Tunisia-Italy Power Interconnector Project

Environmental and Social Impact Assessment (ESIA)

Executive summary – Part 2

Draft for Consultations

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1. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

1.1 Introduction

The objectives of the ESMP are to:

- Describe the committed construction, operation and decommissioning management measures to be implemented as outlined in the ESIA;
- Describe specific additional measures required to implement construction-related good practice, World Bank Group requirements and national legislation;
- Identify the roles and responsibilities of the environmental and social management organisation of the Project;
- Communicate environmental and social expectations and requirements within the Project team.

The ESMP refers to the planned works of the Elmed project financed by the World Bank, which comprise all activities in Tunisia, both marine and terrestrial. All works in Italy are considered as Associated Facilities and are therefore not included in the scope of the present document.

1.2 Project development

The following ESF-compliant action plans have been developed for the project:

- SEP: Stakeholder Engagement Plan.
- BAP: Biodiversity action plan
- SEA/SH: Sexual Exploitation and Abuse and Sexual Harassment Prevention and Response Action Plan
- LMP: Labor Management Procedure
- ESCP: Environmental and Social Commitment Plan

1.3 Pre-construction and construction phase

The Construction Contractor will prepare the following mitigation and management plans, to be approved by STEG:

<u>Environmental management plans</u>

- Dust management plan
- Noise management plan
- Silt management plan
- Soil management plan
- Waste management plan
- Storage management plan
- Transport and traffic management plan
- Water management plan

<u>Social management plans</u>

- Community Health and Safety Plan
- Labor Influx Plan
- Stakeholder Engagement Plan
- Community grievance plan
- Traffic and Transport Plan
- Labour grievance mechanism
- Occupational health and safety plan
- Construction workers' accommodation plan
- Cultural heritage chance finds procedure

- Human Resource Plan and Local Employment Policy
- Supply Chain Management Plan (including relevant Code of Conduct for Project Workers)

Emergency action plans
- Spill prevention plan
- Ground contamination action plan
- Emergency preparedness and response plan

1.4 Operation phase

For the operation phase of the project STEG will prepare the following mitigation and management plans:

Environmental management plans
- Waste management plan
- Hazardous materials management plan
- Water management plan

Social management plans
- Labour management plan
- Labour grievance mechanism
- Occupational health and safety plan
- Stakeholder Engagement Plan
- Community Health and Safety Plan

Emergency action plans
- Spill prevention plan
- Emergency preparedness and response plan

1.5 Decommissioning phase

Activities in the decommissioning phase will be akin to those related to the construction phase: consequently the plans to prepare and their responsibilities will be the same.

1.6 Monitoring

Responsibilities for monitoring are as follows.

STEG will be responsible for:
- Preparing a detailed monitoring plan as terms of reference for the monitoring contractor;
- Selecting the monitoring contractor, based on its experience in monitoring activities and the capability of performing all the required activities;
- Analysing monitoring data;
- Take prompt action in the case that monitoring indicates the occurrence of critical environmental or social issues;
- Prepare monitoring reports on an annual basis and transmit them to the World Bank.

The monitoring contractor will be responsible for:
- Proper execution of monitoring activities, in compliance with terms of reference;
- Drafting of monitoring reports, with contents and schedule as defined in terms of reference;
- Upload all monitoring data in a database, to be developed by the contractor;
- Promptly inform STEG of any environmental and social problems highlighted by monitoring activities, such as contamination, parameters beyond threshold values, anomalies, etc.

1.7 Company Organization and Role Responsibilities

1.7.1 Employer (STEG)

The employer will assume overall responsibility for implementing conditions dictated by the ESMP during construction and operation, and provide appropriate staff, financial resources, equipment and support systems to implement the ESMP effectively. STEG will ensure that its staff has the right skillset and dedication and that contractors and suppliers understand their obligation to comply with the requirements set out in the ESMP through various means, including mandatory staff inductions and contract conditions that are consistent with the commitments of the ESMP.

STEG is responsible for ensuring a suitably competent and experienced team will implement ESMP responsibilities for the Project, either if the positions are filled within existing STEG staff or specifically for the Project. Senior positions will have their environmental and social responsibilities and accountabilities clearly outlined. These descriptions will form part of the contractual obligations for each senior position, with specific accountabilities and responsibilities communicated through the Project Manager.

Project Manager

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 and for ensuring the effective implementation of STEG policies, programs and procedures. The dedicated, on-site ESPIU will support the Project Manager to manage and monitor safety, health, and environmental issues associated with Project activities. In addition, is required to inform the Bank of any serious injuries or fatalities within 48 hours of its occurrence.

Environmental and Social Project Implementation Unit (ESPIU)

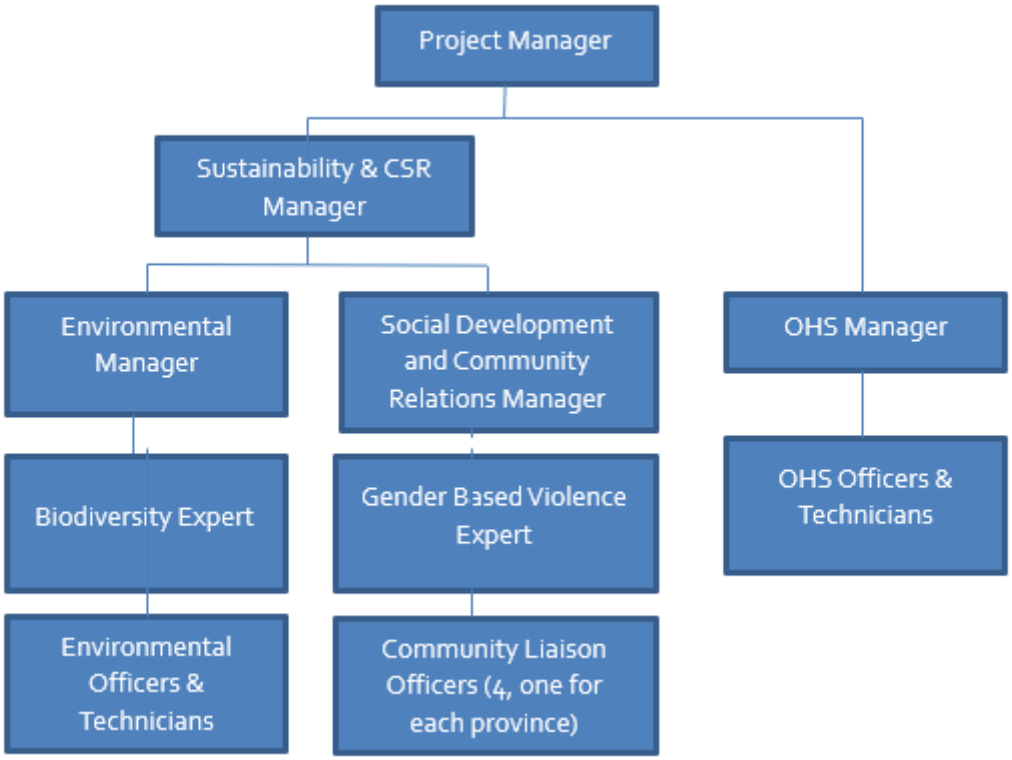
The ESPIU should be set-up at least one year before the beginning of construction works and will follow ESMP procedures during the construction and operation phases of the project. At minimum, it will comprise a team of professionals hired on long-term basis (at least one-year contracts) who will have the following responsibilities:

