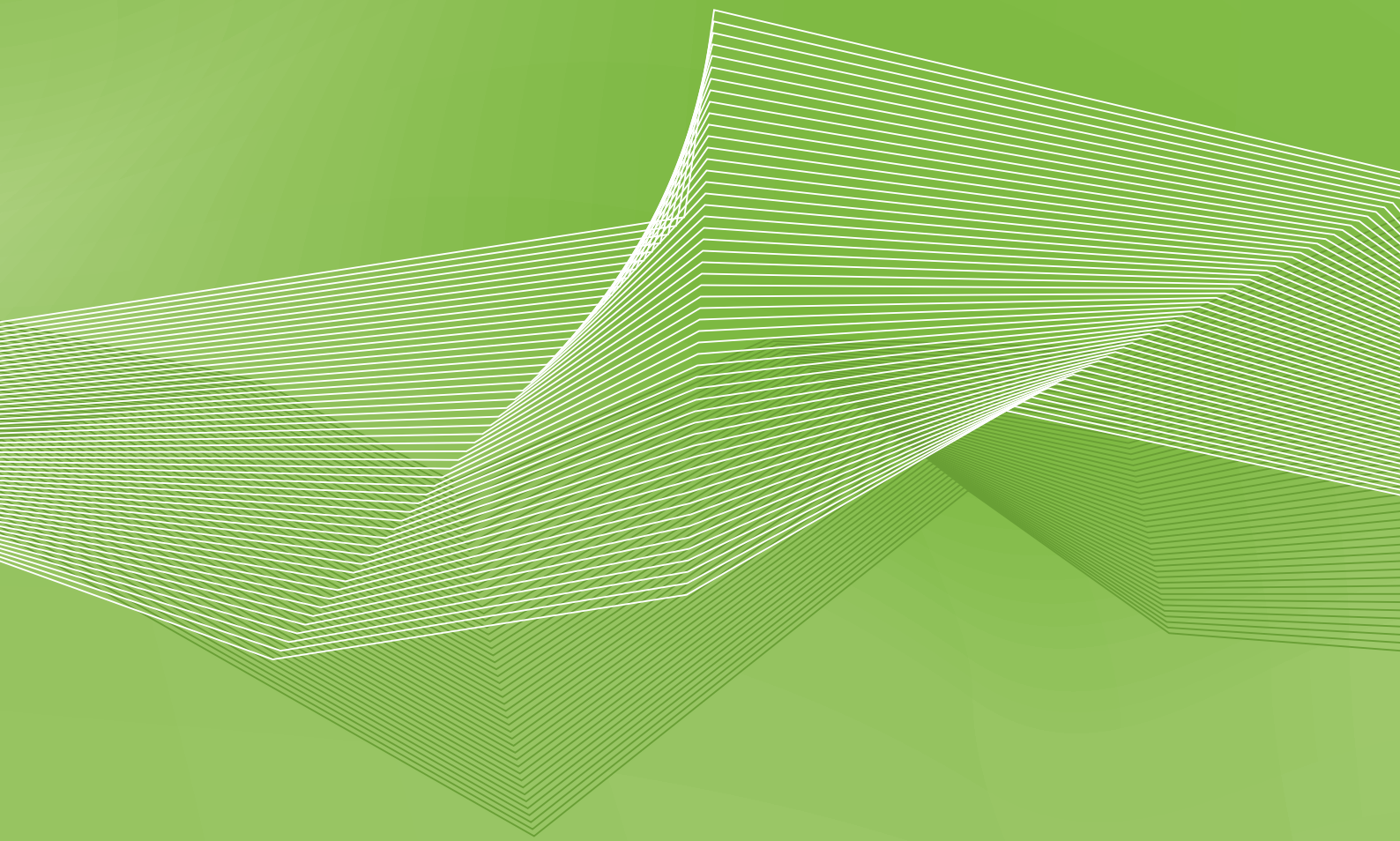
2025

Terna's **Climate Change-related Disclosure**



Terna
Driving Energy

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Driving Energy

This report summarises how the Group deals with climate change issues and also responds to and align corporate reporting with the disclosure requirements set out in the TCFD (Task Force on Climate-related Financial Disclosures) framework.

MISSION

“Terna is investing in Italy’s development

We guarantee energy security and balance electricity supply and demand 24 hours a day, ensuring that the system is reliable, efficient and accessible to all.

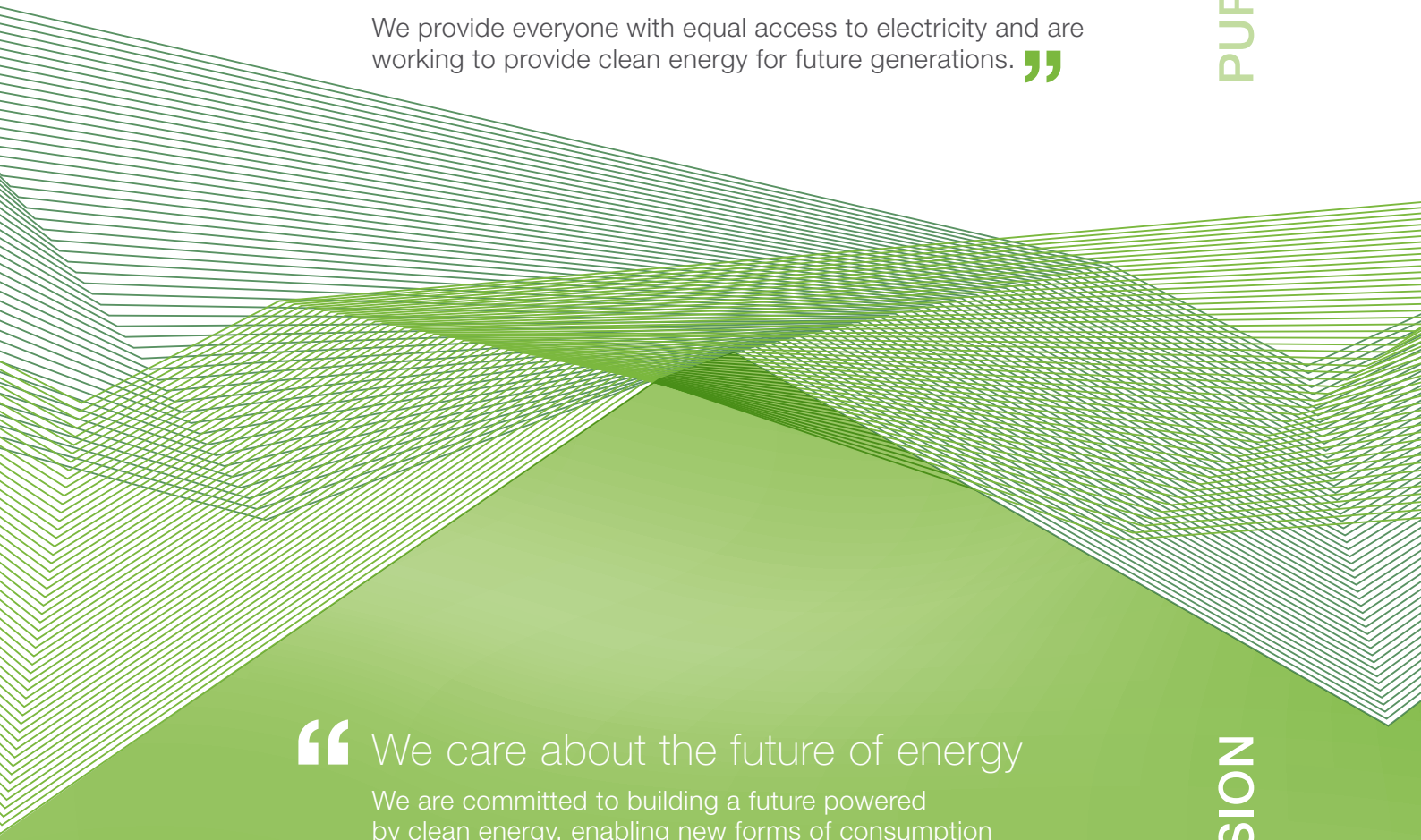
We invest and innovate every day in the development of an electricity grid capable of integrating the energy produced from renewable sources, improving links between the different areas of the country and strengthening cross-border interconnections, applying a sustainable approach that takes into account the needs of the communities and people we work with.”

PURPOSE

“We are behind the energy you use every day

We are responsible for guaranteeing the continuity of power supply, essential in making sure that electricity reaches Italian homes and businesses at all times.

We provide everyone with equal access to electricity and are working to provide clean energy for future generations.”



VISION

“We care about the future of energy

We are committed to building a future powered by clean energy, enabling new forms of consumption and production increasingly based on renewable sources. This will allow us to achieve the goal of delivering an energy transition that is fair and inclusive, whilst also lowering costs.

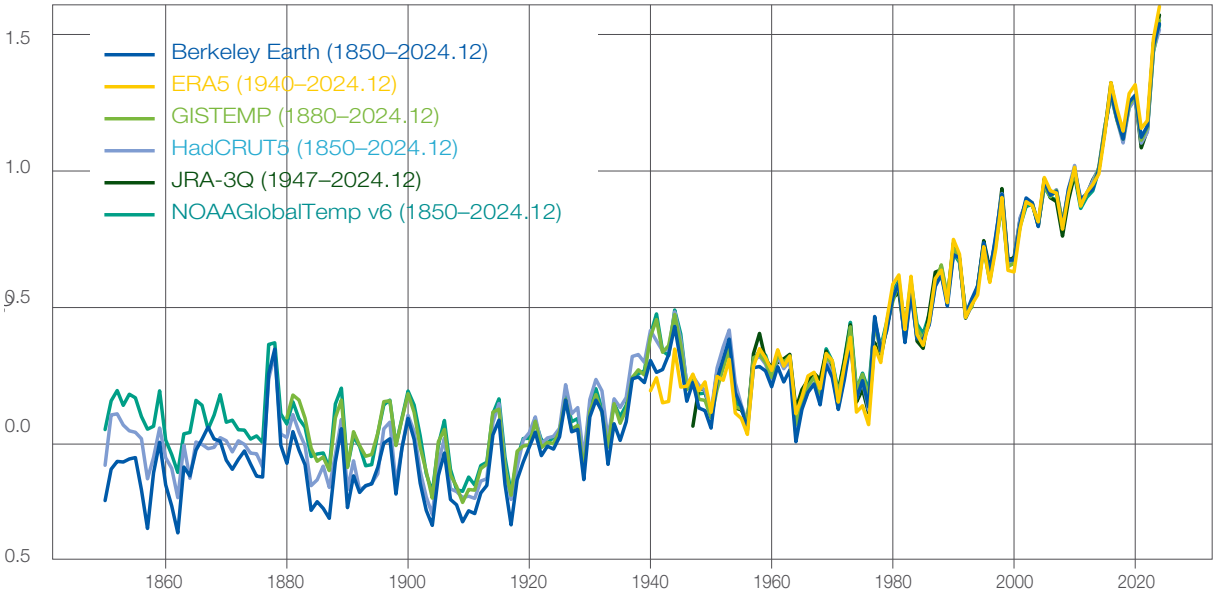
Thanks to our overall vision of the electricity system and new digital technologies, we are leading the country’s drive to get to net zero by 2050, in line with European climate goals.”

Contents

Background: the energy sector and the challenges of climate change

Climate change is a major challenge for society and the planet. According to the latest report "State of the Global Climate 2024", published by the World Meteorological Organization (WMO) in 2025, 2024 was the warmest year in the 175-year observational record, with an annually averaged global mean near-surface temperature equal to 1.55 °C ± 0.13 °C above the 1850–1900 average (used to represent pre-industrial conditions), clearly surpassing the previous warmest year, 2023 at 1.45 °C ± 0.12 °C above the 1850–1900 average. For global mean temperature, each of the past ten years, 2015–2024, were individually the ten warmest years on record.

World Meteorological Organization - Annual global mean temperature anomalies from 1850 to 2024 (compared to the average of the period 1850-1900) according to six international datasets



Warming, caused by human activities, clearly indicates that the energy model based on production from fossil sources that has favoured the Planet's economic and demographic growth over time is no longer sustainable.

Energy production from fossil sources is in fact largely responsible for the greater part of emissions produced by human activities (including CO_2), whose impacts on the environment and climate, such as, for example, the increase in the global mean temperature and the intensification of natural disasters, are scientifically recognised and increasingly frequent[1].

[1] For more information, see the "AR6 Synthesis Report: Climate Change 2023" of the Intergovernmental Panel on Climate Change (IPCC) (March 2023).

Therefore, the decarbonisation of the energy sector is the key to preventing the possible effects of climate change. Under the net-zero pathway developed by the IEA[2], by 2030 the global economy will have grown by 40%, but must use 7% less energy than today. Energy efficiency and the electrification of final consumption (given that, as an energy carrier, electricity is intrinsically efficient) will be the key drivers of decarbonisation.

The unavoidable obligation to find an effective, universally shared solution has led to the drafting of international agreements aimed at defining policies and targets to curb the global warming caused by the increase in greenhouse gases in the atmosphere. The first agreement, reached in Paris at the end of 2015, within the framework of COP21[3], was signed by 185 countries that committed to keeping the global temperature rise below 2°C and, if possible, below 1.5° – compared with pre-industrial levels. The most recent session of the Conference of the Parties (COP29) held in Baku in November 2024, renewed this commitment by setting the target of raising USD 300 billion annually by 2035 to support developing countries, the most vulnerable to the impacts of climate disasters.

