Submitted To:

Client Name and Details

RCREEE
Regional Center for Renewable Energy and Energy Efficiency
المركز الإقليمي للطاقة المتجددة وكفاءة الطاقة

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Egypt Green Hydrogen SAE

EGH 200MW Wind Farm in Egypt

Draft Non-Technical Summary (NTS)

10th April 2025

Document History

Date	Version	Issued by	Revision Description	Reviewed by	Approved by
09.03.25	1.0	EcoConserv	Issued for Client Review	RCREEE	
10.04.25	2.0	EcoConserv	Issued for Client Review	RCREEE	
27.04.25	3.0	EcoConserv	Issued for Client Review	RCREEE	

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Table of Abbreviations

Abbreviation	Description
ASL	Above Sea Level
ATMP	Active Turbine Management Plan
BOO	Build, Own and Operate
CAA	Competent Administrative Authorities
CAPMAS	Central Agency for Public Mobilization and Statistics
CBD	Convention on Biological Diversity
CBO	Community Based Organization
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CLO	Community Liaison Officer
CRM	Collision Risk Model
DEM	Digital Elevation Model
E&S	Environmental and Social
EBRD	European Bank for Reconstruction and Development
EEAA	Egyptian Environmental Affairs Agency
EETC	Egyptian Electricity Transmission Company
EGPC	Egyptian General Petroleum Corporation
EHS	Environment, Health and Safety
EHSS-MS	Environmental, Social, Health and Safety Management System
EIA	Environmental Impact Assessment
EM	Environmental Management
EMP	Environmental Management Plan
EMU	Environmental Management Unit
EPC	Engineering, Procurement, and Construction
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
GIIP	Good International Industry Practice
GIP	Good International Practice
GIS	Geographic Information System
GoE	Government of Egypt
GoS	Gulf of Suez
GWh	Gigawatt Hours
HSE	Health, Safety and Environmental
HW	Hazardous Waste
IBA	Important Bird Area
IFC	International Finance Corporation
IFI	International Financing Institution
ILO	International Labor Organization
IRENA	International Renewable Energy Agency
ISES	Integrated Sustainable Energy Strategy
IUCN	International Union for Conservation of Nature
IWGIA	International Work Group for Indigenous Affairs

KPI	Key Performance Indicators
kV	Kilovolt
kWh	Kilowatt Hour
LoS	Lines of Sight
MoM	Minutes of Meeting
MSB	Migratory Soaring Birds
MSDS	Material Safety Data Sheet
MV	Medium Voltage
MW	Megawatt
NCE	Nature Conservation Egypt
NGO	Non-governmental Organization
NHWTC	Nasiriya Hazardous Waste Treatment Centre
NREA	New and Renewable Energy Authority
NTRA	National Telecom Regulatory Authority
NTS	Non-Technical Summary
O&M	Operation and Maintenance
OHS	Occupational Safety and Health
OHSA	Occupational Health and Safety Administration
OHSP	Occupational Health and Safety Plan
OHTL	Overhead Transmission Line
OSHA	Occupational Safety and Health Administration
PM	Particulate Matter
PPA	Power Purchase Agreement
PPE	Personal Protective Equipment
PR	Performance Requirement
PS	Performance Standard
PV	Photovoltaic
RAP	Recognized Air Picture
RCREEE	Regional Center for Renewable Energy and Energy Efficiency
RGWE	Ras Ghareb Wind Energy
SCA	Supreme Council of Antiquities
SCADA	Supervisory Control and Data Acquisition
SEP	Stakeholder Engagement Plan
SESA	Strategic Environmental and Social Assessment
TBT	Tool Box Talks
TSP	Total Suspended Particulate
UN	United Nations
VHF	Very High Frequency
WBG	World Bank Group
WWTP	Wastewater Treatment Plant

1 Introduction

An Environmental and Social Impact Assessment (ESIA) study was carried out for the Egypt Green Hydrogen (EGH) 200 MW Wind Farm in line with the national Egyptian permitting requirements and to meet the lenders requirements, namely The European Bank for Reconstruction and Development (EBRD who will finance the Project.

This document provides a Non-Technical Summary (NTS) of the main findings regarding the environmental and social impacts associated with the construction and operation of the project, including cumulative impacts and the measures proposed to keep these impacts at acceptable levels. The NTS is a standalone document intended for the general public and all project stakeholders — including government authorities, non-governmental organizations, local communities, academic and research institutions, and other interested parties — to inform them about the project and invite their feedback. It summarizes key project information in a simple and accessible manner to ensure public understanding of the project's objectives, activities, potential impacts, proposed mitigation measures, and the stakeholder engagement and grievance mechanism. Dissemination of this information is a fundamental requirement under Lender standards and is considered good international industry practice to ensure transparency and an informed public.

1.1 Project Background

The energy sector is a key driver for the socio-economic development of Egypt, representing around 13% of current GDP and thus making economic growth in the country contingent upon the security and stability of energy supply. To align and reinforce the sector with sustainable development, the Arab Republic of Egypt (through the Ministry of Electricity and Renewable Energy) had developed and adopted the Integrated Sustainable Energy Strategy (ISES) 2015 – 2035, which provides an ambitious plan to increase the contribution of renewable energy to 42% of the country's electricity mix by2030, of which wind power is a key component, to be developed mostly in the Gulf of Suez (GoS) due to the wind characteristics in the area.