- Establish and maintain appropriate management systems and monitoring programs described in the ESMP are implemented to comply with legal obligations, ESIA commitments, and environmental and social international standard requirements such as the World Bank's ESS;
- Review environmental and social data and submit reports regarding progress of implementation, effectiveness of environmental mind social management measures and monitoring data, and relevant environmental information and data required by regulators, including reporting to the appropriate regulatory authorities on significant reportable incidences as per regulations;
- Monitor the environmental and social compliance and performance of Project activities (including of contractors, vendors and suppliers) with the requirements of this ESMP and supporting management plans and procedures. Recommend appropriate actions or modifications as required for non-conformances within and continual improvement of the management system;
- Train STEG personnel and contractors as appropriate on Project environmental and social issues, and provide relevant environmental and social induction;
- Design and implement restoration / rehabilitation of disturbed areas and oversee RAP implementation.
- Establish, train and ensure readiness of the emergency response teams;
- Provide technical environmental and social support to construction and operations as necessary; and
- Proactively consult and engage with relevant government authorities, communities and other stakeholders - including dissemination of Project updates and regular, meaningful, inclusive and participatory consultations with affected communities.
- Establish and maintain a stakeholder database.

The department managers (Environmental, Social and OHS managers) will report directly to the head of the ESPIU, the Sustainability and CSR Manager on site, who will be part of the Project's management team The

ESPIU is responsible for the day-to-day implementation and continuous improvement of the environmental components of the ESMP including rehabilitation activities, compliance monitoring and reporting.

The organizational structure of STEG's ESPIU (long-term assignment staff) is shown in the below diagram:



ESPIU External Specialists
When required, STEG will appoint external Environmental, Social and OHS specialists (e.g. human rights specialist) to assist with the implementation of the commitments made in this ESMP and associated policies, procedures and management plans for the Project. Independent audits of the Project will be conducted regularly (e.g. every year during operations – or more frequently if deemed necessary) to assess compliance and conformance with safety, health, environmental and social requirements, procedures, and management plans.

ESPIU Contractors, Suppliers and Vendors
Contractors, suppliers, and vendors to the Project will be contractually required to comply with the various commitments of STEG policies, procedures, and management plans (including this document).
In the event of non-conformance (e.g. identified during an environment, community relations and / or OHS department inspection or audit), the contractor, supplier, or vendor will be required to take corrective action according to the requirements of the relevant department. Resolution of non-conformance will be conducted according to the terms of the contract.

1.7.2 Construction contractor

The Construction Contractor will be responsible for complying with all relevant national and international legislation and adhere to all mitigation measures specified in this ESMP. Prior to the commencement of construction works, the Construction Contractor will be required to develop the individual plans within the ESMP and ensure their implementation. The Construction Contractor will prepare and develop an Implementation Plan for the ESMP, including implementation schedule.

During construction, the Construction Contractor will assume overall responsibility for implementation and monitoring of the ESMP. In addition, to comply with the World Bank's ESF, the implementer will be responsible for complying with the Project's ESCP.

The Construction Contractor's organization must have sufficient, adequate and competent resources available to fulfil the environmental and social requirements established in this ESMP and supporting documentation.
The Construction Contractor is responsible for the ongoing management of potential environmental and social impacts of all contract activities, regardless of whether they are undertaken by the Contractor itself or by Sub-contractors. All Sub-contractors must meet all the indicated requirements.

1.7.3 Sub-contractors

All Sub-contractors must meet all requirements in relation to the Contractor's discharge of their responsibilities in terms of ongoing management of potential environmental and social impacts of all contract activities.

1.8 Capacity development and training

Effective environmental and social management is based on a collaborative approach involving shared responsibilities among stakeholders. In this context, the successful implementation of the ESMP is encouraged through an institutional support and capacity building program.

During construction, the Construction Contractor will develop and implement an HSE Training Plan outlining training requirements, topics, and areas of capacity building, courses, and staff requiring training. The Contractor will also identify the knowledge and skills necessary for implementation of the ESMP and associated management plans.
The Construction Contractor will ensure that all workers have been inducted and will regularly monitor that occupational health and safety requirements are implemented. The Client's representative should audit that all requirements are met. Where occupational health and safety requirements are not being implemented relevant workers will immediately be trained and instructed to implement these requirements.

During operation it will be responsibility of STEG to develop and implement an HSE Training Plan for its employers, outlining training requirements, topics, and areas of capacity building, courses, and staff requiring training.

In both phases (construction and operation) all personnel involved in management and implementation of ESMP will be adequately trained. Training records will be maintained to provide evidence for auditing/inspection purposes.

1.8.1 Communities awareness and training

Experience gained from transmission line projects reveals that some inhabitants still construct various structures within the RoW and that accidents with locals may occur as a result. The risk of accidents could be reduced by offering training and informative material adapted to local communities. Communities could also play an active role for supervision and environmental and social monitoring, since they live near the OHL. Training, which targets local communities, will therefore reduce line related risks and allow for community level involvement in monitoring, including for example, monitoring of bird mortality, nesting, and carcass management.

1.9 Auditing of the ESMP

STEG will designate adequate technical staff to review regularly the ESMP to assess its effectiveness and relevance. The review of the ESMP will include analysis of the data collection and analysis of data, monitoring reports, incident reports, non-compliances, corrective actions implemented, complaints/grievances and feedback from stakeholders, consultation meeting minutes and training records to evaluate the effectiveness of ESMP procedures.

1.10 Non-conformance and Corrective Action Procedure

During construction and operation, the Construction Contractor and Employer, respectively, will implement a nonconformance and corrective action process to record issues reported by internal and external stakeholders.

The procedure for addressing non-conformance and corrective actions will include:

- A Non-Conformance Report (NCR) to record any environmental incident and work that has not been carried out in accordance with the ESMP and/or sub-plans;
- A Corrective Action Report (CAR) where a deficiency is identified because of monitoring, inspection, surveillance and valid complaints.

2. ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES

The proposed environmental and social measures to reduce and mitigate the Project's impacts during the project development, preconstruction, construction, operation and maintenance, and decommissioning phases are summarized in the following tables.
For each potential impact, the proposed management measures are described, together with parties responsible for their implementation.
Whereas key biodiversity management measures for flora and fauna are included in this ESMP, more detailed management measures are outlined in the Biodiversity Management Plan (BMP).
It is noted that measures proposed for the decommissioning phase should be considered merely conceptual, given the uncertainty regarding when and how decommissioning will take place.

