

Energy Valley Company

ESIA for Overhead Transmission Lines (OHTLs) and Consumer Substation- Energy Valley

(Non-Technical Executive Summary)

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Executive Summary

1. Introduction

Energy Valley is an integrated renewable-energy and electricity-storage development comprising four geographically separate but financially and operationally linked components in Minya, Qena and Alexandria Governorates. The overall development includes: (i) the Minya Hybrid Facility, comprising a 1.95 GWp solar PV plant, a nameplate capacity of 1,500 MWh BESS, the on-site generation substation and associated grid-connection infrastructure; (ii) the Naseeg Sarirya (Consumer) Substation and associated 500 kV grid connections in Minya Governorate; (iii) a nameplate capacity 1,000 MWh BESS at Nagaa Hammadi, together with a shared 33/220 kV substation and associated 220 kV loop-in/loop-out connection; and (iv) a nameplate capacity of 1,435 MWh BESS and 33/220 kV step-up substation at Abu Qir, with the external 220 kV grid connection which is an Associated Facility, as it will be under the responsibility of the Egyptian Electricity Transmission Company (EETC).

The four components form part of the same Energy Valley development and financing package but are assessed through separate site-specific ESIA's because of their different locations, receptors and risk profiles.

This ESIA addresses only Consumer Substation site and Overhead transmission Lines (OHTLs). The remaining components are addressed in the corresponding Energy Valley ESIA's.

The proposed development comprises the construction of a new Naseeg Sarirya Substation and associated overhead transmission lines (OHTL) infrastructure. The project includes:

- (i) the establishment of the Naseeg Sarirya Substation at a voltage level of 500/220/22 kV, with a capacity of 3×200 MVA and provision for future expansion through the addition of a fourth GIS-type transformer, together with a grid connection OHTL linking the substation to the existing 500 kV national transmission network through a loop-in/loop-out arrangement on the Beni Suef Generation–East Assiut double-circuit transmission line;
- (ii) and (ii) the Energy Valley Facility Grid Connecting OHTL, which will connect the Energy Valley Facility 500/33/33 kV substation to the existing 500 kV national grid through a loop-in/loop-out connection on the Naseeg Sarirya–East Assiut double-circuit transmission line.

The Naseeg Sarirya Substation is designed to supply electrical loads of up to 600 MVA to the Sarirya Industrial Zone, while the Energy Valley Facility Grid Connecting OHTL will facilitate the evacuation of renewable electricity generated by the Energy Valley Facility to the national transmission network. The project includes approximately 0.5 km of transmission line associated with the Naseeg Sarirya Substation connection and approximately 2.5 km of transmission line associated with the Energy Valley Facility grid connection.

The project components are located on publicly owned undeveloped desert land within the eastern desert hinterland of Minya Governorate. The Energy Valley Facility Grid Connecting OHTL is situated west of the Energy Valley Facility boundary, while the Naseeg Sarirya Substation and

its associated grid connection OHTL are located approximately 26 km north of the Energy Valley Facility. The project area is characterized by remote desert conditions and the absence of significant residential settlements within the immediate project footprint.

The project is being developed in accordance with the requirements of the Egyptian Environmental Affairs Agency (EEAA), as well as the environmental and social requirements of international financial institutions, including the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the African Development Bank (AfDB), and Cassa Depositi e Prestiti (CDP). The IFC Performance Standards are also considered as supplementary benchmarks, where applicable.

According to the initial meeting conducted with the EEAA on 6 January 2026, the Naseeg Sariya Substation and associated OHTLs were classified as Category Scoped-B projects. In accordance with the EBRD categorization framework, the overall Energy Valley Project is classified as Category A. According to the African Development Bank's (AfDB) Integrated Safeguards System (ISS), the Energy Valley Programme is classified as Category 1 (high risk) due to its scale and complexity, comprising multiple components, including a utility-scale photovoltaic (PV) power plant, overhead transmission lines, a step-down substation, and battery energy storage systems (BESS). However, this overall categorisation does not apply to the individual project components, including the Consumer substation and its connecting OHTL as well the OHTL connecting the Menya PV project to the grid, where based on its nature, size, and location it is to be under Category B projects.

Environics has been commissioned by Energy Valley Company to prepare the ESIA for the Energy Valley OHTLs and Naseeg Sariya Substation Project in accordance with applicable national regulatory requirements and international lender standards. This ESIA specifically addresses the Naseeg Sariya Substation and associated OHTLs, while the remaining components of the Energy Valley development are addressed under separate site-specific ESIAs.

Goals and Specific Objectives

The project aims to support Egypt's renewable energy and sustainable industrial development objectives by facilitating the transmission of renewable electricity from the Energy Valley Facility to the national grid and providing a reliable power supply to the Sariya Industrial Zone through the proposed transmission infrastructure and substation.

The broad goal of the Environmental and Social Impact Assessment is to provide decision-makers and project proponents with information on the potentially significant environmental and social impacts and risks associated with the proposed Energy Valley OHTLs and Naseeg Sariya Substation Project in Minya Governorate. The ESIA aims to ensure that the project is environmentally and socially sound and sustainable by identifying potential risks and impacts at an early stage and defining the mitigation, monitoring, and management measures required throughout the project lifecycle.

The specific objectives are:

- To identify potential positive and negative impacts of the proposed project.
- To suggest mitigation and enhancement measures for the identified significant adverse and beneficial impacts.

- To provide management and monitoring plans.
- To ensure that the proposed project complies with the national environmental regulations and international funding institutions' requirements.

2. Institutional and Legal frameworks

This framework includes both national legislation and international standards and guidelines.

National Legislation

The project must comply with Egyptian environmental and social laws and regulations, including:

Environmental Impact Assessment (EIA): The national Environmental Law 4/1994 (as amended by Laws 9/2009 and 105/2015) and its Executive Regulations require an EIA study for new projects. The EIA is to be submitted to the environmental authority for review and approval. According to the national regulations, this project is categorised as a Category Scoped-B projects.

Air Quality and Atmospheric Emissions: Law 4/1994 and its associated regulations set maximum limits for ambient air pollutants and exhaust gases. The project will need to comply with these limits during both construction and operation.

Noise and Vibration: Environmental Law No. 4/1994 specifies maximum permissible noise levels for occupational and ambient environments.

Waste Management: The Waste Management Law 202/2020 and its Executive Regulations set requirements for managing non-hazardous and hazardous waste generated from the different activities.

Biodiversity Protection and Nature Conservation: Article 28 of Environmental Law 4/1994 prohibits activities that harm specific wild animals and plants and their habitats. Annex 4 of this law lists protected species. The project site is located within a desert environment of relatively low ecological sensitivity; however, biodiversity protection measures will be implemented where required.

Cultural Heritage: Law No. 117 of 1983 for the Protection of Antiquities, as amended by Law No. 3 of 2010, protects archaeological and cultural heritage resources. Chance-find procedures will be implemented during construction, and coordination with the Ministry of Tourism and Antiquities will be maintained where necessary.

Occupational Health and Safety: Labour Law No. 14 of 2025 and its associated ministerial decrees establish requirements for worker welfare, occupational health and safety, working hours, emergency preparedness, and the prevention of occupational hazards. These requirements apply to all project contractors and subcontractors.

Land Allocation and Renewable Energy Development: The project is being developed on land allocated by the New and Renewable Energy Authority (NREA) in accordance with national regulations governing renewable energy projects and land use in desert areas.

Community Health and Safety: Relevant provisions of Environmental Law No. 4/1994, Labour Law No. 14/2025, and other applicable legislation establish requirements for protecting nearby communities and road users from construction-related risks, traffic impacts, dust, noise, and emergency situations.

