



## **Terna – Green Bond Framework**

15 June 2021

### **Company overview**

Terna is the Italian TSO (Transmission System Operator), owner of the National Transmission Grid (NTG), one of the most modern and technologically advanced electricity transmission networks in Europe. With over 74 thousand kilometers of electricity lines and 889 transformer substations (data at 31 December 2020) Terna is one of the main TSOs worldwide.

Terna is responsible, under Government concession, for transmitting and managing the electricity flows on the high-voltage and very-high-voltage grid throughout the whole of Italy to maintain balance between the demand and supply (dispatching), as well as for developing, maintaining and integrating the national transmission grid within the European grid.

The company plays a central role in the ongoing transformation of the electricity market towards the use of eco-compatible and renewable sources of electricity, guaranteeing a secure and efficient supply to households and businesses.

By pursuing innovation, Terna aims at improving both the electricity infrastructures and their management, and at developing non-regulated, market activities compatible with the compliance with its duties as TSO.

The Terna S.p.A. holding company is listed on the Borsa Italiana electronic market. With approximately € 12 billion market capitalisation (data at 31 December 2020), it is one of the leading Italian companies in terms of stock-market capitalisation.

### **Terna: Committed to Sustainability**

#### ***Enabling ecological transition***

The energy model based on production from fossil fuels that has for many years driven the world's economic and demographic growth is no longer sustainable. The electricity market is thus rapidly changing, driven by new challenges such as decarbonisation, market efficiency and security of supply, which have been included into specific targets by the European Commission<sup>1</sup> to ensure that Europe will have secure, affordable and climate-friendly energy. In Italy, the Integrated National Plan for Energy and Climate (PNIEC) envisages the complete phase-out of coal by 2025, 55.4% of gross electricity consumption from renewable energy sources (RES) by 2030.

The electricity system is thus undergoing a period of radical transformation, as is Terna's approach to managing the grid.

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<sup>1</sup> <http://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union>

In the ecological transition to a decarbonised energy model, Terna has both the role of director and enabler. This involves continuing to provide the entire country with a secure, high-quality electricity service at the best price, and promoting, as far as possible, the integration of renewable sources, either by directly connecting them to the grid or through grid upgrades, and by improving grid management capabilities when using non-programmable renewable sources to meet high demand.

Increased use of renewables and development of the electricity grid go hand in hand. Indeed, the latter is an essential enabling factor for the former. Terna's activities are an integral part of the form of sustainable development set out in the United Nations Sustainable Development Goals and, especially, in Goal 7 ("Affordable and clean energy"), Goal 9 ("Industry, innovation and infrastructure"), Goal 13 ("Climate action") and Goal 17 ("Partnership for the goals").

The main instruments that Terna uses to respond to the challenges posed by the ecological transition are the infrastructure projects included in the Network Development Plan and innovation.

The Development Plan marks Terna's response to the community's need for an uninterrupted and efficient supply of electricity, even when demand is being met to a growing extent by production from non-programmable renewable sources.

The continual growth of non-programmable renewable production sources and - at the same time - the gradual decommissioning of traditional generation plants make appropriate development of the electricity grids necessary. This has led to undertaking strategic initiatives aimed at:

- enabling the integration of renewable sources and improving the security of the system and the quality of the service, by creating also an increasingly resilient system, capable of handling critical events external to the system itself;
- expanding interconnections to reduce local congestions;
- using cutting-edge technologies, with ever-increasing attention to environmental and sustainability aspects.

Most parts of the quoted initiatives are investments, namely grid development investments included in a Network Development Plan (NDP) prepared by Terna every two years, as prescribed by legal norms<sup>2</sup>. Every NDP, that contains the projects envisaged for the next ten years and the progress made on the works planned in previous Plans, is assessed and approved by the Ministry of Economic Development. In the approval process, stakeholders can express their views in many ways. The NDP is subject to:

- 1) public consultation carried out by the sector Regulatory Authority for Energy, Networks and the Environment (ARERA);
- 2) evaluation by the Grid User Consultation Committee;
- 3) Strategic Environmental Assessment (SEA), a process carried out by the Ministry of the Environment and Protection of Land and Sea in collaboration with the Ministry for Cultural Heritage with the purpose of integrating environmental considerations into the process of preparing the plan, thus guaranteeing environmental sustainability.