In line with this commitment, the European Green Deal was published at the end of 2019, enshrining the EU's goal of achieving climate neutrality by 2050 and the intermediate target of reducing greenhouse gas (GHG) emissions by at least 55% by 2030 compared to 1990 levels. A key part of the Green Deal is the European Climate Law (Regulation (EU) 2021/1119), formally adopted by the Council of the European Union on 28 June 2021 and that came into effect on 29 July 2021.

In July 2021, the European Commission also presented a package of legislative proposals named Fit-for-55 (FF55), setting out how Europe intends to achieve the EU's decarbonisation targets, cutting greenhouse gas emissions by -55% by 2030 compared with 1990 levels and achieving climate neutrality by 2050.

All the legislative proposals contained in the FF55 package – with the sole exception of the energy taxation directive – have now been definitively approved. Of particular relevance to the energy sector are the Renewable Energy Directive, which came into force on 20 November 2023, and the EU Energy Efficiency Directive, which came into force on 10 October 2023. Indeed, the first stipulates that the share of energy from renewable sources in the EU's gross final energy consumption by 2030 must be at least 42.5%, while the second requires a reduction in energy consumption of 11.7% by 2030.

Furthermore, on 18 May 2022, the European Commission launched RepowerEU, a contingency plan that aims to strengthen the strategic autonomy of the European Union by diversifying energy supply and enhancing the Union's independence and security. The main objectives of the REPowerEU include increasing the resilience, security and sustainability of the European energy system through the appropriate reduction of dependence on fossil fuels and diversification of supply by increasing the deployment of renewable energy, energy efficiency and energy storage capacity.

At the national level, in order to reflect the new objectives defined at the European level, in July 2024 the Ministry of the Environment and Energy Security (MASE) published and transmitted to the European Commission the National Integrated Energy and Climate Plan (NECP), which offers a fundamental orientation on the development policies of the National Energy System. The NECP sets out the national targets through to 2030 for energy efficiency, the use of renewable sources, cuts in CO_2 emissions, energy security, interconnections, the single energy market, competition, and the development of sustainability of mobility.

As mentioned earlier, the existence of a direct link between the growing concentration of greenhouse gases in the atmosphere and progressive changes in the planet's climate balance is now widely accepted by the scientific community. This results in significant rises in temperature, prolonged periods of drought and increasingly frequent and extreme weather events.

[2] IEA: International Energy Agency. "Net Zero by 2050" report.
[3] 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC).

The aforementioned WMO report "State of the Global Climate 2024" shows how, over the course of 2024, our oceans continued to warm, sea levels continued to rise, and acidification increased. The frozen parts of Earth's surface, known as the cryosphere, are melting at an alarming rate: glaciers continue to retreat, and Antarctic sea ice reached the second-lowest extent ever recorded. Meanwhile, extreme weather continues to have devastating consequences around the world.

The report "Global Climate Highlights 2024" prepared by the European Copernicus programme comes to the same conclusions: 2024 was the warmest year in a multi-dataset record of global temperature going back to 1850, an 1.6°C warmer than the pre-industrial level, and each month from January to June 2024 was warmer than the corresponding month in any previous year, while the remaining months were each the second warmest for the time of year, after the corresponding months in 2023 (except for August which equalled the record warmth of August 2023). Therefore, 2024 was the first year with global temperature more than 1.5°C above the pre-industrial level, calculated, as mentioned earlier, by the international community under the Paris Agreements, as the first threshold to contain temperature anomalies in order to significantly reduce the risks and impacts of climate change. 2024 was the warmest year on record for Europe, with an average temperature of 10.69°C; 0.28°C higher than the previous warmest year of 2020. The average temperatures of the European spring (March–May) and summer (June–August) in 2024 were the highest on record for the seasons, at 1.50°C and 1.54°C above the 1991–2020 average, respectively.

In Italy, on the basis of the data compiled by the Institute of Atmospheric Sciences and Climate (ISAC) of the National Research Council (CNR)[4], 2024 turned out to be the warmest year during the observation period. The temperature in Italy was 1.35°C higher than the average of the past 30 years (1991 - 2020). With respect to macro-regions, it was warmer in the south and centre (1.44°C) and slightly less in the north (1.22°C). In fact, the 1.5° threshold has already been exceeded in Italy since the mid-1990s: 2024 was 3.22°C above the pre-industrial levels. The data collected by Legambiente's "National Climate City Observatory"[5] concerning extreme climate events in Italy, show, that in 2024, for the third year in a row, more than 300 extreme weather events affected Italy, reaching 351 this year. This figure has been growing steadily over the last ten years: 2024 saw an increase in extreme weather events of 485% compared to 2015 (when 60 were recorded). 2024 was dominated by the increase in damage caused by prolonged drought (+54.5% compared to 2023), river flooding (+24%) and flooding due to heavy rain (+12%), with Italy split in two between too little and too much water.

Global climate change is therefore reflected regionally in terms of increased risks and impacts on society, the ecosystem and infrastructure.

In the infrastructure sector, risks due to climate change have already shown their impact on assets and services. In recent years, the National Transmission Grid (NTG) has also recorded severe events with negative impacts on the continuity of the electricity service.

[4] Source: "Climate Monitoring for Italy" by the Institute of Atmospheric Sciences and Climate (ISAC) of the CNR (National Research Council) available at this link https://www.isac.cnr.it/climstor/climate_news.html
[5] Source: "National Climate City Observatory 2024" by Legambiente, available at this link: https://cittaclima.it/bilancio-2024-citta-clima/

Main climatic events impacting the NTG in the last 15 years

Analyses of historical events in recent years that have affected the NTG show that, in addition to the formation of sleeves of wet snow, which weigh down the lines and cause short circuits or structural failures, strong winds are also one of the main causes of network disruption, in particular as a result of falling trees. Further but no less critical factors that cause the network to go out of service are:

- floods, mudslides and landslides resulting in the collapse of supports, structural failure or damage to substation equipment;
- increase in pollutant deposits related to long dry periods (e.g., saline pollution or fine dust) that cause an increase in the probability of surface discharge of insulators in the lines or in the substation;
- forest fires, which on the one hand can directly affect assets by damaging them and causing failures, and on the other hand require out-of-service to ensure safety during firefighting by the fire brigade and during civil protection activities.

In this context, and even more so in future scenarios, energy is a key element in driving the energy transition and addressing the climate crisis.

Having a sustainable electricity infrastructure capable of integrating and utilising “clean” energy sources and resilient to climate and the possible damage caused by the increasing intensity and severity of extreme weather events is one of the enabling factors for responding to climate change.

In addition to developing a robust and resilient grid, at the same time it is also crucial to be able to exploit the potential offered by the digitalisation of infrastructure in order to best meet this challenge and to be able to ensure the safe and efficient operation of the electricity system following severe weather events.

As part of the climate assessment, starting in 2020 Terna equipped itself with a tool, the Resilience Methodology, whose forward-looking nature to discern the evolution and impact of the climate in the coming decades, as well as the probabilistic nature necessary to assess multiple failures and contingencies and the consequent risk of energy not being supplied on the grid following the occurrence of severe weather events, allow for the implementation of effective and efficient planning of projects to increase grid resilience.

Over the years, the Resilience Methodology has undergone continuous evolution and refinement to consolidate the analyses on climatic snow and high wind events, continuing also studies on the modelling of events related to hydrogeological instability, and, in particular, the hydraulic risk from river flooding.

Terna's role in the just transition

The national electricity system is made up of several segments: production, transmission, distribution and the sale of electricity. Tasked with **transmission** and **dispatching**, Terna is responsible for the key transmission segment. This is a complex task, requiring an independent central coordinator capable of having an overall view of a high number of actors involved in both production and consumption.

In this scenario, Terna is driving the complex transition towards a new carbon-free model, aware of the fact that the task of meeting ambitious national and international targets over the coming years must be addressed by taking into account not only the environmental aspects, but also the social dimension, in order to deliver a **just transition** that is as fair and inclusive as possible. In this sense, it is of fundamental importance to involve all the players affected by the transition (including, for example, trade bodies, civil society and the authorities), through partnerships, public debate and engagement initiatives.

To be truly just, this transformation process must embrace not only **energy-related** and **digital aspects**, but also **social considerations**. This means achieving energy equality, under an approach that has the human dimension at its heart with a view to reducing inequalities and avoiding new forms of energy poverty. With this in mind, as of 2024, the Group's Sustainability Plan has been fully integrated into the Industrial Plan. Sustainability is inherent in Terna's very nature, precisely because of its crucial role in bringing about the energy transition ("Green by Nature"). But what most qualifies the Group as sustainable is the way it chooses to carry out its business ("Social by Purpose"). In order to pursue an inclusive transition, in support of this approach, one of the main new developments of the Sustainability Plan is the establishment of the Terna Foundation, which took place on 30 July 2024, which was followed on 26 September by its registration in the Register of Legal Persons. The foundation became operational in January 2025.

In managing the transmission grid and the system, **new technologies** and **digitalisation** thus play and will continue to play an ever more important role in enabling the energy transition. This will benefit the electricity system as a whole and further boost the security, resilience and flexibility of Italy's transmission infrastructure, supporting progressive decarbonisation and the growing integration of renewables.

The transition to a distributed production system based on green sources is, therefore, rapidly altering the electricity system, resulting in exponential growth in active resources connected to the grid. Managing requests for connection to the HV grid, coming from entities proposing renewable initiatives, enables Terna to have a **systematic** view of the current situation and future scenarios. As Transmission System Operator (TSO), Terna can monitor the system's ability to meet demand for electricity whilst satisfying security and quality of service requirements: in a word, ensuring the system's adequacy.

The initiatives included in Terna's 2025 Development Plan for the national transmission grid will make a significant contribution to **achieving** the **targets** set at **European level** in the Fit for 55 package of measures, by RepowerEU and in **Italy** by the 2024 National Integrated Energy and Climate Plan (NECP) which aims to cut CO_2 emissions by at least 55% by 2030 compared with 1990 levels. In Italy, energy from renewable sources will have to cover at least 65% of final consumption in the electricity sector by 2030 for a total of more than 70 GW of additional power (wind and solar) compared to 2021 (about 65 GW compared to 2023). These greenhouse gas emission reduction targets have recently been joined by the need to become independent of fossil fuels from Russia, as described in the REPowerEU plan.

Market operators are responding to the challenge with major investment programmes: the level of **renewable energy plant development projects** being put forward by private investors is extremely encouraging. At 31 December 2024 Terna received requests for connection to the National Transmission Grid (NTG) for over 348 GW of new renewable capacity, of which 43.6% related to solar and 56.3% to wind (onshore and offshore). It is possible to continuously monitor these initiatives through the new digital platform called Econnextion[6], launched by Terna in 2023 in collaboration with the Ministry of the Environment and Energy Security. the platform provides centralised information on requests for the connection of renewable energy sources to the HV grid in Italy. This dashboard has been enriched with additional data on all green sources and also with information on storage systems. An important new tool for the benefit of sector operators, with which Terna shares information on the regional and local distribution of renewable connection requests broken down by sources (solar, onshore wind, offshore wind, hydroelectric, geothermal, biomass) and storage systems (pure pumping, mixed pumping, standalone storage, integrated storage on solar plant, integrated storage on wind plant).

The data on applications for the connection of new renewable energy plants to the electricity grid reveal that we are one right track: it would be sufficient to complete 20% of the currently proposed initiatives to reach the targets set. According to Terna's findings – considering all renewable sources – the capacity increase in Italy was about 7.5 GW, which is about 1.7 GW higher than in 2023 (+29%). This points to an acceleration in the development of renewables, with new activations rising from 1 GW in 2021, approximately 3 GW in 2022 to around 5.8 GW in 2023. As at 31 December 2024, Italy had 76.6 GW of installed power from renewable sources, broken down by source as follows: solar 37.1 GW, hydro renewable 21.56 GW, wind 13 GW, biomass 3.97 GW and geothermal 0.95 GW. In addition, according to the latest figures from Terna at 31 December 2024, 8 GW qualified for the Detailed Minimum Technical Solution as part of the process for connection to the national grid.

Differences in the geographical distribution and technology mix compared with earlier forecasts make this a very tough challenge: from the point of view of transmission, to achieve this fresh injection of renewable energy into the grid will require a major effort to plan, approve and carry out investment projects on a scale not seen in recent decades in Italy. In the **2025 Development Plan** Terna presented an investment programme of more than €23 billion for the period 2025-2034, with a total value beyond the 10-year horizon of up to about €40 billion. Actions are planned over the ten-year horizon 2025-2034 to ensure the grid resilience and efficiency, the sustainability, the security and the quality of the service, as well as the integration of production from renewable sources. Also at the centre of the 2025 Development Plan is the efficient territorial planning of the country's energy infrastructure as a new model to ensure efficiency in the realisation of grid works enabling the connection and integration of new resources, minimising costs for the system, as well as the impact of infrastructure on the local regions. Furthermore, a total reduction in CO_2 emissions of almost 2,000 kt/year is expected by 2030, which in the long term (by 2040) will tend to almost 12,100 kt/year.

The definitive text of the NECP for 2024 confirms the decarbonisation targets for the electricity system and the related steps needed, as set out in Terna's 2024 Scenario Description Document and in the Development Plans: to integrate growing volumes of non-programmable renewable source to replace generation using fossil fuels, it will be necessary to develop storage capacity and grid infrastructure, to be managed using increasingly digital and smart systems.