Institutional Framework

Several governmental entities have regulatory and oversight responsibilities for the project, including:

- **Egyptian Environmental Affairs Agency (EEAA):** Responsible for reviewing and approving the ESIA and monitoring environmental compliance.
- **New and Renewable Energy Authority (NREA):** Responsible for land allocation and oversight of renewable energy developments.
- **Egyptian Electricity Transmission Company (EETC):** Responsible for grid connection arrangements and electricity transmission infrastructure.
- **Ministry of Electricity and Renewable Energy (MoERE):** Provides strategic oversight of the electricity sector and renewable energy development.
- **Ministry of Labour:** Responsible for enforcement of labour and occupational health and safety requirements.
- **Minya Governorate and Local Authorities:** Responsible for local administrative coordination and permitting requirements.
- **Ministry of Tourism and Antiquities (MOTA):** Responsible for the protection of archaeological and cultural heritage resources.

International Standards and Guidelines

In addition to national legislation, the project will align with international standards and guidelines, particularly those of international financing institutions:

Cassa Depositi e Prestiti (CDP): The project will also be implemented in accordance with applicable CDP environmental and social requirements.

IFC Performance Standards (PS): The project will consider the International Finance Corporation's Performance Standards on Environmental and Social Sustainability as supplementary benchmarks, where applicable. .

EBRD Environmental and Social Requirements (ESRs): The project will adhere to the EBRD Environmental and Social Requirements and associated Performance Requirements governing environmental and social management, labour, resource efficiency, biodiversity, cultural heritage, and stakeholder engagement.

African Development Bank Group's Operational Safeguards (AFDB OS): The project will comply with the African Development Bank's Operational Safeguards and Environmental and Social Assessment Procedures, including requirements relating to environmental and social

risk management, labour conditions, biodiversity conservation, pollution prevention, community health and safety, and stakeholder engagement.

European Investment Bank (EIB) Environmental and Social Standards: The project will be designed and implemented in accordance with applicable EIB Environmental and Social Standards, including those relating to environmental assessment, biodiversity, climate action, labour standards, and community health and safety.

World Bank EHS Guidelines: The General EHS Guidelines and relevant sector-specific guidance will be applied as Good International Industry Practice (GIIP) throughout the project lifecycle.

International Labour Organization (ILO) Conventions: The project will respect applicable ILO conventions ratified by Egypt, including those relating to occupational health and safety, non-discrimination, forced labour, child labour, freedom of association, and collective bargaining.

Scatec Corporate Sustainability, Environmental, Health, Safety and Social Requirements

The Project will be implemented in accordance with applicable Scatec corporate policies, standards, procedures, and commitments, in addition to Egyptian legislation, permit conditions, lender requirements, and relevant international standards. These requirements cover sustainability, environmental protection, occupational health and safety, labour and working conditions, human rights, responsible procurement, stakeholder engagement, and grievance management, and will apply to the Project Company, employees, contractors, subcontractors, suppliers, and other relevant parties. The applicable requirements will be integrated into the Project's E&S management system, ESMP, contractual and procurement arrangements, management plans, training, monitoring, incident reporting, audits, and corrective actions.

3. Project Description

Project location

The proposed OHTLs and Naseeg Sarirya Substation project sites are located west of the East Minya NREA concession (hereinafter referred to as the "East Minya Region"). The Energy Valley facility Grid Connection OHTL site is situated in the eastern part of Minya Governorate, east of the Nile River, approximately 9.5 km east of New Minya city. The Naseeg Sarirya substation and Naseeg Sarirya Substation-Grid Connecting OHTL are located about 26 km north of the Energy Valley facility Grid Connection OHTL. Both sites lie within a remote and uninhabited part of the governorate. The nearest residential settlements to the Naseeg Sarirya Substation are Sarirya, El-Sawaita Village and Ezbet El-Sheikh Hassan, located at distances of approximately 11 km, 12.5 km and 13 km west of the Project Site respectively. For spatial definition and accurate georeferencing of the Project boundary, the coordinate system used is Africa_Lambert_Conformal_Conic, as presented below.

Table 1: Coordinates of the Project Site

Naseeg Sarirya Substation		
Point	Northing (Latitude)	Easting (Longitude)
1	3061725.8658260703	618340.2785315335
2	3061540.548364818	618325.5546113853
3	3061549.32271564	618131.7728971753
4	3061743.376208633	618142.1105300947
Naseeg Sarirya Substation-Grid Connecting OHTL		
1	3061920.295958787	617589.4496781549
2	3061818.4201859534	617710.0628621846
3	3061697.50927794	618143.513233164
4	3061569.0928874016	617622.5827982549
5	3061664.9662871063	617721.0487036923
6	3061687.144808948	617933.8086622452
7	3061666.9716852605	618140.0780051227
Energy Valley Facility-Grid Connecting OHTL 1		
1	3035320.960262507	621520.9252603418
2	3035108.757002175	622071.3299425091
3	3034927.1956769526	622746.7383602612
4	3034695.8646153808	623700.2144795958
5	3034574.775887668	624522.2802308098
Energy Valley Facility-Grid Connecting OHTL 2		
1	3034169.873936981	622025.9815845663
2	3034456.9694947302	622180.3408620779
3	3034647.4036928415	622583.6358194913
4	3034476.7964983284	623695.3552673105
5	3034419.018103808	624494.5080969697

Figure 1 below illustrates the surrounding land uses and activities in the vicinity of the proposed Project Site.

