







# Organisation and context in which the Group operates

Terna S.p.A. operates mainly in the Italian electricity system (approximately 93% of consolidated revenue in financial year 2014 came from regulated activities). Within the industry supply chain – the production, transmission, distribution and sale of electricity – Terna manages the transmission segment, in the role of Italian TSO (**Transmission System Operator**), **a monopoly position through government concession**. The activities performed by Terna are regulated by the Italian Regulatory Authority for Electricity Gas and Water (AEEGSI) and the Ministry for Economic Development.

The Terna Group **owns almost all of the National Transmission Grid (NTG) in Italy** and is responsible for the transmission and dispatching of electricity on the High and Extra High Voltage grid throughout the country, as well as the planning, implementation and maintenance of the grid.

By managing transmission, Terna guarantees the security and quality of the National Electricity System, and its costeffectiveness over time. It ensures equal conditions of access for all grid users. It develops market activity and **new business opportunities** with the experience and technical skills gained in managing complex systems. It also creates value for its shareholders with a strong commitment to professional best practices and with a responsible approach to the community, respecting the environment in which it operates.

Terna S.p.A. has been **listed** on the Borsa Italiana electronic market since 2004 and is one of the leading Italian companies in terms of stock market capitalisation. Since they were listed on the stock market, the shares have more than doubled in price, as shown in the graph below:



### **Shareholders**

At the reporting date, Terna's share capital amounted to  $\notin$  442,198,240, represented by 2,009,992,000 ordinary shares, with a par value of  $\notin$  0.22 each, fully paid-up.

On the basis of the shareholder register and other information gathered when this report was prepared, ownership of Terna S.p.A. is divided as follows:

- CDP RETI S.p.A. 29.85%<sup>11</sup> (subsidiary of Cassa Depositi e Prestiti S.p.A.)<sup>12</sup>
- Institutional Investors 48.9%
- of which People's Bank of China 2.01%<sup>11</sup>
- Retail 21.3%

### SHAREHOLDING STRUCTURE BY TYPE



On the basis of the regular surveys carried out by the Company, it is believed that 57.6% of Terna shares are held by Italian investors (CDP RETI S.p.A. 29.85%, Retail 21.3% and Institutional Investors 6.5%), with the remaining 42.4% held by Foreign Institutional Investors, mainly American and European.

#### SHAREHOLDING STRUCTURE BY GEOGRAPHIC AREA

)	Foreign Institutional Investors	
	of which United Kingdom/Ireland	11.0%
	of which USA/Canada	8.3%
	of which Rest of Europe	12.3%
	of which Middle East, Asia and Australia	4.7%
	Other	6.0%



#### Italian Shareholders

of which	Cassa	Depositi	е	Prestiti	
S.p.A.					29.85%
of which Re	etail Sha	areholders			21.3%
of which In	stitution	al Investo	rs		6.5%



(12) Shareholders' Agreements: on 27 November 2014, a shareholders' agreement was signed by Cassa Depositi e Prestiti S.p.A. (CDP), on the one part, and State Grid Europe Limited (SGEL) and State Grid International Development Limited (SGID), on the other, in relation to CDP RETI S.p.A. (CDP RETI), SNAM S.p.A. and TERNA S.p.A. The basic information relating to this Shareholders' Agreement has been published on the CONSOB and Terna websites, pursuant to the regulations in force.

At the end of 2014, socially responsible investors hold 14.9% of Terna's share capital. There were 81 SRI (Socially Responsible Investors), i.e. those choosing to invest in Terna with a sustainable approach in mind, based on the consideration of ESG (Environmental, Social and Governance) aspects (in line with the 2013 number of 85) and representing 6.1% of the floating shares (7.2% at the end of 2013), and 10% of the shares held by institutional investors. This amount is in line with the 10% registered at the end of 2013.

The "Report on Corporate Governance and Ownership Structures", approved by the Board of Directors for the financial year 2014 – Section II: Information on Ownership Structures, published together with the Annual Report of Terna and the Terna Group, contains information on ownership structures, restrictions on the transfer of shares, shares which grant special rights, and restrictions on voting rights required under Article 123-*bis* of the Consolidated Law on Finance (Legislative Decree No. 58 of 24 February 1998 – "CLF").

Moreover, in order to safeguard Terna's independence and impartiality, no operator in the electricity industry may exercise voting rights in appointing the Board of Directors for a stake of more than 5% of the share capital.

### **Corporate structure**

Below is the Terna Group's corporate structure at 31 December 2014:



#### **Parent company**

The parent company **Terna** receives remuneration based on the tariff system set by the Italian Regulatory Authority for Electricity, Gas and Water, in relation to the two important regulated activities it conducts in Italy: **electricity transmission and dispatching**, both under the concession granted by the Ministry for Economic Development (issued with the Decree of 20 April 2005 of the Ministry of Production). Furthermore, Terna maintains **ownership of the capital assets** and **responsibility for defining the National Transmission Grid Development Plan and the Defence Plan.** 

#### **Subsidiaries**

#### **Regulated Activities**

#### • Terna Rete Italia S.p.A.

The company is tasked, within the Terna Group, with performing all Regulated Activities, ordinary and extraordinary maintenance of the section of the NTG owned, managing and performing work on developing the grid as provided for in the Concession for transmission and dispatching, and on the basis of the provisions of the Parent Company's Development Plan. To this end, with effect from 1 April 2012, Terna Rete Italia S.p.A. signed a *business unit rental contract with the Parent Company* with consequent ad hoc intra-group contracts for regulating business.

The main accounting data of Terna Rete Italia S.p.A., approved for financial year 2014, are presented below:

€ thousands	
REVENUE	396,839.4
EBITDA (Gross Operating Margin) and EBIT (Operating Profit)	28,827.1
NET PROFIT FOR THE YEAR	5,597.6

#### • Terna Rete Italia S.r.l.

The company **owns approximately 12.1% of the NTG infrastructure**; the design, construction, management, development, running and maintenance of high-voltage electricity lines fall within its corporate purpose. In this regard we can note that, in July, Terna Rete Italia S.r.I. acquired the business unit Brulli Trasmissione, obtaining ownership of nine NTG stations, as commented on in detail in the paragraph "Significant events" in the section "Performance". The main accounting data of Terna Rete Italia S.r.I., approved for financial year 2014, are presented below:

€ thousands	
REVENUE	190,187.2
EBITDA (Gross Operating Margin)	166,730.3
EBIT (Operating Profit)	125,070.1
NET PROFIT FOR THE YEAR	72,831.0

#### • Terna Storage S.r.l.

The Company is responsible, pursuant to an *ad hoc* contract signed with the Parent company, for **safeguarding the construction of diffused energy storage systems projects, as well as related coordination, study and research activities**.

Also through Terna Storage S.r.I. the parent company has launched a storage-system programme aimed at "*promoting the dispatching of non-programmable plants*", in line with the related legislation which provides for the possibility of including it among the works for developing the electricity transmission grids and in the extra-incentive mechanisms established by the Italian Regulatory Authority for Electricity Gas and Water (see Resolutions 43/2013 and 66/2013 of the AEEGSI).

The main accounting data of Terna Storage S.r.l.<sup>13</sup>, approved for financial year 2014, are presented below:

€ thousands	
REVENUE (Value of Production)	1,221.4
EBITDA (Gross Operating Margin) and EBIT (Operating Profit)	142.0
NET PROFIT FOR THE YEAR	93.2

• Terna Crna Gora d.o.o.

The company, founded in Montenegro in 2011, has as its mission activities relating to the **authorisation, construction** and management of the transmission infrastructure that constitutes the electricity interconnection line between Italy and Montenegro, on Montenegrin territory, as well as the promotion and development of new investment opportunities in the transmission sector associated with the construction and management of new interconnection lines between Montenegro and neighbouring countries and of infrastructure to connect renewable energy plants in these countries.

#### Non-Regulated Activities

#### Terna Plus S.r.l.

Given its experience and the technical expertise it has acquired, the Terna Group develops new activities and business opportunities on the free market mainly through the company **Terna Plus S.r.l.** directly controlled by the Parent Company.

The development of Non-Regulated Activities pursues the objective of further enhancing assets held and the parent company Terna's distinctive skills in the creation and management of infrastructures, in particular at High Voltage, in Italy and abroad.

The main accounting data of Terna Plus S.r.l.<sup>14</sup>, approved for financial year 2014, are presented below:

€ thousands	
REVENUE (Value of Production)	6,595.3
EBITDA (Gross Operating Margin)	(962.8)
EBIT (Operating Profit)	(2,005.1)
NET PROFIT FOR THE YEAR	10,467.8

The sphere of Non-Regulated Activities includes some of the extraordinary operations which characterised financial year 2014 and which regarded:

- completion on 20 May 2014 of the operation for acquisition by Terna Plus S.r.l. of the entire capital of **Tamini Trasformatori S.r.l.** and of the companies controlled by the latter: V.T.D. Trasformatori S.r.l., Verbano Trasformatori S.r.l.<sup>15</sup> and Tamini Transformers USA L.L.C. The Tamini Group operates in the production and sale of industrial and power electricity transformers and owns 4 manufacturing facilities, all situated in Italy, in Legnano, Melegnano, Novara and Valdagno. At the acquisition date, the Tamini Group's employees numbered 377 and revenue amounted to approximately € 58.2 million<sup>16</sup>;
- the incorporation on 23 July 2014 by the parent company Terna and the subsidiary Terna Rete Italia S.p.A. of **Terna** Interconnector S.r.I. with share capital of € 10,000, subscribed 95% by Terna S.p.A. and for the remainder by the aforementioned subsidiary.

