average, strongly influenced by three companies that registered over 80 training hours per capita.

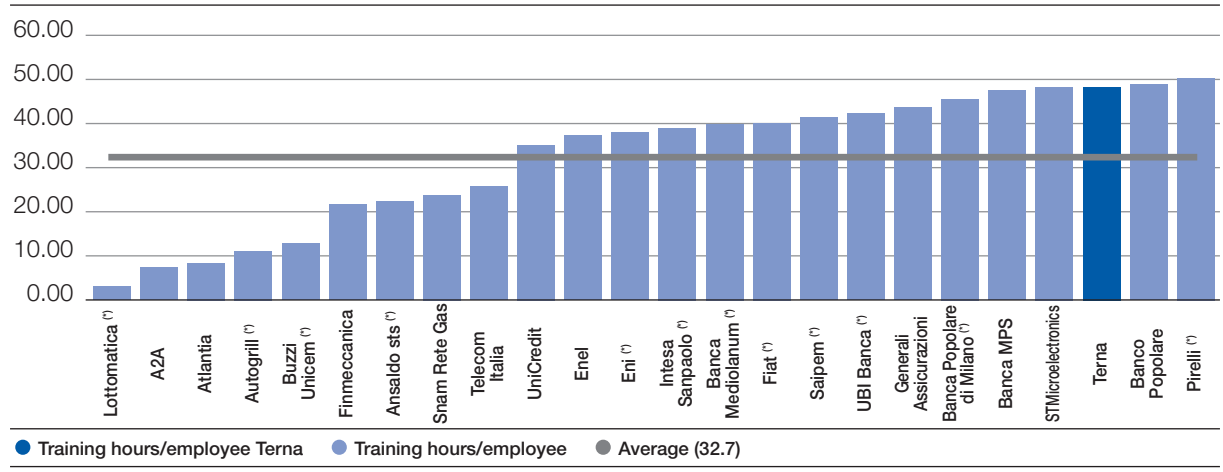
FTSE-MIB Panel: 24 available data; average per capita hours: 32.7; lowest figure: 5.1; highest figure: 50.4; standard deviation: 14.9. Confirming the results included in last year's Sustainability Report, Terna ranked among the first places among the leading Italian companies, well above the average of the 24 companies of the FTSE-MIB that published the data.

SAM - Supersector Leaders Panel: 17 available data (15 companies, one of which, BMW, present with different data according to employee category); average per capita hours: 37.7; lowest figure: 8.1; highest figure: 103.0; standard deviation: 28.5. Even in the comparison with the global sustainability best practices, Terna ranked among the first places for number of training hours per employee. The first three companies registered figures that were higher than 80 training hours per capita; Hyundai (Construction & Materials sector) was excluded from the panel that registered 264.5 number of training hours per employee (corresponding to over one month and a half of working time), a figure that was strongly influenced by characteristics that do not allow the case being suitable for comparison.

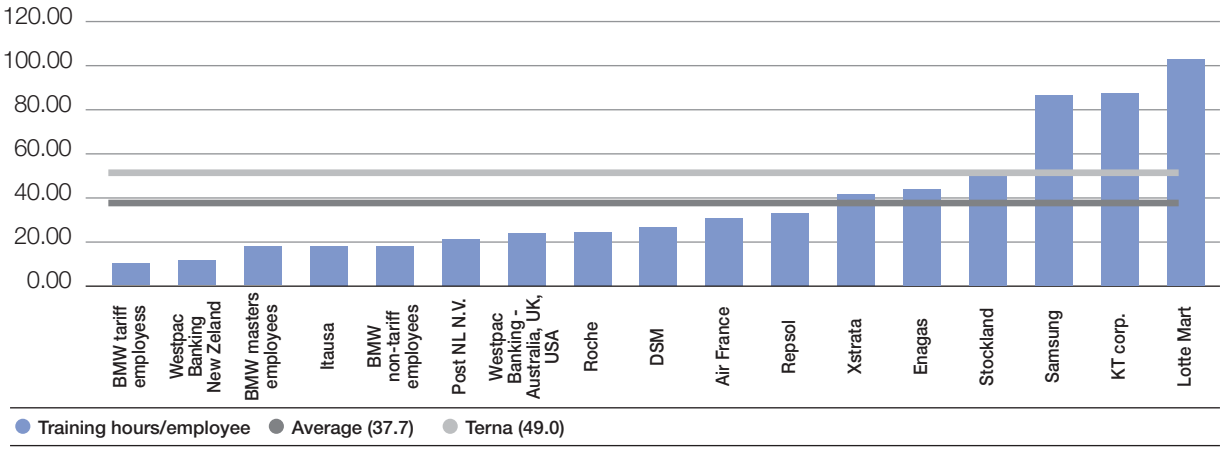
TRAINING HOURS/TSO EMPLOYEE



TRAINING HOURS/FTSE-MIB EMPLOYEE



TRAINING HOURS/SAM - SUPERSECTOR LEADERS EMPLOYEE



(*) Training hours were calculated using other published data. The calculation of per capita training days compared to per capita hours was made based on 8 hours/day.
For additional information on panel structure and generally on comparisons with other companies, refer to the Methodological Note, page 16.

With regard to the section Context & Business Model (over 31,000 hours of training) it is necessary to underline, along with the consolidated training initiatives for the electricity market, a widespread training campaign implemented in the classroom and online on Information Security for over 3,800 hours of training that will be completed in 2012.
With regard to Education (over 21,000 hours of training), in connection with the company's strategic objectives, the year's focus was business innovation and development. For this purpose, a training event was organized for all executives and for a selection of middle managers that was funded by Fondirigenti (three meetings with international experts and external representatives, two visits to outstanding companies in innovation). Completion is scheduled in 2012. Additional initiatives included: a *Laboratory on Innovation* proposed, in a different version, to a selection of professional junior executives and white-collar workers; an initiative focused on problem solving for developing organizational conduct, "innovation and pro-active conduct" addressed to a selection of professional white-collar workers. The new initiatives also included a broad training offer that during 2011 was further developed compared to the previous plan and extended to white-collar and blue-collar workers.
In brief, during the 2009-2011 three-year period, the Education offer gradually reached the objective of covering both action areas (organizational conduct expected in performance) and individuals identified on the basis of Performance management and/or in relation to development responsibilities of collaborators.
With regard to Training, which is of primary importance owing to the nature of Terna's technical business, over 125,000 training hours were held, increasing by 6% compared to 2010. Within this sector, the Safety section increased significantly by +24% compared to the previous year (over 61,000 of training hours) mainly due to a widespread training campaign on preventing electricity risks and implementing the updating initiatives in compliance with the new regulations (see page 171 of chapter "Social Responsibility"). In 2011, a widespread training campaign was also implemented involving all blue-collar workers for using PC workstations in IT islands across the territory; the initiative intended supporting the shift, even of this corporate group of employees, to online presence detection systems and more generally, to accessing corporate computer communication channels (intranet).
Lastly, commitment continued in 2011 for medium-long term Pathways both for newly hired employees as well as for employees in service that totaled 33% of the training hours (28% newly hired employees, 5% resources already employed). Pathways for newly hired employees (hired as of 2007-2008) – highly important for facilitating the generational turnover process that the company is experiencing – regarded all types of personnel with university degrees and high school diplomas (professionals, white-collar workers, technicians, blue-collar workers), totaling over 49,000 training hours.
With regard to the Pathways dedicated to employees in service, the Pathway for shift workers of the Real Time unit of the Dispatching and Energy Operation chain involved nearly 66 resources and totaled nearly 7,000 hours of training. The decrease compared to 2010 was due to the postponement owing to technical reasons of part of the activities relating to introducing a new system of control and energy operation. The new Pathway for management assistants and secretarial pools (Session for Roles, Session for I&CT, Session for Terna's business model) totaled over 1,500 hours of training.

Personnel development and management

Terna's system for developing and managing human resources is based on performance as an indicator for guiding growth. The essential elements of the model are the definition of the objectives and the conduct that is expected, assessment of results, feedback, and development and training actions. The heart of the system is the **Global Performance System (GPS),** which entered into operation in 2009 accompanied by a training campaign addressed to all the personnel concerned. The Global Performance System is based on a definition of performance that has two aspects: the first is the actual achievement of the pre-established objectives, while the second regards the organizational actions carried out to achieve them. A specially developed IT system accessible individually by the employees contains the objectives to be reached and expected performance; the same system records the results of the assessments and ensures that they are available over time. Performed by the person directly responsible and validated by the latter's manager, the evaluation provides for feedback, which is essential for guiding conduct, highlighting strong points and areas that need to be improved, and activate measures for development, such as training. The repetition of performance assessment in annual cycles allows the growth of individuals to be monitored and guided. The application of the GPS currently involves a segment of employees with managerial and professional responsibilities: all senior executives, all junior executives (except the foremen of the shifts that control the grid in real time), and some white-collar workers.

LA12 A total of 651 employees were involved in the first assessment cycle, which started in 2009. In 2011, 763 employees – nearly 22% of the total corporate population – were involved (38% of female personnel and 20% of male personnel). This number will gradually rise as new personnel targets are included with the goal of increasing transparency and communication between managers and employees. Therefore, in 2012 the process of gradually extending the system will continue. For blue-collar workers and other employees not included in the GPS, less structured forms of assessment are used, such as periodical interviews with managers and HR representatives, partly because the requirements of their jobs and the paths of professional growth are more strictly determined by the collective labor agreement.

The measurement of performance is also entrusted to other instruments. Terna has had for some time a strategic control system based on the **Balanced Scorecard** method, through which it monitors the progress made in attaining strategic economic and managerial objectives, including the main environmental and social performance objectives.

Performance measurement is also connected with the payment of variable parts of compensation. In particular in 2011, Terna has had a **Stock Option Plan** for its top management, which was resolved upon in December 2005 (scheduled to expire in 2010, but later extended to 2013); among other things, the adoption of this Plan has provided the Company with an important instrument for ensuring the loyalty of the senior executives who hold the most important positions for the achievement of its strategic objectives.

The same purpose also applies to the 2011-2013 cash **Long-term Incentive (LTI) Plan** for the top management and managers who hold key positions, which is linked to corporate objectives.

Other variable-compensation schemes are based on annual performance objectives.

MBO (Management by Objectives), reserved for corporate Management, links the sums of individual bonuses to the extent to which both corporate and individual objectives are achieved. Monitoring and controlling corporate activities are based on the Balanced Scorecard system which evaluates, on a quarterly basis, the trend of objectives – including sustainability objectives – linked to the Strategic Plan. The Balanced Scorecard system is linked to MBOs, by referring sustainability objectives to the managerial variable remuneration system.

Recognizing the importance of the extensive involvement of employees in the implementation of programs and plans regarding quality and productivity, Terna signed an agreement with the Labor Unions governing a **corporate-result bonus to incentivize labor productivity** (see also the section on Industrial Relations).

The bonus is a variable element of compensation and consists of two parts:

- "corporate profitability" linked to the Company's general performance and paid to most employees generally, with the exception of senior executives;
- "incentives for productivity/quality" linked to the achievement of specific quality and productivity objectives connected with the employees' work and paid to blue- and white-collar workers.

As in other large electricity companies, the conditions of Terna's employees (wages, working hours, annual leave and other aspects of employment) are substantially better than the Italian average.

LA3 In particular, the following benefits are provided for most employees:

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

The benefits are available to all employees once they have finished their trial period, including part-time employees and those with beginner contracts. Insurance coverage for occupational injuries is regulated by law and applies to all employees. Terna provides better conditions for specific categories.
Furthermore, Terna's employees (excluding senior executives that can benefit from a different fund) are automatically enrolled in the **supplementary healthcare fund FISDE** (Supplementary Health-care Fund for Employees of the Enel Group). The FISDE organizes prevention campaigns for its members that include preventive examinations and sessions providing information on the main health risks. The following have been some of the topics of the information and prevention campaigns: LA8

- smoking;
- alcohol;
- tumors;
- cardiovascular disease;
- ophthalmological disease;
- disabilities.

The FISDE partly pays for the medical treatment of disease not only for its employee members, but also for the dependent members of the latter's families.

Beneficiaries	Information and prevention of risks	Treatment
Workers	yes	yes
Families of workers	no	yes

Child and family care

The Italian law regulates maternity leave and family leave establishing a general coverage compared to which Terna's conditions are even more favorable, applying both the CCNL (Contratto Collettivo Nazionale di Lavoro - Collective Bargaining Contract) for the sector as well as corporate agreements. The most important measures include: LA15

- 5 months of paid maternity leave, recognized to the mother and distributed before and after giving birth. Terna guarantees 100% integration of the remuneration compared to 80% established by the law;
- 6 months of additional maternity leave with a 30% remuneration. Terna integrates 45% and 40% respectively for the first and second month of leave time. Leave time can also be taken by the father, within a maximum of 10 months for the total leave of both parents. If not taken during the child's first years, the leave time can also be taken subsequently, up to the age of 8, but will not be paid;
- non-remunerated leave time (paid only in cases of serious disabilities) without any limits for being taken, in the case of a child's illness within the age of 3;
- 3 days a month, or 2 hours a day, of leave time for child or family care, paid in case of serious disability;
- extraordinary leave time for 2 years in case of serious disability of a child or close relative.

The table below includes the number of employees that took family leave time for at least 29 days in 2011. This information processing started with reference to 2011; therefore, for this first year of data collection, information regarding the number of employees that resumed service (as requested by indicator LA15 of the GRI protocol) and that continued to remain in service after 12 months following their return is unavailable.
Nonetheless, a verification conducted on employees leaving in 2011 indicated that with no dismissals occurred, no one among the employees who resigned had taken family leave time in 2010.

NUMBER OF EMPLOYEES THAT TOOK FAMILY LEAVE TIME	2011
Total	**23**
- women	18
- men	5

LA13 Diversity and equal opportunity

LA14 Terna adopts systems for selecting, developing, and paying personnel that recognize and reward merit and performance. All forms of discrimination, beginning with the selection and hiring process, are explicitly forbidden by the Group's Code of Ethics.

A large majority of employees are men, because of the traditional scarcity of the supply of female labor in the more technical occupations. However, the presence of women is increasing, partly as a reflection of the general trend of the labor market and the greater participation of women in the labor force.

Amounting to 9% in 2005, **the percentage of women employees at Terna in Italy increased from 10.3% in 2009 to 11.1% in 2011**. The increase also regarded the positions with the highest qualifications and responsibilities: the percentage of women in managerial positions (senior and junior executives) rose from 15.7% in 2009 to 17.1% in 2011.

During 2011, **18.2% of all newly hired employees** – net of blue-collar workers – **were women**, a percentage higher than that of the women already employed at the Company, again excluding blue-collar workers.

Several favorable kinds of conditions established by the law and provided for by the industry's collective labor agreement contribute to fostering the employment of women at Terna, for example, maternity-leave (see text page 163 in this chapter).

The principal indicators for equal opportunity between men and women recorded that Terna's management systems do not generate discriminating conditions against women. The major trend of female employment is the result of the lower levels of women leaving with respect to men and the levels of women entering that are much higher than the male levels. The percentage of women in managerial positions and the category progress divided by gender (see following table) are not different from those belonging to men. Also data on remuneration conditions indicate limited differences among white-collar workers and junior executives that are more significant, but decreasing, for senior executives.

Demonstrating its concrete concern for promoting the contribution of women, **in 2009 Terna joined "Valore D"**, an initiative started by several women managers from a number of important Italian and multinational companies with the objective of creating synergy and developing the professional competence of women to achieve greater opportunities for representation in enterprises. In practice, the women in these companies put their knowledge at the disposal of the women in associated companies to foster the professional development of women, as well as networking opportunities.

EC7 Almost all employees are Italian citizens, with only three having foreign citizenship. This figure shows, without any specific corporate policies in this regard, how rooted Terna is in the Italian economy. With regard to the presence of **personnel belonging to protected categories** (for example, invalids), the figure as of December 31, 2011 was **128 people** (116 in 2010 and 114 in 2009). This number is in line with the regulations applying to Terna (in particular, the Ministerial Decrees of March 21, 1996 and May 15, 2000), which provide for a gradual increase in the quota of protected-category employees to 7% (a general legal obligation) through the hiring of a larger percentage of them out of the total number of new hires.

Finally, the following table shows the composition of Terna's Board of Directors, broken down by gender and age.

COMPOSITION OF THE BOARD OF DIRECTORS OF TERNA S.P.A.