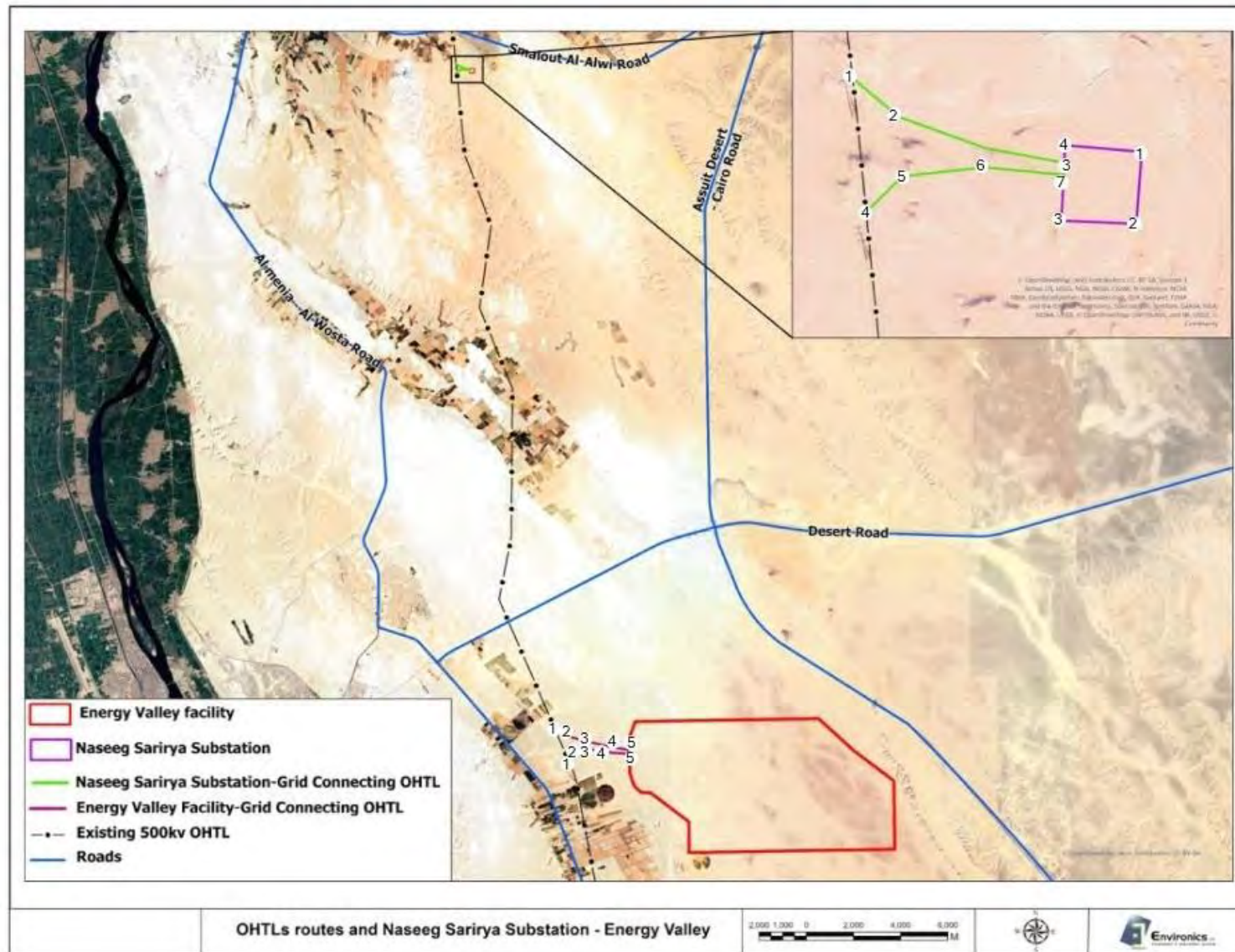


Figure 1: Activities/land uses surrounding the proposed site

Access to the project components is provided via the regional road network serving Minya Governorate, including the Ras Gharib–Minya Road, Minya–Assiut Road, Assiut–Cairo Desert Road, and the Desert Road. These transport corridors will facilitate the movement of construction materials, equipment, and workforce during project implementation, as well as provide access for operation and maintenance activities throughout the project lifecycle.

Project components and main activities

The proposed Energy Valley OHTLs and Naseeg Sarirya Substation Project comprises two main components, including the Naseeg Sarirya Substation and associated grid connection infrastructure, and the Energy Valley Facility Grid Connecting Overhead Transmission Line (OHTL). These facilities will enable the transmission of renewable electricity from the Energy Valley Facility to the national grid and provide power supply to the Sarirya Industrial Zone.

Naseeg Sarirya Substation and Grid Connecting OHTL: The Project includes the construction of the Naseeg Sarirya Substation at a voltage level of 500/220/22 kV with a capacity of 3 × 200 MVA and provision for future expansion through the addition of a fourth GIS-type transformer. The substation is designed to supply electrical loads of up to 600 MVA to the Sarirya Industrial Zone. The component also includes a grid connection OHTL established through a loop-in/loop-out arrangement on the existing 500 kV double-circuit Beni Suef Generation–East Assiut transmission line using 4×ACSR 490/65 conductors, with an extension of approximately 2 × 500 m using the same conductor type.

Energy Valley Facility Grid Connecting OHTL: The Project includes a 500 kV grid connection OHTL linking the Energy Valley Facility 500/33/33 kV substation to the existing national transmission network. The connection will be established through a loop-in/loop-out arrangement on the existing Naseeg Sarirya–East Assiut double-circuit transmission line using ACSR 4×490/65 mm² conductors, with an extension of approximately 2 × 2,500 m using the same conductor type. This infrastructure will facilitate the evacuation of renewable electricity generated by the Energy Valley Facility to the national grid.

Overhead Transmission Line Infrastructure: The OHTLs will comprise lattice steel self-supporting double-circuit transmission towers, reinforced concrete foundations, conductors, insulators, spacers, and dampers. The transmission corridors will be subject to a statutory Right-of-Way (RoW) extending 25 m on each side of the transmission line in accordance with the Electricity Law. The final number and locations of towers will be determined during the detailed design stage.

Construction and Operational Facilities

Construction activities will include geotechnical investigations, foundation excavation and construction, tower assembly and erection, conductor stringing, installation of electrical equipment, testing and commissioning, and site restoration. Temporary construction facilities will include laydown and storage areas, construction offices, sanitary facilities, water storage tanks, and diesel-powered generators required to support site activities.

During operation, the transmission lines will require periodic inspection and maintenance of towers, conductors, and associated equipment. The Naseeg Sarirya Substation will be operated through automated systems supported by routine inspections and maintenance of

transformers, switchgear, protection systems, and associated electrical equipment. Operation and maintenance activities will be undertaken by EETC personnel, with approximately five staff expected to be required for the substation.

4. Baseline conditions

Physical Environment:

Climate and Meteorology

The project area is located within the Eastern Desert of Minya Governorate and is characterized by an extremely arid climate, with high temperatures, low relative humidity, and negligible rainfall. Based on meteorological data from the nearest monitoring station in Minya, average monthly temperatures range from approximately 8°C in January to 37°C in July and August, while annual rainfall is limited to approximately 12.6 mm. The prevailing wind direction is predominantly from the north and north-northwest, with wind speeds generally ranging between 20 and 30 km/h. The area is also subject to occasional dust and sandstorm events, particularly during the spring season.

Air Quality

The project area is located within a remote desert environment with no significant industrial activities or stationary emission sources in the vicinity. Ambient air quality is generally expected to be very good with respect to anthropogenic pollutants. The primary air quality characteristic of the area is the presence of naturally occurring windblown dust, which may increase during periods of strong winds and sandstorm events.

Geology and Geomorphology

The project area is situated within the eastern desert hinterland of Minya Governorate and forms part of a dissected limestone plateau shaped by long-term water and wind erosion processes. Site soils are characterized by a highly fractured rocky nature with shallow soil cover and limited agricultural suitability. No sand dunes were identified within or in the immediate vicinity of the project area. Topographically, the area consists of gently sloping desert terrain with elevations generally ranging from approximately 127 m to 132 m above mean sea level.

Biological Environment:

The project area is located within a predominantly arid desert habitat characterized by sparse vegetation and limited ecological sensitivity. The wider area includes desert habitats, reclaimed agricultural lands, Nile Valley farmlands, and scattered urban and rural settlements. Biodiversity information was compiled through literature review, database screening, previous ecological studies, and field surveys conducted in February 2026.

The nearest agricultural lands are located approximately 800 m to 1 km from the project components and provide habitat for a range of common wildlife species associated with reclaimed agricultural areas and the Nile Valley. The project area itself is characterized by relatively uniform desert habitat with limited ecological value. Assessment of biodiversity receptors included flora, mammals, reptiles, avifauna, ecosystem services, and critical habitat screening. The area is located within a migratory bird flyway region; therefore, potential interactions with migratory soaring birds were considered during the biodiversity assessment.

Socio-Economic Environment:**Population Density and Distribution**

The project components are located within a remote desert area of Minya Governorate with no residential settlements within the project footprint. The nearest communities to the Naseeg Sarirya Substation include Sarirya Village, El-Sawaita Village, and Ezbet El-Sheikh Hassan, located approximately 11 km, 12.5 km, and 13 km west of the project site, respectively. New Minya City is located approximately 12 km from the Energy Valley Facility Grid Connection OHTL.

Labour Force and Economic Activities

Economic activities within the wider area are primarily concentrated within the Nile Valley and reclaimed agricultural lands. Agriculture remains one of the principal economic activities in Minya Governorate, while industrial and commercial activities are concentrated in urban centres and designated industrial zones. The project is expected to benefit from the availability of skilled and unskilled labour within Minya Governorate and nearby communities.

Land Use

The project components are located on publicly owned undeveloped desert land. Land uses within the wider area include desert landscapes, reclaimed agricultural lands, Nile Valley agricultural areas, transportation corridors, and scattered urban and rural settlements. No physical displacement, land acquisition requirements, or existing residential land uses were identified within the project footprint.

Infrastructure and Services

The project area is accessible through the regional road network, including the Ras Gharib–Minya Road, Minya–Assiut Road, Assiut–Cairo Desert Road, and the Desert Road. The wider area benefits from existing transportation infrastructure, utilities, educational facilities, healthcare services, and other public services concentrated within nearby urban centres and communities.