Over and above legal compliance, Terna regularly engages with local stakeholders on a drafted version of the main investment projects. Different options are discussed with local authorities before starting the authorization process, in order to agree on an optimal localization that takes into account environmental aspects and local concerns. Since 2015, stakeholders engagement at local level includes the organization of meetings with citizens, to illustrate the reason for building a new electricity infrastructure and its main features and to gather comments and suggestions.

Since 2013, the NDP contains a section devoted to the investments that have the goal of favoring the increase of production from renewable sources, such as the connections of new

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<sup>2</sup> Law Decree no. 76 of 16 July 2020, article 60.

plants or the lines and substation that will remove the constraints to an increased inflow of production from renewable in a given grid portion.

Actions taken by Terna in the last ten years have already contributed to allowing the increase of production from renewable sources in Italy. Grid development investment made it possible for the electricity system to fully benefit of the new production: in 2005 the renewable sources covered about 16% of national production; in 2020 this percentage has more than doubled, with renewable sources covering around 40% of national production.

A further contribution to the transition to renewables will come from the grid development investments included in Terna's 2021-2025 Industrial Plan, which calls for €8.9 billion in investment in order to modernise and strengthen the National Transmission Grid. This is the largest amount Terna has ever invested in Italy, marking an increase of 22% compared with the previous Plan.

For the implementation of its contribution to the achievement of the ecological transition and the related SDGs, Terna relies as well on:

- the investment in security of service (the Security Plan, a four-year programme, approved by the Ministry for Economic Development, that sets out initiatives to protect the security of the electricity system);
- the investment to enhance the resilience of the grid and the service in response to different types of weather event (the Resilience Plan within the Security Plan);
- the Asset Management Plan, which contains all the monitoring, maintenance and renewal/replacement activities planned for assets, based on an analysis of their technical condition, as well as analytics and/or statistical analysis of recorded anomalies and breakdowns.

All investments included in NDP with costs greater than € 15 Mln are subject to a prior cost-benefit analysis (CBA), comparing the related expenditure with the resulting benefits, expressed in monetary terms. A positive cost-benefit ratio is a necessary condition of the investment's inclusion in the Development Plan.

Terna has used a cost-benefit analysis methodology since 2005 in the assessment of the investments assessments process. Environmental benefits have been gradually included in the CBA and agreed upon by the ARERA. The main features of the CBA have been approved by the Sector Authority (ARERA) on 4 November 2016, with resolution 627/16/eel/r as updated on 14 December 2017, with resolution 856/17/eel/r. The latest adopted Cost-Benefit Analysis Methodology (CBA 2.0) entails an important alignment with the criteria and methods applied by ENTSO-E (European Network of Transmission System Operators for Energy) and considers and includes indicators of environmental and social benefits.

Terna's mission is to play a leading role in the sustainable ecological transition, enabling the further development and integration of renewable energy sources and the overall energy efficiency for an increasingly decarbonised, resilient, reliable and secure electricity system, guaranteeing the highest standards of service quality and adequacy, in line with PNIEC and EU guidelines laid down through the Green New Deal.

### ***Operating responsibly***

Terna is an electricity utility that operates solely in electricity transmission: it does not own thermoelectric plants, which are among the principal sources of greenhouse gas emissions. This explains why the company is not subject to obligations to reduce emissions nor to emission trading schemes of any type. Nonetheless, Terna voluntarily focuses on the goal of monitoring and controlling its emissions, thus contributing to a solution for the problem of climate change. In fact, Terna has turned its core business into an opportunity to guide Italy towards the completion of the ecological transition in order to comply with the provisions of the EU Green Deal to achieve carbon neutrality by 2050. Terna's main contribution to the achievement of the climate change reduction targets is its commitment to carrying out the investment provided for in the Development Plan, building a grid capable of enabling the ecological transition towards a carbon-free system based on renewable energy.

Furthermore, it should be noted that, in 2021, Terna has adopted a Science-Based Target (SBT), making a concrete commitment to reduce emissions from its activities, for an ecological transition to a low-carbon economy. The actions that Terna has decided to implement in its "science-based" plan concern, also, the acceleration of investments for the development of the electricity grid in order to promote the full integration of renewable energy sources and reduce grid losses, activities for increasing the efficiency of electricity and energy consumption.

Moreover, attention to the environment and biodiversity is the subject of specific cooperation agreements in collaboration with the principal environmental organizations (e.g., WWF, Legambiente, Greenpeace) designed to emphasize nature conservation in the planning activities and maintenance of the electricity grid.