As a result, the GoE issued the Renewable Energy Law (Decree Law 203/2014)[1] to support the creation of a favorable economic environment for a significant increase in renewable energy investment in the country and establishes the legal basis for the Build, Own and Operate (BOO) framework. Through the BOO mechanism, the Egyptian Electricity Transmission Company (EETC) invites private investors to submit their offers for solar and wind development projects, for specific capacities and the award is to be made to that bidder with the lowest Kilowatt Hour (kWh) price. In

[1]Renewable Energy Law (Decree Law 203/2014) https://cdn.climatepolicyradar.org/navigator/EGY/2014/egypt-renewable-energy-law-decree-no-203-2014_a94ecbc39e0166b267cf9fa507b08090.pdf

addition, the GoE (through the New and Renewable Energy Authority (NREA)) provides the land for the investors.

Through the BOO mechanism, Egypt Green Hydrogen SAE (hereafter referred to as 'the Developer'), has been selected for the development of a 200MW Wind Power Project in the Gulf of Suez (GOS) (hereafter referred to as the 'Project'). The objective of the project is to design, develop, and construct a fully operational 200 MW wind farm, delivering clean energy to the national grid to produce green hydrogen, in line with Egypt's renewable energy goals.

The Regional Centre for Renewable Energy and Energy Efficiency (RCREEE) is managing the Environmental and Social (E&S) process for the Project development on behalf of the Developer. RCREEE commissioned the consortium consisting of EcoConServ, ECO Consult and Safe Soar (hereafter referred to as 'the ESIA Consultant') to carry out an Environmental and Social Impact Assessment (ESIA) for the Project. EcoConServ, as the lead firm, is responsible for developing the ESIA and all related studies, including conducting all fieldwork except for biodiversity surveys. ECO Consult, in collaboration with Safe Soar, is responsible for preparing the biodiversity chapter of the ESIA and undertaking all biodiversity-related studies, including biodiversity surveys.

1.2 Project Location

The Project is located in the Red Sea Governorate of Egypt, around 300 km to the southeast of the capital city of Cairo. More specifically, the Project is located near the Red Sea shoreline and within the Ras Gharib District of the Red Sea Governorate, where the closest residential areas include Ras Gharib city (located 35 km to the north) refer to the figures below.

The closest official (under Ras Ghareb District) community settlements to the Project site include Wadi Dara settlement (located less than 1km to the south) and Ras Ghareb City. Moreover, there is an unofficial community settlement known as Ras Shukeir that is located around 8km to the northeast of the Project site. This settlement is used by petroleum companies in the area as housing/accommodation units, offices, and also includes some petroleum facilities.

The Project is located within a 300km^2 Strategic Area that has been allocated by NREA for wind farm development Projects with a total capacity of 1,500 MW. A strategic ESIA study has been undertaken for the 300km^2 area known as the "ESIA for an Area of 300km^2 at the Gulf of Suez" (Lahmeyer & Ecoda, 2013) (hereafter referred to as "Strategic ESIA"), where this Strategic ESIA investigated the E&S issues at cumulative and strategic level. Within this, a land area of 21.7 km^2 has been allocated to the Developer by NREA for the development of this Project.

Figure 1-1: Project Site in Relation to the Capital City of Egypt

Figure 1-2: Project Site and Surrounding Communities

2 Project Description

2.1 Project Components

The project components include wind turbines used, the infrastructure and utilities, and all associated facilities.

2.1.1 Wind Turbines

The following table lists the specifications for the turbines.

Table 2-1: Wind Turbine Specification

Specification	Final Layout
Tip Height	185.5 m
Hub Height	100 m
Rotor Diameter	171 m
Turbine Size	8 MW
Noise Power Levels (without serrated trailing edges)	111.1 dB
Noise Power Levels (with serrated trailing edges)	109.6 dB

The design according to the final approved design will provide 200 MW of electricity.

2.1.2 Infrastructure and Utilities

The infrastructure and utilities requirements of the Project include the following:

- Medium Voltage (MV) Cables
- Communications Network
- Substation
- Building Infrastructure
- Road network
- Batching Plant

2.1.3 Associated Facilities

Associated facilities will mainly include the Overhead Transmission Line (OHTL) and the substation (will also be subject to Lenders E&S requirements). EETC will be responsible for offsite connection work from the onsite substation to the National Grid that will be through a 220 kV OHTL. The OHTL has a length of approximately l.5 km and connects to the existing HV network as shown in the figure below.