Based on the review of the socio-economic baseline, the project area presents adequate infrastructure and services to support the project during construction and operation. The availability of local labour resources is expected to facilitate local employment opportunities during project implementation. The project components are located on publicly owned desert land and no land acquisition or physical displacement requirements have been identified.

Tangible Cultural Heritage

No registered archaeological sites, cultural heritage resources, or protected monuments were identified within the project footprint. The nearest known heritage sites are located more than 16 km from the project components. Potential impacts are limited to the possibility of chance finds during excavation activities, for which a Chance Find Procedure will be implemented.

5. Analyses of Project Alternatives

The analysis of alternatives considered feasible project options during the conceptual and pre-feasibility design stages, taking into account technical, economic, environmental, and social considerations.

A. No Development Alternative

Under the No Development Alternative, the proposed OHTLs and Naseeg Sarirya Substation would not be constructed. Consequently, the electricity generated by the Energy Valley PV Facility would not be connected to the Sarirya Industrial Zone. In addition, the anticipated benefits of providing a reliable renewable electricity supply to support industrial development and reducing reliance on fossil-fuel-based electricity generation would not be realized. Therefore, the No Development Alternative was not considered suitable.

B. Alternative OHTL Alignments

The selected alignment for the Energy Valley Facility Grid Connecting OHTL extends approximately 2.5 km west of the Energy Valley Facility to connect with the existing national grid. The alignment is located approximately 1 km north of the nearest agricultural lands. Given the short length of the proposed transmission line and the fixed locations of the Energy Valley Facility and the existing grid connection point, no alternative route options were considered. Any deviation from the selected route would increase the transmission line length, require additional towers, increase land disturbance and costs, and potentially result in greater environmental and social impacts without providing clear advantages.

The selected alignment for the Naseeg Sarirya Substation Grid Connecting OHTL extends approximately 0.5 km westward from the proposed substation to the existing national grid connection point. As both endpoints are predetermined by infrastructure requirements, there is limited flexibility in route selection. The selected alignment follows the most direct and technically feasible route, minimizes land disturbance, reduces construction costs, and avoids environmentally and socially sensitive areas.

C. Alternative Naseeg Sarirya Substation

The proposed Naseeg Sarirya Substation is located within the Sarirya Industrial Zone, which is designated to accommodate industrial facilities and associated utilities. The selected location minimizes transmission losses due to its proximity to the planned industrial facilities, reduces the need for additional distribution infrastructure, avoids land acquisition and physical or economic displacement, and minimizes potential impacts on environmental and social receptors.

D. Technological Alternatives

Two substation technologies were considered during the project planning stage: Gas-Insulated Substation (GIS) and Air-Insulated Substation (AIS). GIS technology offers a compact footprint, high reliability, and reduced maintenance requirements due to its enclosed design, although it involves higher capital costs and requires management of SF₆ gas. AIS technology is less costly and easier to maintain but requires a larger land area and is more susceptible to weather conditions, dust, pollution, and wildlife interference. Both technologies remain

under consideration, and the preferred option will be confirmed during the detailed design stage.

6. Assessment of Environmental and Social Risks and Impacts

This chapter evaluates the potential environmental and social risks and impacts of the project. It includes a detailed analysis of the project's risks and impacts and emphasizing the mitigation hierarchy: avoiding, minimizing, mitigating for impacts.

Positive impacts include the production of a clean, renewable solar energy from a 1,950 MWp (DC) plant, reducing GHG emissions by approximately 1.22 million tCO₂e per year compared to fossil fuel-based grid generation, and avoiding air pollutants. Additionally, the project conserves water resources in this desert area, integrates renewable energy into the national grid via a BESS, and provides approximately 5,000 direct construction jobs at peak, with more than 50% targeted from local Minya communities, approximately 30 permanent operational positions, and more than 500 indirect jobs in the supply chain.

The key mitigation measures proposed to address the negative impacts are:

- Restrict construction activities to approved work areas, clearly demarcate site boundaries, utilize existing access roads where feasible, and prohibit unnecessary off-road driving.
- Implement integrated water, solid waste, hazardous waste, and wastewater management measures, including waste segregation, storage, recycling (where feasible), and disposal through licensed facilities.
- Minimize environmental disturbance by conserving water, limiting night-time work, using downward-directed lighting where required, and implementing traffic management measures, including speed limits and scheduling deliveries outside peak hours.
- Prioritize local employment, accommodate non-local workers in suitable locations, implement a Workers' Code of Conduct, and maintain an effective stakeholder/community grievance mechanism.
- Ensure security personnel are appropriately trained, comply with applicable laws and codes of conduct, and are subject to the project's grievance mechanism.
- Implement an Occupational Health and Safety (OHS) Management Plan, provide appropriate PPE and regular training, establish exclusion zones, apply fall protection and lock-out/tag-out procedures, restrict hazardous work to qualified personnel, and maintain fire prevention, emergency preparedness, and heat stress management measures.
- Develop and implement a Chance Find Procedure and immediately notify the competent authority if archaeological remains are discovered.
- Conduct regular inspection and preventive maintenance of project equipment, including transformers, cooling systems, and SF₆-insulated equipment (where applicable), and promptly repair defects or leaks.
- Implement bird protection measures on transmission infrastructure, including bird-safe insulation and insulated crossarms, where required to reduce electrocution risk.

- Establish EMF safety zones and restrict access to energized equipment to authorized and trained personnel only.
- Prepare and implement a detailed Decommissioning Plan, ensure environmentally sound dismantling and waste management, and restore the site, where feasible, following completion of decommissioning activities.

Summary of the potential negative impacts on the environment and society during the construction, operation and decommissioning phases of the project illustrated in table below.

Environmental and social aspect	Significance of Impact before Mitigation	Mitigation measures	Significance of Residual Impacts after Mitigation
Construction phase			
Air quality			
Exhaust emissions from construction vehicles and mobile equipment operating on-site	Minor	- Minimize idling times of construction vehicles and machinery. - Maintain vehicles and construction equipment in good working condition. - Ensuring workers' awareness of safe driving and maintaining good practices in machinery usage. - Implement dust control measures. - Ensuring compliance with law 4/1994 and its relevant ERs regarding emissions from power generator stacks.	Insignificant
Ambient noise			
- Equipment and machinery - Vehicle Movement - Power Generators	Minor	- Machines and construction equipment must comply with the best practice technical developments - Periodical maintenance of machines and equipment with an internal combustion engine according to the manufacturer's instructions. - Schedule high-noise activities to avoid simultaneous operations that could amplify noise levels. - Provide hearing protection equipment to workers exposed to high noise levels	Insignificant
Soil			
- Earthworks - Excavation activities - Construction waste handling - Accidental spills and leakages	Minor	- Off-site maintenance to minimize spills and effluents. - Using impervious surfaces for refueling areas and other fluid transfer areas - Implement Spill Management Plan (within ESMP), including the availability of on-site spill kits - Provide a secondary containment for fuel storage tanks and other hazardous material containers. - Proper collection/disposal of spillages or contaminated materials via licensed contractors. - Good housekeeping practices on-site. - Solid waste collected at designated points. - Licensed contractors for non-hazardous and hazardous waste disposal.	Insignificant