The energy transition path requires a common commitment at the national level to achieve the challenging decarbonisation objectives set out in Italy by the National Integrated Energy and Climate Plan: to this end, the Energy Decree entrusted Terna with the task of creating a new digital portal. The **TE.R.R.A. digital platform** was launched online on 7 June 2024, developed by Terna to enable and promote efficient territorial planning of the country's energy infrastructure, available to national and local administrators, legislators, and proposing parties to consult strategic and relevant information on Territory, Networks, Renewables, and Storage. A cutting-edge institutional communication tool, designed to facilitate the full transparency of data and information, to encourage action for the rationalisation and optimisation of electrical infrastructure planning and, finally, to support the stakeholders involved through regular monitoring and progress reports from Terna on the grid and the electricity system. The platform contains a huge wealth of information on the status of connection requests (around 8,000 renewable energy plants, storage systems and consumer users with a connection solution accepted by the proposers), and on the geographical location of more than 43,000 VHV/HV and MV plants in operation, confirming constant work on data quality and the digitalisation of processes and systems. It is possible to navigate multilayer maps to observe necessary development work, planned development work and existing power lines, the registry of plants already in operation and the progress of new connection initiatives.

[6] https://www.terna.it/en/electric-system/efficient-territorial-planning/econnextion

Terna has, and will increasingly have, a key role to play in enabling the electricity system's transition towards renewable sources and in centrally coordinating this major energy and digital transformation. The electricity grid is in fact the main enabling factor in achieving the global goal of decarbonisation.

What does this mean? Achieving the ambitious European and international goals will obviously require the participation of all members of society, but the energy sector must take the lead, given that it is by a long way the biggest producer of emissions at global level.

Under the European Green Deal, the net **zero emissions target** is to be achieved in two main ways: by **increasing use of renewables** and through **growing electrification of consumption**. In this sense, an essential role in all the various scenarios designed to arrive at carbon neutrality is played by the key tool of **energy efficiency**.

Introducing the "**energy efficiency first**" principle, the European Commission invited member states to take energy efficiency into account in all their policy, planning and investment decisions. In this way, in keeping with the EU's long-term strategy, final energy consumption in Europe is expected to fall by (at least) 35% by 2050 compared with 2019 levels.

The key consideration, in this sense, is represented by the fact that electricity will be the main energy carrier and the electricity grid will operate as the backbone for decarbonisation for all the other energy sectors. This reflects the carrier's intrinsic efficiency and the technological maturity of renewable energy sources (RES).

Climate targets also play a key role in the United Nations **2030 Agenda** for Sustainable Development, not only because SDG 13 - Climate Action focuses explicitly on the climate, but above all because dealing with the climate crisis and guaranteeing, therefore, a healthier planet for the future, is key to enabling the world to achieve all the other goals contained in the Agenda. This means delivering truly prosperous, long-lasting development as part of a just transition. The main tools with which the Group contributes to the objectives described above are shown below.

The governance of climate change issues

As described in Terna's mission and vision – which are firmly focused on the goal of decarbonisation and achieving zero greenhouse gas emissions by 2050, in line with European climate targets – **the issue of combatting climate change runs through all the Group's main activities**.

Top management and the **Board of Directors** are, in fact, periodically involved during the year in the main plans that are also related to climate change, such as the National Transmission Grid Development Plan, the main operating guidelines for a full realisation of the ecological transition in Italy; the National Electricity System Security Protection Plan (the "Security Plan"), with the Resilience Plan attached, fundamental for strengthening the resilience and adaptability of the national transmission grid to severe weather events; the Industrial Plan, which reaffirms Terna's role in the decarbonisation of the country – in line with national and European guidelines – and illustrates the investments for energy transition implemented with the plans mentioned above.

During 2024, specific induction activities were organised for the members of the Board of Directors and the Board of Statutory Auditors, covering, inter alia, issues related to the adequacy of the energy system with respect to the challenges posed by the integration of renewable sources and climate change, and the introduction of new reporting standards related to the company's climate strategy in compliance with the provisions of the Corporate Sustainability Reporting Directive. In addition, the Board of Directors was constantly updated on sustainability guidelines, activities and results, also in 2024, by appropriate communications to the "Audit and Risk and Sustainability Committee". On 23 October 2024, in order to strengthen the control over sustainability topics and to ensure its integration with governance issues and the long-term strategy and in line with the development in legislation and national and international best practices, the Board of Directors resolved to give more space to ESG objectives, expanding the remit of the Governance and Scenarios Committee, renaming it the "Sustainability, Governance and Scenarios Committee" (while the "Audit, Risk and Sustainability Committee" changed its name to "Audit and Risk Committee").

In particular, the **Sustainability, Governance and Scenarios Committee** is entrusted with responsibilities in the area of Sustainability, with particular reference to:

- examining and assessing sustainability policies with the objective of ensuring the creation of long-term value for the benefit of shareholders, taking into account the interests of Terna's other relevant stakeholders, also for the purpose of examining and approving the Company's and the Group's Industrial Plan;
- the definition of the sustainability guidelines and plans and the materiality matrix that identifies the most material topics for the Group and its stakeholders in the light of the strategies of the Company and the Group itself and the sustainability statements submitted annually to the Board of Directors;
- the regular monitoring of how the sustainability plans are being implemented and the achievement of their objectives, as well as the inclusion of the Company in sustainability indices.

The identification and management of sustainability issues and projects and the consequent definition of appropriate Policies and Guidelines are the responsibility of the **"Strategy, Digital and Sustainability" Departmen**t (whose head, the Executive Vice President for the Strategy, Digital and Sustainability, reports directly to the Chief Executive Officer), who periodically reports to the "Sustainability, Governance and Scenarios Committee" (in 2024, this reporting was conducted at least quarterly to the committee responsible at the time). Indeed, under its prerogatives, the 'Strategy, Digital and Sustainability' Department coordinates and develops social and environmental sustainability issues, also through communication activities, supporting group companies in planning the actions necessary to achieve their targets and reporting annually on their effects through sustainability statements. A significant portion of these activities specifically refers to actions against climate change. For example, in 2024, the "Strategy, Digital and Sustainability" department coordinated the update of the Sustainability Plan in order to enhance all ESG targets in line with the objectives of the Industrial Plan. One pillar of the Sustainability Plan relates precisely to the realisation of a transition to a new, more sustainable energy paradigm, based on the use of energy from renewable sources. In addition to a progressive reduction in the carbon footprint and in the related CO_2 emissions, there are also considerations on the security of the National Electricity System and, therefore, of the country's production and social system. The department, through the Sustainability team, was also responsible, among other things, for managing the relationship with the Science-based Target Initiative (SBTi), i.e., the most advanced international initiative in terms of promoting a low-carbon business model by setting a voluntary GHG emission reduction target. Furthermore, in March 2025, the Terna Group officially announced its commitment with SBTi to setting a net zero target within two years. Again via the Sustainability team, the department also collected monitored and reported on the Group's carbon footprint data, contributed to the efforts to implement the company's circular economy roadmap aimed at integrating circularity into the business model and reducing the environmental impact of the Group and its value chain, including in terms of reducing CO_2 emissions.

In carrying out its activities, the Sustainability department interacts transversally with all company entities. An example of this operating method is the constant interaction with the Management Systems - headed by the HSE Quality and Risk function - which, through the Integrated Management System, optimises the coordination of all parties involved in monitoring quality, environmental performance and safety at work. The Company's Integrated Management System includes the ISO 14001 certified Environmental Management System and the ISO 50001 certified Energy Management System, which oversee the impacts linked to the energy consumption and greenhouse gas emissions.

On an operational level, the issue of climate change involves, in addition to the functions already mentioned, all the functions variously involved in the elaboration of energy/climate scenarios and plans.

Finally, as of 2024, Legislative Decree No. 125/2024, in compliance with the "Corporate Sustainability Reporting Directive" (CSRD), broadens, for listed companies, the attestation tasks of the Manager Responsible for Financial Reporting. Specifically, the Manager Responsible for Financial Reporting's attestation is extended to compliance of the Group's Sustainability Statement with the European Sustainability Reporting Standards (ESRS - including the E1 standard on climate change) provided for by the CSRD and Regulation (EU) 2020/852 (EU Taxonomy).

The centrality of the climate issue for Terna is also reflected in the variable **remuneration** of the company's management, which includes short- and long-term incentives that can also be linked to actions against climate change.

Objectives that have an impact on the climate have long been present in the company's remuneration policy; in the past, for example, MBOs have been provided for projects such as 'IoT for the grid' (creation of a data collection infrastructure through the installation of sensors on National Transmission Grid assets for the monitoring of resilience and the management of climate risk) or 'Smart Islands' (creation, on some Italian islands, of hybrid systems that integrate traditional generation plants with plants powered by renewable sources).

In recent years, an objective directly linked to the implementation of the energy transition has been introduced, which rewards the maximisation of production from non-programmable renewable sources and promotes their integration into the national electricity system, minimising **overgeneration**. This objective ensures the efficient inclusion of non-programmable renewable sources in the production mix fed into the grid. Therefore, it is decisive and can be linked to the reduction of the emission factor affecting Terna's Science Based Target. This applies, in particular, to the achievement of the Scope 2 target, accounting for 96% of total Scope 1 and 2 emissions for the base year (2019). In addition, other objectives were also confirmed in 2024 and 2025 - for the Chief Executive Officer/General Manager and for the executives with strategic responsibility - relating to the development of the network infrastructure, such as, for example, quality of service, output incentives (DSM and inter-zonal) and investments and entries into service related to the regulated sector, which are the basis for the country's transition to a zero-carbon economy.

In addition, in 2025, a new ESG parameter called "**Connections**" was introduced for the long-term incentive plan, which measures Terna's efficiency in meeting average connection times. Specifically, the aim is to facilitate the entry into operation of new renewable source generation capacity functional to the energy transition by optimising connection times.

Incentive mechanisms attributable to the fight against climate change have long been envisaged not only for the first line, but also for the rest of the incentivised population, with remuneration objectives that, in addition to replicating that which has been indicated above for top management, have also concerned, for example, the development of electric mobility, management of the gas SF_6 contributing to climate change, the monitoring of climate change adaptation actions (resilience), and the development of a methodology for analysing grid resilience with respect to weather events, and its application within Terna's planning.

For more information, see Terna Group's 2025 Report on the Remuneration Policy and the 2024 Report on Remuneration Paid.

Terna's scenarios

In order to ensure reliable, secure and resilient development of the National Transmission Grid, Terna defines reference **energy scenarios** over a medium- and long-term horizon, consistent with national and European policies and drivers oriented towards decarbonisation, to assess the benefit of related infrastructure interventions in terms of reducing grid operating risks. Short-term energy scenarios, on the other hand, can be evaluated to identify operational and/or capital-light solutions that have mitigating benefits also related to climate change.

Therefore, when outlining its grid development strategy, and thus when drafting its Development Plan, Terna carries out multiple scenario analyses: provisional energy forecast scenarios for Italy are created by Terna in order to evaluate the benefits of transmission grid development projects in the long term. The elaboration of these scenarios therefore constitutes a fundamental part of Terna's business strategy, since they form the basis upon which the development guidelines for the national transmission grid are defined and direct the relevant capital expenditure.

Since the electricity transmission grid is, by nature, an intermediary infrastructure between energy producers and energy distributors to end customers, the scenarios used to plan its development obviously take into account the future developments expected for the entire value chain as well; hence the scope of Terna's assessments include, besides its own operations, related upstream activities (power generation) and downstream activities (power distribution) as well.

Considering that a coordinated effort by the key players in the Italian energy sector is necessary in order to achieve national policy objectives and drive the evolution of the Italian energy system, Terna and gas operator Snam have jointly drafted a **Scenario Description Document** (SDD), a prerequisite for the preparation of development plans for the Italian electricity and gas transmission networks. This document was first published in 2019 and undergoes a revision process at least every two years; the latest update is from the second half of 2024 and was carried out by Terna's relevant function[7].

The scenarios in the Scenario Description Document 2024 incorporate the government's latest indications, including the final text of the Integrated National Energy and Climate Plan (NECP), which expresses the objectives of the European 'Fit-for-55' and 'REPowerEU' legislative packages at national level. In particular, the NECP sets national objectives for 2030 on energy efficiency, renewable sources and the reduction of CO_2 emissions, as well as objectives for energy security, interconnections, the single energy market and competitiveness, sustainable development and mobility, outlining for each of them the measures that will be implemented to ensure their achievement. In addition, in keeping with previous Scenario Description Documents, Snam and Terna developed scenarios taking into account both the NECP policy objectives and the European scenarios developed by ENTSO-E and ENTSOG, the two trade associations - European Network of Transmission System Operators ('ENTSOs') - for electricity and gas. In order to develop the scenarios, the following elements of information are considered useful for defining the **transition environment** in which the Terna Group will operate, having 2030, 2035 and 2040 as the time horizons:

- assumptions regarding macroeconomic developments, such as GDP trends, demographic trends, fuel and CO_2 prices for the three time horizons;
- the description of existing energy needs and electricity demand over a time horizon of approximately twenty years, the duration of which is defined in line with the time horizon of the scenarios used in the ENTSOs' Ten Years Network Development Plan (TYNDP);
- a description of the existing and expected electricity supply in Italy by type of source or fuel, with a section devoted to the expected evolution of renewable sources over the time horizon mentioned in the previous point;

[7] This document is available at https://www.terna.it/en/electric-system/efficient-territorial-planning/national-electricity-transmission-grid-development-plan/scenarios

- the description of existing and projected supply and demand in the interconnected systems which are material for the assessments of the Ten-Year Plan in the time horizon referred to in the second point, or appropriate references to the scenarios used in the TYNDP of ENTSO-E, the quantification of the inter-zonal transmission capacities and interconnection capacities assumed in the years under study in the Ten-Year Plan, also in consideration of the interconnection prospects and requests for interconnection through interconnectors and through merchant lines;
- assumptions concerning electricity exchanges with systems outside the scope of the study;
- the results of energy planning activities at both community and national level, studies and other analyses that support the assumptions made in the Ten-Year Plan;
- the results of market simulations on the relevant models for each scenario and study year, in terms of at least expected electricity exchanges with foreign countries, expected electricity exchanges between material grid zones and generation volumes by type of source or fuel, taking into account the fulfilment of energy needs and the minimum coverage of ancillary services.