In addition to environmental issues, Terna is also focused on social issues like integrity in business conduct (Terna is ISO37001 certified), health and safety (Terna is certified for its Occupational Health and Safety Management System in accordance with the ISO45001:2018 standard), professional training, human rights. This is in line with the commitments expressed by adhering to the UN Global Compact in 2009. Terna also asks all its suppliers to adopt behaviors coherent with legal and ethical standards as far as human rights and the protection of the environment are concerned.

Believing that disclosure on ESG performances is a cornerstone of a sustainable approach to business, Terna has published a Sustainability Report every year since 2005, in line with GRI Reporting Initiative (since 2006, GRI Reporting Standards since 2017) and verified by external auditors (since 2006). Since 2013 Terna's Annual Report is an integrated report prepared with the aim to illustrate how ESG factors interact with strategy and operations to deliver economic, social and environmental value to stakeholders.

Terna's Green Bonds Framework is an integral part of the long-term sustainability vision of the company. The framework provides a direct link from financing to relevant and continuing parts of Terna's activities, i.e. grid development investment, most of which is bearing positive environmental impacts.

The selection of green investment categories – see "Use of proceeds" below – and Terna's sustainable approach to operation management are also in line with the commitment of the company to contribute to the UN 2030 Agenda, namely towards the following Sustainable Development Goals:

SDG 7 "Affordable and clean energy", in particular Goal 7.2 "increase substantially the share of renewable energy in the global energy mix";

SDG 9 "Industry, innovation and infrastructure", in particular Goal 9.1 "develop quality, reliable, sustainable and resilient infrastructure";

SDG 13 "Climate action".




Terna has established this Green Bond Framework in accordance with the Green Bond Principles 2021, published by the International Capital Market Association (ICMA), and their four core components:

1. Use of Proceeds
2. Process for Project Evaluation and Selection
3. Management of Proceeds
4. Reporting

The Green Bond Framework is also intended to align (on a best effort basis and to the extent currently possible) with the Proposal for the EU Green Bond Standard, and the EU regulation setting forth a framework to facilitate sustainable investments (Regulation (EU) 2020/852, the 'EU Taxonomy').

## **1. Use of Proceeds**

An amount equal to the net proceeds from the issue of the Notes will be allocated to the refinancing and/or financing, in whole or in part, of existing and/or future “**Eligible Green Projects**” which meet the Eligibility Criteria described as follows:

Eligible Green Project category	Description of Eligible Green Projects	Environmental Objectives	UN SDGs
<b>Renewable Energy</b>	<ul style="list-style-type: none"> <li>• Connection of renewable sources generation plants (grid infrastructures devoted to directly connecting grid generation plants from renewable sources to the transmission grid).</li> <li>• Integration of production from renewable sources, while enhancing grid stability (Grid infrastructures that allow a higher inflow of production from renewable sources into the transmission grid, for instance by resolving congestions in a given portion of the grid).</li> </ul>	Climate Change Mitigation	
<b>Energy Efficiency</b>	<ul style="list-style-type: none"> <li>• Grid infrastructures that allow higher transmission efficiency (reduction of the difference between energy generation and consumption, other things being equal).</li> </ul>	Climate Change Mitigation	
<b>Quality, security and resiliency of electricity transportation Infrastructure</b>	<ul style="list-style-type: none"> <li>• Investments included in the National Development Plan, whose objective are the quality and security of the service (they mainly concern interventions to reinforce and mesh the network), to solve operational issues related also to the ecological transition through the decommissioning of the thermoelectric plants and the integration of RES.</li> <li>• Investments in infrastructural interventions related to the construction of new lines or substation aimed to</li> </ul>	Climate Change Adaptation Climate Change Mitigation	

	increase the resilience of the National Transmission Grid in those areas of the Italian territory more exposed to severe climatic events (eg. strong wind and ice-snow).	
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All the projects included in each of the above categories concern transmission and distribution infrastructure or equipment which are part of the interconnected European system, i.e. the interconnected electricity system covering the interconnected control areas of Member States, Norway, Switzerland and the United Kingdom, and its subordinated systems.

An example of projects falling in each of the above categories is reported in Annex 1 of this document.

An amount equal to the net proceeds from the issue of the Notes will be used to refinance existing Eligible Green Projects that have been completed in the last 36 months starting from the last annual reporting reference date (i.e. at the date of this document the last annual reporting reference date is 31 December 2020) and / or finance on-going and future Eligible Green Projects.

If, for any reason, a project becomes ineligible, it will be replaced by another Eligible Green Project on a best effort basis.