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2.1 Project development

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
Stakeholder Engagement and Human Rights (including SEA – Sexual Exploitation and Abuse and SH – Sexual Harassment)	• Stakeholders and local communities not meaningfully consulted and informed of the project impacts and benefits • Protests and disruptions from potential affected persons (PAPs) • Failure to obtain community acceptance of the project • Lack of transparency with the public; non-ability of individuals and civic groups to participate in public life; lack of freedom of information and Control of corruption (transparency/participation in public life); gaps in facilitating citizen engagement; lack of participation in public life.	• Development and implement an ESS10-compliant Project Stakeholder Engagement Plan (SEP) • Development and Implementation of SEA|SH plan • Implementation of the SEP and conduct of meaningful engagement with local and affected stakeholders • Conduct of a stakeholder mapping exercise to identify PAPs and vulnerable groups • Development of a stakeholder database • Revision and updating of Project social baseline • Provision of information on employment opportunities that will be offered by the project • Development and Implementation of Grievance Redress Mechanism • Hiring and training of Community Liaison Officers (CLOs)	During design phase [STEG]	• Development of SEP budgeted in World Bank's TA Project • SEP Execution Plan: $ 30,000 • Implementation of SEP throughout Project Development, Implementation and Operation Phases: $ 120,000 • Development of SEA|SH plan budgeted in World Bank's TA Project • SEA|SH Execution Plan: $ 30,000 • Implementation of SEA|SH plan: $ 100,000
Land Acquisition, Restrictions to Land Use and Involuntary Resettlement	• Non-identification of PAPs • Gaps in Entitlement Framework (focus on legal compliance/ informal settlers) • Lack of focus/gaps in livelihood restoration • Social conflicts and project failure • Absence of social license to operate and community support • Lack of compensation for physical/economic displacement	• Develop and implement a ESS5-compliant Resettlement Action Plan (RAP) based on the Resettlement Policy Framework (RPF) • Identification of potential impacts and PAPs (landowners/users, land use, valuation, etc.) • Effective participation of local stakeholders and PAPs and authorities in the entire process	RAP to be developed at least 6 months prior to the start of the construction phase [STEG]	Development of Resettlement Framework budgeted in TA Project Development of RAP, including LRP: $ 90,000
Terrestrial biodiversity	• Impacts on habitats/species of conservation concern (forest, shrub, wetlands, IBA/RAMSAR, flora and fauna) • Disturbance and loss of natural habitats • Increase of mortality for species (flora, birds, bats)	• Design team to include fauna (ornithologist) experts to conduct specific surveys in order to identify critical natural habitats/species and sites with high risk of mortality for birds and bats • Conduct a monitoring survey for birds, bats and other critical species within the OHL corridor and near the existing power transmission line • Definition of adequate mitigation measures for habitats/critical species	During design phase [Design Contractor / STEG]	Monitoring costs included in Environmental and Social Monitoring Plan. Design measures and team included in project design costs
EMF	Increase in general public exposure to EMF	Project layout definition and siting of new facilities aimed at ensuring that no direct impact on sensitive receptors occur: CS and OHL siting, cable route definition mostly on existing roads	Measure incorporated into the Project design [Design Contractor / STEG]	Included in project design cost
Landscape	Visual impacts and changes of landscape features	Project layout definition and siting of new facilities aimed at ensuring that no direct impact on sensitive receptors occur.	Measure incorporated into the Project design [Design Contractor / STEG]	Included in project design cost

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
Landscape, vegetation	• Visual impacts and changes of landscape feature • Loss of natural vegetation	Design restoration of pre-construction conditions as much as possible (e.g. re-vegetation) in temporary construction yards and construction areas	Measure incorporated into the Project design [Design Contractor / STEG]	Included in project design cost
Soil and Groundwater	Potential soil/groundwater contamination	Design for: • Rain water tank • De-oiling tank • Civil discharges connected to the public sewerage	Measure incorporated into the Project design [Design Contractor / STEG]	Included in project design cost
Marine biological environment	• Disturbance of benthic habitats • Disturbance of pelagic environment	• HDD will be used for the construction of the marine cables' landfall, avoiding direct interferences with the coastal environments and related habitats • Design for applying the best available technologies suitable to local seabed features	Measure incorporated into the Project design [STEG]	Included in project cost
Marine biodiversity	• Disturbance of benthic habitats • Disturbance of pelagic environment	• Desktop study to provide information on potential presence of biodiversity in the area of works • Overview of potential impacts of the marine cables on marine biodiversity • Project route study to avoid sensitive habitats • Nearshore and offshore surveys to describe benthic habitats	Activities already carried out [ELMED]	Activities already carried out

2.2 Pre-construction and construction phase

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
Air quality	Increase in atmospheric concentration of Particulate Matter induced by dust diffuse emissions	• Watering unpaved surfaces to reduce wheel generated dust • Vehicle speed limited to 40 km/h, reduced to 15-20 km/h on the construction site, to minimise dust generated by the transit of vehicles • Covering/humidifying of materials that can be transported by wind (e.g. topsoil, aggregate) where possible; this measure allow to abate by 90% dust resuspension caused by winds on active stockpiles (WRAP Fugitive Dust Handbook). • All stockpile materials with high risk to produce airborne dust will be covered, in particular during windy periods.	Throughout construction phase • Implementation: Contractor • Control: STEG	$ 1,500 x 40 months = $ 60,000
	Increase in atmospheric concentration of macro pollutants (primarily NOx and CO) induced by vehicles and machinery exhaust emissions	• Use of best available technologies for equipment and machinery; • Regular maintenance and inspection of machinery performed in accordance with manufacturer instructions; • Vehicles and machinery will be turned off when not in use	Throughout construction phase • Implementation: Contractor • Control: STEG	Included in the construction contract
Noise	Increase in background noise levels due to construction equipment and machinery	• Switch off equipment when not in use; • Limit noise activities to the least noise –sensitive time of the day; • Location of noise equipment as far as practicable from nearby receptors • Regular maintenance of equipment and machinery in order to ensure noise emissions in accordance with technical specifications • All major construction plant and equipment will comply with international noise emission limits • Transportation activities and the delivery of construction materials during working hours • Notify local community/public located within 500 m from the worksites before starting noise activities (residents must be informed at least 24 hours in advance) • Vehicle movements shall be limited to a speed limit of 30 km/h	Throughout construction phase • Implementation: Contractor • Control: STEG	Included in the construction contract
Geology, geomorphology and soil	• Potential soil and subsoil contamination	• Operational procedure to prevent and manage potential soil and subsoil contamination • Excavated soil management procedures • Providing emergency response kits • Use the best available technologies for the equipment and machineries • Periodic maintenance of the equipment • Contaminated soil should be stripped and stored on suitable impermeable surfaces • Waste management procedure (segregation of hazardous and non-hazardous waste; Implement a construction equipment/material inventory management system; • Ensure regular surveillance of any spillage on nearby proprieties: land filling must be restricted within the boundary of project's activities (HDD site, CS area and locations of towers foundations) • Drilling and drilling mud management procedures	Development prior to, and implementation during, construction phase • Development: Contractor • Approval and control: STEG	$ 5,000