Environmental and social aspect	Significance of Impact before Mitigation	Mitigation measures	Significance of Residual Impacts after Mitigation
Biological Environment			
Habitat loss	Minor	- Restrict construction activities strictly to the defined tower footprints and approved working areas. - Utilize existing tracks and previously disturbed corridors wherever possible. - Prohibit uncontrolled off-road driving and restrict vehicle movement to designated access routes, avoiding any vegetation patches identified during pre-construction inspections. - Clearly demarcate construction boundaries prior to work to prevent unnecessary ground disturbance.	Insignificant
Disturbance to wildlife	Minor	- Prepare and enforce a solid and hazardous waste management plan to prevent attraction of wildlife to food waste or contaminants. - Implement a liquid waste management plan to avoid the formation of artificial water sources that could attract birds or terrestrial fauna. - Conduct environmental awareness training for all construction personnel, with specific emphasis on wildlife protection and avoidance of harassment. - Avoid unnecessary night-time work, where lighting is required, use low-intensity, downward-directed lighting to minimize light spill. - Enforce strict speed limits for all project vehicles to reduce collision risk and disturbance to fauna.	Insignificant
Socio Economic Environment			
Water Demand for the workforce	Insignificant	Adopt water management practices to ensure efficient use and avoid water wastage.	Insignificant
Accommodation Demand for the workforce	Minor	- Prioritize hiring local workers where possible. - Accommodate the non-local workers in residential areas with higher housing capacity and food supplies.	Insignificant
Social Conflict between the workforce and the hosting community	Minor	- Develop and implement a code of conduct for workers that outlines appropriate behaviour, including respect for religious customs and practices, traditional cultures and social norms of the region. - Establish a community grievance mechanism to address any issues promptly.	Insignificant

Environmental and social aspect	Significance of Impact before Mitigation	Mitigation measures	Significance of Residual Impacts after Mitigation
Interaction of security personnel with workers and the surrounding community	Minor	- Ensure security personnel are adequately trained in professional conduct and community relations. - Require compliance with applicable national laws and human rights principles. - Implement a grievance mechanism accessible to community members.	Insignificant
Change in land use	Insignificant	The routes of the two OHTL, as well as the Naseeg Sarirya substation site, are in desert and unoccupied land with no existing agriculture, residential purposes, commercial activities, or other productive land uses. No risk is anticipated in this regard	Insignificant
Traffic	Minor	- Coordinate material deliveries to avoid peak traffic hours where feasible. - Ensure safe vehicle operation and speed limits within and near the site.	Insignificant
Occupational health and safety			
OHS risks	Moderate	- Implement OHS Management Plan. - Provide appropriate PPE. - Conduct safety training and toolbox talks. - Enforce speed limits and equipment inspections. - Ensure proper training for operators, regular maintenance of equipment, and implementation of safety protocols. - Establish crane/lifting exclusion zones. - Restrict access to work zones and mark excavations. - Use fall protection measures (full body harnesses and energy-absorbing lanyards) - Maintain safe access and control slip/trip risks. - Provide shaded rest areas and heat stress measures. - Implement fire prevention measures, maintain fire extinguishers on-site, and conduct fire safety training. - Apply lock-out/tag-out procedures and restrict electrical works to qualified electricians	Minor
Cultural Heritage	Minor	- Develop and implement Chance Find Procedures, indicating the actions to be taken in case of any significant findings during site leveling and construction activities. - Notify the Ministry of Tourism and Antiquities (MOTA) if an archaeological artifact is discovered during excavation.	Insignificant

Environmental and social aspect	Significance of Impact before Mitigation	Mitigation measures	Significance of Residual Impacts after Mitigation
Operation phase			
Ambient Air			
Transport of people and supplies for maintenance	Minor	- Maintain vehicles used for periodic inspection and maintenance activities in good operating condition. - Minimize unnecessary vehicle idling during inspection and maintenance activities	Insignificant
Climate Change			
Potential emission of SF₆, if utilized for insulation of the switchgear.	Minor	- Implement leak detection and repair procedures for SF₆-containing equipment. - Use appropriate SF₆ recovery and vacuum equipment during filling and servicing. - Ensure relevant personnel are trained in the safe handling, recovery and management of SF₆. - Maintain records of SF₆ use, recovery and any identified leaks.	Insignificant
Ambient noise			
- Noise (buzzing or humming) from high-voltage power lines producing corona - Operation of the transformer and other components of the substation	Insignificant	No mitigation measures are required; however, the following management measures are proposed - Regular maintenance of transformers and cooling fans to prevent abnormal noise levels. - Prompt repair or replacement of faulty components causing excessive hum or vibration.	Insignificant
Soil			
- Potential spills - Solid waste	Insignificant	- Implement proper storage and handling procedures for oils, and lubricants. - Conduct maintenance activities in designated areas. - Provide spill response materials and train staff in spill management.	Insignificant
Biological environment			
Birds Electrocuting Risks	Minor	- Increase the number of insulators where conductors connect to each tower (to increase the gap between the conductor and the tower), using insulators that prevent birds from landing on them. - Cover the crossarms with insulating materials such as PVC strips to ensure that birds are not earthed when perched.	Insignificant

Environmental and social aspect	Significance of Impact before Mitigation	Mitigation measures	Significance of Residual Impacts after Mitigation
Birds Collision Risk	Minor	For bird collision risk, no mitigation measures are recommended.	Minor
Social environment			
Presence and interaction of security personnel with workers and the surrounding community	Insignificant	- Trained security personnel with proper conduct toward workers and the community, operating within the law. - Grievance mechanism for the community to report concerns about security arrangements and personnel actions.	Insignificant
Occupational Health and Safety			
- Electrical hazards - Maintenance activities	Moderate	- Abide by all national occupational health and safety regulations; Labour Law 14/2025. - Ensure that the maintenance workers are properly trained, especially for working at height training - Provision of suitable PPE as well as training suitable for different activities. - Establishment and identification of safety zones to differentiate between work areas with expected elevated EMF levels compared to those acceptable for public exposure, limiting access to properly trained workers.	Minor
Decommissioning Phase			
Soil, Water, Air, Noise, OHS	MINOR	- Ensure that the removal of all above-ground structures, equipment is performed in accordance with approved procedures that minimize impacts on air quality, soil, and water resources, - Focus on proper handling, management, and disposal of hazardous and non-hazardous waste streams to reduce impacts on the soil - Ensure all workers comply with occupational health and safety (OHS) requirements and are provided with and use appropriate personal protective equipment (PPE). - Restore the site to its original condition where feasible	Insignificant
Waste Management End-of-Life and Hazardous Waste	MINOR	- Temporary storage in dedicated hazardous waste areas. - Reuse and recycled (where possible), or disposed of in accordance with regulatory - Use of licensed hazardous waste transporters and recyclers.	Insignificant

7. Stakeholders Engagement

Stakeholder consultation formed an integral part of the ESIA process and was undertaken in accordance with the EEAA ESIA Procedures Guidelines and international good practice, including the EBRD Performance Requirement 10 on Information Disclosure and Stakeholder Engagement. The consultation process included early stakeholder identification, continuous engagement during ESIA preparation, and transparent information disclosure to ensure meaningful stakeholder participation.

E&S Scoping Activities

Stakeholder scoping meetings were conducted between January and March 2026 with representatives of government authorities, local councils, environmental authorities, utility providers, agricultural land users, non-governmental organizations (NGOs), and other relevant stakeholders. Additional stakeholders engagement took place during the ESIA preparation and finalisation.

The consultation process supported the identification of environmental and social issues relevant to the Project and contributed to defining the scope of the ESIA. Overall, stakeholders expressed strong support for the Project due to its expected contribution to renewable energy integration, improved electricity supply reliability, support to the Sarirya Industrial Zone, and creation of employment opportunities within Minya Governorate.

Key issues raised during the consultation process included:

- Employment opportunities and prioritization of local labour recruitment;
- Labour accommodation arrangements and associated social considerations;
- Provision of renewable electricity to the Sarirya Industrial Zone;
- Capacity building and training opportunities for local communities;
- Support to vulnerable groups and cooperation with local NGOs;
- Community grievance management and complaint resolution procedures;
- Availability of water supply, wastewater treatment, and waste management infrastructure to support project activities;
- Availability of medical and emergency services within Minya Governorate;
- Potential implications for informally used agricultural lands within the wider project area; and
- Project requirements for utilities, services, fuel, and other resources during construction and operation.