Percentage values	2011	2010	2009
Men	100	100	100
Women	0	0	0
- less than 30 years old	0	0	0
- between 30 and 50 years old	33	44	44
- over 50 years old	67	56	56

EQUAL OPPORTUNITY FOR MEN AND WOMEN

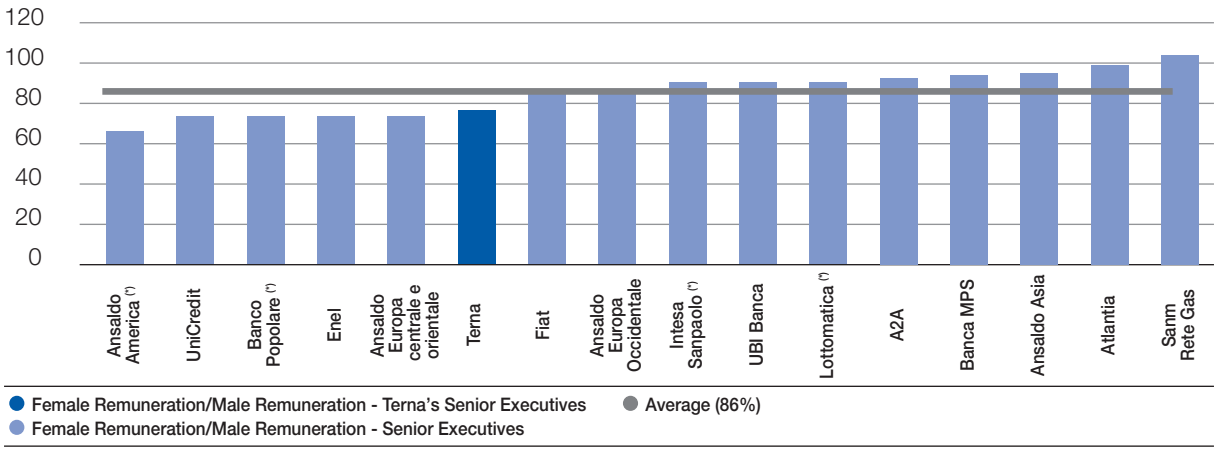
Percentage values	2011	2010	2009
Women as % of employees			
Women/total	11.1	10.8	10.3
Women/total net of blue-collar workers	15.4	15.2	14.6
Female senior executives as % of total executives	16.7	17.0	15.4
Female senior and junior executives as % of total senior and junior executives	17.1	16.8	15.7
Employment growth			
Annual change: women	4.0	5.1	-1.1
Annual change: men	0.3	0.1	-2.3
Outflows (1)			
Outflows: women	3.2	2.8	3.3
Outflows: men	4.5	4.8	3.9
Inflows (1)			
Inflows: women	7.2	7.9	2.2
Inflows: men	4.8	4.9	1.6
Employees in managerial positions			
Female executives out of total female employees	2.6	2.7	2.8
Men executives out of total men employees (excluding blue-collar workers)	2.4	2.4	2.7
Category promotions (2)			
Promotions to junior category as % of previous category: women	0.4	0.8	1.5
Promotions to junior category as % of previous category: men	0.6	1.1	1.2
Women/men basic retribution difference (3)			
Senior executives	79.6	78.0	78.8
Junior executives	93.7	92.6	91.6
White-collar workers	93.9	93.9	93.5
Women/men pay difference (4)			
Senior executives	75.5	n.a.	n.a.
Junior executives	96.9	n.a.	n.a.
White-collar workers	90.2	n.a.	n.a.

(1) Outflows (inflows) for women and men report employees according to gender who left (entered) in the business compared to the employees' total according to gender as of December 31 of the previous year.
(2) The figure is the result of the ratio between the promotions to junior executive that occurred during the year and the employees categorized as white collar workers in the previous year, calculated by category (men/women). Promotions from blue-collar worker to white-collar worker and from junior to senior executive were not considered, because the number was not significant on an annual basis.
(3) The figure is the result of the ratio between the annual base pay of men for the different categories and the annual base pay of women for the same categories. The figure was not calculated for blue-collar workers, because there are no women in that category.
(4) The figure, calculated for the first time for 2011, is the result of the percentage ratio between the annual total remuneration for women according to different categories and the annual total remuneration for men for the same categories. The total remuneration includes, in addition to the base pay, the production bonuses, the different types of incentives and the value of benefits received during the year.

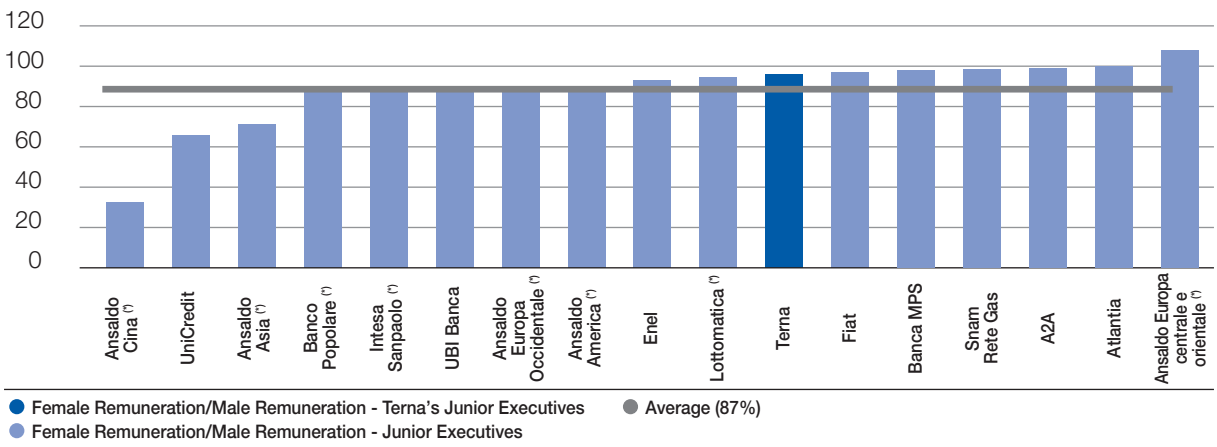
Gender pay gap: comparative data

A comparison between Terna and other companies regarding equal opportunities was conducted based on the gender pay gap, the result of the relation between women's annual base remuneration - according to different categories – and men's annual base remuneration for the same categories.
Even though the gender pay gap is a sustainability aspect that generally regards all sectors, it was possible to consider in the comparison only the Italian companies of the FTSE-MIB since, for the companies from the other two panels, the workers were divided into different contract categories according to the company and the country and cannot be applied to the categories (senior executives, junior executives, employees) considered by Terna, that are also the same in many other Italian companies.
In 2011, Terna's gender pay gap was equal to 80% for senior executives, 94% for junior executives and 94% for employees; in 2010, the year of the available comparative data, the gender gap was equal to 78% for senior executives and 93% and 94% for junior executives and employees, respectively.
Compared to the other Italian companies of the FTSE-MIB, Terna ranks above average for the gender pay gap for junior executives and employees.
FTSE-MIB Panel: 17 available data (13 companies, one of which is present with different data according to the country where its activity is carried out); gender pay gap average: 86% senior executives, 87% junior executives, 88% employees; lowest figure: 68% senior executives, 33% junior executives, 57% employees; highest figure: 103% senior executives, 106% junior executives, 103% employees. Standard deviation: 10% senior executives, 17% junior executives, 12% employees.
In this comparison, Terna ranked above average for the contract categories of junior executives and employees, while the gender pay gap for senior executives is below average, also influenced by two companies whose data are equal to or slightly higher than 100% (average remuneration of female senior executives equal or higher than that of male colleagues). In particular, the case of total equal average remuneration for gender of senior executives, junior executives and employees that could derive from the reference to only minimum contract wages, indicates a possible discrepancy in the definition of base remuneration adopted by the different companies.

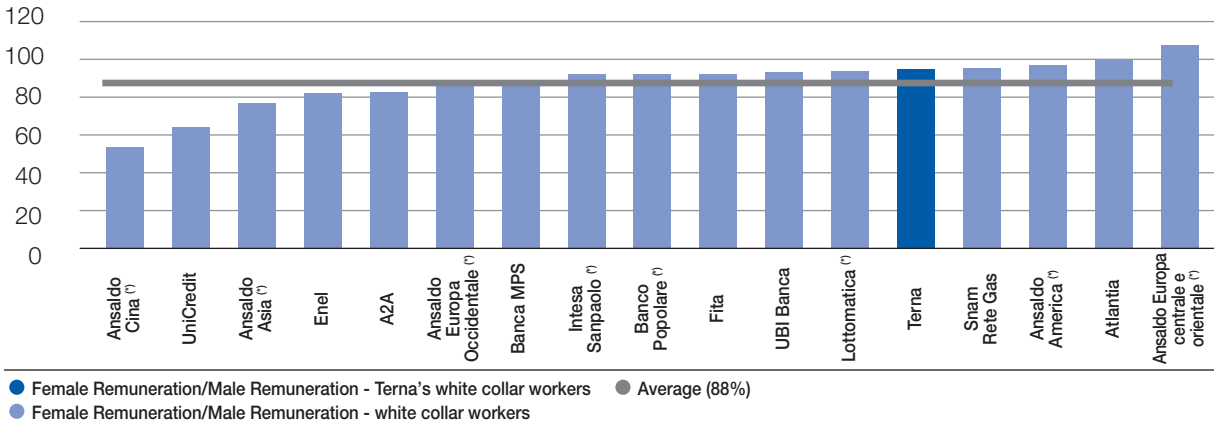
GENDER PAY GAP - FTSE-MIB SENIOR EXECUTIVES (1)



GENDER PAY GAP - FTSE-MIB JUNIOR EXECUTIVES



GENDER PAY GAP - FTSE-MIB WHITE-COLLAR EMPLOYEES



(*) The gender pay gap was calculated using available data.
(1) 16 data were considered since Ansaldo does not publish the gender pay gap for senior executives referred to China.
For additional information on panel structure and generally on comparisons with other companies, refer to the Methodological Note, page 16.

Internal communication

Terna recognizes the essential role of internal communication in fostering the exchange of information, creating integration, promoting teamwork, and speeding up processes. Internal communication is divided into two areas. One comprises the instruments – the corporate intranet, the dissemination based on the waterfall method of team-briefing information, and the house organ *Terna News*; the other one special events and projects, such as the annual We:Me convention, meetings between the Top Management and Senior Executives, and the "CreativInTerna" Competition. The following are some of the initiatives carried out in 2011.

Inauguration of the new office and "Zero Impact" Project in Milan EN18

As with the move to the new headoffice in Rome in 2009, the transfer of 140 people from the Company's three offices in Lombardy to a single new one was accompanied by a carefully planned internal communication project.
Therefore, entrance into the new offices of Pero in February, in the area of the new Fiera di Milano, represented the point of arrival of a path that began over three months before with ad hoc communication, tools and a customized welcome program the first day of entrance.
The Milan office was chosen as a pioneer for a path defined together with LifeGate through which Terna decided to implement, following the opening of its new offices on the territory, offsetting measures deriving from its own participation in the Zero Impact Project. As of 2011, CO_2 emissions generated by implementing new corporate communication tools were neutralized by creating new green areas located also at Terna's offices. In Milan, the green project is located along the Alzaia (towpath) del Naviglio Grande, with the planting of 50 shrubs as part of the area's redevelopment project. For its new headoffice in Rome, Terna had already identified the area of the Parco dell'Aniene facing the offices as part of its participation in the Zero Impact Project.

Fourth edition of the "CreativInTerna" internal photography and drawing competition

The 150th anniversary of the Unification of Italy has provided an opportunity for creating images that represent our capability of transmitting ideas and values through the generations. With the theme "Italian stories: 150 years of energy", our artists took photographs of situations and people that resonated with pride to be passed on as precious experiences. As for the past editions, CreativInTerna 2011 was also linked to a social partnership identified in the project "Pianeta Nuovo" of the Fondazione Albero della Vita Onlus. The project is implemented in Italian elementary, middle and high schools to promote the integration of foreign students. An example of transmitting the value of integration and acceptance starting from the young generations. Consisting of Terna's Chairman, Luigi Roth, and personalities of the world of photography and art, the jury chose the winners, whose works were used for corporate materials (the 2012 calendar) and reproduced in prestigious publications. Moreover, the drawings of the winners were used for making an original bookmark in the three colors of the

Italian flag distributed together with the Calendar and the 2012 Organizer.
In four editions, CreativInTerna totaled over 1,200 works including photographs and drawings creating a large virtual gallery of the creativity of our people.

Terna's employees are the protagonists of an artwork
The employees had the unrepeatable opportunity of being the main players of an artwork unique in its kind. Upon Professor Alberto Garutti's proposal, winner of the second edition of the Terna Prize for Contemporary Art for the famous artists category, 50 employees participated with their physical presence in a special installation dedicated to the world of electricity.
Garutti, former professor at the Accademia di Brera, participated in the research project "Beyond Entropy: when Energy becomes form", promoted by the London School of Architecture, whose objective was to explore from an artistic and scientific point of view the world of energy: architects, scientists and artists were invited to collaborate in creating installations regarding different forms of energy.
Garutti's group worked on electricity: during the research phase he was assisted by the colleagues from the company's technical departments for better understanding the "energy's journey". The implementation phase included the presence of 50 colleagues, photographed in different groups within the venue of the Triennale di Milano that in June hosted the exhibit dedicated to all the project's works. The 10 photographs taken formed a wall installation accompanied by a cube made out of large sheets containing the phrase "The persons portrayed are some of the many whose work allows electricity to illuminate the spaces of the Triennale. Together, with their qualities and different backgrounds, they stand to witness the vast and complex system that allows turning on the light in this room. This work is dedicated to each one of them". A unique tribute to the art of energy transmission through our people.

We transmit energy also through sports

Andalo (TN): group photograph of the SciinTerna skiers.

Sports have always been connected with energy, perseverance, determination and team-building. For this reason Terna, whose mission is energy transmission, has chosen sports as a channel for promoting identity, integration and team spirit. Based on the project that began with the Terna Running Team, a team of amateur runners was formed four years ago, that brings its energy to non-competitive marathons for social purposes and that continues to grow in numbers, the company has promoted new opportunities for "transmitting energy" through sports.
For the 150th anniversary of the Unification of Italy, BiciInTerna was created, a four day bicycle tour from the Adriatic coast to the Tyrrhenian one along the electricity lines, that connect energy across Italy. A team formed by 20 colleagues, wearing Terna's colors and followed by a support team also formed by employees, reached historical sites as well as those linked to its electrification in our country last June. The event was followed step by step on the company Intranet and the local press published articles covering the bicycle tour. Their journey was also covered by a broad photographic reporting in the company's house organ "Terna News".
The BiciInTerna initiative ideally continued in 2012 with a new sports initiative this time dedicated to skiing and named SciInTerna. 60 colleagues competed in March in Andalo (Trento), in an exciting giant slalom ski competition. The event was a success for participation and team spirit for a new initiative created once again from a collaboration between head office and territory. A programmed choice that aims at joining people also during the planning phase by promoting the participation of colleagues with different professional backgrounds that share common grounds in Terna's mission "transmitting energy" in all we do.

Occupational health and safety

EU16

Terna's commitment to safety should be seen in the context of the current regulations. Revised in 2008 by Legislative Decree 81/2008 ("Consolidated Act regarding the safeguard of occupational health and safety"), Italian legislation on safety is among the most stringent in Europe. The obligations for companies regard many aspects: risk analysis, identification of the chain of responsibility beginning with the employer, protection procedures and devices, training, monitoring of activities, including those entrusted to contractors and subcontractors. One of the most important obligations is to perform an analytic assessment of risks regarding the health and safety of workers. This assessment must regard the specific risks of the single activities, the stress-related risks but especially those deriving from the interference of the works carried out by contractors and subcontractors for all the activities that make up the work process of the construction site. The costs for eliminating or mitigating the risks of interference are excluded from the price competition for the award of contracts.

In this situation, Terna's emphasizes the following points regarding occupational safety:

- **clear safety policy guidelines:** the importance of protecting people from physical harm is stated in Terna's Code of Ethics, which identifies the essential principles that everyone, at the different organizational levels, must comply with so that policies, procedures, technologies, and knowledge contribute to the awareness and prevention of risks. The Company's Occupational Safety Policy, which is an integral part of the integrated quality-environment-safety Management System, specifies the guidelines of the Code of Ethics. The Policy also expresses its commitment to promoting the prevention of injuries for all employees, including those of contractors;
- an **environment safety & security portal** on the corporate intranet containing an updated and complete **file of legislation** regarding occupational safety (national and regional regulations, technical standards issued by competent bodies). Through the portal it is also possible to access an online service providing advice regarding the interpretation of regulations and the procedures for applying them, as well as a file of the control programs and the related results;
- an **organizational unit responsible for safety**, with the corporate Safety Department in charge nationally and heads in the local offices (Area managers, heads of Safety, Prevention, and Protection) and on construction sites; this unit also carries out direct inspections on work places and building sites. As provided for by the law, employers, including the AOT heads, have unlimited authorization for expenses regarding occupational safety;
- an **OHSAS 18001-certified management system** (certification obtained in 2007 and confirmed in 2010, covering 100% of the Company's activities). The system is integrated with the quality-and-environment one and is based on scrupulous risk mapping. The Risk Assessment Document, prepared by the employer and the Head of Safety, Prevention, and Protection and examined by the competent doctor, shows the seriousness and probability of occurrence of specific risky events for each role and activity performed by Terna's employees. The management system consists in a methodical and detailed collection of **Operating Procedures and Instructions** – which are also available through the corporate intranet – on all the activities regarding safety (safety training, work methods, use of Personal Protective Equipment), with greater detail for the activities that entail electrical risk (Instructions for the Prevention of Electrical Risk – DPRET). The DPRET is an essential document for Terna and therefore in 2010 Terna voluntarily submitted the new edition of the DPRET for external assessment by the INRiM (National Institute of Metrological Research), a scientific institute under the Ministry of Education, which issued its positive opinion in September, thus confirming the complete soundness of the instructions provided. Also in 2010, Terna requested and obtained from INAIL, the National Institute for Aid for Occupational Injuries, to recognize the Company's "good practice" for the Operating Instruction "Climbing towers and off-the-ground aid on HV electricity lines", which has also become the benchmark for the external compliance checks performed by the supervisory authorities;
- **intense supervisory activity:** the correct and complete application of the procedures is subject to inspections by the RSPP (two a year in their respective Territorial Areas) and **internal compliance checks** on all the Local Operating Areas, as well as the constant supervision of employers. The **external checks** required for the confirmation of certification increase diligence regarding safety issues and compliance with conduct rules, as do the elected representatives of the employees entrusted with checking the application of the regulations (on the Workers' Safety Representatives, see the LA6 indicator);
- intensive and ongoing **information and training**: all employees are informed about the main ideas and innovations regarding safety through various channels, including the corporate intranet and the organization of informative meetings. The courses cover all **safety issues**, from changes in regulations to the Operating Instructions for all risky activities (for example, off-the-ground work, the use of Personal Protective Equipment). In particular, equipment at the **Viverone Training Center**, in Turin, enables the Company to **train** workers to safely climb towers (through the use of full-size training towers) and to perform live work in a controlled environment;
- the inclusion of **performance objectives regarding occupational safety** in the system of indicators to which the variable compensation of the departments concerned – Corporate Safety, Human Resources and Organization, and

Plant Maintenance – is linked, in particular the objective of improving the safety level, which aims at reducing injuries through an "occupational-safety index" consisting of the injury rate and lost day rate, measured at the level of Terna's single Operating Areas;

- **applied research:** a specific organizational unit of the Engineering Department experiments with safety materials and devices, testing their reliability through resistance trials in extreme conditions;
- concern for safety conditions with regard to the **contractors** that perform work on construction sites on behalf of Terna. The protective measures introduced or strengthened by Legislative Decree 81/08 (see the paragraph "Relations with Suppliers" in chapter "Economic Responsibility") in contract work to construct overhead lines and power stations require, among other things, a declaration that all the personnel on the construction site has been informed about and trained in the use of the personal protection equipment and the risks established in the Construction-site Safety Plan (PSC) and the Operating Security Plan (POS) prepared by the companies.