The division of the allocation of Green Bond proceeds between new projects and refinancing will be included in the annual reporting until full allocation (see section 5 below).

## 2. Project Evaluation and Selection Process

The investments included in the Development Plan are subject to a cost-benefit analysis in order to be considered sustainable, i.e., they must produce overall benefits for the System that are significantly greater than the estimated costs necessary to achieve them. Annex A74 of the Network Code reports the CBA 2.0 cost-benefit analysis methodology, positively verified by the Regulatory Authority for Energy, Networks and the Environment (ARERA), with the resolution 856/17 (the **Resolution**). The Resolution also provides for Terna's Development Plan (starting from the 2018 edition) to incorporate a document containing the methodology for cost-benefit analysis. In particular, the latter describes the following methodologies:

- Identification and quantification of benefits;
- Monetization of benefits;
- Quantification of estimated costs;
- Enhancement of economic indexes' synthesis (IUS and VAN)<sup>3</sup>

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<sup>3</sup> For more details, please see <https://www.terna.it/en/electric-system/grid/national-electricity-transmission-grid-development-plan> and [https://download.terna.it/terna/Allegato%20Metodologico\\_8d7db2190bbcb8f.pdf](https://download.terna.it/terna/Allegato%20Metodologico_8d7db2190bbcb8f.pdf)

The categories reported above are among those used in the CBA 2.0. The values of specific underlying KPIs determine the association between projects and categories. For example, the indicator B5 “greater production integration from renewable sources, calculated by market simulations (system over generation)” is used for determining the eligibility to category “Renewable Energy”, the indicator B2 “variation of grid losses” is used for category “Energy Efficiency”.

Eligible Projects that are not subject to cost-benefit analysis, are assessed through network analyzes and studies which, in line with the CBA 2.0 methodology, allow to estimate the related environmental benefits.

As part of the governance of its Green Bond program, Terna has put in place a dedicated Green Bonds Committee. The role of the Committee is to review and validate the selection of the Eligible Green Projects.

The dedicated Green Committee includes:

- the Head of Finance department,
- the Head of Sustainability,
- the Head of Planning and control department,
- the Head of grid planning and interconnections.

The Committee meeting will take place on an annual basis and as and when the situation requires.

The sustainability of the projects financed through the Green Bond depends primarily on their impact, as illustrated above. Terna will guarantee, whenever feasible, that the management of operations, including the consultation and authorization phases, the selection of suppliers and the management of worksites, is sustainable as well. The main ESG management commitments are as follows:

- Consultation. Terna is committed to listen to local stakeholders, as described in the previous paragraph “Operating responsibly”. This leads the Committee to consider potential environmental impacts as an input for the final definition of the project before entering the authorization phase. In this context, Terna is committed to prevent and manage controversies arising with stakeholders, in order to minimize negative impacts.
- Authorization. Terna is committed to disclose all relevant information, including the Environmental Impact Assessments, and to fulfill all the obligations coming from prescription by the relevant Authorities in due course.
- Selection of suppliers. Terna adopts a “funnel” approach that makes the requests to suppliers stricter the higher the environmental and social risks associated with the suppliers’ performance are.
- Management of worksites. Terna is putting much care in the mitigation of risks associated with the actual construction of its infrastructures. Among the main issues under control, there are safety at work and prevention of injuries – including contractors’ and subcontractors’ employees – and the correct management of potential environmental impacts.

The described evaluation and selection process ensures a full alignment with Technical Screening Criteria defined in the annex 1 of the Sustainable Finance Taxonomy Regulation Delegated Acts for climate change mitigation and adaptation published in agreed form between EU member states on 21 April 2021 for the activity “Transmission and distribution of electricity”.

### **3. Management of Proceeds**

Upon receipt, the net proceeds will be invested in the treasury investment portfolio until allocation to Eligible Green Projects. The allocation of the net proceeds to Eligible Green

Projects will be monitored throughout the period that the capital expenditure and operating costs will be incurred. Terna will review the allocation of the net proceeds to projects to ensure that they are in compliance with the criteria set forth in the Green Bond Framework. Until full allocation, Terna will disclose the amount equal to the net proceeds unallocated to Eligible Green Projects which will be held temporarily in treasury investment portfolio (cash and cash equivalents, tradable government bonds or other cash investments instruments, etc). The full allocation of the Green Bond is forecasted within the relevant Industrial Plan, which currently lasts five years (i.e. at the date of this document the Industrial Plan 2021-2025).