The incorporation of the company is part of the process to develop the Terna Group's Non-Regulated Activities, mainly with reference to the development and management of foreign interconnection infrastructure.

For more details about these extraordinary transactions, please refer to "Significant events" in the section "Economicfinancial performance," as well as the subsequent section "Other activities."

#### Associate companies

#### CESI

This is a leading company in testing and certifying electro-mechanical equipment, and electrical system consultation. It covers all stages of the electricity system life cycle and offers companies operating in the electricity system (generation, transmission and distribution), the manufacturers of electrical and electronic equipment, large electricity consumers, and local and national public administrations a full range of services aimed at resolving problems related to the production processes of the entire electrical energy sector.

The main accounting data of CESI S.p.A., approved for financial year 2014, are presented below:

<sup>(14)</sup> Terna Storage S.r.l. and Terna Plus S.r.l. prepare the financial statements in accordance with the Italian accounting standards.

<sup>(15)</sup> The company Verbano Trasformatori S.r.I. was subsequently incorporated into Tamini Trasformatori S.r.I., as of 1 January 2015.

<sup>(16)</sup> Measured according to the accounting criteria adopted by the Terna Group.

€ thousands	
REVENUE (Value of Production)	90,058
EBITDA (Gross Operating Margin) EBIT (Operating Profit)	16,381 10,696
NET PROFIT FOR THE YEAR	2,057

#### CORESO

This is a Belgian service company with its headquarters in Brussels; Terna became a shareholder in November 2010 with a 22.485% stake. The shareholding structure of the company includes the operators of France (RTE), Belgium (Elia) and Great Britain (National Grid), each with a share equal to that of Terna, and the German operator, 50Hertz Transmission, with 10%. CORESO prepares daily forecasts and real-time analyses of energy flows in Central and Western Europe, identifying possible critical issues and duly informing the TSOs concerned in a timely manner.

#### CrnoGorski Elektroprenosni Sistem AD ("CGES")

This is the Montenegrin TSO (Transmission System Operator) of which Terna became a shareholder, holding 22.09% of the capital, following approval by the CGES shareholders' meeting of a capital increase restricted to Terna. The agreement is the result of industrial and country-system cooperation and is part of the intergovernmental agreements between Italy and Montenegro, which began on 19 December 2007 and were ratified with the signing of a strategic partnership agreement in November 2010, for the construction of a new undersea electricity interconnection and the implementation of a partnership between the national transmission operators.

#### **Joint ventures**

#### **ELMED ÉTUDES**

This is a Tunisian company in which Terna and the Tunisian electrical company STEG hold 50% each. The company's purpose is to carry out preliminary research and consulting for:

- the preparation of tender documents for the construction and operation of an electricity generation site in Tunisia, pursuant to the Joint Declaration signed on 20 June 2007 by the Italian Ministry for Economic Development and the Tunisian Ministry of Industry, Energy and Small Business and,
- the execution of studies related to all the work necessary to connect the Tunisian and Italian electricity grids, including conversion stations, located in Tunisia and Italy, respectively.

Due to changes in the political and economic situations, the project and therefore the tender for the creation of the generation site were not pursued. Nonetheless, as the creation of an undersea interconnection between Italy and Tunisia remains strategic, on 31 July 2013 the ELMED Études shareholders' meeting resolved to separate the study related to creating the connection from those related to creating the generation site, authorising the joint managers of the company to carry out all necessary actions for this purpose.

## **Group's history**

### Creation

#### 31 May 1999

#### Terna is created

Legislative Decree No. 79/99 (the "Bersani Decree") begins liberalisation of the electricity sector. It provides for the separation of ownership and management of the national transmission grid.

Two new companies are created: Terna, to own the grid, and the National Transmission Grid Operator (NTGO) to manage the grid.

#### 11 May 2004

#### Terna manager and owner of the Grid

The Prime Ministerial Degree of 11 May 2004 sets out criteria, methods and conditions for combining the ownership and management of the national transmission grid under Terna.

It also defines a new corporate governance which aims to guarantee the neutrality and impartiality of Terna's operations.

### 23 June 2004

#### Entry onto the stock market

Terna is listed on the Italian electronic share market in the Blue Chip segment.

The placement is 50% of the share capital (the other 50% is held by Enel, which is still the major shareholder) and the fixed price for a single share is  $\notin$  1.70. At the end of the day, the stock, mainly bought by US, British and Italian funds, closes with an increase of 3.60%, breaking the volume record with over 90 million exchanges.

#### 15 September 2005

Terna consolidates its ownership structure

Cassa Depositi e Prestiti S.p.A. (CDP) buys 29.99% of Terna shares from Enel and becomes a major shareholder.

Enel's holding falls to 5%. The company's shareholder structure becomes what it is today, the most suitable for its strategic role.

The Ministry for the Economy and Finance is present through CDP: a further safeguard of the duty of general interest entrusted to Terna as the National Transmission Grid operator.

### 1 November 2005

#### The new Terna

The ownership and management of the National Transmission Grid – set out the previous year in the Prime Ministerial Decree of 11 May – are brought together in Terna.

This is the culmination of a process which began in 1999 and the start of a new phase in Terna's mission in the country's service: record industrial and financial performance, value creation for shareholders and stakeholders, sustainable and shared development.

### Key periods of growth

#### 2005

#### The new Terna, the new BoD

The Shareholders' Meeting appoints the new Board of Directors. Flavio Cattaneo is Chief Executive Officer, Luigi Roth the Chairman.

#### 2007

Increasingly sustainable development Terna launches the "**10 projects for sustainable development**": 1,200 km of old overhead power lines will be demolished and replaced with 450 km of new high-tech lines and underground cables.

#### 2008

#### **19 December**

#### Terna is Europe's largest TSO

After purchasing 18,600km of High-Voltage line from Enel for  $\in$  1,152 million, Terna is confirmed as the largest **independent grid operator in Europe and seventh in the world.** 

#### 2009

### Top security

#### 30 July

Terna and the Ministry of the Interior sign an agreement that makes Italy a pioneer in protecting the country's strategic sectors as regards security.

#### **3 November**

Terna sells the Brazilian subsidiary Terna Participações SA, generating a capital gain of over  $\in$  400 million, which is reinvested in developing the Italian grid and allocated to supplement the dividends policy.

#### 2010

#### New strategic results

#### 15 March

Terna receives the "EEI International Utility Award": best European utility for total shareholder returns 2007/2009.

#### 18 October

Terna closes the biggest photovoltaic deal in Europe, transferring to Terra Firma plants which produce around 150 MWp in power. The operation increased the Italian photovoltaic park by almost 10%.

#### 23 November

The strategic partnership with the Montenegrin transmission operator CGES AD is signed.

Terna to build Italy-Montenegro submarine connection.

#### 2011

#### The grid that unites Italy

March-July

**Terna builds infrastructure of international excellence:** it opens the SA.PE.I. (Sardinia-Italian peninsula) and the Chignolo Po-Maleo in Lombardy. It also opens the construction sites for the Sorgente-Rizziconi (between Sicily and Calabria).

#### 5 July

The Terna 2010 Sustainability Report is given an A+, the highest grade possible for completeness of the information published.

#### 2012

#### Company reorganisation

#### April

The new company structure becomes operational, with a greater focus on regulated activities and on the new non-regulated activities: in addition to the parent company Terna, two new operational companies are founded: **Terna Rete Italia S.p.A.** (regulated) and **Terna Plus S.r.I.** (non-regulated).

# A company of Italian excellence January

Terna is the only Italian electricity company, of the 104 monitored in the world, to enter the Gold Class of the "Sustainability Yearbook 2012" of the international sustainability rating agency SAM.

#### 2013

Gains for the country, profits for the shareholders

#### March

For the second consecutive time, Terna receives the EEI International Utility Award: it is the best European utility in terms of total shareholder returns in 2010/2012.

#### August/December

Terna begins initial work with batteries: innovative products, at the leading edge worldwide, for storage of electricity produced by renewable energy.

#### December

The value of Terna's grid more than doubles: from around 5 billion in 2005 to over 12 billion currently.

It has caught up with, and in some cases, passed, its European counterparts.

#### 2014

#### January/June

The Trino-Lacchiarella (between Piedmont and Lombardy) and Foggia-Benevento (between Campania and Apulia) lines begin operating. The Italian grid becomes not only more efficient, secure, economical and sustainable, but also more innovative thanks to the use of innovative supporting structures (single-stem and "Germoglio" ("Bud")).

#### May

The Terna Group expands and diversifies its know-how by acquiring Tamini, an Italian company which is a world leader in the production of industrial and power electrical transformers.

#### Renewal of the BoD

#### 27 May

The Shareholders' Meeting appoints the new Board of Directors and elects Catia Bastioli as the Chairwoman. At its first meeting, the new BoD

an instructure appoints Matteo Del Fante as Chief Executive Officer and General Manager.

### **TSO** and other activities

#### The national TSO and electricity transmission

#### Terna's core business is the transmission of electricity in Italy.

The Italian electricity system consists of four stages: producing, transmitting, distributing and selling electricity.

Terna is responsible for managing the electricity system by:

- operating the High-Voltage grid and dispatching;
- maintaining infrastructure;
- planning grid development;
- carrying out development projects.



The main stages of the transmission service are as follows:

#### Grid operation and dispatching

In operating the grid, it is **essential to ensure a balance between input and output at all times**, i.e. between the supply of energy, produced domestically and imported, and consumption by end users.