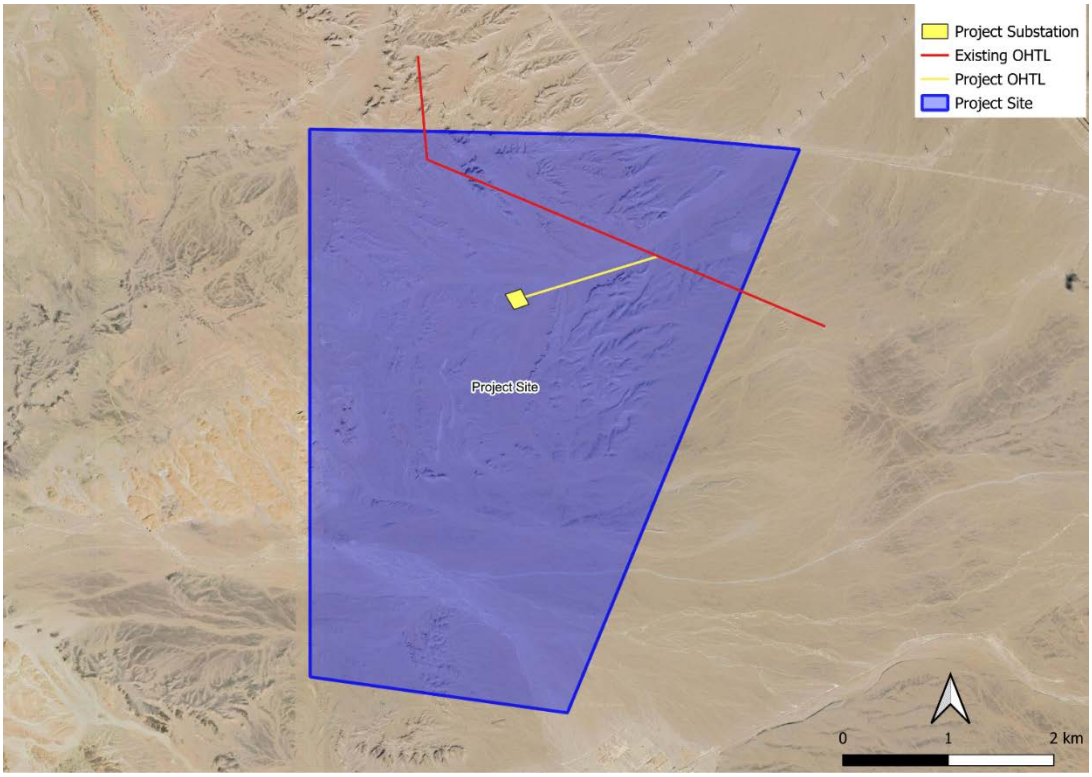

Figure 2-1: Associated Facilities (Substation and OHTL) with respect to the Project Site

The grid connection of the wind farm will be done as loop in into the existing 220 kV line Gabal al Zeyt – Hurghada which is crossing the site in the north via a connection pylon. The project involves the connection of a 220/33 kV substation equipped with two 2X140 MVA transformers to an existing double-circuit 220kV EETC overhead line. The distance from the new substation to the existing line is approximately 1.5 km. The main components are as follows:

1. Transformers: Two transformers rated at 140 MVA each (total capacity of 280 MVA at 220/33 kV)
2. Overhead Lines: The existing double-circuit 220kV EETC line will be tapped with a lowering mechanism to facilitate the connection. This will allow the 220 kV line under the planned 500 kV line. The lowering will occur on an angle tower or support structure, allowing the overhead line to drop to the appropriate elevation for connection without disrupting the existing transmission setup.

2.2 Project Phases

The Project will include 3 distinctive phases as follows:

- *Design and Construction Phase* that will include: (i) preparation of the detailed design, (ii) transportation of components to the site, (iii) site preparation activities (land clearing, excavations, etc.), (iv) installation of components and (v) preparation and implementation of E&S management system and E&S management plans to meet lender E&S requirements.

- *Operation Phase* that will include the normal daily operation of the wind farm and the undertaking of maintenance activities as required and implementation of E&S management system and E&S management plans to meet lender E&S requirements.
- *Decommissioning Phase* that will include the dismantling of the various Project components at the end of the life time.

According to the current timeline, construction of the Project is anticipated to commence approximately Q2 of 2025 and will require approximately 24 months for construction and commissioning (i.e. Q3 of 2027). Operation of the Project is therefore anticipated to commence in late 2027 (Q4) for a period of 25 years.

2.3 Machine and Equipment Requirements

The construction of the wind farm will require a variety of heavy machinery and equipment to facilitate site preparation, transportation, installation, and assembly of wind turbine components. These include:

1. Cranes: (2-4)
2. Trucks (6)
3. Bulldozers (2)
4. Forklifts (4)
5. Roller compactor (1-2)
6. Diesel generators (5)

2.4 Work force and Economic Opportunities

The Project will provide significant employment opportunities, both during construction and operation phases. During the peak of construction, which is expected to span approximately 24 months, the Project will generate around 450–500 job opportunities. These will include both skilled positions such as engineers, technicians, consultants, and surveyors, semi-skilled roles such as equipment operators, carpenters, and electricians and unskilled roles, primarily construction laborers and security personnel. The Project will also be sourcing products and services from local businesses such as construction materials, transportation, and equipment rental, therefore leading to economic opportunities in the region.

During the operational phase, which will extend over the 25-year lifetime of the wind farm, the Project will continue to offer around 25 long-term job opportunities. These will comprise a mix of skilled positions (including engineers, technicians, and administrative staff) and unskilled roles such as drivers and security personnel.

The Project will also prioritize local employment. Based on preliminary assessments and stakeholder consultations, the following local hiring targets will be pursued:

- **Construction Phase:** The Project will aim to allocate at least 30–40% of employment opportunities to residents from local communities, focusing particularly on unskilled and semi-skilled roles.

- **Operation Phase:** The Project will target 20–25% local employment for long-term roles, especially in technical and administrative positions, which will be supported through customized training programs.

3 Summary of Impacts & Mitigation Measures

3.1 Overview of Environmental, Economic and Social Impacts

The project is expected to have a number of environmental, economic, and social benefits.

As a clean energy source, electricity generation from wind power produces no direct emissions during operation. In addition, the Project is expected to displace more than 350,000 metric tons of CO_2 annually.

Economically, the project will support the growing demand for green energy, namely, for the electrolyzer used in green hydrogen production which aligns with the national low-carbon hydrogen strategy, and that aims to diversify energy sources and transition toward a low-carbon economy.

From a social perspective, the project will create both temporary jobs during construction and long-term employment opportunities during operation, benefiting both skilled and unskilled workers. Additionally, local businesses may gain from procurement opportunities in subcontracting, equipment supply, and services.

3.2 Landscape and Visual

During the construction phase, temporary landscape alterations will occur due to land clearing, excavation, and grading, with visible construction equipment such as excavators, trucks, and loaders. These activities will be increasingly visible from the main road and may cause temporary visual disturbances for Wadi Dara Village, located approximately 1 km away. However, these impacts will be short-term and limited to the construction phase. To mitigate these effects, proper housekeeping practices will be followed, including the proper storage, collection, and disposal of waste streams.

Upon completion of the construction, the site will be restored by reshaping the land and removing temporary structures like the batching plant. Regular inspections will ensure these efforts are carried out effectively.