For several roles – for example, workers assigned to the mounting and maintenance of lines, cutting vegetation, and painting, construction-site and squad foremen, and safety heads – Terna requires additional certification that they have received between 24 and 32 hours of training for their roles, designed in cooperation with training institutes specialized in the field of electricity and SINCERT-certified.
Finally, during the supplier qualification process, Terna requires that candidate companies have documented procedures for protecting the health and safety of workers. In particular, companies in categories considered most significant with regard to safety and the environment must fill out a detailed questionnaire regarding specific organizational and procedural elements and aspects capable of ensuring good management practices in addition to compliance with all law provisions.

Main 2011 activities

Construction-sites monitoring

During the past year, nearly 100 construction sites monitoring was conducted on the main construction sites with the support of a specialized external company. This activity, that began in 2009, has the purpose of ensuring full compliance with the official and most significant safety requirements. In December, in order to share the results of the monitoring carried out with the main persons in charge for this work, a training event was organized for "Safety management in construction sites" promoted by the Corporate Security Department with the collaboration of the Human Resources Department. 80 colleagues participated with different responsibilities and activities linked to safety in construction sites. In addition to further analyzing issues related to applying Terna's guidelines, during the event the best practices found in the different monitoring were presented as examples.

In 2011, an interdepartmental working group was also formed to initiate a series of assessments in construction sites; the group is formed by experts in safety, 231 Model, Fraud management and Quality system. The purpose of the assessments conducted by the team in 2011 - to be carried out also in 2012 – is a 360° monitoring of contracted activities allowing to foresee any corrective measures and improvements to be implemented based on synergy.

Moreover, already at the end of 2010, Terna and ANIE (Federazione Nazionale Imprese Elettrotecniche ed Elettroniche - National Federation of Electrotechnical and Electronic Companies) formed a Working Group with the purpose of harmonizing and standardizing provisions of the various different territorial bodies assigned to assess safety in construction sites for electricity works. In particular, the Group's activities regarded the Guidelines for "Working at heights". Terna's objective is to uniform provisions for guaranteeing full understanding on the part of all those working in the sector to promote efficiency.

The Memorandum of Understanding with the Fire Department

The Head of the National Fire Department, of Public Aid and Civil Defence, Eng. Alfio Pini and Chairman Luigi Roth signed a Memorandum of Understanding for increasing the protection of the National Electricity Grid. This is the first agreement of its kind in Italy among the National Fire Department and a private company.
The Memorandum has the objective of developing a series of activities aimed at:

- specifically training the Fire Department personnel called to take action for aiding people near or in contact with overhead electricity lines and for drafting coordinated operating procedures;
- increasing physical protection levels of power stations, through specific training of Terna's personnel and identifying systems and procedures aimed at extinguishing fires and limiting environmental damages. For this purpose, the Memorandum also includes implementing a simulation system of the equipment in Terna's power stations considered being most vulnerable;
- drafting guidelines aimed at addressing electricity line problems interfering with activities subject to fire prevention control.

The Head of the National Fire Department Alfio Pini (left) and Terna's Chairman Luigi Roth.

Lastly, the agreement establishes that activities necessary for reaching the objectives included in the Memorandum will be defined between the Head of the Fire Department and Terna through specific provisions to be implemented.

Emergency systems in case of fire

With the aim of obtaining maximum speed and effectiveness of action in case of fire, Terna is equipped with – initially in its head office – "One Seven" fire prevention technology, a type of equipment that guarantees user safety and fast action through various specific characteristics:

- fast gas and vapor cooling: the decrease in temperature with the foam contained in the equipment is of 10.3 degrees C per second while with water it is only of 1.5 degrees;
- the manageability of an autonomous unit allows it to be connected to any type of on-site hydrant;
- the possibility of maintaining good visibility thanks to the reduced quantity of smoke produced.

Another important investment for fire emergencies regarded the equipment of the company's operational fleet of vehicles. Powder fire extinguishers were replaced with disposable extinguishers/suppressants weighing only 6 kg each and lasting up to 5 years without any maintenance requirements.
Lastly, 350 "first aid" boxes were distributed in the power stations across the national territory to use in case of fire, each one containing equipment certified by the Fire Department and necessary for extinguishing the fire.

Training and information

In 2011, over 60,000 training hours were dedicated to health and safety (increasing by over 20% compared to 2010). The DPRET (Disposizioni per la Prevenzione del Rischio Elettrico di Terna – Instructions for the Prevention of Electrical Risks of Terna) information campaign was particularly important that began at the end of 2010 and that continued throughout 2011 with over 30,000 training hours for junior executives, white-collar workers and senior executives.

HOURS OF TRAINING ON WORKERS' HEALTH AND SAFETY	2011	2010	2009
Total	**61,033**	**49,222**	**46,537**
Senior executives	206	175	232
Junior executives	2,536	3,897	2,781
White-collar workers	25,737	20,265	18,781
Blue-collar workers	32,554	24,885	24,743

Moreover:
- updating activities established by the TU81/08 (i.e., first aid, fire prevention) were initiated and completed;
- an internal campaign was launched against the risks of alcohol and drugs. Addressed to all employees, the initiative included the widespread distribution of the guide "Occupational safety against alcohol and drug abuse";
- an important training campaign was planned on safety in construction sites for 2012.

In 2011, the Company also continued the **"Analysis of the context and identification of the incentives capable of fostering safe occupational behavior"** project. Started in 2009, this project aims at enabling the Company to learn about its employees' opinions and sensations regarding safety. In addition to surveying the employees' degree of awareness of Terna's commitment, the initiative represented an opportunity for gathering ideas and incentives leading to safer behavior at work. In the light of the results achieved by the project in the previous years, in 2011, the survey sample has been doubled with more than 320 employees interviewed and covering all the geographical areas in which Terna operates. The analysis regarded both the context and the nature of the work and showed that **employees are aware of the Company's investment in the values of safety**. Training, meetings, and the possibility of sharing results are considered positive and are encouraged by employees. In order to adequately respond to the needs that emerged on the territory, in 2012, results will be distributed not only among the corporate management, but also at a more widespread level, aspects and themes will be suggested that are useful for further analyzing each area that participated in the interview.

Also in 2011:
- the Company's OHSAS 18001 certification was confirmed;
- in compliance with the law, the RSPP and the AOT heads performed 133 inspections and the competent doctor carried out nearly 228 visits to work places;
- fourteen internal audits were performed;
- periodical preventive medical examinations were also performed for atypical workers, as provided for by Legislative Decree 81/08.

LA7 Occupational injuries

As in the two previous years, also in 2011 there were no fatal occupational injuries. The total number of injuries was in line with 2010. The injury rate shows limited fluctuations over time, while the absentee rate confirmed the downward trend. There were no hours of absence attributable to occupational disease, since – according to the official list – the kind of work performed at Terna is not associated with the possible onset of professional diseases. Therefore, the occupational disease rate at Terna should always be considered zero.

No fatal occupational injuries were recorded nor cases of fatal or serious injuries – even ones that occurred in previous years – for which in the three-year period considered it was definitively established that the company was in any way responsible. In 2011, no injuries occurred to Terna female workers.

OCCUPATIONAL INJURIES, TERNA EMPLOYEES
GRI-ILO DEFINITIONS (1) (2)

	2011	2010	2009
Injury Rate	1.67	1.74	1.24
Lost Day Rate	46.4	65.0	40.9
Absentee Rate (2)	7,757.0	7,796.5	8,219.4
Occupational Diseases Rate	0	0	0
Number of injuries	49	50	36
- serious	1	2	0
- fatal	0	0	0

(1) As required by the GRI protocols, the definitions adopted are those of the International Labour Organization (ILO). To facilitate comparison with other sources, the following notes provide the values of the same indicators calculated according to alternative formulas. It was not considered necessary to further break down the figures at the regional level, because Terna operates only in Italy.
The **injury rate** is the number of injuries with at least one day's abstention from work divided by the number of hours worked during the year and multiplied by 200,000 (corresponding to 50 working weeks x 40 hours x 100 employees). To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor of 1,000,000 instead of 200,000 (consequently obtaining an injury rate five times that of the ILO). According to the latter calculation, the injury rate was **8.3 in 2011, 8.7 in 2010,** and **6.2 in 2009.**
The lost day rate is the ratio between the number of days not worked because of injury and the number of hours worked during the year multiplied by 200,000. Days not worked are calendar days and are counted from when the injury occurred. To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor of 1,000. According to this way of doing the calculation, the lost day rate **was 0.2 in 2011, 0.3 in 2010, 0.2 in 2009**.
The **absentee rate** is the number of days of absence because of illness, injury, or strike out of the number of days worked in the same period multiplied by 200,000. To facilitate comparison with other sources, this indicator was also calculated as a percentage of the days worked. According to this way of doing the calculation, the absentee rate was **3.9 in 2011, 3.9 in 2010, 4.1 in 2009**.
The **occupational disease rate** is the total number of cases of occupational disease divided by the number of hours worked in the year, multiplied by 200,000.

(2) In 2011, processing criteria were revised and the items determining the total of hours worked. In order to guarantee coherence and comparison of data, the figures of hours worked were updated and revised that were also used in the previous years (2010 and 2009) for calculating injury and absentee rates; for this reason, data published in the table are different with respect to the data published in the previous years.

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

In 2010, Terna consolidated its internal procedures for reporting injuries of employees of contractors and subcontractors, monitoring all the construction sites and recording all kinds of injuries (instead of only fatal and serious ones, which had been duly presented in the previous editions of the Sustainability Report). As in the case of Terna's employees, in 2011 and 2010 there were no fatal injuries among the employees of contractors and subcontractors.

OCCUPATIONAL INJURIES OF CONTRACTORS AND SUBCONTRACTORS EMPLOYEES
GRI-ILO DEFINITIONS

	2011	2010	2009
Occupational injuries	13	14	n.a.
- serious	4	5	1
- fatal	0	0	1
Injury Rate (1)	0.75	0.85	n.a.

(1) This is the number of injuries with at least one day's abstention from work divided by the number of hours worked during the year and multiplied by 200,000 (corresponding to 50 work weeks x 40 hours x 100 employees).
To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor of 1,000,000 instead of 200,000 (consequently obtaining an injury rate five times that of the ILO). According to the latter calculation, the injury rate was **3.7 in 2011 and 4.2 in 2010**.

Industrial relations

The industrial relations between Terna and the labor unions that represent its employees take place at both the electricity industry level and the Company level.

All of Terna S.p.A.'s employees are covered by a **collective labor contract** adopted by the companies in **the electricity industry** (in Italian, the CCNL - the National Collective Labor Contract for employees in the electricity industry). This contract governs many aspects of employee pay and benefits, such as, for example, the minimum pay for the different professional categories, the terms and conditions of shift workers, annual leave, overtime, supplementary health care, and supplementary pensions. Terna participates in establishing the industry's rules, since it is part of the employer delegation that negotiates the renewal of the contract with Labor Unions. The three-year CCNL in effect was signed on March 5, 2010 and expires on December 31, 2012. LA4

The relation with the industry Labor Unions also gives rise to the **regulation of the indispensable tasks** that must be performed in the event of a strike to ensure service continuity. At Terna, this issue is governed by the National Union Agreement of November 12, 1991, which implements Law no. 146 of June 12, 1990, regarding the exercise of the right to strike in essential public services and approved by the Guarantee Authority on Strikes for the aforesaid law. HR5

Among other things, the agreement provides in any case for the exemption from strikes of the personnel that is indispensable for supplying the service and entrusted with short-term planning, as well as the operation and maintenance of the production and transmission system. With regard to such provisions, at Terna this exemption concerns shift workers of the National Control Center, the Grid Services and Production-Plan Services, the Distribution Centers, and the Plant Remote-control Centers.

As far as employees on call are concerned, the agreement in question provides that, although they have the right to suspend their normal work during a strike, they are obliged to be on call throughout the duration of said strike. As long as strikes are called in compliance with law provisions, there are no limitations on Terna employees' to exercise their right to strike.

It should be noted, however, that when the CCNL was renewed on March 5, 2010, guidelines were established for the subsequent definition of the new regulations regarding the right to strike in the electricity industry. These guidelines confirm the principle of service continuity **in the event of a strike** and introduce on an experimental basis innovative elements regarding strike procedures for personnel on call.

The renewal of the CCNL provided for the establishment of a bilateral, industry-level Body on "Health, Safety, and the Environment", with the task of enhancing the safeguard of occupational safety, beginning with common objectives agreed on by the parties. In particular, the Body has the task of presenting proposals, monitoring, and coordinating training regarding environmental and safety issues. Provision was made for the possibility of establishing – in companies with more than 500 employees – bilateral corporate committees to work in cooperation with the industry Body. LA6 LA9

Employee involvement in matters of health and safety is currently regulated by the law, which provides for Employee Safety Representatives (RLS) to be appointed by all the employees. The RLS thus represent 100% of the employees and their number varies according to the number of the company's employees and offices. Their role involves seeing that regulations regarding the health and safety of workers are applied. During the aforesaid renewal of the CCNL, the role of

the RLS was expanded to include environmental issues, so they are now RLSA.
Representatives may request the Company to carry out inspections and they are consulted about risk assessment and the identification of preventive measures. At least once a year they participate in meetings with the employer and other corporate figures responsible for health and safety to examine the appropriateness of personal protective equipment and training programs, as well as the repercussions of new technologies.
In March 2009, Terna and the Company Unions signed an application agreement, while in June 2009 elections were held for the new RLS for all of Terna's local units. The new RLS for the Company's offices in Rome were appointed in October of the same year.
The aforesaid corporate agreement of March 2009 is only one of the numerous elements of the **relationship between Terna and Labor Unions at the Company level**. Industrial relations in the Company are based on the involvement of Labor Unions in the main aspects of corporate life, provided that the distinction of roles and responsibilities is maintained. Union relations at the Company level are governed by the *Protocol on the system of industrial relations*, which establishes a structured system of relations based on advance and/or periodical negotiation, discussion, consultation, and information.
The **employee union membership rate** at Terna S.p.A. **in 2011 was 60.6%**, which is high compared to the industry average, but represented a slight decrease compared to previous years. Membership is concentrated in the largest unions, which determines the absence of fragmentation in union representation and constitutes the condition for a high-profile system of industrial relations. Management of the *Protocol on the system of industrial relations* has enabled the parties to develop and consolidate an effective network of relations at all levels, thus allowing the processes of change of significant corporate interest to be governed.
In the 2009-2011 three-year period, bargaining with the industry labor unions led to the **signing of 44 agreements**. In 2011, industrial relations activities were characterized by bargaining with the national Secretariats of Labor Unions regarding corporate contracts or second tier contracts.
Two principal agreements were signed for defining the new economic – regulatory reference framework for the 2011-2013 three-year period, regarding Production Bonuses and Expense Reimbursement for business travel, respectively. The latter agreement allowed superseding the pre-existing system based on 20 different regional agreements, gradually establishing – by January 1, 2013 – single amounts at the national level for the individual reimbursement items.
Moreover, with the agreement signed on September 21, 2011, specific training projects were implemented regarding occupational safety (Safety management in construction sites, Fire prevention training, Safe driving on snow and ice) with the intention of consolidating a model of industrial relations based on participation also by sharing training goals and objectives.
Lastly, a preliminary discussion with the national Labor Union Secretariats was initiated regarding the project of the Terna Group's new corporate structure.
Labor Organization involvement in case of organizational models represents one of the central aspects of industrial relations: both law provisions, sector contract and corporate agreements contribute to regulating this model. Pursuant to the law, in case of mergers, acquisitions or other significant changes in corporate ownership structure identified by the law itself, the workers' representatives must be informed and consulted no less than twenty-five days prior to binding agreements.