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
	• Potential soil disturbance and degradation	• Excavated top soil will be stored in a dedicated top soil storage site • When construction work is over, top soil will be reinstated at the construction site. • Excavations with appropriate slopes to keep the excavation face safe. • Temporary construction yards will be restored • Restoration of compacted soils by tilling. • Conduct specific survey on the OHL corridor to avoid areas with high risk of erosion/landslide • Anti-erosion actions (corrective measures) on areas affected by erosion.	Development prior to, and implementation during, construction phase • Development: Contractor • Approval and control: STEG	$ 20,000
	• Landtake	• Preliminary assessment of construction sites to be used by the Contractor • Optimization/reducing of construction site number (i.e using the Mlaâbi site as a construction site) • Adequate site restoration after construction activities are completed	Development prior to, and implementation during, construction phase • Development: Contractor • Approval and control: STEG	$ 30,000
Freshwater Resources (Surface and Groundwater)	• Potential groundwater contamination • Alteration of groundwater	Operational procedure to prevent and manage potential soil and subsoil contamination: • Waste management procedures • Excavated soil management procedures • Drilling and drilling mud management procedures • Providing emergency response kits • Use the best available technologies for the equipment and machineries • Periodic maintenance of the equipment • Contaminated soil should be stripped and stored on suitable impermeable surfaces • Ensure regular surveillance of any spillage on nearby proprieties: land filling must be restricted within the boundary of project's activities (HDD site, CS area and locations of towers foundations) • Preliminary assessment of construction sites to be used by the Contractor (minimum distance to keep from watercourses and reservoirs)	Development prior to, and implementation during, construction phase • Development: Contractor • Approval and control: STEG	$ 5,000
Biodiversity – Terrestrial section	• Loss of natural vegetation and disturbance and loss of natural habitats (habitat fragmentation) • Disturbance and loss of fauna • Introduction of invasive species • Impact on ecosystem service (species with high value and providing services for local community or for carbon sequestration/regulation of water flow/erosion prevention and maintenance) • Lighting and Biodiversity: The issue of articifial light from vehicles, machines and light bulbs at camps raises a potential biodiversity issue in terms of migratory birds and bats. Artifical lighting is known to present a risk to bat forraging success and calls for a lighting strategy and use of suitable (eg. yellow bandwith lighting, avoidance of UV lighting). Similar considerations may apply to the sub-stations and their operation.	• The Contractor must integrate the results/recommandations of the BAP to ensure the protection of natural habitats and species • Consult with the competent authorities (Ministry of Agriculture and Forest Department DGF, APAL) and stakeholders (association and NGO such as AAO and ATVS) prior to any vegetation removal and clearing) • Undertake an additional flora/fauna inventory during wet season to verify if there are any protected species within the project's area, in particular for ''*Leopoldia maritima*'' (considered as vulnerable VU by IUCN) and the '' *Thorectes puncticollis*'' (considered as EN by IUCN) around the HDD construction sites • Provide training for workers on biodiversity value and need to avoid any disturbing or destroying flora and fauna • Conserve the connectivity and integrity of existing natural water channels to reduce impact of veegtation removal on herpetofauna, invertebrates and other speices	Development prior to, and implementation during, construction phase • Development: Construction Contractor • Approval and control: STEG Monitoring activities: • Development: Monitoring Contractor • Approval and control: STEG	$ 30,000 Flora/fauna inventory included in Environmental and Social Monitoring Plan costs Lighting strategy: $ 5,000

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
		• Avoid construction activities during breeding/nesting season in forested areas and near IBA/RAMSAR sites • Avoid complete clearing of the RoW and protect trees loated adjacent to the construction sites • Demarcate the boundaries of construction areas (CS, towers, HDD, HVDC, access roads) and vegetation disturbance will be limited to within the boundaries and train workers to remain within demarcated construction sites • Integrate natural topographical features into the project contruction plans to conserve the natural topography of the construction areas • Use existing roads as far of possible to reach the construction sites and restrict movement of construction vehicles (heavy machines) strictly to pre-designated routes • Ensure an adequate management of spoil and soil to prevent any damage outside the construction areas • Offset the loss of any natural vegetation removed along RoW of the OHL and near the CS and along the access roads used during construction phase • At the end of construction, all disturbed areas and used roads must be restored • Reduce external soil supply (from other regions) to avoid any introduction of invasive species • Noise mitigation/management measures (see above) • Limiting of vehicles speed, preventing possible wildlife-vehicles collisions		
Biodiversity – Avifauna	Habitat (breeding and nesting) alteration and disturbance	• Monitoring of bird mortality (collision and electrocution): conduct a field survey of bird mortality on the existing power transmission lines in Cap Bon region to identify areas with high risk for birds. This survey will help the Contractor to optimize the design of OHL line and avoid passing through these high risk areas. A qualified ornithologist will be involved with the design team. The monitoring should cover all the area to be crossed by the OHL line and around the existing power transmission lines, it will also allow to: ➢ Identification of proiroty sites (IBA and RAMSAR sites near the OHL corridor and used by birds) and avifauna species, such as *Neophron percnopterus* (Egyptian vulture, EN), *Falco cherrug* (Saker Falcon, EN), *Falco vespertinus* (Red-footed Falcon, VU) and other considered highly vulnerable due to the risks of collision and electrocution due to the presence of power transmission lines. Other bird species are likely to have their feeding and/or nesting sites disturbed due to construction activities, such as *Oxyura leucocephala* (White-headed Duck, EN), *Marmaronetta angustirostris* (Marbled Teal, VU) and other water birds. ➢ Awareness and training plans for workers with the participation of DGF department and AAO (NGO) ➢ Implementation of monitoring activities during construction works	Development prior to construction phase • Development: Monitoring Contractor • Approval and control: STEG	10000 USD Monitoring costs included in Environmental and Social Monitoring Plan costs