Once the wind farm is operational, the main visual change will be the presence of turbines in the landscape. However, this impact is considered minimal since other wind farms and transmission lines are already present in the area. Wadi Dara, the only potential sensitive receptor, has low aesthetic value due to its transient workforce and small permanent population. While the turbines may draw attention

from drivers on the Hurghada-Cairo Highway and Wadi Dara Road, potentially causing distractions, this can be mitigated by installing clear and informative signage. These signs will alert drivers to the presence of the wind farm and provide guidance on safe driving practices. Regular inspections should be conducted along the highway to ensure proper installation of the signs and that they remain visible and in good condition.

3.3 Land Use

The project will have no impact on formal land use as it does not conflict with governmental planning, and the site remains uninhabited and vacant, eliminating any risk of physical or economic displacement. While the land is owned by NREA, it falls under the Bedouin Ghafra system[2], necessitating the Developer's adherence to cultural sensitivity to prevent potential conflicts. Mismanagement of Bedouin land use customs could lead to disputes, making proactive engagement essential.

To mitigate these risks, the Developer will coordinate with Bedouin groups to ensure their inclusion in employment and procurement opportunities as part of the project's procedures. Monitoring efforts will focus on the effectiveness of the grievance mechanism, ensuring it remains accessible, transparent, and responsive to Bedouin concerns. Additionally, the Developer will submit employment and procurement procedures that reference Bedouin inclusion.

3.4 Waste Management

Various types of waste are generated during both the construction and operation phases, requiring proper management to minimize impacts. These include solid waste, wastewater, hazardous waste and hazardous material spills/leaks.

Solid waste generated will include construction debris during the construction phase and municipal waste (e.g., cardboard, plastic, and food waste) during both construction and operation. Waste management will adhere to the waste hierarchy, prioritizing recycling and reuse over disposal.

Waste will be sorted into labeled containers, with records maintained to prevent illegal dumping. Where possible, waste will be reused, while non-recyclable waste will be collected and disposed of at the Ras Gharib Public Dumpsite. The Ras Gharib City Council will oversee waste collection, ensuring proper management.

A Waste Management Plan will be developed to enforce these measures, including worker training on proper waste handling. Daily site inspections will be conducted to maintain cleanliness.

[2] Bedouin Ghafra System consist of Bedouin tribes that implement a type of informal and unofficial claim to the Project area known as "Ghafra System" (common practice in the region). Such Bedouin groups do not reside within the Project area but are settled in the Ras Ghareb, Wadi Dara and other settlements within Red Sea Governorate. Such tribes would be helpful in providing security and protection and could also have a vested interest in employment and procurement opportunities (such as security guards, provision of raw materials, provision of food supplies and water to the workers, etc.).

Wastewater collection and disposal will be managed by a private contractor, through Ras Gharib Water Company. Records will be maintained to track wastewater volumes and disposal activities and ensure avoidance of illegal dumping.

Hazardous waste such as consumed oil, chemicals, and paint cans will be generated during both construction and operation. These materials will be collected, stored onsite, and disposed of at approved hazardous waste facilities under the Hazardous Waste Management Project, supervised by the governorate and EEAA. A private contractor will handle hazardous waste disposal at approved facilities. Hazardous waste will be securely stored in enclosed areas with proper signage, containers, and labeling. Storage areas will be equipped with spill kits, fire extinguishers, and anti-spillage trays, and a hazardous waste inventory will be maintained. Illegal disposal is strictly prohibited, and contaminated water must be properly collected and disposed of. Waste containers will be emptied regularly to prevent overflow, and detailed records will track hazardous waste volumes and disposal activities.

The Construction and operation phases will involve the use of hazardous materials such as oil, chemicals, and fuel, which pose a risk of leakage from storage areas, equipment, and machinery if not properly managed. To mitigate such risks, hazardous materials will be stored in secure, impermeable, flame-proof areas, accessible only to authorized personnel. A hazardous materials register with MSDS[3] will be maintained, and spills will be tracked. Drip pans will be used under machinery prone to leaks, and regular maintenance will be conducted to prevent spills. Refuelling will take place on hard surfaces with spill containment, and storage facilities will maintain at least 1,000 liters of spill absorbent. Any spills will be immediately contained and cleaned, with contaminated soil disposed of as hazardous waste.

3.5 Soil, Groundwater, Erosion and Runoff Management

Construction activities, including land clearing, excavation, grading, and handling of topsoil, may increase the risk of soil compaction, erosion, and runoff.

Additionally, the use of hydrocarbons, lubricants, and chemicals in construction and future operations could lead to contamination of soil and groundwater, particularly from spills and leaks from machinery, wind turbine nacelles, and substations.

To minimize the risks, excavation work will be avoided during severe weather conditions, and erosion control barriers will be installed around work sites. Stockpiling areas will be clearly marked, restricting movement to limit soil disturbance. All disturbed surfaces will be restored to their original or improved condition upon project completion.

[3] MSDS- Material Safety Data Sheet which provides detailed information about hazardous material, including its properties, health and safety hazards, safe handling and storage procedures, and emergency control measures.

To prevent contamination as a result of spills and leaks, specialized storage areas will be designated for waste, preventive maintenance of vehicles and machinery, and the use of metal trays to collect spills from equipment during both the construction and operational phases.

3.6 Biodiversity

The project may lead to a variety of ecological impacts, including habitat disturbance, species displacement, and risks related to vehicle movement, lighting, waste, and noise. To address these impacts, the project will apply mitigation measures, ensure regular monitoring, and prioritize habitat restoration where possible. These are described below.

