

Luxembourg, 13/12/2023

Environmental and Social Data Sheet

Overview

Project Name:	STEG - TUNISIA ITALY POWER INTERCONNECTION
Project Number:	2017-0028
Country:	Tunisia-Italy
Project Description:	The Project concerns the implementation of a High Voltage Direct Current (HVDC) link interconnecting Tunisia and Italy across the Strait of Sicily and the associated connections to the respective national grids. The HVDC link is designed as a monopole with sea return, nominal capacity of 600 MW, DC voltage of 500 kV and a total route length of 224 km, of which 200 km offshore. The offshore route crosses Tunisian and Italian waters.
EIA required:	yes
Project included in Carbon Footprint Exercise ¹ :	yes
(details for projects included are provided in section: "EIB Carbon Footprint Exercise")	

Environmental and Social Assessment

The Project is jointly developed by STEG, the Tunisian utility for electricity and gas, and Terna, the Italian Transmission System Operator.

EIB, WB, EBRD and KfW will finance the implementation of the Tunisian part of the Project. More precisely, the WB will finance the HVDC converter station and the overhead line connections to the national grid. EIB, EBRD and KfW will jointly finance the HVDC cable system. Although coordination will be ensured among co-financiers, WB will retain the responsibility to monitor the environmental and social impacts of their respective investments under the Project.

Both the Italian and Tunisian segments of the Project are required for achieving the cross-border transmission functionality it was designed for. Therefore, the E&S due diligence whose results are summarized in this ESDS cover both the Tunisian and Italian parts of the Project.

Environmental Assessment

The HVDC link comprises the following main facilities:

- Two monopole HVDC converter stations located respectively in the municipalities of Menzel Temime (Nabeul Governorate, Tunisia) and Partanna (Trapani Province, Italy).
- 6 km of HVDC underground pole cable in Tunisia from the converter station site to the landfall of the submarine cable located nearby the hamlet of Sidi Gamal El-Din.
- 17.1 km of HVDC underground pole cable in Italy from the converter station site to the landfall of the submarine cable located in the hamlet of Marinella di Selinunte.
- 200 km of HVDC submarine pole cable, crossing the Territorial Waters (TW) and Exclusive Economic Zone (EEZ) of Tunisia and Italy. The cable route runs in South-

¹ Only projects that meet the scope of the Carbon Footprint Exercise, as defined in the EIB Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: 20,000 tonnes CO₂e/year absolute (gross) or 20,000 tonnes CO₂e/year relative (net) – both increases and savings.



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West to North-East direction from Cap Bon to the Selinunte Gulf passing North of Pantelleria island and reaching a maximum sea depth of approx. 800 m.

- One sea electrode located approx. 4.5 km off the Tunisian coast and the associated electrode cable (8.8 km submarine, 6 km underground) connecting the electrode to the converter station in Tunisia.
- One sea electrode located approx. 6 km off the Italia coast and the associated electrode cable (11 km submarine, 17 km underground) connecting the electrode to the converter station in Italy.

The HVDC link will connect to the Tunisian transmission network at the new 400 kV substation of Mlâabi adjacent to the converter station. The substation comprises two OHL bays and will further connect to the existing substation of Mornaguia (located 14 km West of Tunis) via two single circuit OHL each with a length of 113 km. On the Italian side, the HVDC link will connect to the existing Partanna substation via 2 km of 220 kV underground cable.

The Project is currently at procurement stage. Works are expected to start in 2025 with commissioning of the Project planned by the end of 2028.

The Strait of Sicily is considered one of the most important biodiversity hotspots in the Mediterranean basin. Nine alternatives for the offshore cable route between Tunisia and Italy were analysed at an early stage of the Project via a detailed marine feasibility study combining desktop analyses and geophysical marine surveys performed by sonar systems installed on vessels and remote operated vehicles (ROV). The final route of the pole and electrode cables, as well as the location of the electrodes have been identified avoiding, where possible, or otherwise minimizing, the interaction with sensitive habitats, archaeological findings, unexploded ordnance (UXO) and other obstacles, sources of geological or seismic risks and interference with human activities and infrastructures (e.g. fishing, maritime transport, military and oil activities). Geophysical marine surveys will be repeated by the selected contractor prior to the start of the detailed design activities.

The parts of the Project in Tunisia and Italy are subject to different authorization regimes and underlying E&S assessments, as described in the below paragraphs.