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
		• Consult stakeholders and local community to collect information on bird incidents or hits and areas with high risk of mortality should be identified • Before establishing the final design of the OHL, bird-use areas (breeding, nesting, etc) should be reported to guide appropriate routing of the OHL and its roads access		
Biodiversity - Bats	• Habitat alteration and disturbance • Loss of habitat for bats	• Assessing potential species that may be present on the RoW of the OHL line (field survey) to verify the absence of some bat species along the construction areas, such as Myotis capaccinii (VU), Miniopterus schreibersii (VU), Rhinolophus blasii (LC), etc. (in particular near mountain areas Beni Ayech, Djebel Ressas and Zaghouane) • Use fo existing roads as far as possible to reduce any disturbance for bat habitats by vegetation removal • Clearance of vegatation should be minimized, in particular for OHL sections crossing areas occupied by forest and shrub (nera Beni Ayech, between Grombalia and Jebel Ressas) • Given the small foundation footprint of towers, minimise the lenght/volume of woody vegetation clearance • Keep existing vegetation in the RoW as floral species present in the region will never reach the conductor • The Contractor should integrate bat protection during the design of the OHL ligne and towers should be placed away from wetlands and any water points • Waste management procedure to avoid/reduce any waste accumulation on construction site • Switching off engines not in use to reduce noise duration and intensity	Development prior to, and implementation during, construction phase • Development: STEG • Approval and control: STEG	Flora/fauna inventory included in Environmental and Social Monitoring Plan costs All other costs included in project costs.
Landscape	• Visual disturbance and physical changes of the landscape features due to the construction sites and activities	• Rehabilitate disturbed areas around construction sites in order to restrict extended periods of exposed soil • Restore temporary worksites immediately after construction (e.g. once construction operations of a tower are completed and before moving on to the next tower the previous tower construction site should be restored and all generated materials and waste removed). • Maintain construction sites in orderly condition and do not distribute material over many sites before usage • Planting of screening trees around Converter Station areas	Development prior to, and implementation during, construction phase • Development: Construction Contractor • Approval and control: STEG	30,000 USD
Marine biodiversity - General	• Displacement of species • Removal of benthic species	• Use HDD for the construction of the marine cables' landfall, avoiding direct interferences with the coastal environments and related habitats • Use the best available technologies suitable to local seabed features • Plan works to avoid periods of migration of sensitive species • Reduce residence time of vessels and related equipment in marine waters	Throughout construction phase • Implementation: Contractor • Control: STEG	Included in the construction contract
Marine biodiversity - *Posidonia oceanica*	• Uprooting • Increased sedimentation	• Use HDD for the construction of the marine cables' landfall, avoiding direct interferences with the coastal environments and related habitats	Throughout construction phase • Implementation: Contractor • Control: STEG	Included in the construction contract

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
and *Cymodocea nodosa*	• Establishment of *Caulerpa sp.* in *P. Oceanica* habitats (Kelibia, Tunisia)	• Use the best available technologies suitable to local seabed features for minimizing sediment disturbance and suspension. • Plan works to avoid growth period of *Caulerpa sp.* (Kelibia, Tunisia)		
Marine biodiversity - Actinopterygii and Chondrichthyes	• Increased turbidity • Suspension of contaminants • Alteration of sediments • Displacement of species due to noise and overall disturbance during cable laying activities	• Use HDD for the construction of the marine cables' landfall, avoiding direct interferences with the coastal environments and related habitats • Use the best available technologies suitable to local seabed features for minimizing sediment disturbance and suspension. • Plan works to avoid periods of migration of sensitive species • Reduce residence time of vessels and related equipment in marine waters	Throughout construction phase • Implementation: Contractor • Control: STEG	Included in the construction contract
Marine biodiversity - Aves	• Avoidance of area of works	• Reduce residence time of vessels and related equipment in marine waters	Throughout construction phase • Implementation: Contractor • Control: STEG	Included in the construction contract
Marine biodiversity - Bivalvia and Anthozoa	• Increased turbidity • Suspension of contaminants • Alteration of sediments • Dislodging of species in the cable burial site	• Use HDD for the construction of the marine cables' landfall, avoiding direct interferences with the coastal environments and related habitats • Use the best available technologies suitable to local seabed features for minimizing sediment disturbance and suspension.	Throughout construction phase • Implementation: Contractor • Control: STEG	Included in the construction contract
Marine biodiversity - Reptilia	• Increased turbidity • Avoidance of area of works • Accidental collision with cable laying vessels	• Observers on board of ship • Use the ploughing technique on the remaining route for cable laying in deep waters therefore minimizing sediment disturbance and suspension. • Reduce residence time of vessels and related equipment in marine waters	Throughout construction phase • Implementation: Contractor • Control: STEG	2000 USD x 4,5 months = 9,000 USD
Marine biodiversity – Mammalia (Cetaceans)	• Avoidance of area of works • Accidental collision with cable laying vessels	• MMOs during construction • Reduce residence time of vessels and related equipment in marine waters	Throughout construction phase • Implementation: Contractor • Control: STEG	2,000 USD x 4,5 months = 9000 USD
Land use and livelihood impacts	• Economic displacement of farmers using lands within the RoW of the OHL (with or without legal compliance such as farmers on state-owned land) • Restriction of farming within the RoW with consequent livelihood impacts • Reduction of areas available for agricultural activities	• Clearance and vegetation removal activities to be restricted to the minimum area • Strictly follow procedures of the Resettlement Framework Policy (RFP) and the Resettlement Action Plan (RAP, to be conducted before the construction phase) • Monitoring and update of the RAP/LRP: socio-economic baseline that screens and identifies PAPs, additional assistance for severely affected persons/ vulnerable groups, compensation at replacement value, reinstatement after construction etc. • The borrower to ensure full compensation is paid to PAPs in compliance with the RPF and RAP.	Development prior to, and implementation during, construction phase • Development: Contractor • Approval and control: STEG	Included in the cost budgeted in the Resettlement Framework and to be updated in the RAP
Archaeological and cultural heritage	• Potential disturbance or destruction of archaeological sites and/or objects.	• Develop and implement a chance find procedure. • Training of workers about the value of historical and cultural heritage • For the OHL consult with INP experts before choosing the final location of towers and access roads.	Development prior to, and implementation during, construction phase • Development: Contractor • Approval and control: STEG	$ 10,000

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
Community health and safety	• Risk of accidents and physical injuries involving residents from increased road traffic • Trespass by unauthorised persons into construction work areas with consequent risk of accidents / injury and/or loss of livestock (e.g. local herders)	• Require all Contractors and Subcontractors to comply with relevant STEG's health and safety requirements • Prepare and implement an ESS2 and ESS4-compliant Community Health and Safety Plan • Prepare and implement a Traffic and Transport Plan prior to the start of any transport activity to ensure that the transport process is properly and adequately managed • Ensure that work sites are fenced off and that signs are posted around work faces and construction sites to inform people of the risks associated with trespassing • Fluorescent strips to delimit other areas of the construction site prohibited to the public • Installation of panels indicating and informing local population about the progress of the work • Undertake a programme of stakeholder engagement and consultation to raise awareness among local communities of the risks of trespassing on sites, the meaning of signs and the dangers of playing on or near equipment or entering fenced areas	Development prior to and implementation during, construction phase • Development: Contractor • Approval and control: STEG	Community Health and Safety Plan: $ 70,000
	• Increased stress-related disturbances (noise, dust, light, and air pollution).	• Notify landowners along the line route about the construction schedule and activities.		
	• Potential health risks due to limitations to access local healthcare facilities.	• Emergency Response Plan (ERP), taking into account access to health care, major incidences, multiple casualty events and pandemics.		
	• Sexual Exploitation and Abuse/sexual harassment (SEA-SH) of seasonal workers and migrants	• Develop and implement a Code of Conduct for Project Workers throughout the Supply Chain; • Implement the SEA-SH Action Plan • Development of training and awareness-raising activities on SEA-SH; • Development of grievance mechanism for seasonal workers and migrants • Prepare a Supply Chain Management Plan and ensure that contractors implement it • Take all necessary precautions and make proactive and thorough investigations to ensure the origin and sourcing of equipment, components, materials and other supplies used in the construction of the converter stations, the underground line and the OHL so that they are not manufactured and supplied by firms (or subcontractors) that do not comply with the policies and standards of the donors • Categorically prohibit and ban (i) the abusive employment of children or vulnerable persons and (ii) the practice of forced labour, human trafficking and slavery in line with the LMP		