LA5

In compliance with the union agreements in effect at Terna, in the event of significant organizational changes preliminary discussions with the unions must be held, to be concluded within three months. The Company is required to make available all the documentation necessary for the union representatives to obtain a complete view of the organizational project in order to express comments and proposals. At this stage, the preliminary information remains at the collective level. Individual employees are informed in advance only if the organizational change entails their transfer to a different office. In this case, workers must be informed in writing at least thirty days in advance.

SOCIETY

Our approach

Terna is an infrastructure company that is strategic for the Italian economy and provides a public utility service. Society – understood in both a general sense as the recipient of Terna's service and a local sense as the communities more directly affected by projects for developing the transmission grid – is an essential stakeholder.

SO1 SO9 Terna's approach to the local communities that host the construction of new infrastructure is discussed in depth in the chapter "Environmental responsibility", because the visual and landscape impacts are the most significant ones of such activity. In this chapter, contrarily, other possible impacts on individuals and on society are discussed.

EU20 The construction of new electricity lines does not involve the physical displacement of people or entire communities, but only the use of from nearly 30 to nearly 250 square meters of land for every pylon. Terna's use of innovative solutions, such as, for example, single-pole pylons, tends to reduce the physical encumbrance, as well as the visual impact, of new lines.
Even though Terna is authorized by the law (Law no. 1775 of 1933 and Presidential Decree 327/2001 – Consolidated Act on expropriations) to use an expropriation procedure to obtain the land, the Company prefers solutions based on mutual consent, paying a one-off compensation for the line's right of way through private property (mounting pylons, installing overhead conductors, laying underground cables). In this case, the owner will no longer be able to use the land physically occupied by the pylons, it being understood that in the event the lines are dismantled, the land will again be at his complete disposal.

EU22 The pursuit of a consensual solution fails only in a minority of cases. When that happens, it is necessary to use coercive measures. In the 2009-2011 three-year period, Terna constructed nearly 515 km of power lines, which entailed obtaining easements from approximately 14,412 land owners (7,092 in 2011, 3,586 in 2010 and 3,734 in 2009). In 16% of the cases it was necessary to use a coercive easement procedure.
When Terna constructs a station, which occupies much more land, the Company normally purchases the necessary land.
Considering its role as the provider of a service to society and the regulatory context in which it operates, Terna complies scrupulously with the laws and regulations that concern it.
In consistency with this fair and respectful approach, Terna considers the identification and implementation of social, humanitarian, and cultural initiatives to be an integral part of its mission, as a concrete sign of participation in the civil development of the communities in which it operates.
As provided for by its Code of Ethics, in its relations with public authorities and associations, Terna represents its interests in a transparent, meticulous, and consistent manner, while avoiding collusive behavior.

Human rights

HR1 HR3 HR4 HR5 HR6 HR7 HR9 HR10 HR11

The Terna Group operates in Italy, where the legal framework and the level of civil development amply guarantee respect for human rights, freedom of association, and collective bargaining, thus making it superfluous for the Company to dedicate particular attention to these issues, with the implementation of special management policies. Throughout all of 2011, Terna's projects abroad (Balkan area and North Africa) did not imply any operational activities. Even the Montenegrin company Terna Csrna Gora, established in June 2011 (2 employees with local contracts as of December 31, 2011), provides support to Terna's activities deriving from its equity share in the Montenegrin TSO CGES (see "The Terna Group", page 28). This Company adopted the Group's Code of Ethics in February 2012.
Since 2006, Terna has adopted and incorporated in its Code of Ethics the principles of the Global Compact, thus establishing a benchmark – an insuperable limit – for all the situations in which the Company might operate in the world. This commitment was further strengthened in December 2009, when the Board of Directors resolved to formally join the Global Compact (see the dedicated box in the chapter "Profile", page 40).
In compliance with the above and the current lack of criticalities, the managing responsibility for human rights is in principle within the sphere of the Human Resource and Organization Department, and – considering that many aspects regarding human rights are dealt with in Terna's Code of Ethics – the Audit Department is entrusted with ensuring that the rules are correctly applied. Regarding guaranteeing respect for human rights and workers' protection in contractor and subcontractor works carried out on behalf of Terna, a fundamental role is played by the Procurement Department and by the Corporate Security Department; for this purpose see paragraphs "Relations with Suppliers" and "Occupational Health and Safety", respectively on page 104 and 169 of this Report. The Corporate Social Responsibility Department, finally, tracks changes in external references (for example international agreements), with an eye to, among other things, possible Company activities in other countries in the future.

The safeguard of legality and the prevention of corruption

At Terna, the prevention of corruption is a strategic activity which meshes with the internal control systems. Legality and honesty are two of the general principles on which the Code of Ethics and conducting the Company's activities are based. Terna's strategy in this regard focuses on three major areas:

Risk management: since 2001 Terna has adopted the 231 Organizational Model, an updated set of guidelines, procedures, training commitments, and control mechanisms which forms an integrated system for the prevention of specific risks, including the crimes of corruption.

During the 2009-2011 period, the Audit Department examined all the corporate departments (100%) and the Company's subsidiaries several times with regard to the different kinds of risks, including those concerning corruption, and produced audit and risk-assessment reports for at risk corporate processes and departments. S02

Monitoring: the Security Department's Fraud Management Unit performs tasks regarding:

- the prevention and management of crimes, carried out through:
  - the systematic analysis of the preconditions characteristic of incidents of fraud, identifying the critical areas in which the phenomena can be favored and possible causes in organizational and operating aspects of processes;
  - defining specific monitoring and control procedures for reducing risks;
  - constant monitoring of the effectiveness of prevention systems adopted;
- checking and assessing new parties and counterparties with the aim of limiting the risks stemming from transactions with third parties;
- preliminary validation of the requests for assigning consulting, professional assignments, IT services and assignment procedures to pre-determined contractors;
- in compliance with the Memorandums of Understanding signed with them, sending to the Public Authorities in charge data, information, and details on contractors and subcontractors in order to prevent criminal infiltration of construction work on the infrastructures of the National Transmission Grid (NTG).

Personnel training: Terna constantly organizes training courses on the Code of Ethics and 231 Model. The objective of these courses is to ensure, at all the corporate levels, awareness and the dissemination of the rules of behavior and the procedures established for the prevention of crimes and to inform and train personnel regarding the areas at risk of crimes and the potential crimes with regard to the activities performed. In 2009, awareness regarding the Code of Ethics was also increased through a dissemination campaign addressed to the first reporting lines and, using the waterfall method, all employees during the establishment of an Ethics Committee aimed at facilitating internal discussion of ethical issues. In March 2011, the Security Department published and distributed to all employees a manual entitled "Legislative Decree no. 231 of June 8, 2001 - Organizational model and procedure management" to further support information and training activities regarding the subject. The following table shows the data on the employees who attended the courses on 231 Model in the 2009-2011 three-year period. S03 HR3

COURSES ON 231 MODEL

Indicator	2011	2010	2009
Participants in the course			
Number of participants	97	1,073	1,053
- senior executives	12	26	12
- other categories	85	1,047	1,041
% Coverage			
Out of total	2.8	30.9	30.6
- senior executives	20.0	44.1	18.5
- other categories	2.5	30.7	30.8

Following the 2009/2010 campaign, during 2011 training on the 231 Model regarded only specific updating requirements. During the year, a working group was formed for defining a new online course and classroom activities.

In 2011, as in the three previous years:

- there were no cases of litigation regarding corruption;
- there were no disciplinary penalties for incidents of corruption;
- there were no ascertained reports of violation of the Code of Ethics with regard to corruption.

As of December 31, 2011 no litigation regarding corruption was pending. S04

S05 Relations with institutions

The nature of Terna's business makes it necessary for it to engage in a continual dialogue with the government at both the national and local level and with local communities, as well as to listen to the requests and needs expressed by institutions and the public at large, which also leads the Company to participate in hearings, meetings, conferences, and forums with institutions and stakeholders. In addition, the Company constantly monitors both national and local legislative activity.
To combine the need for expediting authorizing and implementing electricity infrastructures with the need for maximum protection of archaeological and cultural heritage, on April 28, 2011, Terna stipulated with the Ministry for Cultural Heritage and Activities (MIBAC) a Memorandum that establishes the obligation, during the planning phase, of preliminary archaeological surveys after which the Superintendents and archaeological authorities can request further analyses prior to beginning work.
During 2011, on several occasions, the company was heard by the Parliament.

- On January 19, Terna was invited by the Senate's Industrial Commission to take part in the hearing for examining Legislative Decree 28/11 implementing Directive 2009/28/CE for promoting the use of energy from renewables. During the hearing, Terna underlined the need for more rigorously complying with the rules that establish a single Authorization for the plant and the connection works so that the energy produced can be injected into the grid with consequent advantages for both consumers and the environment.
- On April 27, Terna was heard at the Environmental Commission of the Chamber of Deputies during the preliminary survey on "Environmental policies regarding energy production from renewables". On this occasion it provided various data on the growth of the renewable sector and underlined the importance of properly applying the existing provisions for contrasting any type of speculation. The survey highlighted Terna's commitment in building new power lines and stations for exploiting as best as possible the energy produced from the plants supplied by renewables.
- On October 18, Terna was heard by the Senate's Industrial Commission during the preliminary survey on the National Energy Strategy. On this occasion, the Company illustrated its projects for adapting the grid to the needs deriving from the growth of renewables whose installed power has tripled in two years and is expected to continue to increase in the next ten years. To safely manage the energy produced by intermittent sources, in implementing Legislative Decree 28/11, Terna integrated the 2011 Development Plan including the building of energy storage systems capable of significantly increase the quantity of renewable energy absorbed by the electricity grid and at the same time improve the electricity system's safety.

During the year, Terna's top management met with the institutional world to discuss issues that are particularly important for the Company, such as the investments included in the Development Plan for the electricity grid. Even on these occasions, criticalities for the electricity system's safety were underlined owing to the increased energy produced from intermittent sources as well as the possible solutions, such as developing new technology and installing energy storage systems allowing to safely exploit green energy for the electricity system.

Participation in Associations

In consistency with commitments expressed in the Code of Ethics, Terna cooperates, discusses, and supports the work of the associations to which it belongs to contribute to the general improvement of the electricity industry and its regulations and technical standards.
Terna continues to be a member of Confindustria, the most important association representing the interests of Italian companies. In April 2008, Terna also signed a Memorandum of Understanding with ANIE (the National Federation of Electrotechnical and Electronic Companies), which is a member of Confindustria. The three-year agreement provides for common initiatives aimed at institutional and financial partners and the operators of the electricity grids of foreign countries of common interest with regard to their respective objectives of international growth. ANIE undertakes to encourage its members to provide, upon Terna's request, technical advice about foreign markets and to facilitate the exchange of information and statistical data to improve knowledge of markets of interest.
Terna also actively participates in the CEI (Italian Electrotechnical Committee), an organization entrusted with tasks regarding the industry's technical standards. Terna employees with technical roles often belong to professional associations whose purpose is to keep their members updated, such as, for example, CIGRE (*Conseil International des Grands Réseaux Électriques*) and AEIT (Italian Federation of Electrotechnics, Electronics, Automation, Information Technology, and Telecommunications), which group electrical engineers and other industrial specialists.

Community initiatives

EC1

In harmony with the willingness to contribute toward the country's civil growth even beyond its own infrastructural role, in 2011 Terna confirmed its support in favor of social, cultural and environmental initiatives.
Terna's corporate giving activities mainly consist in financial support to charity initiatives. To these the resources are added dedicated to organizing initiatives in favor of the community, the free-of-charge transfer of corporate property no longer useful in the production cycle and the support provided in the form of work time dedicated by Terna's employees to different initiatives, particularly remunerated hours for volunteering activities.
It should be stressed that contributions are never granted in favor of political parties or of their representatives, as established in Terna's Code of Ethics. SO6
For preparing accurate reporting on these themes, aimed at monitoring for internal uses and for external comparison, in 2011 Terna joined the London Benchmarking Group (LBG), an international group of companies active with regard to charity initiatives that also developed the classification and measuring standard, by the same name, of the initiatives in the community and the related input (donations in cash, in kind, in employee time) and output (benefits actually generated by the initiatives, both for recipients and for the company). The LBG model represents a conceptual reference framework for defining, classifying and accounting corporate charitable initiatives. Accounting contributions often requires using other accounting criteria (for example, the fair value of property transferred or the amount of a sponsorship that becomes an actual charity activity) and is therefore influenced by interpretational aspects, however, it has the quality of creating a coherent relation among costs and benefits of charity initiatives, allowing for strategic planning and a rational management of corporate giving.
During 2011 Terna defined its monitoring systems as described in the dedicated box that follows.

The LBG model for strategically managing corporate giving

In 2011 Terna joined the LBG – The London Benchmarking Group, a British organization that, together with the operational coordination of Corporate Citizenship, joins over 120 companies on the theme of the impacts of Corporate Community Investments for which an accurate measuring method has been defined.
For the first time, the 2010 Sustainability Report (pages 161-162) classified the initiatives implemented by Terna in the community during the year, according to the LBG Model, highlighting the three possible contribution modalities (cash, in kind, or in employee time), the types of initiatives (donations, investments in the community or commercial initiatives in the community) and their objectives (Education and youth, Health, Economic development, Environment, Art and culture, Social welfare, Support for emergencies and Other).
Not having the necessary data available for this first model application, it was not possible to measure the outputs of charitable initiatives, i.e. the impacts on the beneficiary organization, the end beneficiaries and the company. For this reason, during 2011, monitoring tools were defined, consistent with the LBG model and adapted to the Italian context and Terna's peculiarities.
The tools defined by Terna include drafting a project-chart, filling in a questionnaire for collecting information on the allocation of donations and sponsorships and the initiative's visibility and a final chart for assessing the effects on the Company.
This monitoring set was applied for a first data collection at the end of 2011 and as of 2012 it accompanies from the very beginning each individual initiative also for supporting the effectiveness and efficiency assessment of the initiative itself.
In Italy, despite the LBG method is referred to in many sustainability reports, only two companies have officially joined it: Terna and Telecom Italia.
In parallel to this activity, new Operational Instructions were drafted and published for "Management of requests for the free-of-charge transfer of corporate property" which regulates one of the three inputs measured by the LBG method.

EC8 The following table shows the aggregate community initiatives, classified for the first time according to the LBG model, carried out by Terna in 2011:

COMMUNITY INITIATIVES

Values in euro	2011	2010
Total value of contributions (excluding internal overhead costs)	1,923,500	1,558,825
Composition by type of contribution		
- In money	1,833,550	1,436,743
- In kind (free-of-charge transfer of corporate property)	42,414	34,547
- Employee time	47,536	87,535
Composition by type of initiative		
- Donations	1,338,914	808,085
- Investments in the community	244,336	114,283
- Commercial initiatives in the community	340,250	636,457
Composition by purpose		
- Education and youth	498,936	81,297
- Health	22,404	35,086
- Economic Development	479,000	171,575
- Environment	21,000	32,240
- Art and culture	545,900	751,644
- Social welfare	30,000	66,250
- Support to emergencies	61,850	5,000
- Other	264,410	415,733

(*) **Donations:** episodic contributions, typically in response to requests for funds from charitable organizations deemed deserving.
Investments in the community: expenses for coordinated/organized initiatives by the Company according to a medium-long term plan, often in partnership with NGOs.
Commercial initiatives in the community: marketing initiatives with charitable consequences (only the part of the expense is calculated representing a charitable contribution).

Despite a one year pause of the Terna Prize for contemporary art, artistic and cultural initiatives are confirmed as being the area of major concentration of Company's initiatives. Significant activities were also carried out in 2011 for youth training through collaboration programs with Universities and Master's programs. Supporting environmental causes was not included into this table since it is usually linked to building new electricity lines and was therefore reported as environmental expenses (see the dedicated paragraph in the chapter Environmental responsibility, pages 146-147).
Nearly 40% of the organizations that received a donation in 2011 returned to Terna the LBG questionnaire on the external effects of corporate giving that allowed a first evaluation of the effects on the community. Among these the following are listed:

Art and culture

- **Spazio Teatro NO'HMA "Teresa Pomodoro":** Terna supported the 2010-2011 theater season focused on the theme "Man and the sense of things" and the second edition of the International Prize for Theater of Inclusion. For the themes addressed and the-free-of charge use, the Spazio NO'HMA represents an element of value in the current contemporary cultural scenario.
  The LBG survey registered an important cultural enrichment for a public of approximately 24,000 people that would have otherwise been excluded from using the regular theater circuits.

Social welfare

- **Province of Ravenna for the Tuzla Orphanage:** Terna supported building an electricity production plant from photovoltaic panels for supplying hot water to minors living in the Tuzla orphanage (Bosnia-Herzegovina).
  Upon completion, LBG registered an immediate benefit in terms of greater personal hygiene and improved quality of life for the 130 children living in the orphanage.

- **Popica Onlus, "StradAlternativa" Project:** Terna participated in this social inclusion and health project addressed to approximately 120 children and youth living in extreme poverty conditions along the roads of Satu Mare in Romania.
  The LBG survey underlined that in 25% of cases, an important behavioral change occurred and a cultural and professional enrichment that determined more generally a significant improvement in the quality of life. For an additional 30%, this change had only begun or was in progress for being consolidated.

Health

- **Fondazione Onlus Marina Minnaja:** Terna supports this three-year project that began in 2011 for educating and training patients on a waiting list and after organ transplant by providing assistance during the transplant process and the production of educational and informative materials.
  The LBG survey, conducted a few months after the project began, registered benefits for the organization in this first phase, that focused on training volunteers.

