European Investment Bank

Luxembourg, 18/12/2025

Environmental and Social Completion Sheet (ESCS)[1]

Overview

Project Name: *TERNA RETI ELETTRICHE VI*

Project Number: *20150256*

Country: *ITALY*

Project Description: Project comprising several new/extended electricity transmission facilities geographically dispersed throughout Italy. These include reconductoring of the 380 kV OHLs in North-Western Italy "Rondissone-Trino" and "Vado Ligure-Vignole", three new substations in Celano, Melfi and Genzano, extension of Palo del Colle substation, reinforcement of the 150 kV cable network supplying the area of Cagliari, installation of reactors in Roma Sud and Rumianca substations and the installation of synchronous condensers in Partinico and Favara substations. The main purpose of these facilities is to integrate renewable generation into the grid, abate congestion, improve voltage regulation and reinforce some areas of the network in order to maintain the reliability standard against generation and demand changes. The Project also includes several sub-projects aimed at improving network operation and maintenance and strengthening network resilience to extreme contingencies, security threats and natural hazards.

Summary of Environmental and Social Assessment at Completion

EIB notes the following Environmental and Social performance and key outcomes at Project Completion.

Project implementation ended in October 2023. The Project was implemented broadly in line with the scope described above, although with significant delays for a limited number of sub-projects, mainly due to the permitting processes that took longer than expected. Compared to what evaluated at appraisal, some reduction in scope/changes in the individual Project schemes occurred, mainly because of modifications triggered by implementation constraints that emerged during the permitting process or during the realization phase. The main changes are related to:

- reconductoring of 380 kV line Lacchiarella-Chignolo: cancelled from the project scope upon request of the Borrower;
- the design of the extension/reconstruction of Bari Termica 150 kV substation changed from air insulated to gas insulated (GIS). Due to the change in design, the project will be completed in 2026. This substation and the associated connections were therefore removed from the project scope with the agreement of the Bank;
- in the 380/150 kV Genzano substation, after the first entry into service in 2015, two more 380/150 kV ATRs were installed (for a total of 3 ATRs, compared to the initially planned configuration which included only 2 ATRs), given the high number of connection requests from renewable generators received by Terna;
- load shedding system (EDA): this is a rolling activity. Even if the target amount has not been reached, the Promoter considered the activities included in the EIB financing completed;
- mitigations of risks due to ice and snow (not included in the original project description, but consistent with the purpose of strengthening network resiliency): completed with increased number of planned installations.

[1] The template is for ILs and FLs

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- 132/110 kV Brennero substation subproject, removed from the scope of the Project by the Bank.

All sub-projects, including the reconductoring of existing lines, have been designed to comply with EMFs exposure limits and corona audible noise limits.
Further to that, appropriate mitigating measures have been implemented to minimise the impacts of the sub-projects. These include containing noise, dust vibrations and traffic disruption during the construction works, proper management of soil and aggregates resulting from excavation, installation of flight diverters on ground wires to avoid birds' collision and mortality, minimising felling and trimming of trees and, as necessary, realising compensatory plantations and relocating quality trees.

The analyses carried out confirmed that, with the implementation of the identified mitigating measures, no significant environmental impacts resulted from the construction and the operation of the sub-projects. Additionally, none of the sub-projects adversely affects the integrity of any protected site on view of the European site's conservation objectives.

All the subprojects have obtained the necessary authorizations for building and operation by the competent authorities.

Furthermore, the following information, of relevance regarding the environmental and social aspects connected to the implementation of the project, is reported:

- the construction of the Celano substation and its associated connecting lines allowed to achieve the environmental and landscape redevelopment of the area of a former quarry, minimizing the land consumption linked to the realization of the new infrastructures. In addition, the implemented consolidation works aimed to protect the substation against the risk of landslides from the mountain front near the substation, protect the site from natural erosion due to the morphology of the territory;
- the sub-project concerning the installation of a new reactor in the substation of Rumianca required, besides the authorisation by the Ministry of Economic Development, also a special authorisation by the Ministry of the Environment, to carry out excavation works in a polluted areas included in the list of Sites of National Interest (SIN). An ad hoc solution providing for the construction of surface foundations carried out "above ground", so as not to interfere with the underlying polluted shallow aquifer, was therefore prepared and authorized. The foundation works were raised by one meter above the substation ground level, also obtaining the result of securing the reactor, and the electrical equipment connected to it, from the risk of flooding due to the presence of surrounding water channels. The station is located in fact in a morphologically depressed area that has already suffered several floods in the past. The soundproofing system of the reactor has also been set up, exploiting the three reinforced concrete flame arrester walls and integrating them with a fourth removable wall of prefabricated panels. In this way the noise of the reactor will be confined within the same structure.

The realization of Melfi and Genzano substations enabled to connect and integrate into the transmission grid overall approx. 390 MW of wind power plants over the period 2015-2022. Additionally, the synchronous condensers in Partinico and Favara allowed to eliminate the dependence on the production (must-run) of the OCGT generation unit located in Trapani (212 MW), while the need of Porto Empedocle must-run unit (80 MW) has decreased compared to what would have been required in the absence of the planned investments. On this basis, the programme is expected to contribute reducing CO2 emissions.
Regarding the Project carbon footprint, at completion the absolute emissions due to the electricity losses of the new and refurbished network equipment being installed are estimated at 9.7 kt CO2e per year (approx. 53% lower than the absolute emissions estimated at

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appraisal[2]), which falls below the Bank's methodology thresholds. These absolute emissions are offset by the reduction of CO2 emissions enabled by the Project. Therefore, at completion, the Project is expected to enable a saving of circa -6.3 kt of CO2e/year.

Summary opinion of Environmental and Social aspects at completion:

EIB is of the opinion that, based on reports and information provided by the Promoter, the Project has been implemented in line with EIB Environmental and Social Standards, applicable at the time of appraisal.

[2] Mainly due to the update of the relevant emission factor in the last version of the EIB Carbon Footprint Methodologyes (version 11.3 of January 2023).