Based on these and other elements, the document defines:

- **scenarios that achieve the policy targets**, aligned, therefore, with the objectives of the international scenarios that consider a net zero target for 2050 (such as those of the International Energy Agency - IEA) and are, therefore, consistent with the scenario defined as '1.5°C', the most ambitious temperature-related target set by the Paris Agreement, which recommends a limitation of global warming to below 1.5 degrees Celsius:
  - to 2030 a NECP Policy scenario (consistent with the NECP published in June 2024);
  - for 2035 and 2040 two scenarios in line with those developed at European level by the ENTSOs;
- **contrasting scenarios** (developed in order to assess the impact of planned infrastructure on different scenarios as required by current regulation):
  - to 2030, 2035 and 2040 a NECP Slow scenario, representing a slower transition (compared to policy scenarios) towards decarbonisation targets.

Energy scenarios are typically based on a climate year identified as average. In the **2030 policy scenario**, renewable sources of electricity come to cover 63% of national electricity demand, while green gas comes to cover about 16.4% of gas demand in end use. For 2040, the Scenario Description Document is based on the European scenarios developed by the two network associations, which describe two possible pathways for achieving Carbon Neutrality in 2050 and which Snam and Terna have set out in greater detail for Italy. Therefore, the Distributed Energy Italy (DE-IT) and Global Ambition Italy (GA-IT) scenarios were developed for 2040, which are aligned with the storylines of similar scenarios developed at European level by the ENTSOs.

In the **DE-IT scenario**, a greater penetration of the energy carrier is expected in all sectors (civil, transport and industry), thus maximising the use of solar and wind power generation, which becomes the main tool for achieving decarbonisation targets by covering 76% of energy needs. Conversely, the **GA-IT** envisages the decarbonisation of consumption through the increased penetration of hydrogen in all sectors, a different use of technologies and energy carriers in the mobility sectors (electricity, hydrogen, e-liquids and biofuels), and a more significant use of CO_2 capture and storage, both in the hard-to-abate sectors and in thermoelectricity.

Finally, the two network operators also developed a **NECP Slow scenario** representing a slower transition (compared to the policy scenarios) towards decarbonisation targets with a delay of a few years in the deployment of technologies impacting the decarbonisation pathway. The development of a contrasting scenario such as NECP Slow serves the regulatory requirements of assessing planned infrastructure in different contexts. These 'cost-benefit' analyses are then reflected in the Development Plan. All the scenarios considered are rooted within the same macroeconomic environment, characterised by sustained GDP growth despite the expected fall in population. These assumptions are consistent with the expected evolution of the macroeconomic and demographic framework reported in the NECP 2024 and developed by the European Commission for all Member States.

In addition to the energy scenarios, Terna has developed an in-depth analysis of the **resilience of its strategy** and business model with respect to climate change, with an approach based on scientific data and advanced climate scenarios, analysing all the main historical events related to physical risks, which it updates annually as part of the preparation of its Resilience Plan.

At the systemic level, Terna publishes the annual **National Resource Adequacy Assessment for Italy** to analyse the impact of weather variability and climate change on the Italian electricity system. The element on which the National Resource Adequacy Assessment for Italy focuses is the ability of the Italian electricity system, in the medium- and long-term (5 and 10 years, respectively), to ensure that the available resources, understood as the electricity generation plants, imports and storage, are sufficient to meet the hourly electricity demand in each electricity market zone of the country, while at the same time considering the impact of the first effects of climate change on the electricity system. The climate variables adopted in the adequacy assessments are in fact derived on the basis of historical data and appropriately updated to take into account climate change phenomena.

At the operational level, the increase in the frequency of extreme weather events recorded in recent years in Italy makes it necessary to increase transmission grid resilience. In fact, the increasing intensity of severe weather events closely linked to climate change means greater probability of significant damage to the country's infrastructure, including electricity transmission equipment.

It is therefore crucial for the Terna Group to identify the areas where grid infrastructure is most exposed to such events and to intervene with effective and efficient investments to prevent and mitigate outages. The electricity grid must be able to withstand increasing stresses and, in the event of disruptions, interventions and tools must be put in place to manage the emergency, quickly restoring normal operating conditions.

To support the process of planning interventions to increase resilience there is the **Resilience Methodology** (Appendix A76 of the Grid Code), which is characterised by three key elements:

- development of forecast climate scenarios to identify the areas of the territory most exposed to the effects of severe weather events of various kinds, associating with them their relative likelihood of occurrence;
- estimating the vulnerability of power line components to direct and indirect stresses caused by severe weather events, through the determination of specific vulnerability curves defined using real technical-orographic parameters;
- “n-k” probabilistic approach for the analysis of multiple and simultaneous outages produced by weather events, in order to be able to quantify the probability of occurrence of such multiple contingencies and assess their impact on the portion of the electricity system exposed to the severe weather event.

More specifically, the Resilience Methodology consists of **six main steps**:

1. analysis of exposure to severe weather events: assessment of the likelihood of occurrence of weather phenomena according to predefined intensity thresholds, based on advanced climate models.
2. infrastructure vulnerability analysis: assessment of the vulnerability of high-voltage lines to direct and indirect stresses of weather events through the development of specific vulnerability curves.
3. calculation of the return time of line failure before intervention: determination of the probability of grid failure in the absence of intervention by combining climate-related data and vulnerability curves.
4. calculation of the outage return time and the risk of expected energy not-supplied before intervention: application of a contingency analysis algorithm to quantify the risk of simultaneous outages of several grid elements using a probabilistic approach.
5. calculation of the return time of line failure and the risk of expected energy not-supplied after intervention: assessment of the effectiveness of grid reinforcement interventions in reducing vulnerability to extreme weather events.
6. calculation of the benefit for increasing resilience: determination of the improvement of the grid by comparing the expected energy not-supplied before and after the planned measures.

Over the course of these years, the Resilience Methodology, initially developed for assessments of snow and high-wind weather events, has undergone change and has been refined in order to consider both climate trends and the model developments achieved and consolidated from the scientific point of view, also thanks to the collaboration with research bodies such as RSE (Research on the electricity system) and the Euro-Mediterranean Centre on Climate Change (CMCC) Foundation, as well as with academic institutes such as the Polytechnic Institute in Milan. These collaborations are essential to bring together different know-how and expertise in a field - that of modelling weather and climate threats and their effects on infrastructures - where research, innovation and multidisciplinarity are crucial given the particular complexity and structure of the phenomena under study.

In addition, thanks to RSE support, studies continued on the modelling of events related to hydrogeological instability, and, in particular, the hydraulic risk of river flooding, in order to provide the transmission grid operator with a tool to identify the portions of the grid at greatest risk of outages, today and in the future in light of climate change, quantify their likelihood and impact in terms of potential outages, and identify the appropriate prevention and mitigation measures with the highest priority for implementation.

In defining its methodological approach with respect to snow and wind weather events, Terna considered an **RCP 8.5 climate scenario** (Representative Concentration Pathways, RCP, are climate scenarios expressed in terms of greenhouse gas concentrations rather than emission levels). In particular, the RCP 8.5 scenario assumes that no significant measures are taken in favour of climate protection and that, therefore, greenhouse gas emissions will increase continuously throughout the 21st century. The use of this climate scenario responds to a twofold need: on the one hand, in the short/medium term, this scenario is the most likely one, since it replicates the current situation in the near future (indeed, by 2030 the various RCP scenarios do not vary significantly from each other); on the other hand, this choice implies a prudential approach by the Terna Group in defining the tools and actions needed to ensure national transmission grid resilience, setting itself the worst-case scenario in order to be able to cope with any level of threat from extreme climate-related events.

Other climate models and datasets used to map future climate hazards on Terna's assets are the following: CESM-LENS (climate model that includes 40 climate simulations for the period 2018-2100); Euro-CORDEX (set of 12 climate models used to produce advanced regional climate change projections up to 2100); ERA 5 (meteorological reanalysis dataset with coverage greater than 30 years on different weather variables); the MERIDA dataset (Meteorological Reanalysis Italian Dataset, developed by RSE S.p.A.).

The climate scenarios and models considered so far can be fine-tuned and updated by the responsible function, Resilience and Grid Security Planning, when the Resilience Plan is drawn up.

Terna's risk framework

The **risks associated with climate change** represent risks that are **closely related to the Group's operational and strategic environment**, therefore the process leading to the identification, assessment and management of these risks is integrated into the general corporate risk management process and into the current management of the undertaking's activities, as described below.

In particular, as recommended in Borsa Italiana's Corporate Governance Code and by national and international best practices, the Group has adopted a specific **Internal Audit and Risk Management System** (System or IARMS). This consists of the culture, capabilities, rules, procedures and internal practices and organisational structures with the objective of defining an accountability system for effectively and efficiently identifying, measuring, managing, mitigating and monitoring the main risks. The aim of the System is to contribute to the Group's sustainable success, retaining a high degree of stakeholder trust in the Group's governance and controls.

The System provides a management tool designed to ensure that the way the business is run is consistent with the Company's business objectives. It puts risk management at the heart of the value chain, starting from key considerations such as the mission, vision, values and operating environment. These are embedded in the process of defining and developing strategy and performance to support decision-making processes by making explicit reference to risks and uncertainties and through informed responses. The System involves implementation of a **Risk Management System**, which is also aligned with the recommendations in the Corporate Governance Code for Listed Companies and international best practices.

To support the Board of Directors' assessments and decision-making regarding the Internal Control and Risk Management System, **risk management** relies on the contribution from a specific Board Committee, consisting of independent Directors – the Audit and Risk Committee – that engages periodically with the departments within the Company most directly involved in these processes.

The Committee also has a direct relationship with the Chief Risk Officer ("CRO"), whose appointment is approved by the Board of Directors on the recommendation of the Chief Executive Officer, subject to a prior opinion from the Committee. The CRO is tasked with supporting senior management in the effective implementation and management of the risk management process at Group level, and ensuring effective coordination of the actors involved in control activities. The CRO reports to the Chief Executive Officer and the Committee on the outcomes of risk management activities. The CRO receives operational support from the "Enterprise Risk Management" unit, which reports directly to the CRO and has the role of coordinating all aspects of the Risk Governance framework described below.

Finally, within the Internal Control and Risk Management System, the Internal Audit Department is responsible for verifying the functioning and adequacy of the System itself, and for checking that it is consistent with the guidelines defined by the board of directors. Audit activities extend to all business processes (including risk management), with particular attention paid to the most important processes due to their impact on the Company's value, the degree of risk they pose in respect of achievement of the Company's objectives, or their influence on aspects of broad interest to the Company.

In operational terms, risk management takes place throughout the Company, based on a structured, systemic approach. It involves a **Risk Governance Framework** (Framework) setting out the roles and responsibilities of the various actors involved in the Risk Management System, embedding the three levels of control provided for in the Corporate Governance Code within the Company's organisational structures. Each level has different objectives and specific associated responsibilities:

- First level of control: with primary responsibility for identifying, assessing and managing the risks appertaining to the specific areas of responsibility;
- Second level of control: assigned to organisational structures (e.g. Health & Safety, Compliance, 262 Oversight, Environmental Protection, Fraud Management, Privacy, Cyber security, etc.) acting as autonomous, independent units that are separate from operational units. This level of control oversees changes in external regulations and in the related

best practices and participate in the definition of governance policies and in the process of managing the risk categories for which it is responsible. At the same time, they provide support to the First Level of Control for their implementation, including through the design and delivery of awareness and training activities;

- Third level of control: conducted by the Audit department, providing an independent assessment of the design and functionality of the IARMS (assurance). The entity that has this role has a high degree of organisational, hierarchical, and functional independence.

Good risk governance must ensure a holistic and coordinated view of all the actors involved, so that they may work together, identify and assess risks, identify their possible impacts and, consequently, have the right information available to make the most appropriate decisions.

The diverse elements of the Risk Management System give an idea of the complexity of the Framework and how the entities and departments involved, each with their own specific nature, contribute to the above holistic vision, working in synergy and in accordance with a structured and organised approach.

To this end, Terna puts in place procedures and processes to coordinate the relations and activities of the entities that exercise control at various levels. In this regard, coordination between the activities of the second-level control departments is particularly important, in order to minimise duplication of activities and maximise the efficiency of the risk management system, while respecting their respective roles and responsibilities, and the necessary independence requirements.

The Framework is thus based on a widespread approach to risk management within the organisation, involving a range of bodies and departments across every level of the organisation, as shown below:

Risk Governance Model

With regard to coordinated risk management, carried out by management in the various areas, for some time the Framework has provided for adoption of a common **reference framework** that sets out objectives to enable the creation and maintenance of Group value. The objectives framework is periodically updated in order to bring it into line with changes in the context and/or objectives of the Industrial Plan, and also to clarify ESG issues, especially: human rights, governance (& organisational framework) and the environment.

The framework of corporate objectives, divided into Strategic (linked to the Industrial Plan) and Recurring (continuous risks linked to the activities carried out under concession, the corporate mission and the codes of conduct adopted), is used annually by management as the main reference for the identification of risk events, including emerging ones.