Education and youth

- **Fondazione Ugo Bordoni:** Terna supports the activities of the Fondazione Ugo Bordoni, the high cultural institute that conducts research, scientific and applied studies in electronic communication, information technology, electronics, network public services, radio and TV and audio-visual and multi-media services in general for promoting scientific progress and technologic innovation.
  The LBG survey registered, as the output of Terna's contribution, a broadened offer of the foundation's new services in favor of scientific research through co-funding of scholarships, grants and research contracts for activities concurred with the Universities of Rome "La Sapienza", Tor Vergata and Roma Tre, Politecnico di Milano, Università di Milano Bicocca, Università dell'Aquila and Università di Bergamo. The foundation, in turn, was able to increase its professional know-how on themes of Urban Energy Network, referred to Smart Grids and Smart Cities and produce two original research studies.

In 2011, during the Christmas holidays, a new solidarity project was implemented described in the following box.

With "A better future for all" 2011 Christmas by Terna creates solidarity

The 2011 Christmas holidays were for Terna the occasion for launching the solidarity initiative "A better future for all" that supported three projects aimed at the welfare of future generations and of health.
Preserving a forest, providing a better future to children with a difficult present situation and supporting Italian excellence in medical-scientific research on hopeless diseases are respectively the objects of the projects of WWF Italia, Associazione Ai.Bi. – Amici dei bambini and "Adotta una cellula" of the Casa Sollievo della Sofferenza in San Giovanni Rotondo and of the Associazione "Neurothon Onlus" that Terna has supported and promoted also through its Christmas cards and its website www.terna.it.
These projects, promoted by organizations that successfully passed transparency and reliability criteria, were selected for all having the objective of guaranteeing a better future.
During the International Year of Forests, the initiative undertaken by WWF Italia promotes, the protection of the humid forest of the Foce dell'Arrone along Lazio's coastal area, a small pocket of biodiversity along the Tyrrhenian Sea characterized by a growing urbanization. The coastal forest with its sandy dunes and Mediterranean Maquis containing animal and plant species living in this particular habitat represent the most significant characteristics of the Foce dell'Arrone which, together with the nearby Oasi di Macchiagrande, are also a precious example of environmental protection and conservation of its history and culture.
Minors living in difficult family situations are the object of Terna's second solidarity project: a foster home near Milan founded by Ai.Bi. - Associazione Amici dei bambini. Creating a serene and constructive environment for a child that is temporarily away from his family of origin through the support of foster parents providing love, safety and protection and promoting a healthy growth and development of a child's social and individual identity, represents the objective of the foster homes, a solution that is not yet widespread but that focuses on children.
A better future also passes through the support provided to scientific research and to its constant commitment toward expanding human knowledge for increasing the quality of all: defeating neurodegenerative diseases such as the ALS, multiple sclerosis, Alzheimer's disease is the primary objective of the project "Adotta una cellula" by Prof. Angelo Vescovi, Scientific Director of the Casa Sollievo della Sofferenza whose studies on cerebral stem cell transplants are finding effective treatment against these diseases. The experimenting protocol defined by Prof. Vescovi succeeded in obtaining in March 2011 the authorization from the Istituto Superiore della Sanità for proceeding with human experimenting on patients affected by ALS.
To complete the initiative, Terna was also the promoter of three projects with its suppliers requesting them to contribute with a donation rather than sending Christmas gifts.

Sponsorships, divided according to areas, included:

Economic development

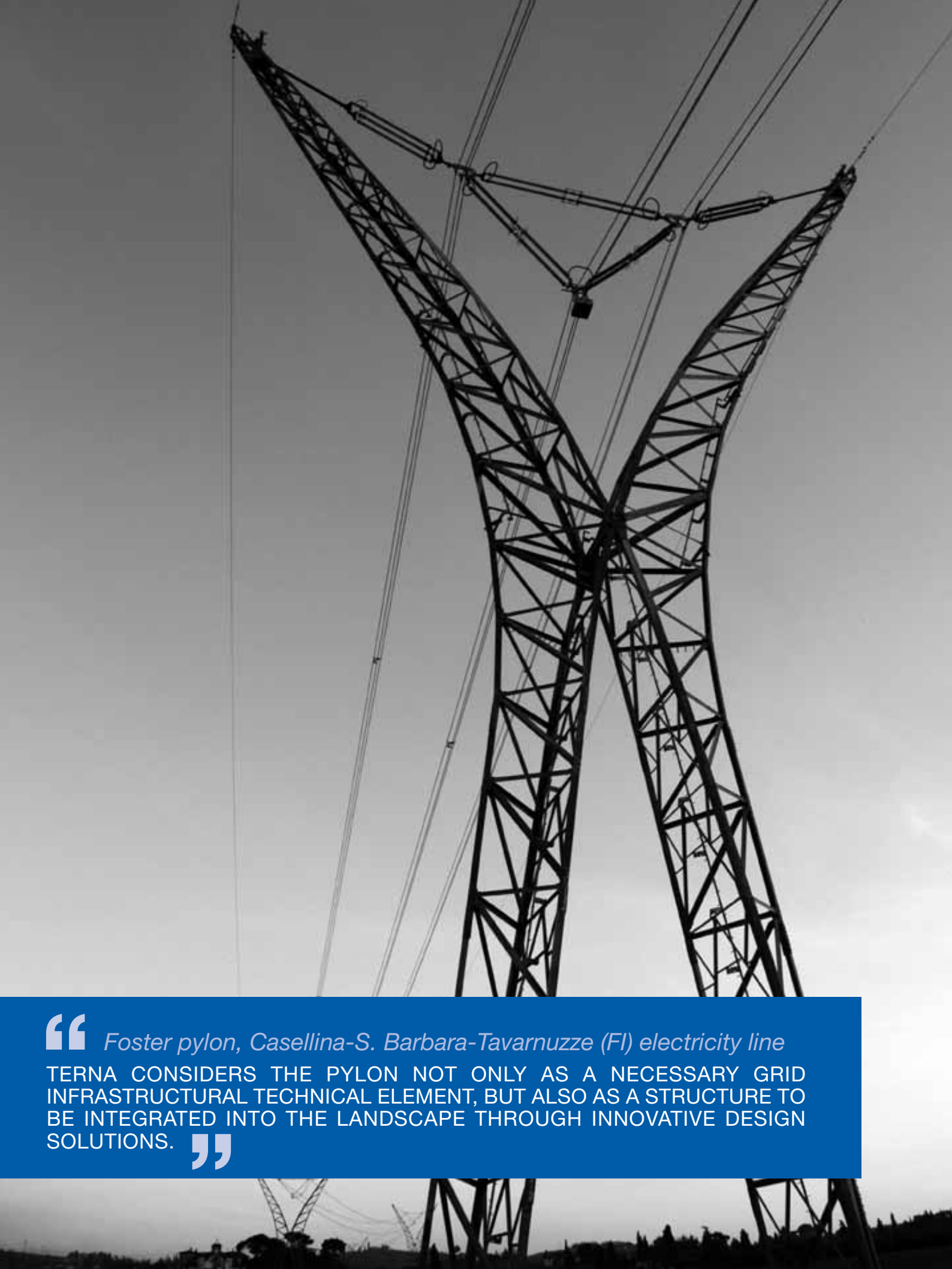
- **2011 Cigré International Symposium** dedicated to "The electric power system of the future – Integrating supergrids and microgrids" (Bologna, September 13-15). Terna supported this international initiative hosted by the Department of Engineering at the University "Alma Maudiorum" in Bologna, regarding integrating complex grids.

Environment

- **IVth Energy Festival** (Florence, June 23-25). Terna supported this national event entirely dedicated to energy that promotes an exchange between the public and representatives of the scientific, cultural, artistic and economic and institutional worlds as well as of associations.
- **Vth the Pimby - Please in My Backyard Prize:** conceived by the association by the same name, this is an award given to the bodies that promote a culture of sustainably getting things done on their territory, by constructing works with the agreement of the inhabitants and in compliance with the relevant regulations. Terna supports the prize to foster a sustainable approach based on consultation with local communities.

Art and Culture

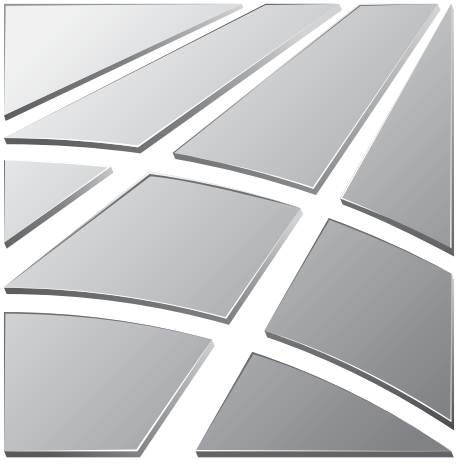
- **Year of Russian language and culture in Italy and of Italian language and culture in Russia:** Terna supported cultural initiatives organized by the Italian Cultural Institute in Moscow promoted by the joint Committee established by the two governments for organizing events in Rome, Milan, Moscow and St. Petersburg.
- **"Gli occhi di Caravaggio. Gli anni della formazione tra Venezia e Milano"** (The eyes of Caravaggio. The training years in Venice and Milan): Terna supported the exhibit hosted in Milan by the Museo Diocesano of the Ambrosian Dioceses, from March 11 to July 3, 2011.
- **XLIXth Campiello Prize:** Terna supported the 2011 edition of the Campiello Literature Prize, which is organized and promoted by the Veneto Confindustria.



Foster pylon, Casellina-S. Barbara-Tavarnuzze (FI) electricity line

TERNA CONSIDERS THE PYLON NOT ONLY AS A NECESSARY GRID INFRASTRUCTURAL TECHNICAL ELEMENT, BUT ALSO AS A STRUCTURE TO BE INTEGRATED INTO THE LANDSCAPE THROUGH INNOVATIVE DESIGN SOLUTIONS.

2011



Indicator tables

Terna

The following tables include indicators that are additional to those provided for by the G3.1 "Sustainability Reporting Guidelines", which Terna believes it is important to publish in order to describe its performance in the field of Corporate Social Responsibility. In several cases, data already presented in the body of the Report are also shown for completeness.

The indicators are organized in five areas corresponding to the structure of the Report, divided in thematic sections according to the following scheme:

Area	Section
1. Terna's profile	Corporate Governance Ethical Auditing
2. Responsibility for the electricity service	The grid
3. Economic responsibility	Shareholders Providers of capital Suppliers Customers – Regulated market
4. Environmental responsibility	Environmental performance
5. Social responsibility	Number and composition of employees Employee satisfaction and development Safety Relations with labor unions

With respect to the tables published in the 2010 Sustainability Report, the following changes should be noted:
- in the indicator tables regarding responsibility for the electricity service, the 2010 figures for power supplied and technical quality indicators have been recalculated;
- in the indicator tables regarding economic responsibility, the 2010 figure for "Net Income" has been recalculated.

For each indicator the tables show:
- the unit of measurement;
- the figures for 2011, 2010 and 2009;
- if it is significant, the absolute change between 2010 and 2011;
- if it is significant, the percentage change between 2010 and 2011.

Data is usually calculated as of December 31 and flow indicators regard the entire year.

To facilitate reading the indicators, the following table shows the units of measurement in which they are expressed. See also the table of acronyms and the glossary after the indicators.

Units of measurement legend

#	Category
%	Percentage
€	Euro
€/000	Thousand euros
€/Mln	Million euros
GWh/year	Gigawatt hours per year
H	Hours
Kg	Kilograms
Km	Kilometers
Min	Minutes
MW	Megawatt
MWh	Megawatt hours
no.	Number
Ton	Tons
Y	Years

Corporate Governance

	Unit	2011	2010	2009	Change 10-11	Change 10-11%
Board of Directors						
Total members BoD	no.	9	9	9	0	-
Independent Directors on BoD	no.	6	4	4	2	50.0%
Directors designated by minority shareholders	no.	3	3	3	0	-
Women on BoD	no.	0	0	0	0	-
Meetings of BoD	no.	10	9	9	1	11.1%
Meetings of Remuneration Committee	no.	5	4	3	1	25.0%
Meetings of Internal Control Committee	no.	4	4	7	0	-
Meetings of Committee for Transactions with Related Parties (1)	no.	4	1	-	3	300.0%

(1) The Committee for Transactions with Related Parties was established as part of the approval of the Transactions with Related Parties Procedure provided for by CONSOB with its Resolution dated March 12, 2010.

Ethical Auditing

	Unit	2011	2010	2009	Change 10-11	Change 10-11%
Implementation of the Code of Ethics						
Total reports received (1)	no.	3	4	1	-	-
Areas of reports received (2)					-	-
- Employee management		1	1		-	-
- Supplier management		1	1		-	-
- Environment and Safety		1	2		-	-
- Corruption/Corporate loyalty		1	1		-	-
- Other		1	2		-	-
Outcome of reports (3)	no.				-	-
- Unfounded		3	3	1	-	-
- Provisions (4)		0	1	0	-	-
- Under assessment		0	0	0	-	-

(1) Of the 3 reports received in 2011, 2 were submitted to the audit department and 1 to the ethical committee; in 2010, 3 were submitted to the ethical committee and 1 both to the ethical committee and to the audit department; in 2009, only 1 report was submitted to the audit department.
(2) Each report or violation may regard more than one management area.
(3) The 2010 data differs from previously published data since for one report the assessment process was completed in 2011 and resulted in the violation being confirmed.
(4) The provision may consist in applying a sanction and/or in other action – such as reviewing procedures, interal controls, etc. – aimed at avoiding that the event that caused the report reoccurs.

Responsibility for the electricity service

The grid

Indicator	Unit	2011	2010	2009	Change 10-11	Change 10-11%
Power station						
380 kV						
stations	no.	147	141	136	6	4.3%
power transformed	MVA	93,448	92,498	88,284	950	1.0%
220 kV						
stations	no.	153	150	147	3	2.0%
power transformed	MVA	30,084	30,114	30,265	-30	-0.1%
Lower voltages (<150 kV)						
stations	no.	154	140	100	14	10.0%
power transformed	MVA	3,234	2,960	2,953	274	9.3%
Total						
stations	no.	454	431	383	23	5.3%
power transformed	MVA	126,765	125,571	121,501	1,194	1.0%
Power lines						
	Unit					
380 kV						
length of 3-conductor circuits	km	11,808	11,759	11,212	49	0.4%
length of lines	km	10,893	10,860	10,313	33	0.3%
220 kV						
length of 3-wire circuits	km	12,058	12,089	12,083	-31	-0.3%
length of lines	km	9,710	9,737	9,725	-27	-0.3%
Lower voltages (<150 kV)						
length of 3-conductor circuits	km	39,760	39,730	39,208	30	0.1%
length of lines	km	37,047	37,040	36,653	7	0.0%
Total						
length of 3-conductor circuits	km	63,626	63,578	62,503	48	0.1%
in underground cable	km	1,328	1,249	1,043	79	6.3%
in submarine cable	km	1,348	1,348	914	0	-
in 200, 400 and 500 kV direct current	km	2,066	2,066	1,560	0	-
length of lines	km	57,651	57,638	56,691	13	0.0%
in underground cable	km	1,328	1,249	1,043	79	6.3%
in underwater cable	km	1,348	1,348	914	0	-
in 200, 400 and 500 kV direct current	km	1,746	1,746	1,240	0	-
Incidence DC connections						
- 3-conductor circuits	%	3.3	3.2	2.5	0	0.0%
- lines	%	3.0	3.0	2.2	0	0.0%
Grid efficiency						
Power supplied	GWh/year	332,274	330,455 (1)	317,602	1,819	0.6%
Technical quality						
Service continuity indexes						
ASA (Average System Availability) (2)	%	99.32	99.23	99.03	0.09	0.10%
SAIFI + MAIFI (System Average Interruption Frequency Index)	no.	0.14	0.14	0.19	0	0.00%
AIT (Average Interruption Time) (3)	min	0.49	0.89	0.55	-0.4	-44.90%
ENSR (Regulated Energy Not Supplied) (4)	MWh	1,210.00	1,238.00	800.00	-28	-2.30%

(1) The 2010 figure was recalculated using the final data of the same year, and thus is different from the one reported in the previous edition of the Sustainability Report, amounting to 326,165, which was calculated according to the provisional data for 2010.
(2) The indicator is the total ASA % (used in international benchmarks), calculated with regard to individual Local Areas or for the entire country taking into account: Planned Unavailability, Occasional Unavailability, Unavailability due to Malfunctioning, Unavailability due to External Events, and Unavailability due to Development Work.
(3) Average interruption time of the National Transmission Grid in a year, calculated as the ratio between the energy not supplied in a certain period (ENS value) and the average power absorbed by NTG in the period considered. The 2010 figure has been recalculated and is therefore different from the previously published one.
(4) Energy not supplied due to interruptions on the NTG during the period. Since 2008, with AEEG Resolution 341/07, the Authority adopted a different definition for the index. The new index also includes energy not supplied to Users directly connected, due to events on other connection grids that are not part of the NTG and a share of the energy not supplied due to force majeure events or significant incidents. By “significant incident” is meant any interruption during which the energy not supplied amounts to more than 250 MWh. The share affecting the ENSR index is a decreasing percentage of energy not supplied in the individual significant incident. The 2010 figure has been recalculated and is therefore different from the previously published one.