ESIA Disclosure

According to EEAA requirements, public disclosure meetings are not mandatory for Scoped-B projects. However, in line with lender requirements, a disclosure process will be undertaken to ensure continued stakeholder engagement and information sharing.

The disclosure process will include:

- Invitations to local, municipal, and governorate-level stakeholders, including representatives of vulnerable groups;
- Public announcement of the disclosure meeting approximately 10–15 days prior to the event;

- Distribution and disclosure of an Arabic Non-Technical Summary (NTS), including online access through the Project website;
- Provision of comment forms allowing stakeholders to submit feedback during the consultation process and for a period of two weeks following the disclosure meeting;
- Organization of the disclosure meeting within Minya Governorate; and
- Documentation of stakeholder comments, attendance records, and consultation outcomes for inclusion in the ESIA documentation.

Stakeholder feedback received during the consultation and disclosure processes will be considered in the finalization and implementation of the Project's environmental and social management measures.

8. Environmental and Social Management Plan

The project will develop and implement an Environmental and Social Management Plan (ESMP) outlining specific mitigation and monitoring measures to ensure compliance with all applicable legal and institutional requirements.

It includes mitigation and monitoring measures to ensure environmental and social performance.

The ESMP encompasses the following key components:

- Summary of Environmental and Social Impacts, Mitigation Measures, Monitoring Requirements, and Responsibilities;
- Health, Safety and Environment (HSE) Plan;
- Occupational Health and Safety Management Plan;
- Transportation and Traffic Management Plan;
- Noise Management Plan;
- Hazardous Materials and Waste Management Plan;
- Water and Wastewater Management Plan;
- Biodiversity Management and Avifauna Protection Measures;
- Social Management Plan, including labour management, stakeholder engagement, grievance management, community health and safety, and SEAH/GBV prevention measures;
- Emergency Preparedness and Response Plan;
- Chance Find Procedure for cultural heritage;
- Preventive and Corrective Maintenance Procedures; and
- Housekeeping and Site Cleanliness Procedures.

Institutional Arrangements:

The ESMP defines the roles and responsibilities of Energy Valley, contractors, subcontractors, and relevant governmental authorities for implementation, monitoring, reporting, and auditing of environmental and social management measures throughout the project lifecycle.

Capacity Building:

- Provisions for training and capacity building for project staff and contractors on best practices in environmental and social management, enhancing their ability to effectively implement the ESMP.

Table 2: Summary of ESMP

Aspect	Issues of concern	Actions	Party Implementing the Action	Indicator of completion	Estimated Cost (USD)	Required Completion Date
Construction Phase						
Air Quality	Dust emissions	- Reduce idling times for vehicles and machinery; - Maintaining machinery and vehicles in good working order - Speed restriction on sites; - Ensuring workers are aware of safe driving and maintaining good practices in machinery usage; and - Periodic measurements for stacks of generators	Construction contractor	- Monitoring plan - Air quality measurements	5,000 – 10,000 / year	Throughout the construction phase period
	working conditions of machinery	- Ensure good working conditions through frequent inspection of all construction equipment - Implementation of OHS plans	Construction contractor	Maintenance logs OHS plan	15,000 – 30,000 (included in EPC O&M allowance)	
Noise Level	working conditions of machinery	- Regular maintenance of construction equipment - Use low-noise equipment, where possible; - Schedule high-noise activities to avoid simultaneous operations that could amplify noise levels; - Schedule high-noise activities to take place in morning hours - Implementation of OHS plans	Construction contractor	OHS plan Noise measurements and Maintenance logs	10,000 – 15,000 / year	Throughout the construction phase period
	Provision of PPEs	- Providing necessary PPE for workers	Construction contractor		5,000 – 10,000 (PPE supply - total project period)	
Soil	housekeeping practices	- Develop and implement site management plan, solid waste management and wastewater	Construction contractor-Energy Valley	-Waste and wastewater management plans	2,000 – 8,000 (depends on waste volume)	Throughout the construction phase period

Aspect	Issues of concern	Actions	Party Implementing the Action	Indicator of completion	Estimated Cost (USD)	Required Completion Date
Construction Phase						
	Waste/wastewater management	management plans and spill prevention plans - Proper collection, containment, and disposal of sanitary wastewater - Proper collection, containment, and disposal of sanitary wastewater - hazardous materials storage and handling according to the WBG General EHS Guidelines, - Transportation and disposal to be carried out through authorized waste contractors	Energy Valley company (include provisions in the construction contracts. Developers to ensure contractors' compliance)	- Solid/hazardous waste and wastewater management contract - Contractor follow-up documents - Contracts with authorized waste contractors		
Occupational Health and Safety	Site Staff and Workplace Safety	- Developing OHS plan and HSE procedures according to national requirements and international standards	Contractor	OHS plan and procedures HSE provisions in the construction contracts	15,000 – 20,000	Before construction activities
Emergency Response plans	Site Staff and Workplace Safety	- Develop procedures for emergency control	Contractor	Emergency response plan	7,000 – 20,000	Before construction activities
Waste management	Worker's health	- Developing a solid and hazardous waste management plans in line with the WBG General EHS Guidelines." - Developing OHS plans - Different types of waste to be stored in designated waste areas, and transported by licensed contractors	Construction contractor	Solid waste management contract with authorized contractors Waste manifest OHS plan	233–700 USD/ton (hazardous waste) 93–175 USD/ton (non-hazardous waste)	Throughout the construction phase period

Aspect		Issues of concern	Actions	Party Implementing the Action	Indicator of completion	Estimated Cost (USD)	Required Completion Date
Construction Phase							
Biological Environment		Disturbance to wildlife	- Awareness (toolbox talks and awareness signs) - Implementation of mitigation measures - Supervision and implementation of deterring measures	Construction contractor	Requirements specified in contracts	10,000 – 25,000 (one-time)	Throughout the construction phase
							Throughout the construction phase
Social Environment		Community health, safety and security- risks from road traffic accidents	- Develop Traffic Management Plan (TMP) and associated procedures	Construction contractors	TMP and procedures	10,000 – 25,000	Throughout the construction phase period
		Cultural heritage	- develop chance find procedure	Energy Valley company/Construction contractors	Developed procedures	2,000 – 5,000	Before construction activities
Total Estimated Cost	(USD)					≈ 180,000–168,000 USD	
	(EGP)					≈ 3,969,000–8,232,000 EGP	

Aspect	Issues of concern	Actions	Party Implementing the Action	Indicator of completion	Estimated Cost (USD)	Required completion Date
Operation Phase						
Air quality	Release of SF ₆ gas during GIS maintenance and repair activities	- Optimize the operation of backup generators to reduce usage and emissions. - Conducting regular maintenance and periodic emissions monitoring of generators to ensure efficient operation and minimize air emissions	EETC/Energy Valley	Emission measurements Maintenance records	3,000-6,000/year	Periodically throughout the operation stage
SF ₆ emissions/Leak detection	- Accidental release of SF₆ during opening of GIS compartments and gas handling operations - Undetected gas leaks from flanges, valves, hoses, and GIS components during repair activities	- Isolate and depressurize GIS compartments prior to maintenance. Use approved SF₆ recovery units during gas evacuation and refilling. - Conduct leak inspections using calibrated portable SF₆ leak detectors before, during, and after maintenance activities.	EETC (O&M Team/HSE officer)//Energy Valley	- Maintenance records available. - Leak inspection records completed, and no unaddressed leaks identified.	5,000-10,000	Before and throughout repair activities
Noise	Transformers	- Worker work with noise generating machinery and equipment will be provided with suitable (PPEs). - A grievance mechanism will be adopted for assessing complaints,	EETC//Energy Valley	Noise measurements	3,000–5,000/year	Periodically throughout the operation stage
Biological Environment	Same as for the construction phase	- Same as for the construction phase	EETC//Energy Valley	Reports	1,000–3,000/year	Throughout the project lifetime