On the basis of the objectives framework, each identified risk event is assessed in terms of the combination between Impact (divided into four types: financial, reputational, operational and HSE-Sustainability) and Likelihood of occurrence over the life of the Plan. The assessment also takes into account the Level of Maturity of existing risk management systems. Based on the outcomes, risk treatment priorities and appropriate responses are chosen through the selection of mitigation or corrective actions.

A business's risk profile is not static, but dynamic and may alter due to changes in the external environment and/or as a result of internal organisational and business decisions. Therefore, **monitoring** is carried out with the aim of verifying the evolution of the Group's risk profile, the exposure to the main risks, the trend of the key risk indicators (KRIs), together with the progress of the mitigation actions defined. In this scenario, considering the relevance attributed to certain risk events, which are considered a priority for the Group, quarterly monitoring is carried out to assess the evolution of the Group's exposure to these risks.

The above phases of the risk management process are regularly repeated (at least once a year).

As already mentioned, in this context, the **risks related to climate change** are closely related to the Group's operations and strategy. Therefore, the process that leads to the identification, assessment and management of these risks is integrated into the company's general risk management process and into the day-to-day operations. For example, the risks related to extreme weather events are surveyed and form the basis of the assessment from which the Resilience Plan is derived. Or, also, the risk of leaking climate-altering SF_6 gas used as insulation within some electrical equipment is assessed and managed within the company's ISO 14001-certified environmental management system. Finally, the "Sustainability" function, which is part of the "Strategy, Digital and Sustainability" department and to which the activities of identifying, managing and monitoring sustainability issues (including climate change) is included within the risk governance model as a second level of control.

The update of the **Risk Assessment**, carried out in 2024 in accordance with the model described above, was characterised by the progressive integration between risk analysis and ESG topics. To this end, by leveraging the consolidated methodologies on the risk governance model adopted, in order to ensure consistency with the Risk Analysis processes already in place, the process of aligning risk analysis with the sustainability topics was further developed, integrating the results of the Group's Risk Assessment with the methodologies envisaged by the ESRS and EFRAG guidelines.

Furthermore, in 2024, Terna, as part of the corporate plan to adapt to the new regulations on sustainability reporting, started defining and progressively implementing a control model aimed at establishing and maintaining an **Internal Control System on Sustainability Statement** (SCIIS), aimed at overseeing the reliability of such disclosures and their compliance with the reporting standards established at European level (ESRS) and the specifications adopted pursuant to Article 8, paragraph 4, of Regulation (EU) 2020/852 (so-called EU Taxonomy).

The SCIIS is an integral part of the Terna Group's Internal Control and Risk Management System, consisting of the set of rules, procedures and organisational structures that, through an adequate process of identification, measurement, management and monitoring of the main risks, allow the Company to manage them correctly and consistently with its objectives.

Opportunities and risks connected with climate change

Climate change brings a series of opportunities and risks for the Company that must be properly evaluated to ensure that they are effectively managed. To identify them, Terna applies the **framework** used by the **Task Force on Climate-related Financial Disclosures** (TCFD), which divides climate-related risks into two main categories:

- **Transition risks**: transitioning to a lower-carbon economy may entail policy and legal risks, due to different regulatory requirements across different geographies, or to new impacts and/or uncertainties resulting from the policies adopted. The transition may also result in technology risk, due to uncertainties surrounding the role of emerging technologies, and market risk, linked to new dynamics, shifts in supply and demand and an increasingly complex market environment, which could expose businesses to reputational risks;
- **Physical risks**: these risks can be event driven (acute) or longer-term shifts (chronic) in climate patterns. Physical risks may have financial implications for businesses, such as direct damage to assets and indirect impacts from supply chain disruption.

The following is a description of the climate-related opportunities and risks identified by Terna, potentially related to the Group's businesses, based on the classification proposed by the Task Force on Climate-related Financial Disclosures[8].

[8] With respect to the application of the European Sustainability Reporting Standards (ESRS), only the risks and opportunities that exceed the materiality threshold identified in line with the requirements of these standards are reported in the Consolidated Sustainability Statement.

Opportunity

The opportunities linked to climate change are a cornerstone of Terna's strategy, with respect to both Regulated and Non-regulated Activities in Italy and International Activities.

Electrification of consumption and investments

In addition to the need to integrate large numbers of RES plants, another key element in the energy transition is the electrification of final consumption. Electricity as an energy carrier is an enabler of this transformation, as final consumption powered by this carrier is by its nature far more efficient than any fuelled by combustion.

Energy transition will thus be based on a series of crucial actions. It will immediately be necessary to develop additional renewable generation capacity to be connected to the electricity grid. At the same time, it will be necessary to invest in the development of the grid infrastructure needed to transport and distribute the electricity and in storage systems. Finally, we will also need to deploy mature technologies, such as electric mobility, heat pumps for heating and cooling and induction cooking. Against this backdrop, Terna plays a leading role. Indeed, the 2025 Development Plan envisages an investment programme of more than €23 billion over the ten-year horizon covering the years 2025-2034 (with an overall value – beyond the 10-year horizon – of up to approximately €40 billion), with the aim of enabling the energy transition and achieving the environmental objectives outlined by EU regulations in both the medium and long term. The main benefits expected from the development investments include the increase in installed solar and wind power capacity by more than 65 GW by 2030 compared to installed capacity in 2023, and more than 94 GW by 2035, as well as an increase in transport capacity from the current 16 GW to approximately 39 GW.

Macroeconomic impacts

As an enabler of the energy transition, Terna has opted to further step up major investments in the electricity system via the ambitious Transmission Grid Development Plan (DP). The 2025 DP, with a total investment value of more than 23 billion over the ten-year horizon (2025-2034), aims to significantly accelerate this transformation. The strategic linchpins of this plan are based on the NECP policy, which is included in the 2024 Scenario Description Document. This scenario is in line with the latest national decarbonisation targets, and also with the NECP, published in July 2024. These investments are expected to have an important multiplier effect both in terms of growth of the Gross Domestic Product and the creation of new jobs: according to the Polytechnic Institute in Milan, for every euro spent on the design and management of the assets, a GDP impact between €2 and €3 is generated.

Energy dependence

The energy transition is also a major opportunity to boost Italy's competitiveness: the country's lack of energy resources has historically meant that energy costs were higher than the European average and that the country was highly dependent on imported energy. The share of net imports compared to available gross energy, which is an indicator of how much Italy depends on energy imported from other countries, was 75% in 2023. As a result of the energy transition, Italy will see a sharp reduction in its energy dependence and could enjoy far more competitive energy costs thanks to the availability of sun and wind. The actions taken in the coming years will determine the country's strategic position in the global economic system of the future. The energy transition scenarios and trends that encourage the development of new opportunities in Italy are of global significance, opening up new opportunities overseas. Within Non-regulated Activities, this situation will therefore also bring new potential linked above all to the identification and development of new energy solutions.

Transition risks

Political and legal

Terna is not currently subject to legal obligations regarding cuts in emissions. Therefore, there are no specific risks with regard to the introduction of a carbon tax or rising carbon prices. An increase in reporting obligations would also not pose any problems for Terna, which has been providing full disclosure on its emissions for some time.

In terms of the regulation of quality of service, the Company is already subject to a series of rewards and penalties linked to continuity, which may be affected by extreme weather events. Terna's response to this risk is the Resilience Plan, which describes all the initiatives and measures taken to be able to respond with growing speed and effectiveness to any adverse events.

Technological

The growing use of renewable sources and the progressive electrification expected over the coming years mean that investment in the transmission grid is of primary importance, given the increasingly important role that the grid will play in helping to achieve decarbonisation targets. There are no specific risks linked to the replacement of technology.

Given the new complexities to be dealt with, the drive for constant innovation remains a priority, with continued attention to the most promising technology streams on which to focus both investment and R&D efforts. Terna identifies these technological streams in its Innovation Plan.

Market

The Italian energy context for the first few months of 2025 shows an increase in gas prices compared to the same period of the previous year. Specifically, the average price of the TTF – Title Transfer Facility – in the first six months of 2025 was about €44/MWh, about €32/MWh above the average value recorded in the first six months of 2024.

The use of natural gas as an energy carrier exposes Italy to procurement risks of a geopolitical and economic nature, with the country highly vulnerable to commodity price movements linked to tensions on international markets. Energy price pressures could, moreover, last for several years given the factors at play, leaving Italy exposed to the risk that the resulting inflation will impact consumption. Energy security and independence is also an issue, given that most of the gas consumed in Italy in the first six months of 2025, imported through pipeline, comes mainly from Algeria and Azerbaijan.

The cost of CO_2 during the first six months of 2025 averaged around €71 per tonne, compared to €64 per tonne during the same period in 2024.

The Single National Price (PUN), settled at an annual average of €119/MWh in the first six months of 2025, compared to the €94/MWh recorded in the same period of 2024.

Energy price trends are not among the risks effectively faced by Terna, but they could certainly weigh on the country system. The main solution to rising prices and energy dependence, with significant benefits for the country's economy, is to accelerate the energy transition. To achieve the policy objectives set for 2030, as described in the NECP, it will be necessary to install approximately 107 GW of wind and solar power. Italy has introduced effective tools to support this development. The RES X mechanism is the main tool, designed to incentivise around 60 GW of new renewable capacity, in line with decarbonisation targets. The European Commission has already approved a transitional provision for the 2025 auctions, which envisages the installation of approximately 17 GW by 2028, of which 10 GW from solar energy. The first auction is scheduled for the second half of 2025. The quota published by the MASE for the first auction is 11.52 GW, of which 8 GW from solar sources. In this respect, it is vital to implement an appropriate market plan, which in addition to spot price signals can also provide the long-term price signals that enable investment in storage and renewables. Forward contracts are also essential to keep existing generation capacity up and running, preventing it from being taken out of service and thereby ensuring the system's medium- to long-term adequacy.

Reputational

The growing complexity of the electricity system and the increased frequency and seriousness of adverse weather events requires constant monitoring of the system's adequacy and resilience. The occurrence of malfunctions, potentially of a widespread nature, could increase Terna's reputational exposure to public authorities and stakeholders in general.

Physical risks

Acute

In addition to quality of service, the occurrence of extreme weather events poses a considerable risk to grid infrastructure.

Specifically, an analysis of the historical events in recent years that have affected the national transmission grid highlights the main factors causing disruptions:

- formation of sleeves of wet snow on the lines, which weigh them down and cause short circuits or structural failures;
- strong winds in particular regarding the consequence of falling plants and trees;
- floods, landslides, landslips, tornadoes and other extreme phenomena that may cause short circuits or the collapse of pylons or other structural failures;
- forest fires, also triggered by high temperatures that can directly affect assets causing failures or requiring them to be taken out of service to facilitate extinguishing activities.

Terna details its climate strategy in the Resilience Plan, attached to the Security Plan.

Chronic

Rising temperatures directly interfere with grid operation, as higher temperatures limit the possible amounts of electricity transmission. In addition, increase in pollutant deposits related to long dry periods (e.g. saline pollution or fine dust) cause an increase in the probability of surface discharge. Other systemic phenomena, such as rising sea levels, do not have a direct impact.

Terna's strategy

As mentioned earlier, as Italy's national transmission grid operator, Terna plays a central role in Italy's energy transition process. Its **sustainability and decarbonisation strategy** is not only required by global climate change objectives and Italy's international commitments; indeed, it marks a strategic choice that responds to a long-term vision, in which the **electricity system becomes the main driver of energy transformation**. The Group has always operated with the aim of ensuring a safe, reliable and efficient electricity system, while reducing its environmental impact and actively contributing to combat climate change.

Over the years, the Terna Group has adopted a series of concrete initiatives and strategic investments aimed at promoting environmental sustainability, ensuring efficient grid management and facilitating the integration of renewable energy into the system. By developing advanced technologies, digitalising infrastructures and adopting increasingly innovative operating models, the company is committed to reducing its greenhouse gas emissions, while contributing to the **decarbonisation of the entire National Electricity System**. The Terna Group's sustainability strategy is built on solid foundations, based on a thorough understanding of its strategic role and its responsibility towards the environment and the community. The Company has invested considerable resources in the **modernisation of the transmission grid**, in order to optimise the integration capacity of renewable energies and reduce grid losses, which are two key aspects for achieving national and European climate change objectives. The Terna Group has also developed and is currently developing innovative tools for smart grid management, exploiting the potential of new digital technologies and automation solutions to increase operational efficiency and improve the resilience of the electricity system. The adoption of sophisticated real-time monitoring and control systems optimises management of the energy flow, promoting a more effective use of available renewable sources and reducing the need for more polluting energy sources. These initiatives have contributed and still contribute directly to improving, year after year, the national production energy mix and the related CO_2 emission factor. At company level, this aspect is confirmed by the constant decrease in emissions associated with grid losses, which account for more than 90% of the Group's total Scope 1 and Scope 2 emissions and which move in the same direction as the national emission factor, with the same grid losses (indeed, these emissions are the product of grid losses and the national emission factor, expected to be a zero factor thanks to the integration of renewables - and will correspond to zero grid loss emissions).

In this respect, Terna regularly prepares its **National Transmission Grid Development Plan**, which, based on the scenarios described earlier, defines the grid development initiatives planned over the next ten years, as well as the progress of the development works envisaged in previous years.

In addition to the Development Plan, Terna makes use of other planning tools that are fundamental to the decarbonisation process of the country and the Group, such as the **Security Plan** (and the attached **Resilience Plan**), the **Asset Management Plan** (which includes the **Plant Maintenance Plan** and the **Renewal Plan**), and the **Innovation Plan**.