Economic responsibility

Shareholders

Indicator	Unit	2011	2010	2009	Change 10-11	Change 10-11%
Composition of shareholders base						
Other institutional and retail investors	%	65.75	53.60	55.88	12.15	22.7%
Cassa Depositi e Prestiti S.p.A.	%	29.85	29.86	29.99	-0.01	0.0%
Major institutional investors	%	4.40	11.44	9.01	-7.04	-61.5%
Enel S.p.A.	%	0.00	5.09	5.12	-5.09	-100.0%
Socially Responsible Investors (ISR) (1)						
ISR funds	n°	95.0	97.0	67.0	-2.0	-2.1%
Terna's shares held by ISR funds	%	11.2	14.3	14.6	-3.1	-21.8%
ISR weight in institutional funds	%	31.7	39.7	40.6	-8.0	-20.2%
Share Performance						
Financial performance of shares	%	-17.6	5.3	28.5	-22.9	-430.0%
Dividend Yield (2)	%	8.1	6.7	6.6	1.5	21.9%
Terna in stock indexes						
FTSE Italia ALL SHARE	%	1.8	1.6	1.4	0.2	10.5%
FTSE MIB	%	1.8	1.8	1.6	0.0	1.7%
Shareholder return						
EPS (Earnings per share)	€	0.22	0.31	0.39	-0.09	-28.4%
DPS (Dividend per share)	€	0.21	0.21	0.19	0.00	0.0%
Total Shareholder Return (TSR)						
- since the IPO	%	140.6	171.8	142.3	-31.1	-18.1%
- since the beginning of the year	%	-11.4	12.2	37.2	-23.6	-194.1%
Communication with shareholders						
IMeetings/conference calls with investors ("buy-side")	n°	197	270	342	-73	-27.0%
Meetings/conference calls with financial analysts ("sell-side")	n°	468	368	338	100	27.2%
Meetings with investors dedicated to or with time for CSR issues	n°	3	5	3	-2	-40.0%
Request for information from Retail Investors (3)	n°	28	18	29	10	55.6%
Economic performance						
Revenues	€/million	1,553.9	1,505.1	1,324.7	48.8	3.2%
EBITDA	€/million	1,121.6	1,069.3	933.8	52.3	4.9%
EBIT	€/million	772.8	750.5	654.4	22.3	3.0%
EBT	€/million	764.0	662.8	505.3	101.2	15.3%
Net income (4)	€/million	453.6	432.1	790.0	21.5	5.0%
ROACE	%	10.0	11.0	11.4	-1.0	-9.1%

(1) Investments made on the basis of ethical criteria/ESG (Environmental Social Governance) in additional to traditional ones.
(2) The value was calculated as the ratio between the dividend paid for the year considered and the average reference price in December.
(3) The figure takes into account requests received via e-mail.
(4) Some economic comparative balances for 2010 and 2009 were modified based on the change in the accounting method adopted by the Terna Group for goodwill exemptions. This led to modifying the figure previously published for the net income.

Providers of capital

Indicator	Unit	2011	2010	2009	Change 10-11	Change 10-11%
Debt [1]						
Financial debt	€/million	5,123.1	4,977.0	3,758.2	146.1	2.9%
Equity	€/million	2,751.0	2,773.2	2,515.7	-22.2	-0.8%
Debt to Equity	%	186.2	179.5	149.4	6.7	3.7%
EIB loans						
Remaining debt on EIB loans	€/million	1,345.4	1,080.1	766.9	265.3	24.6%
Rating [2]						
S&P (as of Sept. 2, 2004)						
Outlook	Index	Negative	Stable	Stable		
M/L Term	Index	A-	A+	A +		
Short Term	Index	A-2	A-1	A-1		
Moody's (as of Sept. 2, 2004)						
Outlook	Index	Negative	Stable	Stable		
M/L Term	Index	A3	A2	A2		
Short Term	Index	Prime-2	Prime-1	Prime-1		
Fitch (as of May 4, 2006)						
Outlook (Issuer)	Index	Negative	Stable	Stable		
M/L Term (Issuer)	Index	A	A	A		
Short Term (Issuer)	Index	F1	F1	F1		
FitchSeniorUnsecured Debt	Index	A	A+	A+		

(1) Differently from previous publications, data refer to the Terna Group and not only to Terna S.p.A..
(2) These refer to the latest assigned assessments.

Suppliers

	Unit	2011	2010	2009	Change 10-11	Change 10-11%
Number of suppliers						
Number of suppliers with contracts	no.	2,314	2,316	2,308	-2	-0.1%
Procurement of materials and services						
Supplies	€/million	454.6	404.9	461.3	49.7	12.3%
Work	€/million	516.5	772.8	253.2	-256.3	-33.2%
Services	€/million	201.2	151.1	210.9	50.2	33.2%
Management instruments						
Eligible companies registered	no.	353	260	180	93	35.8%
Categories qualified	no.	41	40	36	1	2.5%
Implemented monitoring	no.	749	593	263	156	26.3%
Litigation with suppliers						
Proceedings pending	no.	24	22	16	2	9.1%
Proceedings initiated	no.	2	6	0	-4	-66.7%
Proceedings concluded	no.	0	0	0	0	-

Customers - Regulated market

	Unit	2011	2010	2009	Change 10-11	Change 10-11%
Customer portfolio						
Users of the transmission service						
Distributors directly connected to the National Transmission Grid	no.	20	19	19	1	5.3%
Users of the dispatching service						
Users of injection dispatching	no.	91	86	77	5	5.8%
Users of withdrawal dispatching	no.	110	109	106	1	0.9%
Litigation with customers						
Proceedings pending	no.	14	12	8	2	16.7%
Proceedings initiated	no.	3	4	1	-1	-25.0%
Proceedings concluded	no.	1	0	0	1	-

Environmental responsibility

Environmental data

	Unit	2011	2010	2009	Change 10-11	Change 10-11%
SF_6 quantity and emissions						
Percentage of SF_6 leakage out of total	%	0.60	0.73	0.89	-0.13	-17.2%
Emissions of SF_6 greenhouse gases	kg	2,518	2,645	3,005	-127	-4.8%
SF_6 quantity	kg	416,553	362,174	339,468	54,379	15.0%
- in operating equipment	kg	367,524	325,853	305,781	41,671	12.8%
- in cylinders	kg	49,029	36,322	33,687	12,708	35.0%
Waste management (1)						
Waste produced	tons	7,198.1	5,515.9	7,053.3	1,682.2	30.5%
Waste recycled	%	83.3	89.1	83.0	-5.8	-6.5%
Non-hazardous special waste						
Machines, equipment, towers, cables, conductors						
- quantity produced	tons	1,737.4	1,682.5	2,250.9	54.9	3.3%
- quantity delivered for recycling	tons	1,671.6	1,614.5	2,096.8	57.1	3.5%
Packing						
- quantity produced	tons	354.3	275.2	242.6	79.1	28.7%
- quantity delivered for recycling	tons	333.9	259.5	204.1	74.4	28.7%
Other						
- quantity produced	tons	902.3	544.9	564.0	357.4	65.6%
- quantity delivered for recycling	tons	294.9	189.4	233.4	105.5	55.7%
Total non-hazardous special waste						
- quantity produced	tons	3,310.8	2,502.6	3,057.5	808.2	32.3%
- quantity delivered for recycling	tons	2,617.2	2,063.3	2,534.4	553.9	26.8%
Hazardous special waste						
Machines, equipment, towers, cables, conductors						
- quantity produced	tons	2,789.5	2,226.6	2,746.1	562.9	25.3%
- quantity delivered for recycling	tons	2,680.7	2,194.9	2,554.8	485.8	22.1%
Oils						
- quantity produced	tons	736.6	649.2	933.2	87.5	13.5%
- quantity delivered for recycling	tons	563.6	536.3	544.4	27.4	5.1%
Lead batteries						
- quantity produced	tons	125.9	106.5	185.3	19.4	18.2%
- quantity delivered for recycling	tons	125.9	106.5	185.3	19.4	18.2%
Waste deriving from asbestos containing materials						
- quantity produced	tons	0.5	0.0	69.2	0.5	-
- quantity delivered for recycling	tons	-	-	-	-	-
Other						
- quantity produced	tons	234.8	31.1	61.9	203.7	654.7%
- quantity delivered for recycling	tons	10.0	11.8	37.5	-1.9	-15.7%
Total hazardous special waste						
- quantity produced	tons	3,887.3	3,013.3	3,995.7	874.0	29.0%
- quantity delivered for recycling	tons	3,380.1	2,849.5	3,322.0	530.7	18.6%
Consumption						
Direct consumption						
Gasoline for vehicles	tons	167.5	158.8	155.8	8.7	5.5%
Gas oil for vehicles	tons	1,747.8	1,721.4	1,673.9	26.4	1.5%
Gas oil for generating groups and heating	tons	260.5	297.5	306.5	-37.0	-12.4%
Methane gas for heating	Thousands of m^3	242.8	186.5	157.5	56.2	30.1%
Indirect consumption (2)						
Consumption of electricity	GWh	174.3	164.4	154.2	9.9	6.0%
Environmental litigation						
Proceedings pending	no.	139	153	163	-14	-9.2%
Proceedings initiated	no.	12	16	11	-4	-25.0%
Proceedings concluded	no.	26	26	28	0	-

(1) Only waste from the production process is included, and thus waste produced by service activities (urban waste) is excluded. Waste belonging to the "Excavation earth and rocks" and "Effluent" categories is excluded, since – being linked to the construction of works in stations – it is exceptional and would therefore make the data series non-homogeneous, especially if the quantity is significant. The value of the "Excavation earth and rocks" and "Effluent" amounted to 1,541 tons in 2010 (16,053 tons in 2009). For 2011, only waste referring to the "Effluent" category were excluded since the "Excavation earth and rocks" category was not significant any longer; the figure for the "Effluent" category was equal 675 tons in 2011.

(2) During 2011, a survey and assessment activity was carried out on electricity consumption of stations and offices. Based on the results of this activity, it was possible to include in the table more precise data not only for 2011 but also compared to the figures previously published for 2010-2009.

Social responsibility

Number and composition of personnel

	Unit	2011	2010	2009	Change 10-11	Change 10-11%
Number						
Number of employees	no.	3,493	3,468	3,447	25	0.7%
Inflow during the year	no.	176	178	57	-2	-1.1%
Outflow during the year	no.	151	157	134	-6	-3.8%
Composition						
Professional status						
Senior executives	%	1.7	1.7	1.9	0.0	0.0%
Junior executives	%	14.0	14.5	14.2	-0.5	-3.1%
White-collar workers	%	56.3	54.5	54.4	1.8	3.3%
Blue-collar workers	%	28.0	29.3	29.6	-1.4	-4.6%
Education						
University graduates	%	21.6	19.2	18.0	2.4	12.7%
High school graduates	%	46.6	46.5	45.6	0.1	0.2%
Vocational school graduates	%	15.8	16.2	17.0	-0.4	-2.3%
Elementary/middle school graduates	%	16.0	18.2	19.4	-2.2	-11.9%
Age and years at Terna						
Average age	y	45.2	45.6	46.4	-0.3	-0.7%
Average years at Terna (1)	y	20.0	20.5	21.5	-0.5	-2.5%
Flexible employment contracts and terms						
Fixed-term contracts (2)	no.	143	107	73	36	33.6%
Beginner and training contracts that became permanent during the year	no.	54	61	120	-7	-11.5%
Interns and apprentices	no.	38	34	12	4	11.8%
Part-time employees	%	0.9	0.9	0.9	0.0	-1.3%
Overtime work	%	8.2	6.3	6.12	1.9	30.2%

(1) In the case of employees who began to work at the Company following the acquisition of corporate divisions, the average number of years at Terna takes into account their previous employment.
(2) The figures include beginner contracts and fixed-term contracts.

Employee satisfaction and development

	Unit	2011	2010	2009	Change 10-11	Change 10-11%
Compensation						
Average cost per employee [1]	€	79,432	78,564	75,643	868	1.1%
Executive employees with stock options [2]	no.	9	14	14	-5	-35.7%
Executive employees with Long Term Incentive (LTI)	no.	46	47	47	-1	-2.1%
Variable compensation as % of fixed pay [3]	%	9.4	9.4	9.0	0.0	0.0%
Training						
Hours of training per employee	h	51	49	47	2	3.7%
Training expense per employee [4]	€	289.6	387.9	389.4	-98.3	-25.3%
Training coverage [5]	%	97	96	91	1.0	1.0%
Corporate climate						
Total spontaneous resignations	no.	16.0	41.0	26.0	-25.0	-61.0%
Absences per employee [6]	h	60.0	59.1	62.4	0.9	1.5%
Litigation with employees						
Proceedings pending	no.	25	32	37	-7	-21.9%
Proceedings initiated	no.	3	7	3	-4	-57.1%
Proceedings concluded	no.	10	12	17	-2	-16.7%

(1) By employee is meant every employee of the Company, including executives.
(2) There is only one Stock Option Plan, which was resolved on December 21, 2005 and will end in 2013.
(3) The figures regard the incentives paid to all employees, including executives. Fringe benefits are excluded.
(4) Training expenses do not include the cost of sessions missed nor the hours of instruction provided directly by employees.
(5) % of employees who took at least one training course during the year.
(6) This figure regards the number of non-contractual absences during the year (illness, accident, leave of absence, strike, unpaid absence).

Safety

	Unit	2011	2010	2009	Change 10-11	Change 10-11%
Occupational injuries						
Occupational injuries	no.	49	50	36	-1	-2.0%
- fatal	no.	0	0	0	0	-
- serious	no.	1	2	0	-1	-50.0%
Injury Rate (1) (3)	%	1.67	1.74	1.24	-0.1	-3.9%
Lost Day Rate (2) (3)	%	46.35	65.03	40.94	-18.7	-28.7%
Periodical health inspections	no.	2,983	2,364	2,088	619	26.2%
Occupational injures of contractor employees						
Occupational injures of contractor employees	no.	13	14	n.a.	-1	-7.1%
- serious	no.	4	5	1	-1	-20.0%
- fatal	no.	0	0	1	0	-

(1) This is the number of injuries with at least one day of abstention from work divided by the number of hours worked during the year, multiplied by 200,000 (corresponding to 50 work weeks x 40 hours x 100 employees). To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor equal to 1,000,000 and not 200,000 (thus obtaining a Frequency Rate 5 times higher that the ILO Frequency Rate). On the basis of this calculation method, the Injury Frequency Rate is equal to **8.3** in **2011**, **8.7** in **2010** and **6.2** in **2009**.

(2) This is the ratio between the days not worked because of injury and the hours worked during the year, multiplied by 200,000. The days not worked are calendar days and are counted from the day the injury occurred. To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor equal to 1,000. On the basis of this calculation method, the serious injury rate is equal to **0.2** in **2011**, **0.3** in **2010** and **0.2** in **2009**.

(3) In 2011, processing criteria were reviewed as well as the items that determine the total of hours worked. To guarantee data consistency and comparability, the figures of hours worked used for determining rates were updated and reviewed also for the previous years (2010 e 2009) and used for drafting injury rates; for this reason, data published in the table are different from data published in the previous years.

Relations with labor unions

	Unit	2011	2010	2009	Change 10-11	Change 10-11%
Employee union membership						
Union membership rate	%	60.6	61.2	65.08	-0.6	-1.0%

Acronyms

ACEA	Azienda Comunale Energia e Ambiente (Municipal Energy and Environment Company)
AEEG	Autorità per l'Energia Elettrica e il Gas (Italian Authority for Electricity and Gas)
AGCM	Autorità Garante della Concorrenza e del Mercato (Italian Antitrust Authority)
AIT	Average Interruption Time
AOT	Area Operativa Territoriale (Transmission Operational Area)
ASA	Average System Availability
AU	Acquirente Unico (Italian Single Buyer)
BoD	Board of Directors
CdP	Cassa Depositi e Prestiti
CEI	Comitato Elettrotecnico Italiano (Italian Electrotechnical Committee)
CESI	Centro Elettrotecnico Sperimentale Italiano (Italian Electrotechnical Testing Centre)
CIGRE	Conseil International des Grands Réseaux Electriques à Haute Tension
CONSOB	Commissione Nazionale per le Società e la Borsa (National Commission for Companies and the Stock Exchange)
CSR	Corporate Social Responsibility
DAEM	Day Ahead Energy Market
DP	Development Plan of the National Transmission Electricity Grid
DPS	Dividend Per Share
DSM	Dispatching Service Market
DT	Distance Training
EBIT	Earnings Before Interest and Taxes
EHV	Extra High Voltage
EIA	Environmental Impact Assessment
EMO	Energy Market Operator
EMS	Energy Management System
ENS	Energy Not Supplied
EPS	Earnings Per Share
EPSES	Emergency Plan for the Security of the Electricity System
ERPA	Exclusion, Repulsion, Problems, Attraction
ETSO	European Transmission System Operators
GAAP	Generally Accepted Accounting Principles
GIS	Geographic Information System
GRI	Global Reporting Initiative

GRTN	Gestore della Rete di Trasmissione Nazionale (National Transmission Grid Operator)
GSE	Gestore Servizi Elettrici (Electric Services Management)
HV	High Voltage
IBA	Important Bird Areas
IEA	International Energy Agency
IPO	Initial Public Offering
ISPRA	Istituto Superiore per la Protezione e la Ricerca Ambientale
ISTAT	Italian National Statistics Institute
MBI	Maintenance and Business Intelligence
MBO	Management By Objectives
MED	Ministry for Economic Development
MEF	Ministry of Economy and Finance
MELS	Ministry for the Environment, Land and Sea
MPA	Ministry for Productive Activities (now the Ministry for Economic Development - MED)
N.A.	Not Available
NCC	National Control Centre
NTG	National Transmission Grid
OECD	Organization for Economic Cooperation and Development
PCB	Polychlorinated biphenyls
PCT	Polychlorinated terphenyls
PPE	Personal Protective Equipment
ROACE	Returns on Average Capital Employed
S&P	Standard & Poor's
SCADA	Supervisory Control And Data Acquisition
SEA	Strategic Environmental Assessment
SETSO	South European Transmission System Operators
SISTAN	National Statistical System
SRI	Socially Responsible Investment
TFR	Trattamento di Fine Rapporto (Staff Severance Indemnity)
TSO	Transmission System Operator
TSR	Total Shareholder Return
UCTE	Union for the Coordination of Transmission of Electricity
ZPS	Special Protection Area

Glossary

231 Organizational Model
231 Organizational Model takes is named after Legislative Decree no. 231, 2001. This decree imposes a company liability in case of specific crimes committed by managers, employees or partners in the interest or advantage of the company itself (e.g. public managers bribery, company frauds, crimes against private person, market abuse). The model is a set of guidelines, procedures, training commitment and control mechanisms that aim at preventing the risk of committing such crimes. 231 Organizational Model thus represents an integrated system to avoid specific risks; when defined according to law provisions, this system ("231 Organizational Model") can also avoid sanctions to the company – or reduce their extent – in case the crimes are actually committed.