Preparation for real-time operation includes **planning unavailability** (of the grid and of production plants) with different time horizons, forecasting national electricity demand, comparing demand for consistency with the production plan determined as the result of the free energy market (Electricity Market and contracts outside of the Electricity Market), acquisition of resources for dispatching, and checks on the power transits for all the transmission grid lines. During the **real-time control** stage, the National Control Centre, coordinating other centres around the country, monitors the electricity system and dispatches electricity, intervening, by communicating commands to producers and Remote-Control Centres, in order to vary grid supply and distribution. To avoid the risk of grid degeneration and prolonged power outages, it may also intervene in an emergency to reduce the demand.

#### Maintenance

By virtue of the aforementioned business unit rental contract, Terna Rete Italia S.p.A. maintains power lines and stations through three Area Offices, which are divided into eight Operational Transmission Areas and which employ around 71% of the Group's human resources.

#### Grid development planning

Analysing electricity flows in the grid and producing demand projections allow Terna to **identify the critical points of the grid and work to be carried out** in order to ensure that the system is adequate in terms of meeting demand, securing operations, reducing congestion, and improving service quality and continuity. Work to be carried out is detailed in the National Transmission Grid Development Plan, which is presented every year to the Ministry for Economic Development for approval. Terna then follows the authorisation process, from prior consultation with local government through to construction authorisation. Terna Rete Italia S.p.A. also sets the engineering standards for plants connected to the grid, particularly construction standards and the performance required from equipment, machinery, and station and power line components. As far as plant construction is concerned, **projects are prepared for the authorised works**; working methods and technical specifications are set out for 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 normally outsourced. Finally, by analysing the grid, Terna also identifies the **best ways of connecting to the transmission grid** for all operators who wish to connect their plants.

#### **Other activities**

#### **Terna and Non-Regulated Activities**

The development of Non-Regulated Activities pursues the objective of further enhancing the assets held and Terna's distinctive skills in the implementation and management of infrastructure, in particular at High Voltage, in Italy and abroad.

#### Activities performed in Italy

During financial year 2014, Terna Plus continued to perform activities related to work orders for third parties connected to the creation and/or extension of power stations for photovoltaic, wind and industrial systems, and the provision of installation, activation and rental services to independent operations for Rapidly Installable Connection Stations (henceforth, "RICSs")<sup>17</sup>, to which it added the concession in use service for the MV/HV substations (user cabins) used to connect photovoltaic systems owned by third parties<sup>18</sup>.

The other Non-Regulated Activities performed by the Terna Group include mostly specialised services provided to third parties mainly relating to systems engineering services, the operation and maintenance of High and Extra High Voltage plants and the housing of telecommunications equipment and optical fibre grid maintenance services (in particular for the Wind Group). Also important is fulfilling orders to make changes to the NTG, with particular reference to activities related to Expo 2015.

#### Interconnector

With reference to the development of interconnections with nearby countries, Terna's actions worked towards the goal of greater security, savings and sustainability for supplies. Investments in foreign countries are an indispensable action for diversification with respect to investments within in Italy. This all occurs, with an eye to a "country-wide system", in cooperation with energy operators with a strong presence abroad.

With regard to the first type of investment, Italy is the most interconnected state in Europe; particularly with the Mediterranean countries: France, Slovenia, Greece and soon Malta (in 2015) and Montenegro (in 2019).

#### **Development abroad**

Focusing international development on the Mediterranean basin allows Terna to benefit from Italy's competitive advantage: its geographical positioning – not only a potential outlet market but a hub between continental Europe and the Mediterranean. This also has an impact on the security of the system; following the integration of renewable sources in the grid, and European regulations to create a single market, it is essential to create strong interconnections with foreign countries and, therefore, natural outlet markets such as the Balkans and North Africa.

Foreign investments, focused on countries with positive growth trends, predictable regulatory/legal structures and the need to establish electricity infrastructure, represent a business opportunity for the Group, allowing it to take advantage of its world class skills and best practices.

#### Tamini

On 20 May 2014 the operation to acquire the Tamini Group by Terna Plus S.r.l. was completed. The Group operates in the production and sale of industrial and power transformers, through 4 production plants located throughout Italy, in Legnano, Melegnano, Novara and Valdagno. Acquisition of the Tamini Group represents an opportunity to strengthen a historic Italian industrial company, recognised for its excellence in the electrical sector both in Italy and abroad.

<sup>(17)</sup> RICSs are mobile high voltage stations that can be used both for fast connection to the NTG for new users, and for the renewal of existing plants. They are used in particular in the case of station malfunction, serving as temporary emergency stations, as well as for generation systems using renewable sources, during the time needed to construct the definitive station.

<sup>(18)</sup> Terna Plus is the owner of seven RICSs and six user cabins.

### **Reference context**

#### **Social context**

#### Community

Terna's main business is the provision of a service which is indispensable for the operation of the entire electricity system and to ensure electricity for all citizens and businesses. The greatest social and economic impact of the company's business lies in its ability to provide the general public with a reliable, efficient electricity service. The commitment made to service is therefore the main reference point, also in terms of the approach towards sustainability.

In general, Terna's intent, as ratified in its Code of Ethics, is to construct and develop relationships based on trust with stakeholders, which are able to create value for the business and for the stakeholders themselves.

Although the end users of the electricity service are not direct customers of Terna, but of companies which distribute and sell electricity, the essential role it performs in the electricity system makes the company **ethically responsible for the service in relation to Italian society**. Thus Terna is fully aware of the responsibility entrusted to it by the government concession, and shares its objectives:

- to provide a secure, reliable, continuous, and cost-effective service;
- to keep the transmission system efficient and to develop it;

• to observe the principles of impartiality and neutrality in order to ensure equal treatment for all grid users.

Business activities and sustainability questions are closely linked for Terna, so much so that the company and its stakeholders consider adopting **a responsible approach to planning the NTG** a priority.

This means being pro-actively concerned about the possible environmental and social impact of any development, by adopting all the necessary measures to prevent and minimise such an impact, and pursuing a **constructive dialogue with local communities** who live in the area where the development is planned, or where there are power lines.

For Terna, respect for the environment and for local communities is a rule of conduct which can trigger a virtuous cycle: it allows biodiversity and the richness of the landscape and local culture to be preserved, and facilitates acceptance and the creation of new infrastructure, generating financial benefits for shareholders and for society, which can enjoy a more secure, more efficient and less costly service. Focus on the community is also demonstrated by the creation of social, humanitarian and cultural initiatives which are a concrete sign of participation in the growth of civil society.

#### Important Terna Group stakeholders

When establishing its Code of Ethics, Terna identified the eight most significant categories of stakeholders in terms of continuity of the relationship and of the importance of the Company's impact on them and vice versa.

In 2014 this map was revised to highlight more stakeholders that were previously merged with others, raising to 12 the most significant categories of stakeholders.



As regards the most important commitments expressed in the Code of Ethics and the specific engagement tools such as monitoring and checking expectations and opinions, see the paragraph on "Safeguarding relations with stakeholders" in the "Risks and opportunities" section of the document.

### **Energy context**

#### Demand for electricity in Italy

For the third consecutive year, demand for electrical energy in Italy fell. In 2014, the demand for electrical energy in Italy was 309,006 million kWh (provisional data), a drop of -3.0% in comparison with 2013, which, in turn, ended with the same decline compared with 2012. The electricity demand recorded this year takes us back to the same level as the early years of the 21st century.

When comparing the 2014 results with those of the previous year, with same days and temperatures, the above decline was 2.1%. Calendar and temperature effects in this instance are cumulative: in conjunction with an average temperature that was approximately half a degree lower in the summer months and more than two degrees higher in the winter months, 2014, while having the same number of days as 2013, had two fewer working days.

#### ELECTRICITY BALANCE SHEET FOR ITALY

GWh	2014*	2013	Change	%
Net production	267,557	278,832	(11,275)	(4.0)%
From foreign suppliers	46,724	44,338	2,386	5.4%
Sold to foreign clients	3,021	2,200	821	37.3%
For pumping	2,254	2,495	(241)	(9.7)%
Total demand in Italy	309,006	318,475	(9,469)	(3.0)%

\* Provisional data

The trend of electricity requirements in Italy in 2014, compared to the previous year, is shown in the graph below:



#### **Electricity generation**

In 2014, net Italian production was 267,557 million kWh (provisional data), showing a fall of 4.0% from the previous year. The same production, divided according to source, shows that, in comparison with 2013, there was a fall in the production of thermal energy and an increase in production from renewable sources<sup>19</sup> including wind, solar and geothermal. There was also a sharp increase in hydroelectric production (please see the following table).

#### ELECTRICITY PRODUCTION IN ITALY

GWh	2014*	2013	Change	%
Net hydro generation	58,067	54,068	3,999	7.4%
Net thermal production <sup>20</sup>	165,684	183,404	(17,720)	(9.7)%
Net wind, photovoltaic and geothermal production	43,806	41,360	2,446	5.9%
Total net production	267,557	278,832	(11,275)	(4.0)%

\* Provisional data

#### **Regulatory context**

#### Revenue structure and the regulatory framework

In 2014, the Terna Group's revenue amounted to € 1,996.4 million. The majority of this revenue (about 93%) derives from activities regulated by the Electricity and Gas Regulatory Authority (hereafter, the Authority) and 7% refers to non-regulated activities, mainly represented by revenues of the Tamini Group and for specialised services provided by the Terna Group companies to third-party entities such as maintenance activities on HV facilities, plant engineering, maintenance of the fibre optic network, housing of TLC equipment, as well as other consulting activities in the transmission sector.