Aspect	Issues of concern	Actions	Party Implementing the Action	Indicator of completion	Estimated Cost (USD)	Required completion Date
Impact on the social environment	Water consumption	- Water demand during the operation phase is minimal and will be supplied in coordination between the project and the water company to plan the sources of water by an approved contractor and discharged to designated treatment plants	EETC//Energy Valley	Water management plan	1,000–3,000/year	Throughout the project lifetime
	Wastewater management	- Wastewater generated during the operation phase is minimal and will be collected by an approved contractor and discharged to designated treatment plants	EETC//Energy Valley	Wastewater management plan		Throughout the project lifetime
Labour rights and welfare	working conditions	Develop Human Resources policy	EETC//Energy Valley	Contracts (with workers)	2,000–5,000 (one-time)	Throughout the project lifetime
Training and Awareness	competence of the project personnel	Training for the personnel according to their responsibilities	EETC//Energy Valley	Training plans	3,000–8,000/year	Throughout the project lifetime
Occupational Health and Safety	Site Staff and Workplace Safety	- Developing HSE procedures	EETC//Energy Valley	Development of HSE policies	10,000–20,000/year	Before project commissioning
Emergency Preparedness and Response	Operational risk management	- Adopt a probabilistic risk assessment framework	EETC//Energy Valley	Emergency response plan	5,000–10,000/year	Before construction activities
Community health, safety, and site security	- risk of road traffic accidents - Site security	- Develop site security and safety plan - Develop a grievance mechanism	EETC//Energy Valley	- security plan - SEP and grievance mechanism and register	3,000-8,000/year	Throughout the project lifetime
Total Estimated Cost				(USD)	≈72,000	
				(EGP)	≈3,600,000	

Aspect	Issues of concern	Actions	Party Implementing the Action	Indicator of completion	Estimated Cost (USD)	Required completion Date
Decommissioning Phase						
Decommissioning Planning	- Inadequate planning and coordination	- Prepare and implement a Decommissioning Plan in accordance with Egyptian regulations, lender requirements, and GIIP.	(EETC/Energy Valley)	- Approved Decommissioning Plan	10000–15,000 (one-time)	Prior to decommissioning
Air Quality	- Dust and air emissions from dismantling and demolition	- Apply dust suppression measures and follow approved dismantling procedures.	Decommissioning Contractor	- No significant dust complaints; monitoring records	3,000-5,000	Throughout decommissioning
Noise	- Noise from demolition and equipment removal	- Limit noisy activities, maintain equipment in a good working conditions , and provide PPE where required.	Decommissioning Contractor	- Compliance with applicable noise requirements	5,000-7,000	Throughout decommissioning
Waste Management	- Generation of hazardous and non-hazardous waste	- Segregate, reuse/recycle where feasible, and dispose of wastes through licensed facilities.	Decommissioning Contractor	-Solid/hazardous waste and wastewater management contract -Contractor follow-up documents -Contracts with authorized waste contractors	5,000-10,000	Throughout decommissioning
Occupational Health and Safety	- Worker injuries during dismantling and demolition	- Implement OHS procedures, provide PPE, training, and emergency preparedness.	Decommissioning Contractor	- No major incidents; OHS inspection records	7,000-10,000	Throughout decommissioning
Site Restoration	- Residual contamination and disturbed land	- Remove remaining structures, clean up the site, remediate if required, and restore the site where feasible.	Decommissioning Contractor / Project Proponent	- Site restoration completed and approved	10,000-30,000	Before project closure
Total Estimated Cost				(USD)	≈77,000	
				(EGP)	≈3,850,000	

Environmental and Social Monitoring Plan

Once the risks are identified and assessed, appropriate mitigation measures are defined to minimize or eliminate the potential hazards. For each risk that has been evaluated, specific controls are established to ensure that risks are managed effectively and consistently throughout project activities.

To support this, technical instructions and procedures will be developed to monitor, control the following activities:

- Medical assessment
- Personnel protective equipment control
- Health and safety technician/Qualified personnel
- Security inspections

Table 3: Proposed Environmental Monitoring Plan

Receptors / Source of impact/risk	Type of monitoring	Monitoring location	Target / Indicators	Reference Standard / Requirement	Frequency of monitoring	Responsibility	Implementation	Approximate annual costs
Construction phase								
Workplace	Noise measurements	Project site	- Compliance of noise intensity with standards	Law No. 4/1994 (Annex 7); IFC/WBG General EHS Guidelines; EBRD ESR4; AfDB OS4; EIB ESS3; applicable CDP E&S requirements	Measurement at one locations quarterly	All contractors and subcontractors, supervised by Energy Valley	Third party (research entity or certified lab)	~5,000 EGP
	Air emissions	Project site	- Compliance with air emission standards	Law No. 4/1994 (Annex 6); IFC/WBG General EHS Guidelines; EBRD ESR3; AfDB OS4; EIB ESS3; applicable CDP E&S requirements	Measurement at one locations quarterly	All contractors and subcontractors, supervised by Energy Valley	Third party (research entity or certified lab)	~ 17,000 EGP
Biodiversity	Habitats and biodiversity	Project site and Vicinity (Aol)	- Absence of hazards to wildlife and habitats - Proper implementation of mitigation measures	Law No. 4/1994; EBRD ESR6; AfDB OS3; EIB ESS3; applicable CDP E&S requirements	Daily	All contractors and subcontractors, supervised by Energy Valley	Energy Valley Company /EETC and contactors EHS personnel	6,000 – 12,000
	Fauna		- Number of fauna encounters - No or reduced number of fatalities (such as road mortalities)		Chance encounters			
	Pests		- Good housekeeping - Absence of pests		Daily			

Receptors / Source of impact/risk	Type of monitoring	Monitoring location	Target / Indicators	Reference Standard / Requirement	Frequency of monitoring	Responsibility	Implementation	Approximate annual costs
Social management	Waste management	Project site and waste storage areas	Proper management of the different types of waste	Waste Management Law No. 202/2020; Law No. 4/1994; IFC PS3; EBRD ESR3; AfDB OS4; EIB ESS3; applicable CDP E&S requirements	Regular	All contractors and sub-contractors, supervised by Energy Valley company	Energy Valley Company/EETC and contactors EHS personnel	200 – 600 USD/ton (hazardous waste) 80 – 150 USD/ton (non-hazardous)
	Wastewater management	Project site	- Good housekeeping Absence of alien vegetation		Regular	All contractors and sub-contractors, supervised by Energy Valley company	Energy Valley Company/EETC and contactors EHS personnel	10,000–30,000 EGP/ year (mainly contractor fees)
	Workers influx	Offsite accommodation	Number of community grievance	Egyptian Labour Law No. 14/2025; IFC PS2; EBRD ESR2; AfDB OS5; EIB ESS8; applicable CDP E&S requirements	Regular	All contractors and sub-contractors, supervised by the Energy Valley company	Energy Valley Company/EETC and contractors' EHS personnel	USD 5,00–1,000/year
	Traffic management	Project site and Vicinity (Aol)	- No road accidents - No community grievances - Proper implementation of traffic management plan	IFC PS4; EBRD ESR4; AfDB OS4; EIB ESS9; applicable CDP E&S requirements	Regular during construction phase	All contractors and sub-contractors, supervised by Energy Valley company	Energy Valley Company/EETC and contactors EHS personnel	USD 5,00–1,000/year
Operation phase								
Workplace	Noise measurements	Transformers	Compliance of noise intensity with standards	Law No. 4/1994 (Annex 7); IFC/WBG General EHS Guidelines; EBRD PR4; AfDB OS4; EIB ESS3	Annually	Energy Valley company/EETC	Third party (research entity or certified lab)	~10,000 EGP