Habitat Loss, Fragmentation and Degradation

The project will result in temporary and permanent habitat loss due to site preparation for infrastructure such as turbine bases, access roads, substations, and worker facilities. While the affected natural habitats are of medium sensitivity, they are not classified as Priority Habitats, and habitat loss is limited to 1.5% of the project area. The Spiny-Tailed Lizard (Vulnerable) requires specific mitigation, but all other recorded species are IUCN Least Concern, and their conservation status will not be impacted as habitat connectivity will be maintained.

To mitigate these effects, 1.15 km^2 of habitat will be restored through native planting, ensuring no net habitat loss. Site workers will receive biodiversity training, and construction areas will be clearly marked to prevent unnecessary disturbance. Habitat rehabilitation will be carried out in temporarily disturbed areas, and biodiversity monitoring will ensure the success of replanting efforts. Given the limited scale and localized nature of habitat loss, the overall impact is assessed as minor but irreversible.

Direct Impacts of Introducing Non-native Species and Flora

The introduction of non-native or invasive flora through vehicles or imported soil poses a moderate to significant risk as these species could establish and outcompete native flora, leading to long-term, potentially irreversible ecological impacts.

A botanical walkover survey will be conducted before construction to identify and remove non-native species. Affected soil will be stored separately and disposed of to prevent the spread of invasive species. Mapping and mechanical control measures will be implemented throughout the construction period, with chemical treatments used only when necessary and in compliance with national and international guidelines. Soil for the project will be sourced locally to avoid the introduction of invasive species. Additionally, wheel-washing facilities will be installed at site entrances to prevent contamination, and regular site surveys by a botanist will ensure ongoing monitoring and control.

To prevent the establishment of non-native or invasive plant species post-construction and during the operational phase, monitoring will be conducted across the AoI, with mechanical removal

programs implemented during the operation phase. Chemical control will be avoided, except when necessary, following national and international guidelines.

Direct Impacts of Site Clearance and Earthworks on Vertebrates

Construction activities pose risks to sensitive ecological receptors, particularly the Egyptian Spiny-Tailed Lizard (Vulnerable, IUCN), due to habitat loss and potential mortality.

To mitigate these impacts, pre-construction surveys will identify breeding birds and lizard burrows, with exclusion zones established where feasible. If avoidance is not possible, a translocation program will relocate lizards to suitable habitats within 10 km using soft-release methods to improve survival. Site workers will receive biodiversity training, and construction areas will be clearly marked to prevent disturbance. A monitoring report will track relocation efforts, species survival, and any mortalities, ensuring minimal ecological impact.

Direct Impacts of Vehicle Collisions on Vertebrates

Vehicle collisions during both the construction and operational phases pose risks to vertebrate species. The Egyptian Spiny-Tailed Lizard is particularly vulnerable due to its daytime activity, and carcasses on roads could attract scavengers, increasing the risk for birds of prey. Speed limits will be enforced, with clear signage on site access and internal roads. A gated entrance will control access, informing drivers of speed restrictions, and night driving will be banned unless necessary, with speeds reduced to 15 km/h. Off-road driving will be strictly prohibited, and regular road inspections will ensure the removal of carcasses to reduce scavenger collisions. An incident reporting system will be implemented so that all vehicle-related collisions are documented and investigated.

Direct Impacts of Poaching and Collection on Habitats and Vertebrates

There is a potential risk of site workers poaching or collecting plants and animals, particularly for firewood, food, trade, or trophies. Species like the Spiny-Tailed Lizard and Red Fox could be affected. Strict controls on hunting, poaching, and disturbance will be enforced, with disciplinary actions for violations. These rules will be included in worker inductions, emphasizing consequences for non-compliance. A chance find procedure will be in place to safely relocate animals found on-site, with the EPC Ecologist overseeing responses, particularly for nuisance species like scavengers, small mammals, snakes, or scorpions.

Direct and Indirect Impacts of Machine Disturbance on Vertebrates

The presence of site workers and machinery may cause temporary disturbance to terrestrial ecological receptors within the AoI. The duration and impact will vary, from short-term disruptions (e.g., animals fleeing from vehicles) to medium-term effects in areas near construction zones or worker accommodations. Previously identified feeding locations at dumping areas are no longer in use due to local government intervention, but monitoring will continue to prevent illegal dumping.

To mitigate disturbance impacts, all workers will receive site-wide induction training on minimizing disturbance to wildlife, a chance find procedure will be implemented to report and assess sightings of sensitive species.

Direct and Indirect Impacts of Air Quality and Noise on Vertebrates

Construction activities, including ground disturbance and vehicle emissions, may lead to increased dust levels, negatively impacting plants and vertebrate species. Additionally, air pollution from site vehicles and the concrete batching plant could further affect sensitive ecological receptors. Similarly, construction noise may cause acoustic masking, disturbance, and displacement, potentially affecting survivorship and reproductive success of vertebrates. The mitigation measures are the same as described in Section 3.10 below.

Direct and Indirect Impacts of Littering, Waste Management and Pest Species on Vertebrates

Poor waste management could lead to litter accumulation within the Project AoI, including plastic containers, bags, and glass, posing risks to sensitive receptors through ingestion or entanglement. Additionally, improper handling of food waste may attract pest species such as rats and mice, which could outcompete native rodents, while feral cats and dogs may increase predation pressure on wild prey species.

The project will adhere to all waste management measures outlined. Additional pest control measures will be implemented to prevent the attraction and proliferation of invasive species, ensuring minimal disruption to the local ecosystem. If pests are identified, live traps will be used to minimize by-catch.

Direct Lighting Impacts on Vertebrates

Lighting impacts will be limited as site-wide lighting is not planned, and night-time work is not expected.

Where lighting is required, shielded, low-intensity lights will be used to reduce light spill and glare. Motion-sensor (PIR) security lights will automatically switch off after five minutes to minimize unnecessary illumination. Turbines will not be lit, and aviation lights will be shielded to prevent attracting night-flying insects and bats. Lighting above turbine doors will also be PIR-controlled to further reduce ecological disturbance.