#### **Regulated revenue**

Regulated revenue is generated by the fees for transmission and dispatching,<sup>21</sup> and by incentive mechanisms related to specific spheres of the service and aimed at improving the same. As is implicit in incentive mechanisms, upon reaching objectives, the benefit to service users will be a multiple of the incentive paid to Terna. These mechanisms can be divided into:

- a) tariff incentive mechanisms, implemented in the calculation of unit tariffs;
- b) <u>non-tariff incentive mechanisms</u>, such as bonuses/penalties for transmission service quality.

#### Transmission service

The income linked to the transmission service fee (CTR) represents the main item of regulated revenue. It is invoiced by Terna to the distribution firms which take energy from the NTG, in proportion to the respective energy quantities taken from the NTG.

This payment is to remunerate Terna (and the other subjects which hold residual portions of the NTG) for the activities directly connected to the transmission service, and it also includes certain incentives aimed at promoting investment in infrastructure.

The Authority, with Resolution No. 199/11, following a consultation process, set out (i) the criteria and formulae for calculating the grid transmission fee, valid for the entire regulatory period 2012-2015, (ii) the rules for the annual updating of the unit value of the grid transmission fee during the same regulatory period.

The unit value of the grid transmission fee is therefore determined annually by the Authority, on the basis of rules defined at the beginning of every four-year regulatory period. For the years 2013, 2014 and 2015, the unit amount of the grid transmission fee was updated respectively by Authority Resolutions No. 565/12, No. 607/13 and No. 653/14.

The unit amount of the grid transmission fee for the energy transport service absorbed by the NTG Distributors during the course of the year "Y" is determined at the end of every year "Y-1" as the ratio between:

- A. the costs paid to Terna and the other holders of residual portions of the NTG for the transmission service in the year "Y-2" and
- B. the forecast of the quantity of energy transported on the NTG in the year "Y" (year in which the unit tariff is applied).

(21) Regulated revenue also includes revenue that Terna receives for the metering service, although the related tariff is of a negligible amount for the purposes of the results of the period.

<sup>(19)</sup> Renewable production can be defined as total production from wind, solar, geothermoelectric, biomass (included in the table under thermal production) and hydro power net of pumping plant production.

<sup>(20)</sup> A proportion of thermoelectric production, amounting to approximately 16,400GWh, was attributable to biomass, a renewable source.

The components of costs paid, considered when determining the transmission rates belong to three main categories:

- <u>Cost paid to cover the **RAB remuneration**</u>: the value of the RAB (Regulated Asset Base) is revalued annually on the basis of Istat data regarding the change in the gross-fixed-investment deflator and is updated to account for net investments made by Terna and decommissioning carried out during the year. The RAB remuneration is made up of:
   Base remuneration
  - Pursuant to Resolution No. 199/11, as subsequently updated, the RAB is remunerated by the Authority at a base return rate (WACC) linked to that of the market:
  - 2012 and 2013 Tariffs: WACC at 7.4%;
  - 2014 and 2015 tariffs: pursuant to Art. 2 of Resolution No. 199/11, the WACC has been updated by the Authority to 6.3%; it is also contemplated that all the investments made after 31 December 2011 should benefit from an additional 1%, recognised by the Authority in order to compensate the "regulatory lag", i.e. the delay with which the tariffs remunerate investments (as indicated above, the tariffs related to the year "Y" reflect the return on investments up to the year "Y-2"). Therefore, the RAB base return on such investments (starting from the 2014 tariffs) is 7.3% (6.3%, +1%).
  - Incentive remuneration (tariff incentive mechanisms)
    - For some specific types of investment, incentives are contemplated aimed at promoting investment in infrastructure:
      Additional WACC (on investments which have entered into service): for some types of investment, the WACC is increased for 12 years from the date of commissioning.
    - Acceleration of investments: for some strategically important investments, an increase in the WACC is contemplated also in the construction period (works in progress), provided Terna reaches certain effectiveness indicators.
    - In 2014, RAB remuneration (base + incentives) constituted approximately 51% of Terna's recognised costs.
- <u>Cost paid for depreciation and amortisation</u>: recognised depreciation and amortisation are adjusted in accordance with the useful life of assets and new investments which have come into operation. They are also revalued annually according to changes in the deflator of gross fixed investments. The portion of amortisation/depreciation remuneration represented approximately 31% of the total recognised costs in 2014.
- 3. <u>Cost paid to cover **operating costs**</u>: the component covering these costs, which in 2014 came to around 18%, is based on annual operating costs, valid for the entire regulatory period (i.e. 2010 for the regulatory period 2012-2015) and on the residual portions temporarily left to Terna of the extra-efficiency achieved in the two previous regulatory periods. The entire amount is revalued annually on the basis of inflation and reduced by an efficiency factor aimed at completing, over time, the transfer to the final users of the extra-efficiency achieved.

The grid transmission fee is for the transmission of all the holders of portions of the NTG, and it is therefore calculated by the Authority on the basis of the recognised costs of the entire transmission sector. The transmission revenues are entirely collected by Terna, which later, after deducting certain parts exclusively due to Terna, shares it out according to competence between all the holders of NTG portions.

#### **Dispatching service**

The fee for the dispatching service (DIS) remunerates Terna for activities directly connected to the dispatching service, and it is invoiced by Terna to the withdrawal dispatch users<sup>22</sup>, in proportion to the respective quantities of energy dispatched. The related revenues are entirely due to Terna, as the only subject responsible for this service.

Resolution No. 204/11 calculated the DIS fee for the year 2012 and decided on the annual updating with the same criteria and methods as contemplated by Resolution No. 199/11 for the grid transmission fee.

For the years 2013, 2014 and 2015, the unit amount of the DIS fee has been updated respectively by Resolutions No. 576/12, No. 636/13 and No. 658/14.

#### Revenue guarantee mechanism

Once the unit amounts of the transmission and dispatch tariffs have been established (recognised costs divided by the reference quantity), the returns gained by Terna depend on the actual trend of the physical quantities concerned, and particularly on the energy transported by the NTG and the energy dispatched. The sharp decline in consumption that began in the second half of 2008, together with the increase in energy input into the distribution networks due to incentives for the production of renewable energy, have rendered the trend in energy transported by the NTG less predictable and led the Authority to confirm, for the IV regulatory period (four-year period 2012-2015), the mechanism to partially neutralise the volume effect, introduced by Resolution ARG/elt 188/08. According to this mechanism:

- if the final energy total is less than that used to calculate the tariffs, Terna's remuneration is increased for the portion of volumes which exceed the -0.5% exemption;
- if the final energy total is greater than that used to calculate the tariffs, Terna is required to return the excess earnings for the portion of volumes which exceed the +0.5% exemption.

#### **2014 Incentive schemes**

The Authority has introduced specific bonus and penalty schemes aimed at encouraging service improvement, both in terms of technical reliability and cost. As is implicit in incentive mechanisms, upon reaching objectives, the benefit to service users will be a multiple of the incentive paid to Terna. In particular, in 2014 incentive mechanisms were provided: • for the transmission service quality (non-tariff incentive mechanism);

• for the promotion of significant investments (tariff incentive mechanisms: additional WACC and investment acceleration, described previously).

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

#### 2014 INCENTIVE SCHEMES

Objective	Authority Resolution	Period applicable
Quality of transmission service	Resolution 197/11	2012-2015
Promotion of particularly important investments (additional WACC and investment acceleration)	Resolution 199/11	2012-2015

#### **Regulatory changes**

With Resolution No. 483/14, the Authority began the procedure that will give rise to the definition of the provisions for the V regulatory period (starting on 1 January 2016) with regard to the tariffs for electricity transmission, distribution and metering services, as well as the quality of these services and the technical/economic conditions for the connection service.

To that end, on 15 January 2015, the Authority published Consultation Document 5/2015/R/EEL regarding "Regulation criteria for the tariffs and quality of electricity transmission, distribution and metering services for the fifth regulatory period". On the basis of the provisions of this document, according to the Authority's forecasts, the consultation regarding the V regulatory period will take place during 2015.

#### **Pass-through items**

In addition to regulated revenues and those generated by non-regulated activities, Terna manages cost and revenue items connected to the transactions, completed with electricity market operators, to buy and sell the energy necessary for the dispatching services: these are the "pass through" items, i.e. those which do not influence net income on the Terna Group's Income Statement (revenues equal costs).

These items include payments such as the capacity payment which Terna collects from withdrawal dispatching users and passes on to the producers who make the capacity available on the market. It also includes the payment that Terna collects from the withdrawal dispatching users and passes on to the operators which supply the load interruption service. A significant proportion of pass-through items consist of uplift, a tariff component which includes various system costs, including covering the net expenses incurred to procure resources on the Dispatching Service Market (DSM).

In 2014, pass-through revenues and costs for the Terna Group totalled € 5,882.2 million. The components of these transactions are detailed below.