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
Labor influx	• The influx of project workers (and/or in-migration of opportunists) could lead to impacts on the health, safety and security of the community, such as risky diseases, inappropriate conduct, as well as SEA-SH risks for women form the local communities. • There are H&S and social risks related to worker accommodation / worker camps for project workers, including labor influx and in-migration • Pressure on local infrastructure (e.g housing, health) from influx of project workers, including inflation in the cost of housing and food	• Prepare and implement an Influx Management Plan in accordance with the World Bank Good Practice Note - "Assessing the Risk of Adverse Impacts on Communities from Project-related Labor Influx, June 2021" • Monitor for influx and associated impacts (e.g. inflation, social conflict) in accordance with the Influx Management Plan • Carry out culturally appropriate engagement with local communities to raise awareness of SEA-SH risks, including via separate women-only engagement forums • Establish, communicate and implement a Project Hiring Policy, maximising local employment to minimise the risk of uncontrolled influx / in-migration and ensure that contractors abide by this policy • To address the risk of an increase in prostitution and teenage pregnancies, • carry out regular awareness-raising in the local communities of the project • Contractor to induce workers to the Code of Conduct and strictly enforce the Code of Conduct to prevent unwanted behaviour • Carry out regular training of contract workers on key social risks and issues, including SEA-SH • Prohibit access by unauthorised personnel into the worker camps and work areas • Carry out periodic sensitisation forums for employees on ethics, morals, general good behaviour and the need for the project to co-exist with the neighbors, in line with the Project Code of Conduct • Establish a Project Accommodation Strategy and determine whether a camp-based or a distributed (community-based) accommodation approach will be followed • Engage with the communities on whether camp or distributed accommodation approach is preferable. If a camp-based strategy is followed, engage with the communities on the best siting for the camps • If a camp-based strategy is adopted, prepare and implement a Worker Accommodation Plan in accordance with the applicable content of the IFC/EBRD publication entitled: "Workers' accommodation: processes and standards - A guidance note (2010) • Inform all non-local temporary workers of the duration of contract and the expectation that they will leave the area when contract expires	Development prior to, and implementation during, construction phase • Implementation: STEG (direct workers); Contractor (contracted workers); • Primary Suppliers (primary supply workers) • Control: STEG	Influx Management Plan: $ 70,000
Occupational Health and Safety (OHS)	• Working on construction sites involves generic H&S risks for workers, as it increases the risk of injury or death from accidents • Discrimination and sexual violence or harassment within workers • Risks of exposure to chemicals and electromagnetic fields	• Prepare an ESS2-compliant Occupational Health and Safety Plan (OHSP), and ensure contractors adopt and implement the provisions of the OHSP • Prepare an Emergency Preparedness and Response Plan that considers a series of organizational, operational and preventive measures in case of an emergency	Development prior to, and implementation during, construction phase • Development: Contractor • Approval and control: STEG	OHS Plan: $ 65,000

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
		• Require all Contractors and Subcontractors to comply with relevant STEG's health and safety requirements. • Deliver OHS trainings to direct and indirect workers; • Implement trainings or awareness-raising activities on human rights and discrimination; • Monitor discrimination, sexual violence or harassment within the SC; • Use machinery and tools compliant with national standards; • Regularly maintain Project machinery and tools; • Only allow trained or supervised workers to operate the machinery and tools; • Provide workers involved in the development or expansion of the conversion station with certified PPE; • Only allow workers with experience or technical skills to perform activities on electrical systems or cables; • Appoint supervisors monitoring the compliance with OHS procedures during activities on electrical systems or cables; • Before starting excavation activities, carefully map the position of other underground service cables; • Implement an Electromagnetic Fields Safety Program; • Provide workers with personal exposure monitoring equipment and shielding materials; • Train workers on hygiene practices concerning pesticides and provide adequate PPE; • Analyse PCB levels around the existing conversion station and provide adequate PPE. • Prepare a Framework H&S Plan for Wokers and Communities • Require Contractors to prepare a H&S Plan for Workers and Impacted Communities that meets the requirements of the STEG Plan and addresses issues including: • Inmplement measures to prevent the spread of HIV/AIDS (e.g. through the provision of free condoms to workers), and other communicable diseases such as Covid-19 • Ensure compliance with ESS2 and Tunisian OHS legislation • Carry out periodic sensitisation forums for employees on ethics, morals, general good behaviours and the need for the project to co-exist with the neighbours • Adopt a Project Code of Conduct that covers key issues such as SEA-SH and related issues • Equipment of the camps with sanitary facilities, septic tank, bins, dumpsters, etc. • Installation in the camps of a rest area and a canteen equipped to be able to heat up food; • Development of awareness-raising activities on sexual harassment for workers along SC		
Employment, Income and LWC	• Unfair working conditions (including unfair treatment, discrimination, including gender-based discrimination (e.g. unequal pay, SEA-SH), discrimination against vulnerable workers,	• Adopt a Human Resources Plan, in line with the Project Hiring Poicy • Staff grievance policies and mechanisms for complaints about unfair treatment, unfair working conditions or sexual harassment	Throughout construction phase • Implementation: STEG (direct workers);	$ 65,000

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
	child anf forced labor, non observance of basic rights such as freedom of association and collective bargaining) • Corruption, lack of ethics and integrity, opn the part off contractors and primary suppliers • Unrealised opportunities for local employment (e.g. failure to give priority for unskilled work to local community members) • Unrealised opportunities to train local workers (e.g. key vocational skills, good OHS practices) • Failure to provide local communities with timely information on work opportunities and requirements	• Implementation of the Labor management procedure (LMP) and contractor LMPs (C-LMP) (Contractors and Primary Suppliers) • Implement the Code of Conduct • The Project contractor will develop and implement a transparent recruitment process and communicate the same through the project area via leaders and via the CLOs to manage expectations and opportunistic influx • Priority for unskilled employment will be given to the local community to minimise in-migration • Maximise local employment opportunities and provide training and upskilling	Contractor (contracted workers); • Primary Suppliers (primary supply workers) • Control: STEG	
Infrastructures and Public Services	• Increased traffic and disturbance of traffic flow • Possible damage to infrastructure during construction activities; • Temporary limitation in access to health facilities; • Increased pressure and potential disruption to local utilities for households reliant on local services (e.g., electricity, water, waste); • Temporary disruptions to local utilities.	• Adopt and implement a Corporate Social Responsibility (CSR) policy, with specific commitment to avoid, minimise, mitigate, offset and/or compensate all Project's potential adverse impacts on Infrastructures, Utilities and Services. • Implement the Project Stakeholder Engagement Plan • Grievance Policy and Procedure • Prepare and implement a Transport and traffic management plan • Notify landowners along the line route about the construction schedule and activities • Geophysical survey to ascertain the presence of utilities services along terrestrial cable • Engagement with utilities with underground cables or pipes along STEG's cables lines; • Development of grievance mechanism regarding disruption to utilities caused by Project activities	Development prior to, and implementation during, construction phase • Development: STEG and Contractor • Approval and control: STEG	$ 55,000