The investments scheduled for the above plans are briefly illustrated in the latest **2024-2028 Industrial Plan Update**, presented in March 2025, which sets out a total of €17.7 billion of investment. This will enable Terna to accelerate its commitment to the country for the energy transition, energy independence and decarbonisation, in line with the challenging goals of the National Integrated Energy and Climate Plan and the Green Deal targets set at international level.

At the heart of the 2024-2028 Industrial Plan update is the **sustainability of investments**, which is essential for the creation of value for the Company and the system as a whole. Terna's capital expenditure, classified as entirely sustainable based on the **EU Taxonomy**, targets the development of renewable sources. The transmission backbones that transport energy from points of production, which are increasingly located in Italy's southern regions, to where demand is highest in the north of the country, will be boosted by resolving existing issues caused by grid congestion and further development of cross-border interconnections. This will allow Italy to solidify its role as the electricity hub of Europe and the Mediterranean area.

The Terna Group development activities will remain focused along two strategic lines: **Regulated Activities in Italy** and **Non-Regulated Activities**; for the latter, see the description in the 2024 Annual Report on page 57.

The **Regulated Activities in Italy** will be the Terna Group's core business, which with a total capital expenditure of €16.6 billion intends to pursue the development and strengthening of the National Electricity Transmission Grid. In the 2024-2028 Industrial Plan Update, Terna confirmed the investments for the development of the National Transmission Grid for a total of €10.8 billion, mainly related to the construction of high-voltage direct current lines – to resolve grid congestion, increase transport capacity between different market zones, fully integrate renewable sources, and improve service quality – and the construction of submarine cable connections. The most important project is the Tyrrhenian Link, the power line that will connect Sardinia, Sicily and Campania and that will contribute to the development of renewable energy production and the phase-out of the most polluting coal- and oil-fired power stations. The other projects include: the Adriatic Link (the submarine power line between the Marche and Abruzzo regions), Sa.Co.I.3 (the interconnector linking Sardinia with Corsica and Tuscany), Elmed (the Italy-Tunisia interconnector), and the 380 kV Chiaramonte Gulfi-Ciminna power line in Sicily. With regard to ordinary investments primarily aimed at asset renewal and efficiency to rationalise existing infrastructure and replace obsolete components, Terna expects an increase in capital expenditure that will total €3.6 billion, compared to approximately €2.9 billion under the previous Plan. Finally, an increase in investment is also planned for the Security Plan aimed at strengthening and boosting the technical and technological capabilities of the electricity system, where the Group will invest a total of €2.3 billion compared to approximately €1.7 billion in the previous Plan.

The main elements of the Development Plan and the Security Plan (and the attached Resilience Plan) are outlined below. For information about the Asset Management Plan - which specifies, through the Plant Maintenance Plan and the Renewal Plan, the measures to be carried out on the assets comprising the National Transmission Grid in order to achieve the asset management objectives set by Terna in the Strategic Asset Management Plan - and the Innovation Plan - which, based on the identified technological development guidelines, directs the evolution and management of the company's portfolio of innovation initiatives - reference should be made to the 2024 Annual Report.

Development of the transmission grid and decarbonisation of the country and the Group

As mentioned earlier, every two years, Terna prepares a Development Plan. The 2025 edition of this plan outlines the essential measures for the **pursuit of the national and European objectives of energy transition, independence, resilience and efficiency of the electricity system**, in continuity with the previous edition of the 2023 Plan.

The Plan is consistent with the 2024 NECP, with the updated Terna-Snam scenarios (2024 Scenario Description Document) and with the decarbonisation objectives, which impose new challenges on the electricity sector in line with the forecast of trends in energy needs and demand to be met.

Installed solar and wind power capacity is expected to increase by more than 65 GW by 2030 compared to installed capacity in 2023, and more than 94 GW by 2035. Given the complex and challenging electrical environment, the most useful and urgent works were planned according to an electrical priority, while seeking innovative low-capital-intensive solutions to reduce costs and maximise investment effectiveness.

The 2025 Development Plan envisages an **investment programme of more than €23 billion** over the ten-year horizon covering the years 2025-2034 with an overall value – beyond the 10-year horizon – of up to approximately €40 billion, with the aim of enabling the energy transition and achieving the environmental objectives outlined by EU regulations in both the medium and long term.

Given the challenges faced by the electricity system as a result of the trends identified in the projected energy scenarios and ongoing climate change, planning the development of the transmission grid must meet the following electricity system objectives:

INTEGRATE RES, STORAGE, SUBSTATIONS and CONSUMPTION USERS

New enabling and functional development works for the **integration of new renewable capacity and consumer users**

INCREASE TRANSPORT CAPACITY and SOLVE SYSTEM CONGESTIONS

Increase transport capacity between market zones from the **current 16 GW to over 35 GW**

DEVELOP INTERCONNECTIONS WITH FOREIGN COUNTRIES

In line with earlier plans, the aim is to continue guarantee **greater security** through the availability of mutual assistance between the interconnected systems.

IMPROVE the QUALITY and RESILIENCE of the ELECTRICITY SYSTEM to ENSURE CONSTANT COVERAGE of ELECTRICITY DEMAND and SERVICE CONTINUITY

Activities related to the reinforcement of the grid but also to the construction of new supply routes

ENSURE THAT the GRID is ROBUST AND DAMPEN LOW-FREQUENCY INTERSYSTEM OSCILLATIONS

Work on making the **electricity system increasingly stable** and able to withstand or control the formation of voltage wave following a fault or disturbance

Below are the **main figures of the 2025 Development Plan** and the **expected benefits** from the achievement of these objectives:

INVESTMENT PLAN
over €23 billion

in the decade 2025-2034 and more than €40 billion considering the lifetime value of the projects

(+10% v 23 DP)

GREATER RES INTEGRATION

at least **+65 GW by 2030**
+94 GW by 2035[1]

(In line with PNIEC and SDD 24)

REDUCTION OF CO_2 EMISSIONS

up to around **2,000 kt/year** by **2030**
and almost **12,100 kt/year** by **2040**

(+2.5% v 23 DP)

INCREASED TRANSPORT CAPACITY

from the current 16 GW
to about **39 GW**

(+22% v 23 DP)

INCREASE IN TRANSPORT CAPACITY WITH FOREIGN COUNTRIES

by about **40%**
compared to current values[2]

LOSSES AVOIDED

of around
0.4 - 1 TWh/year

[1] Of which +43 GW to be connected on the HV grid.
[2] Considering all the works included in the Development Plan even beyond the 10-year horizon.

As mentioned earlier, more than 90% of the Group's total Scope 1 and Scope 2 emissions are associated with **grid losses**. Grid losses are defined as the difference between energy injected by producers (including imported energy) and final consumption; specifically, the losses for the Terna Group are those associated with the transmission grid. Grid losses are a physical effect of the electricity lost as it passes through conductors and during transformation. Losses are influenced by the level of voltage, the volume of electricity transported, the materials used and the distance between the points at which energy is produced and consumed. Terna can only determine the extent of the losses, which are not completely under its control. **Grid development activities**, given the same structure of production, would lead to greater efficiency and thus a reduction in losses. However, the actual impact of development initiatives on losses is unpredictable and not under the control of the transmission operator, as it depends on concomitant changes in production capacity and electricity supply and demand at local level. Dispatching operations, needed to guarantee a constant balance between injections and withdrawals and to prevent the occurrence of grid security problems and disruptions, are carried out in accordance with regulatory criteria within the production set-up created by the energy market. They cannot be influenced by Terna with the aim of minimising losses.

As discussed earlier, the main benefits expected from the implementation of the measures envisaged in the 2025 Development Plan include the **reduction in grid losses** of between 0.4 and 1 TWh per year.

For this reason, all actions that lead to the increased inclusion of renewable sources of the energy fed into the grid is the **main action** that enables the Terna Group also to achieve its **SBT decarbonisation targets**. The integration of renewable sources into the Italian electricity system is by far the main lever for reducing emissions related to grid losses. In addition to grid losses, the volume of these emissions is directly linked to the national production energy mix and the related CO_2 emission factor. As mentioned earlier, these emissions move in the same direction as the national emission factor, with the same grid losses (indeed, these emissions are the product of grid losses and the national emission factor): the more renewable sources are integrated into the Italian electricity system, the better the national emission factor and, consequently, the lower the emissions associated with grid losses; in the future, a zero factor will correspond to zero grid loss emissions.

In this respect, in 2024, 33 connection contracts were signed (representing a capacity of approximately 1,120 MW), relating to the construction of new RES plants. Furthermore, thanks to the investments envisaged in the new 2025 Development Plan, the installed solar and wind power capacity is expected to increase by more than 65 GW in 2030, compared to 2023, and by more than 94 GW in 2035.

For additional information on Terna's Development Plan, see the 2024 Annual Report, pages 52 - 55.

Security and resilience of the electricity system and climate change adaptation

As seen before, increasing the resilience of the Italian electricity system is one of the main challenges posed by the energy transition. Reaching this objective entails targeted investments in the infrastructure that aim to prevent and lessen impacts on service continuity along with tools and procedures to handle the emergency and quickly return to normal operational conditions.

In this respect, Terna annually prepares the **Defence Plan for the Security of the National Electricity System** (the Security Plan). The 2025 Security Plan is the 22nd edition and updates the initiatives to protect the security of the electricity system envisaged for the four-year period 2025-2028.

The major investments approved as part of the update of the 2024-2028 Industrial Plan, amounting to €2.3 billion (€2 billion in the four-year period 2025-2028) reinforce Terna's role as an enabler of the grid's energy and digital transition, accelerating and enhancing priority initiatives for advanced and evolved electricity system management.

The 2025 Security Plan was prepared on the basis of the following three **strategic directions**:

- **technology and innovation to support the system's security**, essential to deal with the evolution of the energy sector (increase in renewables, decommissioning of thermoelectric plants) with increasingly complex and critical management of the electricity system, while maintaining its high standards of safety, efficiency and reliability. In particular, the adoption of innovative technological solutions is a key tool to enable the infrastructure to self-regulate and improve stability, optimising operation and flexibility;
- **digitalisation to improve grid operation**, i.e. a digital transformation of the electricity system that involves every area of its management, from supervision to control and defence of the grid to impacting its infrastructure and assets. The digitalisation of the electricity system, which is necessary for an effective energy transition, cannot be separated from a major evolution and increasing integration between OT (Operational Technology) and IT (Information Technology) areas, i.e., between machinery control and data management, which offers great advantages and opportunities, but brings with it inevitable new cybersecurity risks. In this respect, the concept of cyber resilience is becoming increasingly important, identifying solutions which, also thanks to AI techniques, can prevent, detect, resist and respond to cyber attacks or digital security incidents, while guaranteeing grid business continuity;
- **increasing the resilience of infrastructures with respect to severe weather events** by addressing a climatic transformation characterised by severe and increasingly intense and frequent weather events, both by building a robust and resilient grid and by harnessing the potential offered by infrastructure digitalisation to ensure safe, efficient operation of the electricity system following severe weather events.

The Security Plan also includes initiatives designed to upgrade management, control and defence systems for the grid, innovating operating logistics, digitising its infrastructure, installing system control devices and implementing solutions for the physical and cyber security of the grid assets.

Attached to the Security Plan is the **Resilience Plan**, a cross-cutting plan that establishes all the initiatives required to prevent and/or reduce damage to the electricity grid caused by increasingly severe and frequent weather events. The plan includes infrastructure work, assessed using the Resilience Methodology for snow and wind, as well as capital-light initiatives which, thanks also to technology innovation, mitigate the effects and/or reduce outages following a severe weather event.

The measures to increase grid resilience against various weather threats (snow, wind, salt and air pollution and fire) can be classified into the following four categories:

- **preventive measures**, aimed at increasing grid interconnection, improving the reliability and robustness of existing assets, reducing exposure to potentially impactful weather threats or involving the reconstruction of portions of existing infrastructure;
- **mitigation measures** to contain the risks on the electricity system and reduce the damage of the critical event;
- **restoration measures**, aimed at reducing the time to restore service and/or outages following the occurrence of adverse weather events impacting the electricity system. This category includes all measures to reduce the time of disruption and return the electricity system to normal operation;
- **monitoring actions** to support both preventive and restoration activities.

As already mentioned, the resilience analysis is constantly evolving and for this reason, further evaluations are underway, such as the analysis of weather and climate-related phenomena, with the support of the Resilience Methodology. In particular, the 2025 edition of the Resilience Plan presents the progress of work on developing and refining the Resilience Methodology for modelling weather and climate-related events linked to hydrogeological instability, with a first pilot case for the assessment of river flooding risk in the portion of the Po River Basin in Emilia-Romagna, a region historically exposed to flooding events.

What has been described so far and set out below is the basis for the development of this plan, which is aimed at ensuring the resilience and security of the Terna Group's infrastructure, as well as reliable and uninterrupted service.

Specifically, with respect to preventive measures, which are aimed at increasing the grid interconnection, the **2025 Resilience Plan** confirms the completion and progress of activities mainly related to:

- the construction of new substations and/or new lines, which increase the grid interconnection and the redundancy of the supply of users connected to the NTG;
- the refurbishment of power lines, strengthening the mechanical characteristics of the lines and increasing the reliability of the infrastructure;
- the partial undergrounding of existing assets in order to increase technological diversification and ensure the secure and resilient operation of the grid and its connected facilities.