## 4. Reporting

			Environmental Benefits			
			Connection of RES production plants (MW)	Increase in production from RES (MWh and/or TCO2)	Reduction of grid losses (MWh and/or TCO2)	Reduction of energy not supplied (MWh/years)
			Planned / effective	Planned/effective	Planned/effective	Planned/effective
Project Categories	Renewable energy	Connection of production plants from renewable sources				
		Integration of production from renewable sources				
	Energy Efficiency	Reduction of grid losses				
	Quality, security and resiliency	Increase of the quality security and the resiliency of the grid				

■ Main environmental benefit: KPI will be presented in reporting

▤ Other possible environmental benefit: KPIs may be presented in reporting

(\*) Estimates of the expected impacts may vary in time, when a project is subject to a new evaluation under a different scenario. Changes will be reported when significant.

### **Allocation reporting**

Terna will report annually until full allocation, and as necessary thereafter in the event of material developments, on the following:

- (i) Allocated amounts by Eligible Green Project, including a brief description of the largest and most representative projects from each category.
- (ii) Main technical data referring to the single project, when available (e.g. peak power of wind or solar plants connected)
- (iii) Division of the allocation between refinancing and new projects
- (iv) The outstanding amount of net proceeds yet to be allocated to projects at the end of the reporting period
- (v) Percentage of co-financing (if the Eligible Green Projects are financed together with another company outside the Terna group)

### **Impact reporting**

Where feasible, Terna will also report on an annual basis until bond maturity project impacts and environmental benefits by Eligible Green Project or aggregated by the three categories of eligibility. In most cases, the environmental KPIs linked to the single project will be those calculated in the project evaluation phase, i.e. expected impacts.

Moreover, information on ESG management of Eligible Green Projects and potential controversies will be provided, where feasible, for the most representative projects.

Monitoring will be carried out to ensure that the Eligible Projects is aligned with the categories and eligibility criteria throughout the life of the Bonds.

Furthermore, any critical issues and controversies that may emerge during the monitoring phase will be brought to the attention of the Green Bond Committee for their evaluation.

The annual Green bond report will be made publicly available on Terna's website.

## **5. External Review**

### **Second Party Opinion**

A leading Second Party Provider will issue a Second-Party Opinion on the Framework, to confirm the alignment of the Framework to the ICMA's Green Bond Principles and the EU Taxonomy.

### **Annual Assurance Report**

An independent auditor appointed by Terna will review that the allocation of the Green Bonds is done in accordance with Terna's Green Bond Framework and will provide an annual assurance report, until all the proceeds of the bonds have been allocated, confirming that an amount equal to the net proceeds of the bonds has been allocated in compliance with all material aspects of the Eligible Green Projects criteria set forth in the Green Bond Framework and with the "Use of Proceeds" section of the bond documentation.

Both Terna's Green Bonds Framework and the Second Party Opinion will be made available on Terna's website ([www.terna.it](http://www.terna.it)).

## ANNEX 1 – EXAMPLES OF ELIGIBLE GREEN PROJECTS

Project:	<b>Genzano new electrical station</b>
Eligible Green Project Category:	<b>a) Renewable energy - integration of production from RES</b>
Description:	Substation to be built for the connection of Renewable Energy Plants in the Basilicata Region to the 380 kV High Voltage Line "Matera - S. Sofia".
Environmental benefit:	Expected increase in production from RES = 2,252,195 MWh per year

Project:	<b>City of Naples 220kV grid reorganisation</b>
Eligible Green Project Category:	<b>b) Energy efficiency (reduction of grid losses)</b>
Description:	In order to improve network security in the Naples area and eliminate operational constraints, a development program has been planned, including the development of new electrical lines, enhancement of existing connections and the demolition of some old electrical lines. The benefits depends on the effects of the grid reorganization on the whole, as assessed through simulations which consider the grid setup with and without the new development projects.
Environmental benefit:	Expected reduction in grid losses = 18,042 MWh per year.

Project:	<b>c) 132 kV Rimini - Riccione ring</b>
Eligible Green Project Category:	<b>b) Quality,Security,Resilience</b>
Description:	The operational safety of the HV network, which mainly supplies the loads of the municipalities of Rimini and Riccione, is not ensured during the summer, when the power draws are high and well above the safe transport capacity of the 132 kV Riccione – Rimini ring. The interventions to remove the limitations of the 132 kV power lines will allow to solve the operational issues of the grid, with the benefit of reducing the risk of supply interruption.
Environmental benefit:	Energy Not Supplied = 66 MWh per year.