Accident frequency index
This is calculated using the following formula: N/H*1,000,000, where N is the number of accidents with at least one day's absence from work during the year, and H is the number of hours worked during the same period.

Accident seriousness index
This is calculated using the following formula: G/H*1,000, where G is the number of effective days of unavailability during the year, and H is the number of hours worked during the same period.

AIT (Average Interruption Time)
Average duration of interruption of supply to the electrical system during the year.

ASA (Average System Availability)
Average real availability of all elements of the National Transmission Grid during the period.

Availability of a grid element
The condition in which a grid element may be used for transmission activities under the conditions provided under operational consistency as set forth in Attachment 1 of the Operator/Owner Standard Agreement.

Average number of outages per grid user (N)
The average number of outages per grid user directly connected to the NTG is defined by the following formula:

$$\frac{\sum_{i=1}^{n} Ui}{Utot}$$

Where the sum includes all outages that occurred in the period and/or calendar year and area, and where:
- Ui is the number of users involved in the ith considered outage;
- Utot is the total number of users directly connected to the NTG during the calendar year.

Balancing Services Market (BSM)
The market provided and regulated within the Dispatching Service Market (DSM) for the procurement of the resources necessary for balancing.

Bay
Group of power plants and accessory plants serving a power line or a transformer which connect the Grid elements to the bar system of a power station.

Bersani Decree
Legislative Decree no. 79 of March 16, 1999, which was issued to implement EC Directive no. 96/92/EC, regarding shared standards for the domestic electricity market and the liberalisation thereof.

Bilateral contract
An energy supply contract between two market operators.

Code of Ethics
It is often called a "business charter", as it represents the foundation of the company's culture and explicitly sets forth the rights and duties and areas of responsibility that the business undertakes to respect in dealing with its stakeholders. It is an official document, signed by the BoD, which requires the compliance of all personnel.

Congestion Resolution Market (CRM)
The market provided and regulated within the Dispatching Service Market (DSM) for the procurement of the resources necessary for resolving congestion.

Connection
The group of grid elements forming the transmission line, and the bays at the borders of the same, including the related circuitry isolating apparata. Connections are classified by voltage level with reference to rated voltage. The length of the connection is generally the length of the line which forms the connection itself.

Connection line
Any power line that links the power distribution plant with the user's plant, or the power distribution plant with the connection station.

Connection station
Power station which is part of the NTG, whose supply plant is connected to one or more power lines.

Control area
Electricity system able to regulate its own production by maintaining exchanges of power with other interconnected systems at planned levels, and to contribute to the regulation of the interconnection frequency.

Control Center
A group of plants used for the control and operation of the NTG or a User's electricity system (different from a Production System).

Control System
A group of calculation systems, data transmission lines and apparata which enables the secure and economic control of the entire electricity system.

Controlled electricity system
The group including the National Transmission Grid and directly connected users' plants, including the associated devices for ancillary services.

Corporate Governance
The form of governance of the company, meaning the system of relations between managers, directors, shareholders and other stakeholders of the company.

Corporate Social Responsibility (CSR)
"The integration, by the firms, of social and ecological concerns in their commercial operations and their relations with parties involved. Being socially responsible means not only completely fulfilling applicable legal obligations, but going beyond, to invest in human capital, the environment and in other relations with parties involved" (Green Book of the European Commission, July 18, 2001).

Customers
Businesses or distribution companies, wholesalers and the final buyers of electrical energy.

Data privacy
Data are considered confidential if, when transferred from one telecommunications and/or processing system, the data content is not to be read by unauthorised persons. This is a data and information treatment condition of direct commercial importance.

Day Ahead Energy Market (DAEM)
The trading of bids for the purchase and supply of electrical energy for each hour of the next operating day following that of trading. This market deals with the energy units which define the production and withdrawal plan for the following day (preliminary cumulative programmes).

Defence plans
The control activities – automatic and/or manual – set forth by Terna and carried out through single systems and/or plants designed to maintain or to return an electricity system to a normal condition, also passing through a reinstatement stage, once such a stage has already begun, or emergency conditions are already present.

Development
Works on the electricity grid which lead to the adjustment or upgrading of the transport, transformation, connection and interconnection capacity, or an increase in operating flexibility of the grid, or the removal of grid elements.

Direct connection to the NTG
Connection of all plants with existing circuit continuity at least in one point, without the interposition of ancillary power plants, to the NTG.

Dispatching
The activity aimed at issuing provisions for the coordinated use and operation of production plants, the National Transmission Grid, the grids connected to the same, and ancillary services of the electricity system.

Dispatching Service Market (DSM)
The market for the negotiation of the procurement of several resources required for the dispatching service. In general, it is required to be composed of several markets: Congestion Resolution Market (CRM), Reserves Market (RM), Balancing Services Market (BM).

Distribution
The transport and transformation of electrical energy on high-, medium- and low-voltage distribution grids for supply to the final customers.

Dividend Yield
Calculated as the ratio of the last dividend distributed by a company and the current price of its shares. It indicates the immediate profitability of a share.

DPS (Dividend per Share)
Dividend per Share: calculated as the total amount of dividends distributed by a company divided by its total number of ordinary shares.

EBIT (Earnings Before Interest and Taxes)
One of the key profitability indicators for typical company management. It measures company profits before taxes, financial income/charges and extraordinary components; it is also called operating profit or operating income.

EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortisation)
Profit before taxes, financial income/charges, write-downs, amortisation and extraordinary components. It is similar to the term GOP (Gross Operating Profit), which measures operating profits gross of amortisation and allocations to provisions.

EBT (Earnings Before Taxes)
A company's profits (losses) before tax.

Electricity Grid
A group of plants, lines and stations for transferring electrical energy and supplying the necessary ancillary services.

Electricity Exchange
The system of wholesale selling of electricity, which determines which power generation systems or plants will be used to meet the demand at any moment, and determines the price of energy at that specific moment.

Electricity markets
Intended as the combination of the Energy Market and the Dispatching Service Market (DSM).

Electrocution
Phenomenon known as an electric "shock", caused by contact between a body and electrical current. This can have damaging and/or lethal effects on an organism depending on the intensity of the current and the duration of exposure.

Eligible customer
The natural person or legal entity who is free to stipulate supply contracts with any producer, distributor or wholesaler, both in Italy and abroad. Starting from May 1, 2003, eligible customers are defined as those consuming more than 100,000 kWh per year.

Emergency condition of an electricity system
Operational situation of an electrical grid which results in exceeding operating limits of grid elements and/or outages of load portions, due to faults or disturbances.

Emergency measures
Group of operations executed following anomalies or faults on plants, to ensure the recovery of efficiency of such plants as quickly as possible and/or enable, in emergency conditions, the local running of the plants.

Emergency Plan
Group of automatic and manual procedures implemented during critical operating periods, in order to avoid or limit outages of the electricity system itself or part of it.

Emergency Plan for the Security of the Electricity System (EPSES)
In case of critical events, EPSES sets forth the methods for selectively suspending the supply of electricity to domestic and industrial users, with different levels of severity.

Energy market
Intended as the combination of the Day Ahead Energy Market (DAEM) and the Real Time Energy Market (RTEM).

Energy Not Supplied (ENS)
Energy Not Supplied due to outages, defined by the following formula:

$$\sum_{i=1}^{n}\sum_{j=1}^{m}(P_{i,j} * T_{i,j})$$

where the sum includes all outages that occurred in the period and/or calendar year and area and, for each of these, all direct and indirect users affected by the same outage, where:
- n is the number of outages in the period under observation;
- m is the number of users affected by the ith outage;
- Ti,j is the duration (in hours) of the outage and interrupted power (MW) for the jth user affected during the ith outage;
- Pi,j is the average constant value of the 15 minutes preceding the outage if the duration of the interruption is less than or equal to 15 minutes; if the length exceeds 15 minutes, this is estimated based on the forecast and/or historic capacity power diagram.

EPS (Earnings Per Share)
Calculated as the ratio of net profit to the number of a company's outstanding ordinary shares.

Equity
Term used to indicate the shareholders' equity of a company; in the context of asset management, it is used to refer to the stock segment.

Ethical Auditing
Consists in verifying the application of and compliance with the Code of Ethics. The company management assigned this task must ascertain and promote continuous improvement in ethics with the company through analysis and evaluation of the ethical risk control processes.

Extra high voltage (EHV)
Rated voltage with a value higher than 220 kV.

Extraordinary maintenance
Performed for the recovery and extension of the useful life of a plant, without modifying the functional consistency or technical characteristics, as specified in Attachments 1, 2a and 2b of the Operator-Owner Standard Agreement.

Fault
The yielding of an electric component or a condition of danger to persons or things, which results in a grid element being immediately taken offline. The fault can be:
- transient, when it is eliminated through the automatic sequences of immediate opening and reclosure of the circuit breakers;
- permanent, in all other cases.

Final customer
The natural person or legal entity who purchases electrical energy exclusively for their own use.

Free market
Market where producers and wholesalers of electrical energy, both Italian and foreign, compete freely to provide electrical energy to eligible customers.

Frequency
The number of oscillations per second, in which the value of the alternating current, such as voltage, varies from positive polarity to negative polarity. It is measured in Hertz (Hz).

Fringe Benefit
Compensation in kind, meaning benefits which do not consist in the payment of money, but the use of a service or an object; such as the company canteen, lunch vouchers, company car or mobile telephone.

FTSE4Good
Financial Times index which groups the best companies meeting specific sustainability requirements. These companies are identified by the EIRIS, through specific questionnaires.

Gestore Mercato Elettrico (Energy Market Operator - GME)
Joint stock company created in 2000 by GRTN, which is in charge of the economic management of the electricity market in compliance with criteria of transparency and objectivity, in order to promote competition between producers, ensuring the availability of a suitable level of power reserves.

Gigawatt (GW)
Unit of measurement equal to one billion Watts (1,000 Megawatts).

GRI (Global Reporting Initiative)
An independent international association responsible for developing and distributing the Sustainability Reporting Framework, in order to support companies which voluntarily decide to publish data regarding their economic, social and environmental performance.

Grid Code (Code for transmission, dispatching, development and security of the grid)
The document that governs the procedures regarding the activities of connection, management, planning, development and maintenance of the National Transmission Grid, as well as dispatching and measurement of electricity. More specifically, the Grid Code sets forth transparent, non-discriminatory regulations for:
- access to the Grid and its technical regulation;
- development, management, and maintenance of the Grid;
- the performance of dispatching services;
- the supply of services of measurement and the aggregation of measurements;
- the settlement of financial charges connected to the various services;
- security of the national electricity system.

Grid diagram
Circuit infrastructure of the grid, represented in a single line diagram at a sufficient level of detail to illustrate the elements of the Grid, as well as the components making up such elements.

Grid management
The activities and procedures which determine the operations and the operations forecast, under any conditions, of a power grid. Said activities and procedures include the management of electric power flows, interconnection devices and necessary ancillary services, as well as the decisions to perform maintenance and development works.

Grid operator
The natural person or legal entity who manages a power grid, also without owning said grid.

Grid user
The natural person or legal entity who supplies or is supplied by a transmission or distribution grid.

High voltage (HV)
Rated voltage greater than 35 kV and lower than or equal to 220 kV.

Indirect connection to the NTG
Connection of all plants relevant in terms of the operations of transmission and dispatching, with existing circuit continuity at a minimum of one point, with the interposition of ancillary power plant, to the NTG.

Interconnection line
High-voltage power line in alternating current (AC) or direct current (DC) which links two different electrical transmission or distribution grids or even two generation plants.

Interconnection of electricity grids
Connection between electricity grids required for the transfer of electricity.

Internal Dealing
Governs transparency obligations in relation to the market, for operations in financial instruments of a company or its subsidiaries, performed by persons having significant company decision-making powers, and access to price-sensitive information (“significant persons”).

Interruption
Condition in which the voltage of the terminals delivering electrical energy for a user is lower than 1% of the rated voltage.
Interruption with notice
Interruption generally due to the execution of planned intervention and manoeuvres on the grid, preceded by notice to users involved of the duration of the interruption, using suitable means and with advance notice of no less than one day.
Interruption without notice.
All cases of interruption where users are not notified in advance through suitable means and with advance notice of no less than one day. An interruption without notice may be classified as:
- long-term interruption, if it has a duration of more than three minutes;
- short-term interruption, if it has a duration of more than one second but no more than three minutes;
- transient interruption if it has a duration of no more than one second.

IPO (Initial Public Offering)
Indicates an initial offer of shares of a company being listed. It is a synonym of "Public Offer for Sale", "Public subscription of shares" and "New listing".

Italian Authority for Electricity and Gas (AEEG)
Independent authority created by Law no. 481 of November 14, 1995, which is charged with regulating and controlling the electrical energy and gas sectors.

Kilowatthour (kWh)
Unit of measurement that expresses the quantity of electricity equal to 1,000 Watts provided or requested in one hour.

kV
(kilovolt=1,000 Volts) unit of measurement of voltage.

kW
(kilowatt) unit of measurement of power (1 kW=1,000 J/sec), which expresses the amount of energy per unit of time.

kWh
(kilowatthour) and its multiples MWh (Megawatthour, 1,000 kWhs), GWh (Gigawatthour, 1,000,000 kWhs) and TWh (Terawatthour, 1,000,000,000 kWhs) measure electrical energy. They are equal to a power of 1 kWs (and multiples) over one hour.

Load curve
Diagram which shows the power demand on an electricity grid over time.

Maintenance
Operations and works for the maintenance or recovery of efficiency, and smooth operation of the electricity plants, taking into account any decrease in performance.

Medium voltage
Rated voltage greater than 1 kV and lower than or equal to 35 kV.

Megawatt (MW)
Unit of measurement equal to one million watts (1,000 kilowatts).

Monitoring
All the actions through which the current operational status of an electricity system is ascertained.

National electricity system
The national electricity system comprises the total of production plants, transmission and distribution grids, auxiliary services and interconnection and dispatching devices located in the Italian territory.

National Transmission Grid (NTG)
Electricity grid for national transmission as set forth by the Minister of Industry Decree dated June 25, 1999 and subsequent amendments and additions.

Normal alarm condition of an electricity system
Situation in which the total load demand is satisfied, in stable regime there are no violations of operating limits of system components, but the required security criteria are not met.

Normal condition of an electricity system
Situation in which the total load demand is satisfied, in stable regime there are no violations of operating limits of system components, and the required security criteria are met (criterion n-1).

Operation
The methodical use of power plants and accessories according to procedures codified in the implementation of the decisions regarding the operation of the Grid. Operation includes:
- the running of the plants in order to carry out Terna's orders and autonomous deliveries;
- emergency assistance following fault or anomalies;
- operations for going offline and for the security of the plants;
- the monitoring of the status of the plants;
- plant inspections.

Operations planning
Preparation of plans and schedules for the operation of the electricity system.

Outage
Interruption.

Partial availability of a grid element
State in which a grid element may be temporarily used under conditions different to those provided under operational consistency as set forth in Attachment 1 of the Operator/Owner Standard Agreement.

Permanent disturbance
Disturbance in which, following the automatic opening of the circuit breakers as a result of operation of the protection systems, irrespective of execution of the automatic rapid reclosure or slow reclosure (automatic or manual) of the circuit breakers, repair works are required on grid elements or plant components.

Planned maintenance
Maintenance, not of an urgent nature, which lasts more than or equal to 5 total days, scheduled in the annual unavailability plan, or subsequently agreed.

Planning
Definition of the usage plans, for a specific period of time, for the available means of production and transmission, in order to satisfy the energy requirements with respect to quality and continuity of service.

Power recovery
The activities coordinated by Terna in order to restore an electricity system after a black-out.

Power restart plan
Group of automatic and manual procedures which enable reinstatement of the electricity system to normal operational conditions, following the going offline of the electricity system itself or part of it.

Power station
The part of a grid which is concentrated and closed in a specified site, and used for switching electrical energy among the lines of a grid, for transferring the electrical energy between grids with different levels of voltage, and for transforming the electrical energy to the lowest voltage usable by the user.