2.3 Operation phase

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
Geology, geomorphology and soil	Potential soil and subsoil contamination in the converter station area	• Waste management procedures • Maintenance protocols • Providing emergency response kits • Site specific Emergency Response Plan prepared for soil clean-up and decontamination • Presence of a rain water management system at the CS • Periodic maintenance of the equipment and ensure proper spill control and management at site and along the OHL line • Monitor and detect any contamination on soil	Project lifetime/ STEG	$ 5,000 x year
Freshwater Resources (Surface and Groundwater)	• Potential groundwater contamination Alteration of groundwater	• Waste management procedures • Maintenance protocols • Providing emergency response kits • Site specific Emergency Response Plan prepared for soil clean-up and decontamination • Presence of a rain water management system at the CS • Periodic maintenance of the equipment and ensure proper spill control and management at site and along the OHL line • Monitor and detect any contamination on soil	Project lifetime/ STEG	
Air quality	• Increase in atmospheric concentration of macro pollutants (NOx and Cox) • Potential fugitive emissions of SF6	• Maintain all vehicles and equipment • If SF6 is to be used, equipment with low leakage rate must be used as a priority • Provide training for maintenance staff on good maintenance practices to prevent SF6 leakage	Project lifetime/ STEG	$ 2,000 x year
Noise	• Increase of noise level due to the operation of CS • Increase of noise due to the operation of OHL line	• Planting and maintaining trees surrounding the CS to reduce noise for human and ecological receptors • Conduct noise monitoring/inspection in case of complaints from communities	Project lifetime/ STEG	$ 1,500 x year
Biodiversity (flora-fauna)	Loss/disturbance of vegetation and habitat due to routine clearance of RoW	• No chemical products to be used during vegetation maintenance under the RoW • Vehicle movements shall be limited to a speed limit of 20 km/h in forest areas and near wetlands sites	Project lifetime/ STEG	-
Biodiversity-Bird	• Habitat fragmentation • Increase of mortality of birds by collision or electrocution	• Bird diverters should be installed in places considered as bird-use or with high risk of collision • Conduct an annual monitoring of avifauna • Assessment of mitigation measure effectiveness • Conducting regular revisions of measures taken to protect birds • Monitoring of birds perching, in particular for raptors species, after construction of the transmission line in order to identify ‘’high birds perching’’ areas • Install ‘’raptor roost deterrents or anti-roosting devices’’ (pole cap/cone, bird spider, bird spikes) to reduce the electrocution risk • Increase the visibility of the OHL line by installing line markers: aerial spheres (using different colors, with light to increase visibility at night, to be placed in the center of the span), spirals and bird flight diverters (reduce the line vibration and increase visibility); suspended devices, tree wires to prevent collision and electrocution of birds • Provide bird nesting platforms on some pillars • Add insulation to poles and wires in order to reduce any risk of electrocution of birds • Restrict maintenance activities to the daily time • Vehicle movements shall be limited to a speed limit of 20 km/h in forest areas and near wetlands sites	Project lifetime/ STEG	Markers, diverters and other mitigation measures included in the cost of the project. Monitoring costs are detailed in Environmental and Social Monitoring Plan

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
Biodiversity-Bat	• Habitat alteration and disturbance • Increase of Bat mortality (collision and electrocution)	• Maintenance activities should be planned outside breeding season for most resident species including bats • Vehicle movements shall be limited to a speed limit of 20 km/h in forest areas and near wetlands sites	Project lifetime/ STEG	-
Occupational Health and Safety (OHS)	There will be some generic risks to workers health and safety from working on operational sites, as it increases the risk to injury or death due to accidents	• Prepare an OHSP and adopt and implement its recommendations/provisions of the OHSP. Training specific to plant and site • Carry out regular audits • Install signs on transmission towers with information on public safety risks and emergency contact information in Arabic and French.	Project lifetime/ STEG	$ 25,000
Economy, Employment and LWC	• Unfair working conditions (including fair treatment, non-discrimination, vulnerable workers, gender pay gaps and sexual harassment, child and juvenile labor, freedom of association and collective bargaining) • Corruption, ethics, integrity, sustainability of contractors and primary suppliers	• Human Resources Policy and Procedures • Staff grievance policies and mechanisms for complaints about unfair treatment or unfair working conditions • Worker Code of Conduct • Labor management procedures (Contractors and Primary Suppliers) • Code of Ethics	Project lifetime/ STEG	Operation budget
Community Health, Safety, and Security	• Safety risk to the local communities once the project is operational • Risks of electrocution	• Grievance Policy and Procedure • Corporate Social Responsibility (CSR) policy • Community education programme on safety to alleviate concerns. • STEG operational policies and procedures (safety)Installation of warning and awareness panels against the dangers of high voltage at the various sites and along the transmission line	Project lifetime/ STEG	$ 35,000

2.4 Decommissioning phase

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
Air quality	Increase in atmospheric concentration of Particulate Matter induced by dust diffuse emissions	• Watering unpaved surfaces to reduce wheel generated dust • Vehicle speed limited to 40 km/h, reduced to 15-20 km/h on the construction site, to minimise dust generated by the transit of vehicles • Covering/humidifying of materials that can be transported by wind (e.g. topsoil, aggregate) where possible; this measure allow to abate by 90% dust resuspension caused by winds on active stockpiles (WRAP Fugitive Dust Handbook). • All stockpile materials with high risk to produce airborne dust will be covered, in particular during windy periods.	Throughout decommissioning phase • Implementation: Contractor • Control: STEG	$ 15,000
	Increase in atmospheric concentration of macro pollutants (primarily NOx and CO) induced by vehicles and machinery exhaust emissions	• Use of best available technologies for equipment and machinery; • Regular maintenance and inspection of machinery performed in accordance with manufacturer instructions; • Vehicles and machinery will be turned off when not in use	Throughout decommissioning phase • Implementation: Contractor • Control: STEG	Included in the decommissioning contract
Noise	Increase in background noise levels due to construction equipment and machinery	• Switch off equipment when not in use; • Limit noise activities to the least noise –sensitive time of the day; • Location of noise equipment as far as practicable from nearby receptors • Regular maintenance of equipment and machinery in order to ensure noise emissions in accordance with technical specifications • All major construction plant and equipment will comply with international noise emission limits • Transportation activities and the delivery of construction materials during working hours • Notify local community/public located within 500 m from the worksites before starting noise activities (residents must be informed at least 24 hours in advance) • Vehicle movements shall be limited to a speed limit of 30 km/h	Throughout decommissioning phase • Implementation: Contractor • Control: STEG	Included in the decommissioning contract
Geology, geomorphology and soil	• Potential soil and subsoil contamination	• Operational procedure to prevent and manage potential soil and subsoil contamination • Excavated soil management procedures • Providing emergency response kits • Use the best available technologies for the equipment and machineries • Periodic maintenance of the equipment • Contaminated soil should be stripped and stored on suitable impermeable surfaces • Waste management procedure (segregation of hazardous and non-hazardous waste; Implement a construction equipment/material inventory management system; • Ensure regular surveillance of any spillage on nearby proprieties: land filling must be restricted within the boundary of project's activities •	Development prior to, and implementation during, decommissioning phase • Development: Contractor • Approval and control: STEG	$ 5,000
	• Potential soil disturbance and degradation	• Excavated top soil will be stored in a dedicated top soil storage site • When construction work is over, top soil will be reinstated at the construction site. • Excavations with appropriate slopes to keep the excavation face safe. • Temporary construction yards will be restored • Restoration of compacted soils by tilling.	Development prior to, and implementation during, decommissioning phase • Development: Contractor • Approval and control: STEG	$ 20,000