Tunisia

Project authorisation requires opinions and no-objections from various competent bodies and administrations. No-objections from the main administrations have been granted. These include APAL (Agence de Protection et d'Aménagement du Littoral), Ministry of Interior, Ministry of National Defence, Ministry of Communication and Ministry of Transport.

Under Tunisian legislation, preparation of Environmental and Social Impact Studies (ESIA) and information/consultation of the public thereon are not required for the permitting of any type of electricity network infrastructure. STEG informed the National Agency for Environmental Protection (ANPE) about the Project to ensure that it does not create concerns in sensitive/protected areas. ANPE confirmed to STEG that an ESIA is not required for the Project via a letter dated 21/9/2022.

To comply with the requirements of the Lenders, STEG prepared an ESIA and a Biodiversity Management Plan (BMP) for addressing and mitigating the environmental impacts of all the terrestrial and marine components of the Project up to the limit of the Tunisian Exclusive Economic Zone. The main impacts of the Project and the associated mitigants identified are summarised here below for the marine and terrestrial domains respectively.

Marine domain

The main impacts associated with the cable installation works are damage to seagrasses and coralligenous habitats nearshore and underwater noise that may disturb sensitive marine fauna.

The nearshore area facing the landfall site at Sidi Gamal El-Din is largely influenced by *Posidonia oceanica* meadows, a seagrass that is priority habitat under the Habitats directive and has also protected legal status under the Bern and Barcelona Conventions, as well as by infralittoral coralligenous habitats. The Project will apply HDD (Horizontal Directional Drilling) to avoid impact in proximity of the shoreline, but cable burying is expected to occur in the



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remaining parts of the nearshore area (up to 40m depth) with effects/impacts on seagrasses and coralligenous habitats. With the hypothesis of 1-1.25 km HDD (to be verified with detailed engineering design), the pole cable crosses for 1600 m Posidonia meadow and for 600 m coralligenous habitats. Stretches impacted by the electrode cable will be 1600 m and 3800 m respectively for Posidonia and coralligenous.

The following mitigation measures are proposed to reduce impact:

- Adoption/ of ploughing and jetting burial techniques as a priority to minimize impacts. Trenching techniques are to be avoided; if required, a sound technical justification should be provided by the contractor for approval.
- For minimizing disturbance to Posidonia, works shall be carried out from beginning of August until the end of September and between the beginning of December and the end of February.

Based on the lengths of the stretches impacted, the damages nearshore could be significant although no quantification of the absolute and relative surface of habitats lost is provided in the ESIA. Damage to sensitive benthic habitats (corals and maerl associations) in deep-water are also likely as these habitats have been identified in the deep-water section in Italy. However, the ESIA does not address this issue nor suggests any mitigants for deep water sensitive habitats.

To address this shortcoming, a Critical Habitat Assessment (CHA) is currently being prepared for the Marine part of the Project as a basis for updating the BMP via the integration, as relevant, of additional mitigation and/or compensation measures.

Terrestrial domain

There are a variety of habitats in the territory affected by the Project considered as a protected areas and key biodiversity areas, including forest and scrubland, that are used as breeding, feeding and nesting habitats for many bird and bat species, some of which are placed on the IUCN red list as vulnerable or endangered species. Removal of vegetation and clearing of the right of way for the OHL as well as nuisance caused by the construction activities may alter and disturb the breeding and nesting habitats of these species. A Biodiversity Management Plan has been prepared for addressing and mitigating such impacts at both design and construction stage.

A qualified ornithologist will be involved with the design team and will conduct a quantitative collision risk assessment to guide the final design of the OHL and to quantify residual impacts on biodiversity related to collisions. At construction stage planned mitigating measures range from prior construction phase biodiversity survey and inventory, training workers on biodiversity, avoiding construction activities during breeding/nesting season in forested areas and near IBA/RAMSAR sites, keeping existing vegetation in the right of way as floral species present in the region will never reach the conductor, and protect trees located adjacent to the construction sites, etc.

Other main sources of impact for the Project will be disturbance during construction (dust, exhaust emissions, noise, traffic disruption) and potential accidental spills of hydrocarbons or other contaminants on soil. These impacts will be managed via proper construction methods that will be defined in the ESMP of the construction site to be prepared by the contractors.

A Critical Habitat Assessment for the terrestrial of the Project is currently being prepared as a basis for updating the Biodiversity Management Plan.