€ million	2014
Revenue – Electricity Market	
<ul> <li>Foreign market - exports</li> <li>Sale of energy on the Day Ahead Market, Adjustment Market, Market for Dispatching Service and others</li> <li>Imbalances and other minor items</li> <li>Resources procurement for the Market for Dispatching Services</li> <li>Congestion revenue - (RTC), Res. No. 288/06</li> <li>Other items - Power Exchange</li> <li>Interconnector/Shipper</li> <li>Market coupling Res. 143/10</li> <li>Total revenue - Power Exchange</li> </ul>	0.5 336.8 769.6 1,962.8 811.3 60.9 72.8 20.5 <b>4,035.2</b>
<b>Revenue - non-Electricity Market</b> Revenue components under Res. Nos 168/04 - 237/04 and others Other items <b>Total revenue from outside the Power Exchange</b>	1,447.2 384.1 <b>1,831.3</b>
Pass through transmission fee         Transmission fee revenues, other owners         Total transmission fees, other NTG owners         Total revenue	15.7 <b>15.7</b> <b>5,882.2</b>
Costs - Electricity Market. Energy purchases	
<ul> <li>On Day Ahead Market and Adjustment Market</li> <li>To provide the dispatching service</li> <li>For unbalancing</li> <li>On the foreign market - imports</li> <li>Electricity Market Operator fees</li> <li>Congestion revenue - (RTC), Res. No. 288/06</li> <li>Other items - Power Exchange</li> <li>Interconnector/Shipper</li> <li>Market coupling Res.143/10</li> </ul>	261.9 1,839.7 831.0 0.5 0.1 486.4 53.3 560.9 1.4 <b>4,035.2</b>
Costs - non-Electricity Market	
Purchase of electricity-market related services Other items Total costs from outside the Power Exchange	1,447.2 384.1 <b>1,831.3</b>
Pass through transmission fee	
Fees payable to NTG owners Total fees payable to NTG owners Total expenses	15.7 <b>15.7</b> 5 882 2

### Legislative context

With reference to the legislative context the Terna Group works within, please refer to Annex "Italy's Regulatory Framework" in this section, for a more detailed description of the main regulatory provisions of interest for the Group's companies issued during the course of 2014 and, subsequently, up to the date this Annual Financial Report was prepared. The annex is divided into the sections "Legislative framework" for the main legal measures, "Resolutions of the Italian Regulatory Authority for Electricity, Gas and Water" for the more strictly regulatory area and "Other information" which includes indications required by specific laws or regulations governing the sector.

# The Group's business and capital

The financial, productive, intellectual, relational and human resources of the Terna Group constitute the inputs of the business model described above, which, through the organisation's activities and choices, tend to change according to the Group's strategies, with the primary objective of creating value in the short, medium and long term.

Aware of the importance its services have for the overall functioning of the electricity system and its responsibilities towards the community, Terna has always been dedicated to effectively managing the National Transmission Grid (NTG), a resource that is of the utmost importance for both the company and the entire nationwide system. In addition it works to create trust with its stakeholders (from the general community to its employees), thereby ensuring a solid business model, both medium and long-term.

### National Transmission Grid (NTG) – The 2014 Development Plan

Among Terna's assets, the National Transmission Grid has a primary role.

### The National Transmission Grid Development Plan

The NTG must gradually evolve and expand in accordance with developments in the generation and consumption of electricity. Both the supply and demand of electricity evolve at different rates in different areas of Italy. The combination of these elements changes the flows of electricity in the system, causing congestion in the existing grid.

To tackle these issues, Terna prepares annual **grid development investment programmes**, so as to stay up to date with the evolution of production capacity and consumption, and to increase their efficiency and security. The development work that Terna plans and carries out has positive repercussions on society; in fact, the assumption underlying its implementation is that the collective financial benefit that this work generates outweighs its cost.

Every year, Terna prepares a **Transmission Grid Development Plan (DP)** containing the **National Transmission Grid** development projects envisaged for the next ten years and the progress made on development works planned in previous years.

The 2014 Development Plan is concerned with the NTG development investments for 2014-2023; it describes the theoretical framework, the objectives and the criteria used to set out the planning process for the transmission grid, the new development needs identified in 2013, priorities for action and the expected results of the DP. The DP is accompanied by a closer examination of analyses carried out on the economic sustainability of the main development plans.

Every Development Plan follows a detailed path, in that it is assessed and approved by the Ministry for Economic Development, also following public consultation (pursuant to Article 36.13 of Legislative Decree 93/11) by the AEEGSI, and also subjected to evaluation by the Grid User Consultation Committee, according to the provisions of the Terna Grid Code.

In particular, on 6 October 2014 the consultation phase for the 2013 and 2014 DPs ended, with observations on the development plan formulated by the stakeholders being sent. Subsequently, upon request by the Authority, in November 2014 Terna sent its own comments on the observations which had been received.

In addition, pursuant to Legislative Decree 152/06, as amended, the DP is also subject to the Strategic Environmental Assessment (SEA)<sup>23</sup> process carried out by the Ministry of the Environment and Protection of Land and Sea, in collaboration with the Ministry for Heritage, Culture and Tourism.

The 2014 DP envisages investments totalling around  $\in$  8.1 billion, thanks to which efficiencies will be achieved for the electricity system of over  $\in$  1.4 billion as well as other notable benefits:

- reduction of energy losses of 1.1 billion kilowatt-hours per year;
- reduction of CO, emissions of approximately 13 million tonnes/year;
- reduction of congestions for an amount of more than 5,000 MW;
- greater foreign exchange capacity, estimated at more than 6,000 MW;
- greater power capacity generated by renewable sources of around 6,000 MW.

In addition, implementation of the 2014 DP will lead to an increase in the dimensions of the NTG of around 4,500 km of new power lines and more than 110 new stations for a new transformation capacity of over 17,000 MVA.

(23) It may also be subject to screening to check whether it should undergo SEA pursuant to Legislative Decree No 1 of 24 January 2012.

Finally, we note that at the end of December 2014, in the European context, under the aegis of ENTSO-E (European Network of Transmission System Operators for Electricity) the Ten-Year Network Development Plan of the European electricity grid 2014 edition is being prepared (TYNDP 2014), on the basis of the provisions of the European Community Regulation regarding the "Third Energy Package". Terna is directly involved with this plan in the context of the working groups and Regional Forums established: Continental Central South and Continental South East.

### The Development Plan Strategic Environmental Assessment Procedure

The process for obtaining approval of the 2014 Development Plan from the Ministry for Economic Development requires the acquisition of a reasoned opinion, on completion of the SEA procedure<sup>24</sup>, expressed by the Ministry for the Environment and Protection of the Territory and the Sea (the competent authority), together with the Ministry for Heritage, Culture and Tourism.

The goal of the SEA is to contribute to integrating environmental considerations into the process of preparing the plan, in order to guarantee environmental sustainability for the plan in question. Over the course of the years, Terna has shared a methodological/procedural approach to applying the SEA to the DP with the Ministry of the Environment and Protection of Land and Sea and the other relevant institutional organisations, focused on <u>prior consultation</u> with the relevant territorial authorities (Regions, Provinces, and Municipalities). The objective is a shared search for local sustainable solutions, in terms of environmental/local corridors, for the actions foreseen in the DP<sup>25</sup>.

A summary of the progress of the SEA procedures for each of the relevant DPs follows:

- **2012 DP**: on 21 December 2012, Terna published the Environmental Report, for which the consultation phase ended on 19 February 2013. On 19 November 2014, the Ministry of the Environment and Protection of Land and Sea expressed its reasoned opinion.
- 2013 DP: on 21 June 2013, Terna sent its Preliminary Report to the aforementioned authority, to verify whether it was subject to the SEA. With a note issued on 2 December 2013, the authority suspended the procedure, awaiting approval of the SEA relative to the 2012 DP.
- 2014 DP: Terna has made itself available for prior consultation with the relevant authority, to allow for the addition of environmental considerations in preparing the Plan and prior to its approval. To this end, various meetings were held with the Ministry of the Environment, after which the drafting of the "Guidelines Report" was shared. This testifies to the cooperation with the authority in regards to the objectives of the Plan itself, on the basis of indications deriving from European and national environmental sustainability strategies. On 22 December 2014, Terna sent the Preliminary Report to the Ministry for Economic Development, aimed at verifying whether the 2014 DP was to be subject to the SEA, so that it could be sent on to the competent authority.
- 2015 DP: confirming this path, the Guidelines Report was prepared following the 2014 DP model.

### Planning and development of storage systems

Terna has affirmed its commitment to guaranteeing secure and economical grid management by launching an innovative storage system agenda. The plan is divided into two macro-projects ("**Energy Intensive**" and "**Power Intensive**") which envisage the installation of various types of systems. The two macro-projects, as well as being highly innovative, are also unique in kind and purpose. The development of the projects, which received the extra economic incentives from AAEGSI, is supervised by Terna Storage S.r.l..

The **"Energy Intensive**" project was first introduced in the 2011 Development Plan and envisages the construction of three electrochemical NaS-technology storage systems in Southern Italy with a total capacity of 34.8MW:

- Ginestra (Benevento) 12 MW;
- Flumeri (Àvellino) 12 MW;
- Scampitella (Avellino) 10.8 MW.

These plants will allow the 150kV backbones of the National Electricity Grid, which are present in areas with a high concentration of non-programmable renewable energy sources, to be managed with greater security and flexibility. In the first part of 2014, construction of the Ginestra and Flumeri plants commenced and by December the first had been commissioned, as well as the first 6MW of the second.

<sup>(24)</sup> The SEA is a procedure instituted specifically, by Community Directive 2001/42/EC, for the strategic environmental assessment of plans or programs that could have significant effects on the environment. This Directive was implemented in Italy through Legislative Decree 152/2006, taking effect on 31 July 2007. Therefore, the first DP to be subjected to the SEA procedure was the 2008 DP.