3.7 Birds

Direct Site Clearance and Earthworks Impacts on Breeding Birds

Construction activities, including land clearing, excavation, and grading, may disturb breeding and foraging birds, including resident and migratory species. However, since the disturbance footprint is minimal, and the project site has low ecological significance, foraging areas are unlikely to be

significantly affected. The main concern is short-term disruption to breeding birds during construction.

To minimize impacts, construction activities will be restricted to designated areas, with off-road movement prohibited to reduce disturbance. Hunting of birds by workers will be strictly banned, and proper waste management will be implemented to prevent attracting birds to the site. Additionally, noise control measures will be enforced, and a protocol will be established for reporting and disposing of dead or injured wildlife. The EPC Contractor will submit a construction schedule demonstrating efforts to avoid key breeding periods. A dead animal handling protocol will also be implemented to ensure proper documentation and response to wildlife incidents.

Direct Turbine Collisions Impacts on Birds

Baseline assessments indicate that the project site lies along a major migration route and supports high numbers of migratory soaring birds (MSBs), including internationally and nationally significant species. Given this, the receiving environment is classified as highly sensitive for avifauna. The Collision Risk Model (CRM) assessment suggests that collision risk is significantly lower in autumn than in spring. While most species have low or zero predicted collision rates, seven species (including Steppe Buzzard, European Honey-buzzard, and Steppe Eagle) have higher CRM estimates. The White Stork and Great White Pelican are at the greatest risk of impact, particularly during spring migration. Additionally, four globally threatened MSBs (Steppe Eagle, Egyptian Vulture, Eastern Imperial Eagle, Greater Spotted Eagle) and one near-threatened species (Pallid Harrier) were recorded in the area, all with predicted collision rates above zero, with Steppe Eagle having the highest risk.

Since the project is located near several other wind farms, assessing the cumulative impact through a barrier effect study on migratory routes in the Gulf of Suez (GoS) region is crucial. This will evaluate whether wind farms act as disruptive barriers to bird migration and recommend additional mitigation measures, such as spacing or buffer requirements between wind farms. A Good International Industry Practice (GIIP) shutdown-on-demand (SOD) and bird monitoring protocol will be implemented, informed by baseline data and similar wind projects in GoS. Daily monitoring will be conducted during the spring (20 February – 15 May) and autumn (10 August – 15 November) migration seasons, with the primary objective of collision avoidance and a secondary focus on migration behavior monitoring. The SOD program involves predictive fixed shutdowns or reactive short-term shutdowns of specific WTGs identified as high-risk for birds. Monitoring will be conducted using Visual Observers (VOs) and potentially Radar Systems (RSs). A detailed implementation plan will outline key species, monitoring periods, vantage points, observation schedules, data collection, shutdown criteria, and communication protocols to optimize both biodiversity protection and energy generation. A GIIP-compliant post-construction fatality monitoring (PCFM) program will be implemented to assess the effectiveness of mitigation measures, including bias correction trials. Bird carcass searches will be conducted, and data will be analyzed every six months to estimate fatality rates. Additionally, an annual

comparative assessment will be conducted, comparing PCFM findings with pre-construction Collision Risk Model (CRM) estimates to evaluate actual impacts and inform further mitigation.

Direct Impacts on Birds – Vehicle Collisions

Resident bird species within the Project AoI face collision risks with vehicles, leading to direct mortality of species with varying sensitivity levels. Carcasses left on roads may attract scavenging animals, including birds of prey, increasing their risk of secondary collisions with vehicles and machinery.

To reduce risks, speed limits will be enforced, with clear signage and regular speed checks at a staffed gated entrance. Night driving will be prohibited, except, when necessary, with speeds limited to 15 km/h. Off-road driving will be banned, and the Project Ecologist will conduct assessments if needed. Regular road inspections will ensure carcass removal to prevent scavengers from gathering. A chance find procedure under the Biodiversity Management Plan (BMP) will require all road collisions to be reported and investigated to improve mitigation strategies.

3.8 Bats

The construction and operation of the wind project may affect local bird populations through activities such as site clearance, turbine operation, and vehicle movement. These activities could lead to temporary disturbance, habitat disruption, or potential collisions. To address these risks, the project will implement practical measures to minimize disturbance during key periods, manage waste to avoid attracting birds to the site, and apply safety protocols such as controlled driving and turbine shutdowns when necessary.

Habitat Loss, Fragmentation and Degradation

Construction activities will lead to habitat loss and degradation across the project footprint, affecting foraging areas for bats due to reduced availability of invertebrate prey. However, since the affected natural habitats are of medium sensitivity and not classified as Priority Habitats, and only 1.5% of the project area will be impacted, the overall effect on bat conservation is expected to be minimal. Habitat connectivity will be maintained, preventing barriers to movement.

To offset these impacts, 1.15 km² of habitat will be enhanced using native planting, ensuring no net loss of foraging habitat. Additional mitigation measures include project induction training for workers on biodiversity sensitivity, clearly marking construction areas to prevent unnecessary disturbance, and habitat rehabilitation after phased construction.

Direct Noise Impacts

Noise as a result of construction can result in direct impacts on bats due to acoustic masking, disturbance and displacement thereby reducing survivorship and reproductive success.

As a mitigation, EPC Contractors should adhere to the noise management measures as previously indicated.

Direct Lighting Impacts

Lighting could impact foraging and commuting routes for bats. To minimize lighting impacts, night-time work will be limited, especially in the wider AoI. Where lighting is necessary, shielded, low-intensity lights will be used to reduce light spill and glare. Motion-activated (PIR) security lights will be installed and set to automatically switch off after five minutes to prevent unnecessary illumination.