Preventive measures, again related to resilience, also include actions related to the '**Renewal Plan**', such as reinforcing power lines and cutting down plants and trees, to prevent disruptions related to tree interference on power lines following, for example, high-wind events. The Renewal Plan, which is developed on a five-year basis, identifies extraordinary maintenance work based on an assessment of the state and technical condition of line components and substation equipment.

Furthermore, the 2025 Resilience Plan confirms tower manoeuvring devices (Organi di Manovra su Palo - OMP) among the measures that increase resilience. This is a solution conceived at Terna and patented, which consists in equipping the pylons that characterise NTG lines with manoeuvring systems, making it possible to increase the resilience and flexibility of operation of portions of the grid with reduced meshing, while also representing a solution with reduced visual and environmental impact.

The other projects achieved and/or pursued in the 2025 Resilience Plan mainly include:

- the installation of **anti-rotation devices**, devices that increase the conductor's core strength and hinder rotation, preventing and/or mitigating the formation and growth of the snow sleeve and the resulting possibility of conductor breakage;
- the installation of **electricity substation monitoring systems** to provide real-time information on electricity events and parameters, in order to prevent possible outages and/or reduce the time of outages on the grid, even for severe weather events;
- the implementation of a line monitoring system which uses weather and mechanical sensors and which, thanks to technological innovation, provides real-time information on the condition of the lines and the surrounding environment and on the events occurred, in order to organise preventive measures or speed up the time it takes to resolve outages;
- the installation of **safeguards** and/or **devices to remotely secure lines** and reduce work timeframes, while ensuring a faster resumption of the grid operation.

Therefore, the implementation of the actions planned each year in the Resilience Plan enables Terna to better adapt its business to the consequences of climate change.

Additional support to the investments for the security and resilience of the NTG comes in the form of public funding under the National Recovery and Resilience Plan (NRRP) and the related revision with the REPowerEU chapter, in relation to which the Terna Group was awarded €169[9] million for the NRRP and €140 million for the REPowerEU, with the objective, on the one hand, of increasing the resilience of 1,500 km of NTG lines for severe weather events and, on the other hand, to start the digitalisation of the NTG, ensuring safe and resilient operation.

Further actions in relation to climate change

As seen earlier, the investments envisaged within the Development Plan are the Group's main decarbonisation lever, given their impact on emissions related to network losses, by far the largest component of the Group's total Scope 1 and Scope 2 emissions. Indeed, the actions mainly envisaged in the Resilience Plan are the essential tools adopted by Terna to ensure the climate change adaptation of its business.

[9] In 2024, the MASE increased the awarded amount from €150 million to €169 million, including additional projects selected within the NRRP for public financing.

In addition, Terna's main lines of action to combat climate change include:

- **SF_6 gas management**;
- implementation of **energy efficiency initiatives**.

In the first case, direct greenhouse gas emissions connected with the Terna Group's activities derive mainly from **SF_6 gas leaks** (85% of total direct emissions in 2024). SF_6 (sulphur hexafluoride) gas is used as insulation in certain electrical equipment (circuit breakers, current transformers and armoured equipment). Part of the gas in the equipment can leak into the atmosphere due to defective seals, when faults occur, and also sometimes during the re-pressuring process. SF_6 gas has a very powerful greenhouse effect, which is 23,500 times greater than CO_2: leakage into the atmosphere of 1 kg of SF_6 is equivalent to 23.5 tonnes of CO_2. The amount of SF_6 present in the infrastructure has consistently grown. This is a trend linked to the better insulating performance of this gas and the smaller footprint of substations built ("armoured") with equipment containing SF_6 in comparison with more traditional solutions. This is a significant aspect for Italy, which has landscapes of major value and is densely populated. Furthermore, because of the need to develop the transmission grid in order to foster the integration of renewable sources and achieve the transition to a zero-carbon economy as per the EU guidelines, new plants using SF_6 gas as an insulator will be built in the future. Consequently, the amount of gas installed will inevitably grow over time.

Against this backdrop, Terna is constantly working to find solutions to contain greenhouse gas emissions produced by SF_6 leaks, mainly through the continuous **monitoring** of these leaks and the **maintenance** and **replacement** of SF_6-insulated circuit breakers and current transformers and SF_6-armoured plant equipment.

In addition to this, in 2024, Terna launched an **experimental project** to contain SF_6 leaks ("**SF_6 Hexatrap**"). This solution, installed for the first time in May 2025 is highly experimental and innovative and is intended for (gas-insulated substations) GIS installations, includes a metal cover expressly designed for a specific flange, guaranteeing tightness thanks to rubber o-rings. In the future, there are plans to identify new test sites in order to test another solution which uses "pastes" based on metal compounds to repair cracks as well as tighten and contain leaks at the flange coupling of a GIS.

Finally, insulation and **interruption solutions** based on **SF_6 substitutes** are currently being studied. Specifically, already in 2022, a new connection standard was introduced using a new voltage level of 36 kV nominal to more efficiently connect renewable production up to a maximum power of 100 MW. The strength of this new voltage level lies in the possibility of using alternative technologies to the SF_6 gas, which already exist and are mature, as an insulating and current-breaking tool, even though they take up more space. Terna has opted for air-insulation and vacuum interruption as the essential technical specification for prefabricated metal-case equipment (panels) to be used for this voltage level. The type and legal tests of the first SF_6-free equipment at 145 kV voltage level (circuit breakers and current transformers) began in 2024, while the first experimental installations will be carried out in 2025, after completion of the necessary certifications.

With respect to initiatives to reduce consumption, the development of **energy efficiency programmes** relating to the use of electricity in Terna's substations and offices is experimental, as the Company's electricity consumption falls within the category of "own transmission uses" which, according to the industry's regulator, are not to be included in operating costs. With a view to improving energy performance, a number of new offices have been refurbished or are newly built under a long-term programme, which aims to upgrade the energy efficiency class of buildings owned by the Group. Proposed work at offices primarily regards improvements to the energy efficiency of lighting, air-conditioning and heating. The proposed changes at electricity substations primarily regard the replacement of lighting towers and perimeter lighting with LED technology.

The energy efficiency initiatives undertaken since 2014 have led to an estimated overall reduction of 1,374 tonnes/year of CO_2 at 31 December 2024, corresponding to 17,670.00 GJ saved (of which 36.34 tonnes for 2024 alone corresponding to 305.87 GJ saved).

Finally, electricity consumption is also monitored in line with the Company's ISO 50001-certified energy efficiency system, through which the Group's energy consumption and greenhouse gas emissions impacts are monitored.

Metrics and targets

As part of its Sustainability Plan, the Terna Group has defined a series of specific objectives in line with its commitment to combat climate change.

The main objective is the Group's **Science-based Target**. Terna had already adopted an initial SBT target in 2021 in keeping with SDG 13 ("Climate Action"), in line with the well below 2 °C scenario of the Paris Agreement. In 2022, it carried out a review of the emissions inventory for the entire Group, also incorporating the emissions of the subsidiary Brugg, acquired in 2020. The revision of the inventory resulted in an opportunity to realign the Group's SBT with the scenario of 1.5°C, namely the most ambitious objective set by the Paris Agreement. This opportunity took shape in February 2023 with the approval by the SBT Initiative of an updated science-based target, with which Terna has committed to cutting its carbon dioxide equivalent emissions by 46.2% compared with 2019 levels (Scope 1 and 2) by 2030. It may be summarised as follows:

OBJECTIVE	TARGET BOUNDARY	METRIC AND RELATED UNIT OF MEASUREMENT	BASELINE AND BASE YEAR	VALUE 2024	MILESTONE
					2030
Emissions reduction (Scope 1 + Scope 2) in line with the Group's Science Based Target (SBT)	Terna Group	tonnes of CO_2e (and %)	2019 1,831,348 tonnes of CO_2e	1,351,212 tonnes of CO_2e	-846,082 tonnes of CO_2e (-46.2%)

The 2023 SBT update also involves intervention on Scope 3 emissions, which will be cut by 11.1% by 2030 compared to 2021, also thanks to the actions set out in the Group's Circular Economy Roadmap (in this regard, see the 2024 Annual Report, pages 260-263, for more information). At present, with respect to the Scope 3 emissions reduction target, the Group is working on redefining the target in order to align it with the reporting boundary as per the Corporate Sustainability Reporting Directive.
These targets are shown on a gross basis, i.e., the Company does not include greenhouse gas removals, carbon credits or avoided emissions among the tools used to achieve them.
Furthermore, with a view to constantly raise its ambition in combating climate change, when publishing the 2024-2028 Industrial Plan update in March 2025, the Terna Group officially announced its commitment to the Science Based Targets Initiative to define a **net zero target to 2050** within two years.

In addition to the Science-based Target, the Terna Group has set additional targets related to climate change mitigation and adaptation that are part of its Sustainability Plan. The most significant ones are shown below.

Since the leakage of SF_6 gas from equipment is the Group's main source of direct emissions, for some time, Terna has defined a **specific** annual **company target** for **SF_6 gas leakage**. In the period 2012-2017, the target for the percentage incidence of losses was 0.60; therefore, in light of the actual performance until 2017, in early 2018 the target was reformulated to 0.47 for the two-year period 2018-2019 and to 0.45 for 2020-2025. At the beginning of 2024, coinciding with the finalisation of the 2024-2028 Sustainability Plan, the target was further revised, as shown in the table below. The 2024 performance was 0.42% (0.41% with reference to the assets of companies engaged in the development and maintenance of the transmission grid).

OBJECTIVE	TARGET BOUNDARY	METRIC AND RELATED UNIT OF MEASUREMENT	MILESTONE			
			2025	2026	2027	2028
SF_6 leakage rate on total installed as a percentage.	Terna Group	%	≤ 0.42%	≤ 0.40%	≤ 0.38%	≤ 0.36%

The latest update of the Sustainability Plan - in line with the Company's resilience planning - involved the inclusion of **targets** and actions to improve the resilience of the grid. The target related to the construction of assets to increase the **resilience of the national transmission grid** against weather events is described below. The target has been defined and presented for the first time in the update of the 2024-2028 Sustainability Plan, integrated with the Industrial Plan presented in early 2025. Therefore, 2024 is the base year to be considered for the definition of the targets. It is therefore necessary to wait for the 2025 final balance for a proper assessment of trends.

OBJECTIVE	TARGET BOUNDARY	METRIC AND RELATED UNIT OF MEASUREMENT	MILESTONE			
			2025	2026	2027	2028
Construction of assets to increase the resilience of the national transmission grid	Terna Group	*Percentage value of km of new and/or refurbished lines completed compared to the planned annual amount of the infrastructural projects covered by the Resilience Plan*	100	100	100	100

Finally, a further **objective**, included in the Group's Sustainability Plan, related to the energy efficiency programmes of offices and electricity substations, which envisages reducing **energy consumption** by a further 142 TOE by 2028 (corresponding to approximately 400 tonnes of CO_2 avoided) should be noted.

For information about Terna Group's main climate-related metrics, reference should be made to the following public documents:

- **CO_2 emissions** (Scopes 1, 2 and 3): 2024 Annual Report, page 245;
- **Energy consumption**: 2024 Annual Report, page 244;
- **SF_6 consistency and losses**: section on climate change within the environmental information reported in the '2024 ESG indicator tables';
- **Grid losses**: 2024 Annual Report, page 244;
- **Activities aligned with the European Taxonomy**: 2024 Annual Report, pages 218-231.

With respect to this last point, the European institutions have introduced, through the EU Regulation 2020/852 (the “EU Taxonomy Regulation”), a taxonomy of economic activities that can be considered as “**sustainable**”. In this respect, with reference to 2024 and in line with the previous years, the activities carried out by the Group were mapped, considering both Regulated and Non-Regulated Activities and International Activities, in order to identify those eligible under the Taxonomy, i.e., potentially able to contribute, in particular, to climate change mitigation.

Following these analyses, the Group’s activities were associated mainly with the following economic activities:

- **3.20 Manufacture, installation, and servicing of high, medium and low voltage electrical equipment for electrical transmission and distribution that result in or enable a substantial contribution to climate change mitigation:** this category includes the activity carried out by the Tamini Group with reference to the production of transformers for the generation and transmission of electricity, as well as the core business of the Brugg Cables Group related to the manufacture of electrical cables for electrical transmission and distribution systems.
- **4.1 Electricity generation using solar photovoltaic technology:** this category includes all activities related to the installation, servicing and repair of renewable energy technologies for ground-mounted photovoltaic systems. Specifically, the LT Group's business with third-party customers can be broken down in terms of revenue and costs between this activity (for ground-mounted photovoltaic parks) and activity 7.6 for photovoltaic systems installed on buildings.

- **4.9 Transmission and distribution of electricity:** this category includes the activities in the Regulated Activities segment, primarily regarding the development, operation and maintenance of the national transmission grid (NTG), which is part of the European interconnected system, as well as dispatching and metering activities. Activity 4.9 also includes Non-regulated Activities, related to work on systems dependent on the European interconnected system, O&M activities on the cables of the national transmission grid and the installation of transmission and distribution transformers that comply with the requirements laid down by EU Regulation 2014/548 and the EN 50588-1 standard, and International Activities, related to transmission and distribution activities carried out by the Group's overseas subsidiaries in Brazil and Peru.
- **7.6 Installation, maintenance and repair of renewable energy technologies**: this category includes plant maintenance, monitoring and other services for third parties operating in renewable energy production. Specifically, it includes the non-regulated activities carried out by Terna S.p.A., Terna Rete Italia S.p.A., Terna Energy Solutions S.r.l. and the LT Group as part of the construction and maintenance of photovoltaic solar energy plants and technical equipment.
- **9.3 Professional services related to energy performance of buildings:** this category includes activities related to consultancy services, feasibility studies, energy performance contracts, energy efficiency certificates (EECs or white certificates) and services performed by Avvenia as an energy service provider (ESCO, Energy Service Company).