<sup>(25)</sup> The method involves the application of a set of localised criteria in the GIS (Geographic Information Systems) environment, known as the ERPA criteria, which make it possible to carry out an objective analysis of the area in which new electricity transmission infrastructure will be placed. In fact, the corridors identified by the ERPA criteria avoid the areas of "Exclusion" (where the regulations in effect prohibit the creation of new infrastructure), tend to avoid areas of "Repulsion" (classified under the regulations in effect as areas with natural, landscape or cultural assets) and prefer areas of "Attraction" (existing infrastructural corridors).

Construction of the Scampitella plant was authorised by the Ministry for Economic Development in March 2014 and construction work subsequently began.

Pursuant to AEEGSI Resolution 66/2013, which acknowledges the "Energy Intensive" projects as forming part of the remuneration category for investments related to testing the storage pilot projects on the National Transmission Grid, these plants will be subject, in the next 12 years, to monitoring of the main parameters and indicators, in order to verify the use and actual application in terms of grid requirements.

From the start of the projects, the Group's total investments as of 31 December 2014 in "Energy Intensive" storage systems have come to € 125.6 million, of which € 71.3 million in reference to 2014, essentially regarding procurement of the NGK battery modules for the three said sites of Ginestra, Flumeri and Scampitella.

In regard to the "**Power Intensive**" project put forward in the 2012 Security Plan and which envisages the creation of 40MW, in 2014 the AEEGSI published Monitoring Resolution 12/2014, which details the tests that are to be conducted on storage systems, as well as the data that must be reported every six months.

During the year, two sites were confirmed, authorised and created – Ciminna in Sicily and Codrongianos in Sardinia – which are intended to house the Storage Systems.

Having procured lithium- and ZEBRA-based storage technologies, an activity which began in 2013, a total of 12 storage systems were constructed: 5 in Sicily and 7 in Sardinia. With the installation of these systems, accelerated testing in the laboratories was also undertaken and the results are expected in the first quarter of 2015. In regard to the 12 systems installed at the two sites, 8 came into operation in 2014, for a total of 8.6MW, with 3.2 MW in Sicily and 5.4 MW in Sardinia. Upon completion of the 16MW planned in this initial phase of the project, procurement initiatives have commenced for a further 4MW of flow and supercapacitor based technology.

From the start of the projects, the Group's total investments as of 31 December 2014 in "Power Intensive" storage systems have come to  $\in$  31.1 million, of which  $\in$  22.0 million in reference to 2014, essentially regarding the delivery of the modules to the Codrongianos site in Sardinia.

Below is a summary of the main investment figures regarding the Terna Group's storage systems:

Project	Total investments since project start	2014 Investments
Development Plan: "Energy Intensive" storage systems	125.6	71.3
Defence Plan: "Power Intensive" storage systems	31.1	22.0
Total investments	156.7	93.3

### National Transmission Grid (NTG) – Number of plants

The number of plants belonging to Terna S.p.A. and Terna Rete Italia S.r.I. as at 31 December 2014, compared to the situation as at 31 December 2013, is shown in the following table:

	31.12	31.12.2014		21 10 0010	Change	
	Terna S.p.A.	Terna Rete Italia S.r.I.	31.12.2014	31.12.2013	Change	
Stations	462	29	491	475	+ 16	
Transformera	659	2	661	651	+ 10	
Iransionners	140,563 MVA	320 MVA	140,883 MVA	138,719 MVA	+ 2,165 MVA	
Bays	5,084	121	5,205	5,105	+ 100	
Lines	41,398 km	16,473 km	57,871 km	57,539 km	+ 331 km	
Three-phase	2,396	1,737	4,133	4,108	+ 25	
power lines	46,345 km	17,546 km	63,891 km	63,594 km	+ 298 km	

Km and MVA are calculated to 3 decimal places and rounded to the unit.

A further detail of the number of Terna S.p.A. and Terna Rete Italia S.r.I. plants at 31 December 2014 is shown in the following two tables:

ELECTRICAL STATIONS	Units	2014	2013	Change	%
380kV					
Stations	No.	157	152	+ 5	+ 3.29
Power transformed	MVA	108,098	105,698	+ 2,400	+ 2.27
220 kV					
Stations	No.	149	150	- 1	- 0.67
Power transformed	MVA	29,826	30,171	- 346	- 1.15
Lower voltages (≤150kV)					
Stations	No.	185	173	+ 12	+ 6.94
Power transformed	MVA	2,960	2,850	+ 110	+ 3.86
Total					
Stations	No.	491	475	+ 16	+ 3.37
Power transformed	MVA	140,883	138,719	+ 2,165	+ 1.56

MVA calculated to 3 decimal places and rounded to the unit. Percentages calculated to 5 decimal places and rounded to 2 decimal places.

POWER LINES	Units	2014	2013	Change	%
380kV					
Three-phase power line length	km	12,099	11,824	+ 274	+ 2.32
Line length	km	11,086	10,908	+ 178	+ 1.63
220 kV					
Three-phase power line length	km	11,700	11,915	- 215	- 1.80
Line length	km	9,456	9,569	- 113	- 1.18
Lower voltages (≤150kV)					
Three-phase power line length	km	40,092	39,854	+ 238	+ 0.60
Line length	km	37,328	37,062	+ 266	+ 0.72
Total					
Three-phase power line length	km	63,891	63,594	+ 298	+ 0.47
overhead	km	60,978	60,734	+ 244	+ 0.40
buried cables	km	1,566	1,512	+ 54	+ 3.55
undersea cables	km	1,348	1,348	-	-
Line length	km	57,871	57,539	+ 331	+ 0.58
overhead	km	54,957	54,679	+ 278	+ 0.51
buried cables	km	1,566	1,512	+ 54	+ 3.55
undersea cables	km	1,348	1,348	-	-
Proportion of direct-current connections (200 - 400	- 500 kV)				
Three-phase power lines	km	2,066	2,066	-	-
% of total	%	3.25	3.23	- 0.02	- 0.62
Lines	km	1,746	1,746	-	-
% of total	%	3.03	3.02	- 0.01	- 0.33

Km calculated to 3 decimal places and rounded to the unit. Percentages calculated to 5 decimal places and rounded to 2 decimal places.

The main changes in the figures of the NTG owned by the Parent Company and the subsidiary Terna Rete Italia S.r.l. are shown in the Annex "Evolution of the National Transmission Grid (NTG)" to which the reader is referred.

### **Electrical energy dispatching**

#### **Coverage of demand**

Coverage of demand, the trend of which is described in the section above, "Demand for electricity in Italy," is guaranteed by Terna through appropriate production margins as part of the process of planning the non-availability of grid elements in coordination with the non-availability of generation and considering production by plants using renewable sources. The table below shows the maximum figures for power in MW seen during each month of 2014, and compared with the same period for the previous year:



In 2014, demand reached a peak of 51,550 MW on 12 June 2014 at 12:00 p.m., -4% below the peak recorded in 2013. The table below shows available power and reserves in correspondence to the highest peak of 2014:

WW	45,000	50,000	55,000	60,000	65,000	70,000	75,000	80,000
	51,550							
			25,311					
	76.861							1

#### Summer peak (12/06/2014 12:00)

Requirement Reserve Available capacity

In 2014, foreign trade recorded net imports up by approximately 1.5 TWh compared to the previous year (+ 3.7% yoy). The **average median hourly price on the Italian energy exchange** (IPEX/PUN) for 2014 came to € 52/MWh, a notable decrease (-17% yoy) in comparison to 2013. It is still higher than the prices on the foreign French (PNX) and German (EEX/ PHELIX) markets, which also dropped, but to a lesser degree in absolute figures than the PUN (Single National Price): • price on the French energy exchange (PNX) of € 35/MWh (-20% yoy);

• price on the Osmoon energy exchange (FIVA) of C 35/WWI (-2070 yoy),

• price on the German energy exchange (EEX/PHELIX) of € 33/MWh (-13% yoy).

As a consequence, the spread between IPEX and the foreign exchanges decreased by around  $\notin$  4/MWh, going from  $\notin$  22/MWh to  $\notin$  18/MWh. The difference in price of the exchanges is justified by the different generation fleet, characterised in Italy by greater production costs, hence the prevalence of import trade.



The trade and the weekly average prices in 2014 are presented below.

Note. The week start/end on the graph is Mon/Sun.

For the tenth consecutive year, generation from renewable sources - solar, hydro, wind and biomass - has seen significant growth, now covering 38% of all demand in 2014. On the other hand, for the third consecutive year total demand for electricity declined, as commented on in the "Energy Context" section, to which the reader is referred.

All of this clearly has an effect on electricity prices. The PUN, Single National Price, in fact was equal to € 52/MWh, the lowest since the start of the Electricity Market<sup>26</sup>, -17% with respect to 2013, an effect determined both by the factors cited above, as well as the lowering of gas prices which mean that numerous traditional plants became more competitive. As a consequence, the price differential with bordering countries declined, despite the continuation of the positive sign, mainly due to the different generation fleet. The trend for exchanges abroad and prices on the Italian and foreign stock markets showed, in certain hours, exports from Italy with the spread nearly vanishing. For example, during the spring, coinciding with planned maintenance of French nuclear plants, or in August, when Greece reached extremely high peak demand due to tourism. Among other things, the spread with Greece is negative on average, as the Italian price is lower than the Greek one.

<sup>(26) 2004</sup> is not considered in this comparison, the year in which the Electricity Market began operations, as negotiations were limited to 29% of the market, compared to 66% in 2014.