During operation, turbines will not be lit, and aviation lights will be shielded to reduce attraction to night-flying insects, which could in turn attract bats. Additionally, lighting above turbine doors will be PIR-controlled and timed, ensuring minimal disruption to bat activity.

Collisions with Turbines

The primary operational risk to bats is collisions with turbine rotors, particularly for species known to be vulnerable to wind turbine strikes. Studies indicate that turbines can affect both local and migratory bat populations. However, operational monitoring from a nearby wind farm (2019–2023) recorded only two bat carcasses, suggesting a low risk of impact. The arid nature of the site, low vegetation cover, and minimal nocturnal insect activity further indicate that the area is not a significant feeding ground for bats, supporting the conclusion that the project site has low bat activity. To verify these findings, post-construction carcass search surveys will be conducted following international best practices. If monitoring identifies unexpected bat fatalities, additional mitigation measures will be implemented as necessary. Adaptive management will ensure that any required actions are based on monitoring results.

3.9 Archaeology and Cultural Heritage

During the construction phase, site preparation activities such as land clearing, excavation, and grading may pose a risk of disturbing archaeological remains if any are present. However, a baseline assessment has confirmed that no known archaeological sites exist within the project area, making direct impacts unlikely. To mitigate any unforeseen discoveries, the Supreme Council of Antiquities (SCA) will be notified before excavation to determine if observers are required. A so-called Chance Find Procedure must be in place, ensuring that if any archaeological remains are uncovered, work is immediately halted, the area is fenced off with appropriate signage, and the Ministry of Tourism and Antiquities/Red Sea and Suez Antiquities Inspection Office is notified without delay. Monitoring requirements include the submission of a formal letter of communication with the SCA and proper documentation of any chance finds, including fencing, access restrictions, and prompt reporting to the relevant authorities. A detailed report will be prepared and submitted to the Ministry outlining the actions taken in response to new discoveries.

3.10 Air Quality and Noise

During the construction phase, dust and particulate emissions from land clearing, excavation, and grading may temporarily impact ambient air quality, while vehicle and equipment emissions (SO_2, NO_2, etc.) are expected to have minimal effects.

Noise and vibration from construction machinery, including generators, compressors, and hammers, may cause nuisance or health impacts for workers and nearby petroleum activities, though no major receptors are affected, with Wadi Dara Village being the closest settlement. To mitigate these impacts, excessive dust and pollutant emissions must be identified and controlled, worker safety must be ensured through compliance with OSHA and Egyptian Codes, and PPE. Dust suppression measures should be implemented, and regular maintenance of vehicles, machinery, and equipment must be conducted to minimize emissions and noise. Additionally, noise should be mitigated using well-maintained mufflers and scheduled maintenance. Monitoring requirements include quarterly dust and noise assessments at key construction areas, measuring TSP, PM10, PM2.5, and noise levels, as well as periodic inspections of nearby sites, particularly petroleum facilities, to assess any potential impacts.

The main foreseen noise impacts during the operation phase are that related to the noise generated from the operating wind turbines and its potential impact on the health and safety of the nearby surrounding receptors. However, based on the results of the detailed noise assessment study no specific mitigation or curtailment for noise is required for the Project as the impact is expected to be minimal. Nevertheless, the following recommendations are made:

- Grievance mechanism will be established to follow up any noise related grievance.
- In case of grievance, 48 hours continuous noise measurements will be conducted immediately on the area where grievance is received. Based on the outcomes and results, appropriate management and mitigations measures should be determined and agreed with the griever.
- Noise monitoring campaigns will be conducted annually on the first 2 years of operation phase. In the case results indicate that levels are within allowable limits and no grievances are received, no further requirements are needed.

3.11 Infrastructure and Utilities

Windfarms can result in a number of interferences to infrastructure and utilities during both the construction and operational phases of the project.

Potential Impacts of Project-related Increase in Traffic & Transportation on Public Safety

The project may lead to an increase in traffic, particularly involving the transport of heavy and oversized equipment, which could pose safety risks at public hotspots such as schools, hospitals, mosques, churches, and pedestrian crossings.

To mitigate these impacts, the project will identify sensitive locations along transport routes, conduct traffic safety awareness campaigns where necessary, and install appropriate traffic safety signage to enhance public safety.

Potential Traffic Impacts on Utilities and Infrastructure Integrity

During the construction phase, heavy-load transport may pose risks to roads, bridges, and utility lines if not properly managed.

To mitigate these impacts, a Traffic and Transport Plan should be developed. Coordination with relevant authorities is essential to efficiently plan truck trips, minimize congestion, and address any specific transportation requirements.

Potential Impacts on Civil and Military Aviation

Wind turbines may pose potential interference with aviation safety, affecting radar and aircraft detection systems. Additionally, inadequate setback distances, lighting, and blade markings could create navigation risks.

To mitigate these issues, the Developer must coordinate with NREA during the planning phase to ensure that the necessary clearance has been granted by the Ministry of Defense for the project area.

Potential Impacts on Water Resources

Water demand for construction and operation is minimal and will not strain local resources. Since there are no existing water connections, supply will rely on tankers from Ras Gharib, requiring coordination with Ras Gharib Water Company.

Potential Impacts on Waste Utilities

Water and wastewater generated by the project activities during both construction and operation may place strain the waste utilities. While wastewater will be disposed in the nearest WWTP, both construction and operational wastewater will be minimal. Solid waste (construction debris and municipal waste) will be disposed of at Ras Gharib dumpsite and is not expected to be significant. Hazardous waste (spent oil, lubricants, solvents) will be managed at an authorized facility and is minimal. Given the low waste quantities generated during both phases, the impact on existing infrastructure is expected to be insignificant.