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
	• Landtake	• Preliminary assessment of construction sites to be used by the Contractor • Optimization/reducing of construction site number • Adequate site restoration after construction activities are completed	Development prior to, and implementation during, decommissioning phase • Development: Contractor • Approval and control: STEG	$ 35,000
Freshwater Resources (Surface and Groundwater)	• Potential groundwater contamination • Alteration of groundwater	Operational procedure to prevent and manage potential soil and subsoil contamination: • Waste management procedures • Excavated soil management procedures • Providing emergency response kits • Use the best available technologies for the equipment and machineries • Periodic maintenance of the equipment • Contaminated soil should be stripped and stored on suitable impermeable surfaces • Ensure regular surveillance of any spillage on nearby proprietie • Preliminary assessment of construction sites to be used by the Contractor (minimum distance to keep from watercourses and reservoirs)	Development prior to, and implementation during, decommissioning phase • Development: Contractor • Approval and control: STEG	$ 5,000
Biodiversity – Terrestrial section	• Loss of natural vegetation and disturbance and loss of natural habitats (habitat fragmentation) • Disturbance and loss of fauna • Introduction of invasive species • Impact on ecosystem service (species with high value and providing services for local community or for carbon sequestration/regulation of water flow/erosion prevention and maintenance)	• Provide training for workers on biodiversity value and need to avoid any disturbing or destroying flora and fauna • Conserve the connectivity and integrity of existing natural water channels to reduce impact of vegetation removal on herpetofauna, invertebrates and other species • Avoid construction activities during breeding/nesting season in forested areas and near IBA/RAMSAR sites • Demarcate the boundaries of construction areas and vegetation disturbance will be limited to within the boundaries and train workers to remain within demarcated construction sites • Use existing roads as far of possible to reach the construction sites and restrict movement of construction vehicles (heavy machines) strictly to pre-designated routes • Ensure an adequate management of spoil and soil to prevent any damage outside the construction areas • At the end of construction, all disturbed areas and used roads must be restored • Reduce external soil supply (from other regions) to avoid any introduction of invasive species • Noise mitigation/management measures (see above) • Limiting of vehicles speed, preventing possible wildlife-vehicles collisions	Development prior to, and implementation during, decommissioning phase • Development: Contractor • Approval and control: STEG	$ 5,000
Landscape	• Visual disturbance and physical changes of the landscape features due to the construction sites and activities	• Rehabilitate disturbed areas around construction sites in order to restrict extended periods of exposed soil • Restore temporary worksites immediately after construction. • Maintain construction sites in orderly condition and do not distribute material over many sites before usage	Development prior to, and implementation during, decommissioning phase • Development: Contractor • Approval and control: STEG	$ 15,000
Land use	• Economic displacement for farmers using lands within the RoW of the OHL • Restricting of farming within the RoW • Reduction of areas available for agricultural activities	• Clearance and vegetation removal activities to be restricted to the minimum area • Strictly follow procedures of the Resettlement Framework Policy (RFP) and the Resettlement Action Plan (RAP, to be conducted later befor the construction phase)	Development prior to, and implementation during, decommissioning phase • Development: Contractor • Approval and control: STEG	Included in the decommissioning contract

Environmental and/or Social Components	Potential Impacts	Management Measure	Implementation Timing / Responsibilities	Costs
		• The Promoter would ensure full compensation is paid to affected persons in compliance with the procedures of the RFP and RAP studies • Conduct consultations with stakeholders (landowners and land users) to inform them about the construction activities and expected impacts and the grievance mechanism, fixed by the RAP/RFP, to raise their complaints.		
Community Health and safety	Risk of accidents and physical injuries involving residents	• Require all Contractors and Subcontractors to comply with relevant STEG's health and safety requirements. • Prepare and implement a Community Health and Safety Plan • Fencing and guarding of areas intended for company use (base camp, extraction areas, worksites, etc.) • Fluorescent strips to delimit other areas of the construction site prohibited to the public • Installation of panels indicating and informing local population about the progress of the work	Development prior to, and implementation during, decommissioning phase • Development: Contractor • Approval and control: STEG	Included in the decommissioning contract
	Increased stress-related disturbances (noise, dust, and air pollution).	• Prepare and implement a Community Health and Safety Plan • Notify landowners along the line route about the construction schedule and activities.	Development prior to, and implementation during, decommissioning phase • Development: Contractor • Approval and control: STEG	Included in the decommissioning contract
Occupational Health and Safety (OHHS)	Working at the decommissioning site will present some generic health and safety risks to workers, as it increases the risk of injury or death from accidents	• Prepare an occupational health and safety plan and adopt and implement its recommendations. • Prepare an emergency preparedness and response plan that considers a range of organizational, operational and preventive measures in the event of an emergency. • Require all Contractors and Subcontractors to comply with relevant STEG's health and safety requirements. • Training specific to construction site • Nursing facilities in each camp • Distribution of personal protective equipment (PPE) to all workers • Organization of training sessions in Health-Safety-Environment for the personnel operating on the site • Organization of regular information and awareness campaigns for workers and residents against STIs/AIDS, waterborne diseases and COVID-19 • Agreement with a clinic or a private doctor to carry out regular visits to the camps, monitor the health of the workers, monitor compliance with hygiene conditions	Development prior to, and implementation during, decommissioning phase • Development: Contractor • Approval and control: STEG	Included in the decommissioning contract
Labor and Working Conditions	Degradation of workers' living conditions	• Equipment of the camps with sanitary facilities, septic tank, bins, dumpsters, etc. • Installation in the camps of a rest area and a canteen equipped to be able to heat up food • Require all Contractors and Subcontractors to comply with relevant STEG's health and safety requirements.	Development prior to, and implementation during, decommissioning phase • Development: Contractor • Approval and control: STEG	Included in project cost
Infrastructure	Increased traffic and disturbance of traffic flow	• Prepare and implement a Transport and traffic management plan • Notify landowners along the line route about the construction schedule and activities.	Development prior to, and implementation during, decommissioning phase • Development: Contractor • Approval and control: STEG	Included in the decommissioning contract