#### Price for supplying resources on the Dispatching Services Market (uplift)

The price for provisioning of resources on the Dispatching Services Market (known as *uplift*), pursuant to AEEGSI Resolution No. 111/06 Art. 44, as amended, represents the net expense associated with the following energy-related items:

- purchases and sales on the DSM;
- premiums for forward contracts signed as an alternative to the declaration of essentiality;
- remuneration of plant goodwill on the DSM (so-called goodwill and structure change tokens);
- imbalances;
- · congestion revenues and related financial hedges;
- virtual interconnection service (Interconnector);
- other smaller items.

This price is invoiced pro-rata to users of the dispatching on the energy withdrawn, to cover the envisaged accruing monthly cost and the prior differences.

In 2014, the final uplift cost amounted to  $\in$  **1,894 million**, substantially in line with the previous year. Withdrawals were also similar, with a unit price that was essentially in line with 2013. The graph below also shows the monthly trends from revenue from invoicing the uplift ("Turnover")<sup>27</sup> and the related final cost ("Costs")<sup>28</sup> also in terms of a monthly unit price.



(27) On the basis of AEEGSI Resolution 111/06, the estimated unit price is calculated quarterly in advance as the ratio between the hedging items/costs related to the previous quarter and the estimate of electricity withdrawn by all dispatching users in the current quarter.

<sup>(28)</sup> The final unit price is calculated monthly as the ratio between the related hedging items/costs recorded in the previous month and the electricity withdrawn by all dispatching users in the previous month.

#### **Dispatching Services Market**

On the Dispatching Services Market (**DSM**), Terna procures dispatching resources to guarantee the security and adequacy of the system.

In 2014, **net expenses** for the DSM were € 1,662 million, a reduction with respect to 2013 (-2% yoy). Below is the trend of monthly net expenses:

#### DSM



The reduction in the cost during the second half is mainly due to the improvement of prices.

### Focus on other activities

The increase in Non-Regulated Activities in 2014, totalling +€79.1 million, is substantially due to revenues from work orders carried out by the Tamini Group subsequent to its inclusion within the Terna Group (+€53.5 million), as commented on in detail in the "Performance" section.

#### Tamini Group

With almost a century of experience and a high degree of know-how, Tamini represents a historic industrial company, recognised in the electrical sector in Italy and abroad, as well as one of the most important groups in Europe in terms of developing, producing and selling industrial and power electrical transformers, a brand that represents 23% of the global market for electrical components.

With almost 400 specialised employees, customers in over 90 countries throughout the world and 200 transformers installed each year, Tamini creates industrial machines with an artisan touch. On the basis of their customers' specific system requirements, manual labour combines with the perfection offered by the most sophisticated design and calculation techniques, thanks to the use of cutting edge software and simulation models.

With over 8,000 transformers produced and installed, Tamini exceeds every other operator in the world in this sector in terms of number of machines installed. In addition, Tamini is the manufacturer of the most powerful transformer in the world, located in Turkey. It owns 4 manufacturing plans, each of which specialises in the construction of a different type of machine, all located in Italy, in Legnano, Melegnano, Novara and Valdagno.

In line with the policies of the Terna Group, after the Group was acquired by the subsidiary Terna Plus S.r.I., in the second half of 2014 a series of initiatives were begun with the aim of improving and increasing the efficiency of company processes connected with the work order cycle. The project involved all areas of the company and produced new regulations for work orders, as well as an organisational overhaul needed to guarantee that activities and responsibilities matched.

#### Terna Interconnector

The establishment of Terna Interconnector S.r.I. falls within the context of the development and creation of the **"Interconnector Italy-France" Project** for which, on 16 December 2013, the Parent Company and other category Federations signed the Memorandum of Understanding, aimed at creating and managing the foreign interconnection infrastructure (Interconnections or Interconnector), pursuant to article 32 of Italian Law 99/2009<sup>29</sup>.

The new "Italy-France" interconnection (Piossasco-Grand'Ile), for which work officially began over a year ago, combined with the projects to strengthen existing lines, will make the French electricity border the most important for Italy, significantly increasing the cross-border interconnection capacity. The power line will be the longest underground line in the world. Thanks to this cutting edge project and associated technology, the new 190 km power line will be invisible. The company will mainly be responsible for the part of the project authorised as a private line.

#### The Balkans

The Balkan Peninsula is the area of greatest strategic interest for Terna, considering its proximity and the energy potential in the region, particularly with regard to renewable resources.

The new underwater power line between Italy and Montenegro, incorporated into the NTG Development Plan, will link Italy to the Balkans via 415 km of 500 kV cable between the hubs in Villanova (Pescara, Italy) and Kotor (Montenegro), with a transmission capacity of 1,000MW.

The power line is based on agreements between the two governments<sup>30</sup>, and between Terna, the Government of Montenegro and local transmission operator CGES through a strategic partnership between Terna and CGES, in which Terna holds a stake.

The construction of the interconnection cable received the necessary authorisation. The international tenders have been awarded: in Italy, the work is managed by Terna Rete Italia, while in Montenegro by Terna Crna Gora d.o.o.

#### North Africa

At present, Terna is not currently investing in North Africa, but is involved in preliminary development studies on:

- the creation of an electrical corridor between the Maghreb and Europe involving the interconnection of the countries involved. Terna is currently exploring the possibility of a Tunisian interconnection with the TSO in Tunisia, STEG;
- participating in cooperation, institutional and industrial initiatives. To this end, Terna was one of the promoters of Med-TSO, the association of Mediterranean electricity grid operators established to create a special space for cooperation between the TSOs in order to support the integration of the electricity systems in the Mediterranean area (see section below).

#### Cooperation between Mediterranean TSOs: Med-TSO

Med-TSO is the association of 20 transmission system operators from 18 countries around the Mediterranean. Terna was the driving force behind setting it up in 2012 and hosts the organisation's head offices.

In 2014, Med-TSO prepared the Mediterranean Project, with the goal of promoting infrastructure projects in the area, as well as the associated 2015 - 2017 Action Plan, structured into five activity lines, cofinanced by the European Commission: • Rules: Mediterranean Grid Code and Technical Rules for International Electricity Exchanges, in cooperation with Medreg

- (the Association of Mediterranean Electricity and Gas Regulators, whose Italian offices are located within AAEG);
- Infrastructure: coordinated planning of developments to the Mediterranean grids;
- International exchange of electricity: promotion of international exchange of electricity;
- Med-TSO database: sharing information between electricity businesses in the Mediterranean;
- Knowledge network: development of a network to exchange knowledge and experience in partnership with universities in the Med-TSO countries.

The development of the Mediterranean Project is based on multilateral cooperation between institutions and companies. For this reason, the European Commission cofinances the Mediterranean Project, on the basis of a cooperation agreement signed in December 2014.

During the Euro-Mediterranean Conference of Energy Ministers held last November, the EC, MedReg and Med-TSO signed a Partnership Agreement in Rome, which recognises the two associations as institutional partners for relations in the Euro-Mediterranean energy sector.

### **Research and Development**

When introducing technological and plant solutions, new instruments and methods aimed at improving the reliability of power plants and, in turn, service quality, Terna mainly uses in-house technicians who base their work on carefully monitoring and analysing the performance of plants and equipment. The Group also uses the specialised support of manufacturers, collaboration with universities, RSE S.p.A. (Ricerca Sistema Energetico) and CESI S.p.A., a specialised service company in which it has a 42.698% equity interest. In particular, in 2014 the Terna Group incurred costs of € 18.2 million in respect of the associate CESI S.p.A., of which € 16.3 million were capitalised.

Studies for innovation and development of new engineering solutions mainly centre around three themes:

#### • Optimisation of infrastructure and materials

Work continues on designing pylons with reduced visual impact and which are more easily integrated into the surrounding environment, as well as on researching conductors able to boost the transmission capacity of existing overhead lines, and on developing new technology for high-voltage cables. We can note the following activities in 2014:

- engineering new single-stem supports with a lattice pylon structure in 380kV double three-phase circuit, construction and factory testing of five supports intended for the "Villanova-Gissi" line;
- research on HTLS (High Temperature Low Sag) conductors, capable of withstanding higher temperatures without suffering mechanical degradation during operating life;
- start of collaboration with other utilities (ACEA and ENEL Distribuzione in particular) for a study which assesses the use
  of vegetable insulation fluids highly biodegradable and with a high flash point in transformers, as an alternative to
  mineral insulating oils.

#### • New equipment and plant configurations

Research is focused on developing and implementing compact rapid-installation stations. After a positive trial run with the 150 kV Rapid Installation Connection Station, a similar project has been planned for 380 kV, the viability of which has been confirmed by the manufacturers. Furthermore, it was decided that constituent models developed for the 380kV Compact Rapid-Installation Station would be used in innovative systems solutions for the construction of "parallel bar bays". Implementation is planned for 2015.

For the HV cable lines, in the light of the trials conducted in the laboratory and in the field, the Pry-Cam<sup>™</sup> portable tool, developed by Prysmian Electronics S.r.l. was validated for partial discharge measurement in tests performed after installation, without any contact being made with the component being tested, thus ensuring the utmost safety.