For the purpose of assessing alignment, analyses were carried out for each identified[10] eligible activity in order to verify compliance with the substantial contribution and the "Do No Significant Harm" criteria. Finally, an analysis was conducted on the appropriateness of the measures in place at Group level with respect to the principles referred to in Article 18 of the Regulation, namely the OECD Guidelines for Multinational Enterprises, the United Nations Guiding Principles on Business and Human Rights, including the principles and rights established by the eight fundamental conventions identified in the International Labour Organisation's Declaration on Fundamental Principles and Rights at Work and the International Charter of Human Rights. For the purposes of the analysis, the Group also took into account the guidance provided by the Platform on Sustainable Finance (PSF) in its Final Report on Minimum Safeguards published in October 2022 and the European Commission's Recommendation of June 2023 on "indicators of negative impacts on sustainability".
The table below shows the results for 2024 of the above analyses related to taxonomy eligible and taxonomy non-eligible activities, as well as aligned and non-aligned activities (for additional information see the 2024 Annual Report, pages 218-231).

[10] In addition to the above, the activities '6.5 Transport by motorbikes, passenger cars and light commercial vehicles', '7.2 Renovation of existing buildings' and '7.4 Installation, maintenance and repair of charging stations for electric vehicles in buildings' were identified as eligible, but, since they were deemed 'not relevant' to the Group's business, they were not considered in the alignment analysis..

KPI	2023		2024	
	SHARE OF ELIGIBLE ACTIVITIES	*Share of aligned activities*	SHARE OF ELIGIBLE ACTIVITIES	*Share of aligned activities*
Turnover	**89%**	*85%*	**99%**	*86%*
CapEx	**99%**	*99%* of which green bonds issued *16%*	**100%**	*99%* of which green bonds issued *12%*
OpEx	**95%**	*95%*	**100%**	*95%*

Finally, further specific metrics of the projects included in the **Green Bonds** issued by the Company are available in the 2024 Green Bond Report, published both within the 2024 Annual Report and on the website www.terna.it. With regard to the construction of the **scenarios** developed by Terna for its development strategy, the description of the **inputs** and related assumptions used to define the scenarios (including the prices of CO_2 emission allowances in 2030, 2035 and 2040), see pages 24-25 of the 2024 Scenarios Description Document and page 86 of the 2025 Development Plan - Status of the electricity system and energy scenarios[11].

[11] Available at this link: https://download.terna.it/terna/Terna_Piano_Sviluppo_2025_Stato_sistema_elettrico_scenari_energetici_8dd62ec4bbb9f75.pdf

Climate advocacy

Terna's commitment to leading the energy transition is substantiated – from an internal point of view – in the objectives to reduce its own CO_2 emissions in line with the Paris Agreement and – considering the Group's external action – it is reflected in the **promotion of the cause in order to mitigate climate change** through the increasingly strong strategic sharing with institutions, companies, associations and civil society aimed at raising public awareness and regulatory activities with respect to the main risks of an uncontrolled rise in the Earth's temperature and the benefits of an increasingly electrified grid.

The External Relations and Institutional Affairs Department has the task of guaranteeing, in line with the Group's strategic guidelines, the representation of the Terna Group positions - including the actions against climate change, in line with the Paris Agreement - in its dealings with institutions and other local, national, European and international bodies, coordinating the Company's requests in order to promote and protect the Group's interests and to grasp the signs of evolution of the reference scenario and the related potential impacts on the business .

In order to better build and manage relations with European institutions and organisations, Terna is present in Brussels with an office located close to the European Parliament. The aim is to establish ongoing dialogue with the European Parliament, the Commission and the Italian Permanent Representation in the UE and European associations/organisations in order to take advantage of Terna's experience and expertise.

In the context of the **advocacy actions** pursued by the Group in support of the **EU Green Deal strategy** in line with the **Paris Agreement**, Terna's commitment to fighting climate change also includes representing and promoting its position at European level through its participation in various associations – especially ENTSO-E (the European Network of Transmission System Operators for Electricity) - making an essential contribution to the development and the implementation of the Green Deal and related legislative and non-legislative initiatives. In cooperation with other European TSOs, Terna is committed to using its unique experience and system-wide vision to support institutions in formulating a roadmap towards a climate-neutral Europe.

The main issues that Terna has followed are part of European policies for ecological transition, in particular the European Green Deal and the more recent Clean Industrial Deal.
The European Green Deal, launched in 2019, is the EU's sustainable growth strategy. Through a wide-ranging package of legislative and policy initiatives, it began the path towards climate neutrality by 2050, redefining energy, industry and environmental priorities. As of 2025, the Clean Industrial Deal aims to turn decarbonisation into a competitiveness driver for European industry by promoting investment in clean technologies, innovation and low-emission production.

Terna actively participates in the debate on EU industrial and climate policies, focusing, in particular, on the support of energy transition. In this regulatory framework, the relevant legislative files include the implementation of electricity market design initiatives and the integration and balancing of renewable sources in the energy mix. At the same time, Terna closely follows the evolution of the discussions on the completion of the Energy Union and EU Governance, which will update Europe's integrated legislative framework for achieving climate goals.

[12] As also reflected in the internal organisation of the External Relations and Institutional Affairs department (divided into areas focusing on the management of regional, national, European and international aspects), these activities cover both Italy (the country where the Parent Company is based, as well as hosting most of the Terna Group's subsidiaries and business operations) and the foreign boundary, covering all the jurisdictions in which the Group operates.

As part of the initiatives announced by the Clean Industrial Deal and the Affordable Energy Action Plan, Terna contributed to the public consultation on the new guidelines on state aid. Furthermore, it is monitoring the future EU Grids Package, which will include the revision of the TEN-E Regulation and new regulatory and non-regulatory proposals on simplifying authorisation procedures and supporting digitalisation, innovation, and the development of European electricity infrastructures. The legislative initiatives related to the supply chain and the revision of the public procurement framework should also be noted, as well as the revision of the carbon import mechanism rules applicable to TSOs.

The funding programmes of interest include: Connecting Europe Facility, Next Generation EU, the Innovation Fund, Horizon Europe and Digital Europe, and the European Regional Development Fund and the Cohesion Fund.

A key function in the dissemination of positions in favour of the Paris Agreement is played by **associations**. Terna is in fact a member of numerous associations and initiatives that pursue the goal of promoting a Europe that increasingly relies on renewable energy.

- **ENTSO-E** (European Network of Transmission System Operators for Electricity): The most important industry body at European level, representing the continent's network of electricity transmission system operators. The network, created in 2008 as a voluntary association, was later formalised by EU Regulation 714/2009. A total of 40 electricity network operators from 36 European countries are represented in ENTSO-E; in addition to the 27 EU countries, the TSOs of Iceland, Macedonia, Montenegro, Norway, Serbia, Switzerland, Ukraine, Turkey and Moldova (the latter two as observer members) are also members.
- **The Renewables Grid Initiative:** A unique collaboration between environmental NGOs and transmission system operators from across Europe. The association promotes the development of an environmentally aware network and dialogue with stakeholders at all levels to enable the future steady growth of renewable energy and energy transition.
- **CIGRE** (Conseil International des Grands Réseaux Electriques): An international non-profit association that conducts research regarding high-voltage grids. It has over 90 member countries, represented by 60 national committees, and Terna is currently the Chair and Vice Chair of the Italian Committee.
- **GO15** (Reliable and Sustainable Power Grids): An international association bringing together the 14 leading grid operators worldwide in order to share best practices in the management of electricity transmission grids. Terna is also present in the Association's Steering Board and Governing Board, as well as co-chairing Strategic Working Groups.
- **RES4Africa Foundation** (Renewable Energy Solutions for Africa): A non-profit foundation set up to promote investments in renewable sources and Mediterranean countries and sub-Saharan Africa.
- **Med-TSO** (Mediterranean Transmission System Operators): This association brings together the TSOs from 20 Mediterranean countries, with the aim of promoting the standardisation of development plans and the coordinated management of grids. The association also works to facilitate the creation of a legislative and regulatory framework designed to drive the development of interconnection projects and promote the exchange of electricity between electricity systems in the Mediterranean area. Terna hosts the registered office of the association in Rome and appoints its Secretary General.
- **GEO - The Green Economy Observatory:** An observatory of the IEFE - Bocconi University which aims to develop, through research and in-depth studies, the main topics of debate on the green economy through dialogue, discussion and collaboration with institutions and businesses.
- **Global Compact:** Terna's membership of the Global Compact involves a presence at both international and local level. Terna has had a place on the Italian network's Steering Committee since 2011 and is a founding member of the Global Compact Network Italy, which was established in 2013.
- **Kyoto Club:** A non-profit organisation made up of undertakings, bodies, associations and local government authorities that are committed to achieving the targets for reducing greenhouse gas emissions set by the Kyoto Protocol and to promoting awareness-raising, information and training initiatives in the fields of energy efficiency, use of renewables, and sustainable mobility.
- **WEC Italia:** The Italian national committee of the World Energy Council is an international organisation that brings together stakeholders in the energy sector from over 90 countries with the aim of promoting a sustainable energy system at global level.

Membership in national and international associations is subject to specific internal approval procedures, also aimed at verifying any misalignment between the association's activities and purpose and Terna's commitment to energy transition and combating climate change.

Terna oversees relations with national and international **stakeholders**, also through inter-departmental groups, constantly monitoring their positioning and orientations and disseminating periodic update reports within the Organisation (e.g., Regulatory Activities Report; Associative Activities Report).

Monitoring of stakeholders' expectations is also carried out through the engagement envisaged for the updating of the **double materiality assessment** through which the main sustainability issues are identified based on their correlation with the impacts, risks and opportunities relevant to the Group's activities and along the value chain. Specifically, within the macro-theme of 'Climate Change', the topics identified as material by the 2024 assessment included: 'Climate Change Mitigation', 'Climate Change Adaptation' and 'Energy'[13].

Key engagement and awareness-raising tools - aimed at external audiences - related to the topic of energy transition and combating climate change also include:

- **Terna4Green**, the first public digital dashboard dedicated to the relationship between electricity production data and CO_2 emissions which makes it possible to monitor progress towards international decarbonisation goals.
- **T.E.R.R.A.**, the integrated digital platform that has been online since June 2024 and that Terna has made available to national and local administrators, legislators and applicants providing access to strategic and relevant information on Territory, Grids, Renewables and Storage.
- **Econnextion**, the digital platform developed by Terna in cooperation with the Ministry of the Environment and Energy Security which, for the first time, centralises information on requests for high-voltage connection of renewable energy plants in Italy.
- **Lightbox**, a multimedia blog that features all of Terna's content starting from data and internal expertise on electricity with the aim of combining attention to context with attention to the great challenges of decarbonisation and the integration of energy from renewable sources, in Italy and Europe. The blog, also available in English, is divided into four sections. Specifically, the 'transition' section is entirely dedicated to climate change and international decarbonisation targets.

[13] The assessment was based on the principle of Double Materiality, fully aligning for the first time with the requirements of the ESRS (European Sustainability Reporting Standards), introduced by the Corporate Sustainability Reporting Directive. Accordingly, impacts (from the impact materiality perspective), as well as risks and opportunities (from the financial materiality perspective), were assessed based on the list of ESG topics provided by the ESRS standards. Specifically, regarding the topic of 'Climate Change' (ESRS E1 standard), it was found to be material from both perspectives, including the sub-topic 'Climate Change Mitigation' and the sub-topic 'Climate Change Adaptation'.

Reconciliation statement with TCFD recommendations

The table below shows the references to the pages within this document and the 2024 Annual Report that respond to the recommendations made by the Task Force on Climate-related Financial Disclosures.

TOPIC AREAS	RECOMMENDATIONS	REFERENCES
Governance	a) Describe the Board of Directors' oversight of climate-related risks and opportunities. b) Describe management's role in assessing and managing climate-related risks and opportunities.	"The governance of climate change issues" (page 12) "The governance of impacts, risks and opportunities" *(2024 Annual Report)* "Double Materiality" *(2024 Annual Report)*
Strategy	a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term. b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning. c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	"Terna's scenarios" (page 15) "Climate change: opportunities and risks" (page 23) "Terna Group strategy" (page 27) "Terna Group's decarbonisation process" *(2024 Annual Report)* "Double materiality - focus: climate change" *(2024 Annual Report)* "Terna's scenarios" *(2024 Annual Report)* "2025 Development plan" *(2024 Annual Report)* "2024-2028 Industrial Plan Update" *(2024 Annual Report)* "Security Plan and Resilience Plan" *(2024 Annual Report)* "Infrastructure maintenance" *(2024 Annual Report)* "Innovation Strategy" *(2024 Annual Report)* "Climate change adaptation" *(2024 Annual Report)* "Climate change mitigation and energy" *(2024 Annual Report)*
Risk management	a) Describe the organisation's processes for identifying and assessing climate-related risks. b) Describe the organisation's processes for managing climate-related risks. c) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management.	"Terna's risk framework" (page 19) "The governance of impacts, risks and opportunities" *(2024 Annual Report)* "Double Materiality" *(2024 Annual Report)* "Main risks and uncertainties" *(2024 Annual Report)*
Metrics and targets	a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process. b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks. c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	"Metrics and targets" (page 36) "Metrics and targets related to climate change" *(2024 Annual Report)* "EU Taxonomy" *(2024 Annual Report)*

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