Receptors / Source of impact/risk	Type of monitoring	Monitoring location	Target / Indicators	Reference Standard / Requirement	Frequency of monitoring	Responsibility	Implementation	Approximate annual costs
Project site and vicinity	Biodiversity (same as for the construction phase)	Same as for the construction phase	Same as for the construction phase	Law No. 4/1994; IFC PS6; EBRD ESR6; AfDB OS3; EIB ESS3; applicable CDP E&S requirements	Same as for the construction phase	Energy Valley company/EETC	Project personnel	10,000 – 25,000 EGP
Overall Project E&S Performance	Independent Environmental and Social Performance Audit	Project site	– Compliance with ESMP commitments. – ESMS requirements. – lender requirements. – corrective actions. – stakeholder engagement. – Grievance management. – OHS performance. – incident management and applicable legal requirements	EBRD ESRs; AfDB Integrated Safeguards System (ISS) and applicable OSs; EIB applicable E&S requirements; CDP applicable E&S requirements; IFC Performance Standards, where retained as supplementary benchmarks; Applicable National Legislation	Annually	Energy Valley company/EETC	Independent external E&S consultant/auditing firm	USD 3,000–8,000 per audit
Decommissioning phase								
Air quality (dust from demolition and dismantling)	Visual inspections and dust monitoring (if required)	Active decommissioning areas, access roads, nearby sensitive receptors	– No excessive dust emissions or dust-related complaints; implementation of dust suppression measures	Law No. 4/1994 (Annex 6); IFC/WBG General EHS Guidelines; EBRD ESR3; AfDB OS4; EIB ESS3; applicable CDP E&S requirements	Weekly and following complaints	Energy Valley company/EETC	Decommissioning Contractor	10,000 EGP

Receptors / Source of impact/risk	Type of monitoring	Monitoring location	Target / Indicators	Reference Standard / Requirement	Frequency of monitoring	Responsibility	Implementation	Approximate annual costs
Noise from dismantling activities	Noise monitoring and site inspections	Site boundary and nearest sensitive receptors (where applicable)	– Compliance with applicable noise limits; no justified complaints	Law No. 4/1994 (Annex 7); IFC/WBG General EHS Guidelines; EBRD ESR4; AfDB OS4; EIB ESS3; applicable CDP E&S requirements	Monthly and following complaints	Energy Valley company/EETC	Qualified Environmental Consultant / Contractor	5,000 EGP
Hazardous and non-hazardous waste	Waste management inspections and documentation review	Waste storage areas and disposal/recycling facilities	– Proper segregation, storage, transport, recycling, and disposal; waste manifests maintained	Waste Management Law No. 202/2020; Law No. 4/1994; IFC PS3; EBRD ESR3; AfDB OS4; EIB ESS3; applicable CDP E&S requirements	Weekly	Energy Valley company/EETC	Decommissioning Contractor	45,000 EGP
Soil contamination from waste, fuels, oils, or transformer components	Site inspections and spill monitoring	Fuel storage areas, dismantling areas, transformer removal locations	– No evidence of spills or contamination; spill response records available	Law No. 4/1994 and law 202/2020 / IFC/WBG General EHS Guidelines; EBRD ESR3; AfDB OS4; EIB ESS3; applicable CDP E&S requirements	Weekly and after any spill	Energy Valley company/EETC	Decommissioning Contractor	6,000 EGP
Occupational Health and Safety (OHS)	OHS inspections and incident reporting	Entire project site	– PPE compliance; work permits; training records; number of incidents/LTIs	Egyptian Labour Law No. 14/2025; IFC PS2; IFC PS4; EBRD ESR2 & ESR4; AfDB OS5; EIB ESS9; applicable CDP E&S requirements	Daily inspections; monthly reporting	Energy Valley company/EETC	Decommissioning Contractor	45,000 EGP

Receptors / Source of impact/risk	Type of monitoring	Monitoring location	Target / Indicators	Reference Standard / Requirement	Frequency of monitoring	Responsibility	Implementation	Approximate annual costs
Community Health and Safety	Inspection of traffic management, access control, and public safety measures	Site entrances, access roads, surrounding communities	– No unauthorized access; effective traffic management; no community incidents	IFC PS4; EBRD ESR4; AfDB OS4; EIB ESS9; applicable CDP E&S requirements	Weekly	Energy Valley company/EETC	Decommissioning Contractor	10,000 EGP
Consolidated Estimated Annual Environmental and Social Monitoring Budget								
		Construction Phase	Operation Phase	Decommissioning phase				
Estimated Total Annual Cost*	(USD)	Approx. USD 1,000–4,000	Approx. USD 3000–8,000	Approx. 2,420USD				
	(EGP)	Approx. EGP 50,000–200,000	– Approx. EGP 150,000–400,000	Approx.121.0000				

**The above costs are indicative estimates intended to provide an order-of-magnitude assessment of environmental and social monitoring expenditures.*

Table 4: Proposed Social Monitoring Plan

Receptors / Source of impact/risk	Monitoring location	Target / Indicators	Frequency of monitoring	Responsibility	Implementation	Approximate annual costs
Labour and Working Conditions	Project site	– Health and safety measures – No instances of forced or child labour reported.	Ongoing during construction and operation	All contractors and sub-contractors, supervised by Energy Valley company	Energy Valley Company and contactors EHS/HR personnel	Included in staff salaries
Information Disclosure	Project's Disclosure channels	– Publicly available information. – Semi-annual updates provided. – Information in Arabic with infographics where beneficial.	On-going basis during construction and operation and updated semi-annually	Energy Valley company	Energy Valley Company EHS personnel	Included in staff salaries
Grievance Management	Project site	– Grievance management plan developed for internal and external grievances. – Compliance with EBRD good practice for GBV and SEAH grievances.	Ongoing during construction and operation	All contractors and sub-contractors, supervised by Energy Valley company	Energy Valley Company and contactors EHS/HR personnel	Included in staff salaries

9. Conclusion

The Energy Valley OHTLs and Naseeg Sarirya Substation Project represents an important component of Egypt's energy transition and industrial development strategy by facilitating the integration of renewable electricity into the national grid and providing a reliable power supply to the Sarirya Industrial Zone. In this context, the No-Development Alternative is not considered a viable option, as it would prevent the connection of the Energy Valley Facility to the national transmission network and limit the anticipated environmental, economic, and social benefits associated with the project.

The ESIA has identified and evaluated the potential environmental and social impacts associated with the construction, operation, and decommissioning phases of the project. The assessment concluded that most potential impacts are temporary, site-specific, and can be effectively managed through the implementation of appropriate mitigation measures and good international industry practices.

Appropriate mitigation and management measures have been developed in accordance with applicable Egyptian regulatory requirements and relevant international lender standards. These measures are incorporated within ESMP, which includes monitoring requirements, institutional responsibilities, and procedures for managing environmental and social risks throughout the project lifecycle.

To support the effective implementation of all Environmental and Social (E&S) mitigation, monitoring, management, and reporting measures identified in the Environmental and Social Management Plan (ESMP), the Project has allocated adequate financial resources. The estimated ESMP implementation budget is approximately USD 180,000 during the construction phase and approximately USD 72,000 per year during the operation phase, and about 77,000 per year during decommissioning phase covering environmental monitoring, occupational health and safety, waste management, biodiversity conservation, stakeholder engagement, emergency preparedness, training, and other environmental and social management requirements.

With the implementation of the proposed mitigation measures, monitoring programmes, and management plans, the residual environmental and social impacts are expected to remain at acceptable levels. Accordingly, the project is considered environmentally and socially feasible, provided that all ESIA commitments and ESMP requirements are effectively implemented and monitored throughout the construction, operation, and decommissioning phases.