Italy

The Ministry of the Environment and Energy Security (MASE) launched the authorization procedure for the Project (Conferenza dei servizi preliminare) in December 2022. All the opinions, approvals and authorizations from various competent bodies and administrations required for the final authorisation are granted. Accordingly, the release of the final authorisation is expected by the end of 2023.

Given its technical characteristics, the HVDC link and the associated connecting facilities do not fall under either Annex I or Annex II of the EIA Directive. Accordingly, no EIA was required



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for the Project in Italy. However, environmental studies are required and have been undertaken for the Project under national legislation.

The coastal portion of the Project fall within the perimeter of the Site of Community Interest (SCI) ITA040012 "Fondali di Capo San Marco-Sciacca". In particular, the site includes a stretch of approximately 5 km of the submarine pole cable, the entire submarine electrode cable, having a length of approx. 11 km, and the entire sea electrode system. The cable landfall area of the Project, where the use of HDD is envisaged, is located at 45 m from the SCI ITA010011 "Sistema dunale Capo Granitola, Porto Palo e Foce del Belice".

The Appropriate Assessment screening ruled out significant effects at cable landfall, but likely significant effects could not be ruled out on the SCI Fondali di Capo San Marco-Sciacca. The Project was therefore subjected to Appropriate Assessment in line with Article 6.3 of the Habitats Directive. The assessment concluded that the Project does not lead to significant impairment of habitats of community interest in view of the conservation objectives of the site. The main potential impacts and the associated mitigations proposed are:

- Temporary and permanent loss of surfaces occupied by the habitat 1110 *Sandbanks which are slightly covered by sea water all the time*. Impacts will be mitigated via the use of HDD to the extent possible and/or highly sustainable cable installation techniques.
- Potential disturbance from acoustic emissions affecting the loggerhead turtle *Caretta caretta* and the dolphin *Tursiops truncatus* and possible injury or death of these two species from impact with naval vessels and boats. Acoustic emissions will be contained in compliance with the recommendation of the IMO "Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life". To avoid and limit the risk of impact with naval vessels, a specialized observer will be present on board the main naval vessels.

Subject to the implementation of the above mitigation measures, the absence of significant impairment was confirmed by the competent authority (Sicily Region) with decision dated 7/9/2023.

A study of the seabed was carried out for supporting the application for the permit to move the marine sediments for the laying of the cables and the ancillary works (Ministerial Decree 24/1/1996). The study covered a corridor including the electrode, the electrode cable and the pole cable up to the external limit of the EEZ. It allowed the characterization of the sediments, and the macro benthic communities present in the study area through a sediment sampling campaign and video inspections carried out via ROV. Sensitive habitats² have been identified in the study corridor around the pole cable route in the EEZ. The study therefore proposes solutions for minimizing the impact on these habitats. They include reducing to the minimum sediment movement by using low-impact excavation techniques and avoiding anchoring operations of nautical vehicles in the areas with presence of maerl associations and coral. At detailed design stage the presence of these habitats will be further assessed via verification of ROV video footage by a specialized marine biologist. The competent authority (MASE) granted the permit to move the marine sediments for the laying of the cables and the ancillary works of the Project with decision dated 8/2/2023.

EIB Carbon Footprint Exercise

The sources of CO₂ equivalent (CO₂ e) emissions for the Project are the ohmic losses in the HVDC link and in the associated connection facilities. These emissions are however offset by the indirect emissions savings resulting from the avoided curtailment of intermittent RES and the better optimisation of thermal generation dispatch enabled by the Project.

² Association with maerl (*Lithothamnion corallioides* and *Phymatholithon calcareum*) on coastal dendritic bottoms (Code EUNIS MC3523) and Mediterranean circalittoral biogenic habitat with presence of coralligenous (Code EUNIS MC25).



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Over the economic life of the Project the corresponding average absolute emissions are estimated at 9 kt CO₂ equivalent per year while the relative emissions savings are estimated at 247 ktCO₂ equivalent per year.

For the annual accounting purposes of the EIB Carbon Footprint, the Project emissions will be prorated according to the EIB lending amount signed in that year, as a proportion of Project cost.

EIB Paris Alignment for Counterparties (PATH) Framework

- The counterparty STEG is in scope and screened in to the PATH framework, because it is considered high emitting and of high vulnerability.
- The counterparty's adaptation strategy is in line with the PATH framework resilience requirements, but the relevant resilience plan is not publicly disclosed yet.
- The counterparty is currently not in line with the PATH framework decarbonisation requirements and has agreed to develop a decarbonisation plan in line with the EIB Path Framework. This plan will be published together with the resilience plan no later than the second anniversary of the Finance Contract.