#### • Plant safety and the environment

The aim of research is to guarantee greater levels of safety at plants and in the surrounding area in the event of external, potentially dangerous events such as fires, earthquakes and extreme environmental conditions. For 2014, we note:

 for stations: the completion, through cooperation with Roma Tre University, of a study on the seismic vulnerability of the plants, an area in which Terna has obtained a patent for the Wipe - Rope TRI system. Efficacy tests done in the laboratory indicated a 50% reduction in structural stresses. During the year, the plan to install the technology in stations located in sites with a high seismic risk started and was 90% completed, and assessment of implementation in sites with medium risk is in progress.

Testing also began, in the laboratory and in the field, on innovative instrument transformers, which are intrinsically safe, both from an environmental perspective (no oil or  $SF_{e}$ ) and in terms of the physical safety of people and objects;

• overhead lines: in particular, we note the launch of an installation campaign in northern Italy of the anti-rotation device for overhead conductors, able to counteract the formation and growth of "sleeves" of wet snow and the implementation of a software model that predicts the formation of "sleeves" of ice.

#### **"BEST PATHS" Project**

In 2014, after two years working alongside the European Commission, the Best Paths (*BEyond State-of-the-art Technologies for re-Powering AC corridors & multi-Terminal HVDC Systems*) project is under way. This ambitious fouryear research and development project is, focused on developing high-capacity, flexible, pan-European transport grids<sup>31</sup>, necessary to satisfy Europe's long-term energy objectives and to fully incorporate renewable energy.

<sup>(31)</sup> The overall objective of the project is to identify technological best paths to develop more robust and flexible grids, able to support greater quantities of renewable energy and bridge the gap between production, often located in remote areas, and large consumption areas, creating benefits for the integrated electricity market and an ever more sustainable energy system.

With a € 63 million investment, 50% co-financed by the EU, Best Paths is the largest energy research and development project of the European Union's Seventh Framework Programme.

In addition to being one of the founders of the initiative, Terna is also the leader of the largest research line (worth € 23 million), related to the development of technology, components and systems in HVDC, inspired by the needs related to the future renewal of the SACOI connection between Sardinia, Corsica and mainland Italy. The research developments within the SACOI framework will also be useful in a more general sense in regards to HVDC systems. Terna's task, with the assistance of the research organisation RSE, is project management and coordination with the other participants. In addition, Terna will create the system architecture. It will then coordinate the development and subsequent tests in the field by the industries involved. Terna will also coordinate laboratory tests to assess the reliability of innovative isolator for DC overhead lines and improvement of techniques used to find malfunctions in the very long cables that typify HVDC connections.

With this project, through Terna's project proposal, Italy will be able to play a primary role in the use of European funds allocated to maintain or acquire technological leadership in the context of energy systems.

### Management of human capital

#### The Group's organisational structure

In carrying out its activities, Terna makes use of the assistance of **3,797** employees, 357 of which come from the Tamini Group, which was acquired during the year by the subsidiary Terna Plus S.r.I., as commented on in the "Significant events" section, to which the reader is referred. Terna employees are distributed among the companies of the Group as follows:

	Terna S.p.A.	Terna Rete Italia S.p.A.	Terna Storage S.r.l.	Terna Plus S.r.l.	Tamini Group	Terna Crna Gora d.o.o.
Number of employees	384	3,037	5	11	357	3*

\*Local employees

In the context of the Group's structure, the organisational model of the subsidiary Terna Rete Italia S.p.A. is significant, as the largest company in terms of employees - as seen in the above table. Specifically, the organisational model of the subsidiary includes three Area Offices (North-West, North-East and Central-South) and is aimed at reinforcing regional supervision of the activities related to operating and maintaining the plants and managing operating processes.

#### Personnel framework: structure and changes

The following tables show data for the Group, with the same perimeter as 2013. Therefore, not included are the data for the 357 Tamini Group employees. For the sake of reporting uniformity, we have also excluded the three employees on local contracts with the Montenegrin subsidiary Terna Crna Gora d.o.o..

#### PERSONNEL COMPOSITION BY CATEGORY

	2014	2013	Change
Total	3,437	3,442	(5)
Senior executives	61	62	(1)
Junior management	541	501	40
Office staff	1887	1,922	(35)
Production workers	948	957	(9)

In 2014, the Group's personnel decreased slightly compared to 2013. At the end of the year, the number of employees of the Group's Italian companies totalled 3,437 (-5 from 2013).

#### PERSONNEL CHANGES

	2014	2013	Change
Total employees	3,437	3,442	(5)
Employees recruited during the year	68	70	(2)
Employees who left during the year	73	61	12
Turnover rate on termination (%) <sup>(1)</sup>	2.12	1.8	

(1) The turnover rates show the ratio of terminations to the number of employees as of 31 December of the previous year.

Retirement is by far the most common reason for employees leaving, and is concentrated in the highest age brackets. The turnover rate for spontaneous resignations remains very low (0.32% in 2014; 0.26% in 2013): the total turnover rate, therefore, essentially reflects terminations owing to retirement. The average length of service of employees who left the Company in 2014 was 32.8 years.

#### PERSONNEL COMPOSITION

	2014	2013	Change
Total employees	3,437	3,442	(5)
By contract type			
- permanent	3,382	3,412	(30)
- temporary	55	30	25
By gender			
- men	3,042	3,048	(6)
- women	395	394	1
Average age of personnel (years)			
Average age	46.6	46.2	

In 2014, Terna made use of 54 temporary workers (compared with 39 in 2013), employees of agencies that provide a temporary employment service to Terna.

The increase in temporary employees reflects the use of the apprenticeship contract.

Over time, the generational turnover the Company is experiencing, and its hiring policies, have led to an increase in the educational qualifications of the corporate population. Today, 71% of the corporate population has a degree or high school diploma (70% in 2013).

#### Management of generational turnover

Cost excellence has been identified by management as a strategic priority among factors that will allow the Group to become a best performer in the European context. Therefore, the Group has begun programmes aimed at obtaining efficiency and savings. Of particular note is "management of generational turnover".

On the basis of current Italian legislation regarding retirement (Art. 24 of Italian Law No 214/2011), which raised the age and years of contribution requisites necessary for entitlement to a pension, personnel who could potentially retire during the 2015-2017 period total around 400 individuals. For these employees, it is expected that there will be greater use of the option of continuing work and developing a better pension. For the above objective, in the last quarter of 2014 the Company launched an initiative, which has been successfully completed, aimed at bringing forward generational change through incentives for voluntary early retirement. Specifically, the project offered early retirement incentives for employees who had the requirements for receiving a pension as of 31 March 2015, based on their age. This initiative was repeated in March 2015 for employees who achieve the pension requirements by 31 December 2015.

Additionally, in the context of the initiatives related to the 2015 - 2019 Industrial Plan, Terna intends to make use of the options foreseen in the legislation in effect regarding union involvement. In order to manage generational turnover, for some time Terna has made use of several initiatives. We can note the most important:

- the transmission of knowledge and experience, often specific exclusively to Terna by increasing use of training courses taught by in-house teaching staff;
- professional orientation projects aimed at creating and transmitting technical and managerial skills enabling adequate performance of critical roles.

#### **Research and selection**

The personnel recruited from the external labour market are above all graduates – in particular engineers – and qualified people with diplomas from professional institutes, most with an electrical specialisation. Once employed, the new recruits expand their knowledge and the necessary specific skills through dedicated introductory training courses.

The process of searching for and selecting personnel is managed by the Human Resources and Organisation Department, which also handles relations with schools, universities and employment agencies.

The preferred recruitment channel for candidates is the "Working at Terna" section of the company website.

From 2008-13, Terna consolidated and expanded its relations with universities and the world of postgraduate training and institutional training in general, to support the process of finding new staff and create a virtuous circle of exchange between the Company and the outside world. The Company has entered into agreements with the leading Italian universities and business schools to fund the creation of specialised Master's courses.

Key figures 2014

28 agreements with universities and business schools

3 sponsored masters

119 hours of teaching by Terna employees at universities and business schools

679 students from university or Master's courses visiting the plants

**32** traineeships, internships and project work begun in 2014 (in addition to 25 begun in 2013 and completed in 2014) **7** participations in career days

#### Training

**Training at Terna** continuously embraces all aspects of professional life. It is aimed at creating value for people through increasing and diversifying skills and employability and creating value for the company through the development of human capital in line with the mission and the business strategy. *Campus - Esperienze in Rete* (Experiences in the Network) is the brand for all the training provided. The training model is based on *knowledge sharing* in that the transfer of specialist know-how is entrusted to the most experienced staff of the internal Faculty. These experiences are supported by external collaborations (with universities and business schools) in order to ensure multiple teaching inputs. A dedicated office at an operating site of the Company in Rome has been active since 2012 and can accommodate up to 200 employees involved in training activities at the same time.

#### Key figures 2014

91% of employees have attended at least one training course (89% in 2013)

148,955 hours of training provided (120,115 in 2013), of which 130,070 in the Training section

66,627 hours of training provided within the Training section involved Safety (including the multiskill training component) 12% of training hours dedicated to new employees

99.8% of hours provided in the classroom (99.5% in 2013)

43 hours of training per head (35 in 2013)

70 hours of training per capita for operators (including the multiskill component)

17% of hours provided (all in the Safety section) financed by Fondimpresa

### **Developing human capital**

Terna's system for staff development, and therefore professional growth of staff, is based largely on performance as the key indicator.

At the core of the Terna Group system is the **Global Performance System (GPS)**, based on a definition of performance comprising two aspects:

the concrete achievement of pre-set targets;

• the organisational procedures implemented to achieve them.

Targets, conduct, assessments and feedback are collected using IT software accessible to all personnel involved, which guarantees traceability over time and constant monitoring of growth.