Power supply quality
Continuity and regularity over time of the voltage and frequency values of the electrical energy supplied.

Production
Generation of electrical energy, in any way.

PPE (Personal Protective Equipment)
Any equipment designed to be worn or held by the worker, for the purpose of protecting him/her against one or more risks likely to threaten his/her safety or health in the workplace, as well as any complement or accessory designed for such purpose. IPDs must comply with Directive EEC 686/89 and subsequent modifications, with the EN 345 regulations, as well as Legislative Decree no. 475 of December 4, 1992.

Rated voltage of the system
Value of the voltage used to designate or identify the system.

Rating
Letter symbol which expresses the level of risk of securities representing a specific debt. This is one of the most significant tools for forecasting and controlling the risk of insolvency in modern securities markets. Ratings are published by specialized rating agencies. The most well-known, on the global level, are Moody's and Standard & Poor's. Ratings are announced at the time of issuing the security, but may be subsequently modified (uprating or downrating), thus positively or negatively influencing the image of the company and a significant part of trading. The highest rating is indicated by the symbol "AAA", "AA+", reaching down the worst rating, indicated by "D".

Real Time Energy Market (RTM)
The site of trading of bids for the purchase and supply of electrical energy in order to adjust the programmes of energy input and withdrawal defined on the Day Ahead Energy Market (DAEM).

Reinstatement condition of an electricity system
Situation in which, following total or partial load disconnection, the actions required to return the system to normal conditions are carried out.

Reliability
The fulfilment of two conditions:
- availability: capability to respond, statically and in every moment, to the customers' global demand for power and electrical energy at the connection points, taking into account planned and forced going offline of the components of the electricity system;
- security: capability to respond to sudden disturbances such as short-circuits or forced loss of components of the electricity system. Thus, this aspect specifically considers transition effects which are not covered by the first criterion.

Remote control and telemetry system
Group of remote data transmission devices which allows for the management of plants and the control and measurement of the supply to the client.

Remote control equipment (with reference to the registration of the interruptions in the distribution of electrical energy)
The system used to remotely manage and supervise the high- and medium-voltage distribution grid. This system also registers, automatically and continuously, the events of opening and closure of circuit breakers and other command devices (caused both by remote commands and interventions of protection or by automatic equipment), and events of black-out in the interconnection points with the National Transmission Grid or with other operators.

Requirement
Demand for electricity to be satisfied by the national electricity system. It shows a variable trend throughout days, months and years.

Reserves Market (RM)
The market provided and regulated within the Dispatching Service Market (DSM) for the procurement of the secondary and tertiary reserves.

ROACE (Returns on Average Capital Employed)
Index of return on invested capital; it is calculated as the ratio of the EBIT and net average capital employed by a company.

Routine maintenance
Activity carried out on plants or parts of plants for maintenance or recovery of efficiency and correct functioning, in relation to a fall in performance, without any modification of the number or function of the plants involved. Routine maintenance is defined as:
- periodic or cyclical if the activity regards regularly scheduled interventions independent of external causes;
- conditional or predictive if the activity follows the verification or monitoring of plant functionality;
- occasional if the activity follows upon the existence of anomalies.

Occasional routine maintenance is divided into:
- deferrable maintenance, if the execution of the activity may be delayed by at least one week from the moment that Terna's notified of the anomaly;
- non-deferrable if the execution of the activity, based on the owner's evaluation must be performed immediately and no more than one week from the notification of the anomaly to Terna, in order to avoid danger to persons or things, or the existence of a fault;
- on the fault, if the activity follows upon the existence of anomalies.

Secondary power reserve
Share of power in the generation pool which must cover the imbalance between production and load, due to random variations in requirements, errors in the forecast of requirements, unexpected unavailability of generation (for example, due to breakdowns) and unexpected variations in the programmes of exchange with foreign countries. Generally, based on the operational status of the groups which can make the reserve available, it can be classified into two categories: rotating reserves and cold reserves.

Service quality of electricity supply
Quality of the technical/commercial services provided to users, and the quality of the electric parameters of the energy supplied.

Single Buyer
A stock company established in 2000 by the National Transmission Grid Operator (GRTN) to guarantee Captive Customers the supply of electrical energy under conditions of continuity, security and efficiency of the service. The Single Buyer guarantees the application of a single national tariff to these customers.

SRI (Socially Responsible Investment)
Investments which take into account not only economic performance, but also social, environmental and ethical criteria. The choice of shares is guided by negative criteria (exclusion) or positive criteria (inclusion): the first type excludes specific types of companies (e.g. tobacco producers, arms manufacturers etc.) or countries which do not respect human rights or workers' rights, while the second type socially responsible companies are chosen for investment (i.e. those with CSR policies).

Stakeholder
Everyone (individuals, groups, organizations, institutions) interested in the company, especially if directly affected by company's activities in economic terms – such as shareholders, employees, customers and suppliers – but also when only indirectly affected, such as the general public bearing an interest in the protection of the environment.

Static power meter
Energy meter in which the current and voltage, when applied to an electronic measurement element, produce frequency pulses in proportion to the power.

Supervisory Control and Data Acquisition System (SCADA)
Computerized system for controlling production and transmission, with data acquisition functions and man-machine interface, for presenting data to operators in the control centers.

Telecommunications system
Infrastructure composed of a physical means and hardware/software devices required by the Primary Acquisition System in order to acquire the measurement data from the measurement devices.

Transformer
Electrical device used for the connection and transfer of energy between grids at different voltage levels.

Transforming station
Part of a grid composed of a group of apparata used for transferring electrical energy between grids with different levels of voltage.

Transmission
Electricity transport and transformation activities along the interconnected high- and extra-high-voltage grid for the purposes of delivery to customers, distributors, and recipients of self-produced energy.

Transmission activities
The activity of transferring and transforming electricity on the grid. Transmission activities include:
- the unified management of the Grid and the parts of power stations not included in said grid, but connected and functional to transmission activities pursuant to art. 3, paragraph 5, of the Decree of the Minister of Industry, Commerce and Crafts dated June 25, 1999;
- the planning and identification of development activities;
- annual authorization of maintenance works.

Transmission line
High- and extra-high-voltage power line, overhead or cable, used for the transfer of electricity from the production plants to the distribution grids or to users.

Transmission plants
Infrastructures dedicated to the transmission of electricity, belonging to the NTG, such as lines and switching stations and transforming stations.

Triad
Group of three conductors (or groups of conductors), each prepared for the transfer of one of the phases of the three phase electric field used on the grid in alternating current.

TSR (Total Shareholder Return)
This is the most complete measurement of value created by a company for its shareholders. It is calculated using the following formula: (Share price at end of period - Share price at beginning of period + Dividends)/Share price at beginning of period. The calculation of TSR provides the annual rate of return for an investor who purchased a security on a certain date and sold it on another date. This calculation considers all paid dividends reinvested in the security at the coupon payment date.

Unavailability of a grid element
Situation in which an element of the Grid cannot be used by the operator for transmission activities. Unavailability may be:
- planned, if it is included in the annual unavailability plan or in the quarterly unavailability plan, and has a duration of less than five days;
- occasional, if not included in the annual plan, but included in the quarterly unavailability plan and has a duration greater than or equal to five days; or it is not included in the quarterly plan but in the monthly plan.

Occasional unavailability may be:
- deferrable, if it involves occasional maintenance which can be deferred;
- non-deferrable, if it involves occasional maintenance which cannot be deferred;
- due to fault, if the result of the existence of a fault;
- due to external causes, if the result of the needs of third parties or events which cannot be attributed to the owner, such as: works or tests requested by operators/owners of bordering grids or other operators, natural disaster, or requirements of public authorities.

Unified Grid management
Coordinated management of all portions of the NTG.

Volt
Unit of measurement of voltage.

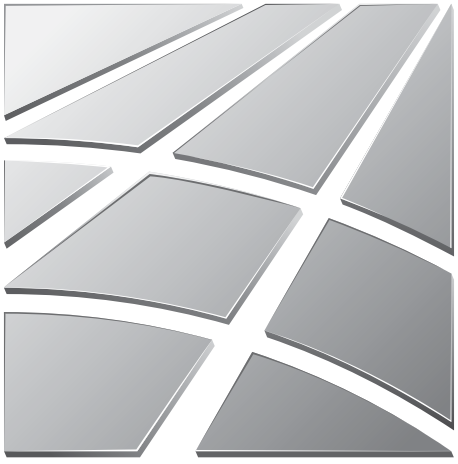
Watt
Unit of measurement of electric power.

Wholesale customer
The natural or legal person which purchases electrical energy without carrying out production, transmission, or distribution activities in the countries of the European Union.

Terna's commitment towards stakeholders

THE AWARENESS OF HAVING A SOCIAL RESPONSIBILITY TOWARDS THE COMMUNITY IS AN INTEGRAL PART OF THE CULTURAL KNOWLEDGE OF TERNA'S PEOPLE AND IS DEMONSTRATED THROUGH A STRONG COMMITMENT TO WORK FULLY RESPECTING THE ENVIRONMENT, IN HARMONY WITH THE LOCAL COMMUNITIES AND THE AUTHORITIES.

2011



Report

Terna

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TERNA SPA

INDEPENDENT REPORT
ON THE LIMITED ASSURANCE ENGAGEMENT
OF THE SUSTAINABILITY REPORT 2011

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INDEPENDENT REPORT ON THE LIMITED ASSURANCE ENGAGEMENT OF THE SUSTAINABILITY REPORT 2011

To the Shareholders of
Terna S.p.A.

1 We have carried out the limited assurance engagement of the sustainability report as of 31 December 2011 (hereafter the "Report") of the Terna Group (hereafter the "Group") following the verification procedures summarized in paragraph 3 of the present document. The Directors of Terna S.p.A. are responsible for the preparation of the Report in accordance with "Sustainability Reporting Guidelines & Electric Utilities Sector Supplement" (EUSS), issued in 2009 by the GRI – Global Reporting Initiative, and the GRI 3.1 Guidelines updated in March 2011, that are detailed in paragraph "Methodological note" of the Report. The Directors are also responsible for the definition of the Group objectives regarding the sustainability performance and the reporting of the achieved results. We are responsible for the preparation of this report on the basis of the work performed.

2 Our work has been conducted in accordance with the principles and guidelines established by the "International Standard on Assurance Engagements 3000 - Assurance Engagements other than Audits or Reviews of Historical Financial Information" (ISAE3000), issued by the International Auditing and Assurance Standards Board. ISAE3000 requires the compliance with ethical principles ("Code of Ethics for Professional Accountants"), including professional independence. It also requires that our work is planned and performed with the aim of obtaining a limited assurance, rather than a reasonable assurance, that the Report is free of material errors. A limited assurance engagement of the sustainability report consists in interviews, primarily with company's personnel responsible for the preparation of the information included in the sustainability report, in the analysis of the sustainability report and in other verification procedures.

3 The verification procedures performed on the Report are summarized as follow:

a) comparison between the economic and financial information and data included in the Report with those included in the Group consolidated financial statements as of 31 December 2011;
b) analysis of design and implementation of governance and management system of sustainability topics related to strategy and operation of the Group;
c) analysis of processes underlying the generation, recording and management of quantitative data included in the Report. In particular, we have carried out the following procedures:

- meetings and discussions with management representatives of Terna S.p.A to achieve a general understanding of the information, accounting and reporting systems in use to prepare the Report, as well as of the internal control processes and procedures

PricewaterhouseCoopers Advisory SpA

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supporting the collection, aggregation, processing and transmission of data and information to the department responsible for drawing it up.;

- on-site verifications at Transmission Operational Area (AOT) - Florence.

d) analysis, on a sample basis, of the documentation supporting the Report, in order to confirm the reliability of data and information collected through meetings, interviews and on-site verifications and to confirm they were properly managed;
e) verification of processing of data and information generated by the audited local site and afterwards aggregated and consolidated;
f) analysis of the completeness and internal consistency of qualitative information included in the Report in comparison with the reporting guidelines referred to in paragraph 1 of this report;
g) obtaining a representation letter, signed by the legal representative of Terna S.p.A. relating to the completeness and reliability of the Report and of the information and data included in it, as well as to the compliance with the guidelines identified in paragraph 1 of the present document.

This is the first sustainability report of the Group subject to an assurance engagement. Prior year's data, which are presented for comparative purposes, were not subject to assurance procedures.

A limited assurance engagement is less in scope than a reasonable assurance engagement carried out in accordance with ISAE3000 and, as a consequence, it provides a lower level of assurance that we became aware of all the significant events and circumstances that a reasonable assurance engagement could have identified.

4 Based on the procedures carried out, nothing came to our attention that causes us to believe that the Sustainability Report as of 31 December 2011 of the Terna Group is not in compliance, in all material respects, with "Sustainability Reporting Guidelines & Electric Utilities Sector Supplement" (EUSS), issued in 2009 by the GRI – Global Reporting Initiative, and the GRI 3.1 Guidelines updated in March 2011 that are detailed in paragraph "Methodological note" of the Report.

Turin, 24 May 2012

PricewaterhouseCoopers Advisory S.p.A.

Signed by

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

Coordination and Development by Terna S.p.A.

External Relations and Communication Department

Editorial Design
Interno Otto, Rome

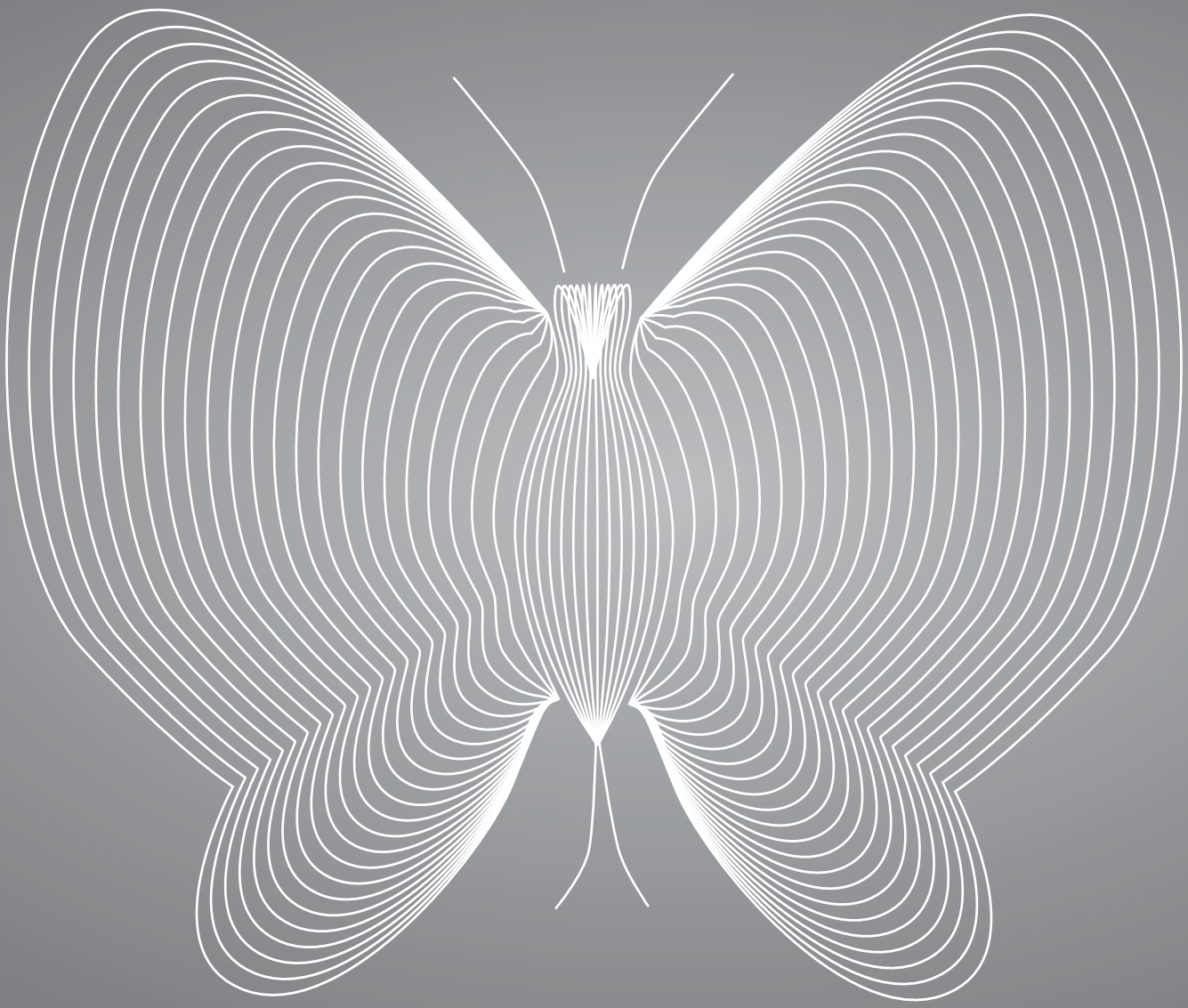
Editing
Trans-Edit Group S.r.l., Milano

Photographs
All photos are owned by Terna

Published in June 2012

INTERNO OTTO ROME

WE WORK FOR A **GRID** THAT'S **LIGHT** FOR THE ENVIRONMENT



WORKING FOR SUSTAINABLE DEVELOPMENT
ALSO MEANS TRANSMITTING ENERGY RESPONSIBLY.
THIS IS TERNA'S JOB.

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