Social Assessment

Tunisia

The 10-hectare Converter Station will be constructed on land owned by the national Industrial Land Agency (AFI). The land is currently used for agriculture but is being converted to industrial use. The choice of the landfall site, land cable route and OHL route has been done to avoid impacts to land users by using existing rights of way (public roads) to the extent possible.

A Resettlement Policy Framework (RPF) has been prepared for the Project. Based on a preliminary assessment in the RPF, the Project is not expected to generate physical resettlement but rather permanent and temporary loss of land, mainly agricultural land, crops and economic activities. The RFP is currently being reviewed by STEG to comply with the standards of all the lenders involved.

Once the detailed design of the Project is finalized a Resettlement Action Plan (RAP) and a Livelihood Restoration Plan (LRP) will be prepared and implemented prior to the start of the construction works. All affected people will be compensated for the actual permanent and temporary impacts identified. Special accompanying measures for vulnerable people will be in place.

Italy

Construction of the Converter Station requires a large area of land (9.6 hectare for the actual infrastructure and a further 0,2 hectare for the access roads) and this required expropriation of farmers cultivating olive trees. Extensive engagement with the displaced persons has been undertaken by the promoter with the close involvement of the Partanna municipality. The farmers have been offered, and accepted, cash compensation for the loss of land and olive trees. The municipality has identified a suitable area of land where the olive trees (1,780 plants) can be relocated to.

The installation of the underground sections of the cable are aligned with the existing public road network right of way and no expropriation will be required. The promoter will seek authorisation of the municipality to install the cable and establish temporary road traffic closures (along a single lane of traffic only, allowing road users to still use the road) during the works.

Public Consultation and Stakeholder Engagement

Tunisia

The ESIA, RFP and BMP have been disclosed on the STEG and WB websites in April 2023. As described in the ESIA, many consultations with institutional stakeholders and representatives of the civil society have taken place since 2021.

A public meeting was held with local people on 19 June 2023 in Manzil Temime, to discuss concerns from landowners and land users. A review of the attendance of the public meeting



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indicated that just a few local people attended (estimated to be 6 to 8) which does not comprise a robust public consultation process. Additional stakeholder engagement and information disclosure activities are therefore required.

Other Environmental and Social Aspects

STEG has experience in implementing EIB financed project and has a department (Safety and Environment Directorate) that deals with environmental aspects of projects.

A Project Implementation Unit (PIU) within STEG is responsible for managing all the aspects of the Project. The Project Manager will have overall responsibility for occupational health and safety, environmental management, and social performance, including the management of community relations and resettlement aspects of the Project. The Environmental, Social and Biodiversity Specialists in the Project Implementation Unit will support the Project Manager in managing and monitoring safety, health, and environmental and social issues. Further external Environmental, Social and OHS specialists and an Owner's Engineer firm will be hired to enhance the implementation capacity of the PIU. On this basis, the capacity of the PIU to implement the Project according to the EIB E&S standards is deemed adequate.

The Climate Risk and Vulnerability Report (CRVA) integrated in the ESIA indicates that the Project is exposed to a minor risk related to temperature increases in both Italy and Tunisia. The CVRA will be updated by including the identification and planning of the adaptation options at the final engineering phase of the Project.

The operation has been assessed for its Paris alignment. It is considered to be aligned for low carbon and resilience, in line with the policies set out in the Climate Bank Roadmap and with the EIB's Energy Lending Policy.

Conclusions and Recommendations

Based on the information available, and with appropriate conditionalities (see below) and monitoring, the Project is expected to be acceptable in environmental and social terms for Bank financing.

The following undertakings and disbursement conditions will apply:

Undertakings

STEG to provide to the Bank:

- the revised RPF.
- the CHA.
- the revised BMP.
- evidence that additional public consultations with specific stakeholder groups have taken place.

satisfactory to the Bank and within 3 months from the signature of the FC, and in any case before request for first disbursement.

STEG to provide to the Bank the updated CRVA with the identification and planning of the necessary adaptation options, satisfactory to the Bank, within 12 months from the signature of the FC, and in any case before request for first disbursement.

Disbursement conditions

- STEG to provide to the Bank a RAP and LRP, satisfactory to the Bank, prior to first disbursement.