Potential Impacts on Telecommunication and Television & Radio Links

The project may pose risks to underground communication cables during construction and could disrupt Line of Sight (LoS) connections between telecommunication towers during operation.

To mitigate these risks, coordination with NREA and the National Telecommunication Regulatory Commission (NTRC) is required to incorporate any necessary setback distances into the project design.

Potential Impacts on Nearby Wind Farms

The Gulf of Suez (GoS) area hosts multiple operational and planned wind farms, including JICA, KfW, Spain, and ACWA projects. Improper planning, such as inadequate turbine siting and buffer distances, could impact the operation and efficiency of nearby wind farms.

To mitigate this, further coordination with NREA is necessary to confirm that the buffer distance between the project and other wind farms is technically appropriate.

Potential Impacts on Electricity Lines during the Planning and Construction Phase

A high-voltage Overhead Transmission Line (OHTL) owned by EETC runs through the northeast section of the Project area. Improper planning and turbine placement could interfere with or impact the existing transmission infrastructure.

A setback distance from the OHTL should be accounted for in coordination with EETC.

3.12 Occupational Health and Safety

Wind farm development presents Occupational Health and Safety (OHS) risks, including slips and falls, working at heights, moving machinery, confined spaces, electrical hazards, and exposure to hazardous materials. Additional risks include extreme temperatures, tool use, struck-by incidents, and proximity to petroleum operations.

To mitigate these risks, the EPC Contractor and Project Operator must develop and implement an Occupational Health and Safety Plan (OHSP) for both the construction and operation phases. Additionally, an Emergency Preparedness and Response Plan should be in place to handle potential incidents effectively.

3.13 Labor and Working Conditions

Inappropriate management of the workforce could entail several worker rights and general working conditions risks and violations. This could include but not limited to engaging child workers, confiscation of passports of foreign workers, unsuitable working hours, unsuitable workers accommodation and others.

To mitigate these risks, the project must ensure fair working conditions, covering contracts, wages, working hours, and leave policies, while upholding labor rights by allowing workers to form unions and bargain collectively. Strict prohibitions on child and forced labor must be enforced, with proper management of young and migrant workers. Regarding workers accommodation, it must conform to the national requirements. In addition, it should also confirm to international best practice

requirements, mainly the "Workers' accommodation: process and standards" (EBRD/IFC Guidance Note, 2009). Any off-site accommodation rented to accommodate non-local workers must be inspected in line with national requirements and lender standards. A Worker Grievance Mechanism must also be established to address any concerns of the workers.

3.14 Public Health and Safety

The construction and operation of the wind project may introduce certain public health and safety concerns. These include increased activity from incoming workers, potential noise and shadow flicker from turbines, and safety risks related to site access and security practices. While studies show that many of these impacts are minimal or within acceptable limits, appropriate mitigation measures and plans will be implemented to ensure the well-being of local communities and site workers.

A Grievance Mechanism as described in Section 5.3.2 will be established to address any possible public health and safety impacts as described below.

Potential Impacts of Project-related Increase in Traffic & Transportation on Public Safety

Impacts related to the increase in traffic and transportation are described under Section 3.11.

Potential Impacts from Worker Influx during Construction

The influx of workforce to the area could result in certain community health, safety and security impacts such as transmission of diseases, inappropriate code of conduct and an increase in social vices. As a result, a Worker Influx Plan should be developed.

Potential Noise Impacts from Wind Turbines

Wind turbines produce noise from mechanical sources (gearbox, generator) and aerodynamic sources (blade movement). However, preliminary modeling indicates no significant noise impacts, meaning no mitigation or curtailment is required.

To verify actual noise levels once the wind farm is operational, post-construction noise monitoring is recommended. Additionally, it is recommended that a long-term noise monitoring program is implemented during the commissioning phase, ensuring proper planning of equipment, measurement locations, and monitoring periods to confirm compliance with noise regulations.

Potential Shadow Flicker Impacts from Wind Turbines

Shadow flicker occurs when rotating turbine blades cast moving shadows, creating a flickering effect under specific conditions, including sun position, wind speed, direction, and cloud cover. This effect can be a nuisance indoors, especially when unobstructed sunlight passes through windows. The village of Wadi Dara is the only identified sensitive receptor near the wind farm that may be affected by shadow flicker.

Shadow flicker was assessed under worst-case conditions, where all turbines are operational, and the rotor position aligns with the sun and sensitive receptors. The assessment compared shadow flicker exposure at residential properties against project standards, which limit exposure to 30 hours per year and 30 minutes per day. The results showed that no sensitive receptors, including the village of Wadi Dara, exceed these limits. Although the impact is long-term and of negative nature, it is considered low in magnitude and of medium sensitivity due to the potential for nuisance. It was concluded that no mitigation, monitoring, or curtailment measures are required.

Potential Impacts from Trespassing of Unauthorized Personnel

Unauthorized public access to project components may pose safety risks such as climbing turbines or transmission towers, electric shocks, thermal burns, and exposure to hazardous materials. As a result, a Security Risk Assessment should be developed for the Wind Farm Project.

Potential Impacts from Security Personnel

Inappropriate management of security issues and incidents by security personnel towards local communities could result in resentment, distrust and escalation of events. As a result, a Security Management Plan should be developed.

Potential Impacts from Blade and Tower Glint of Wind Turbines

Blade or tower glint occurs when the sun strikes a rotor blade or the tower at a particular orientation. This can impact a community, as the reflection of sunlight off the rotor blade may be angled toward nearby residences. Consideration should be given to the use of non-reflective finishes to minimize potential impacts.

3.15 Socio-economics

The project is expected to generate 400 jobs during construction (24 months) and 25 long-term jobs during operation (25 years), benefiting both skilled and unskilled workers. Additionally, local businesses may gain from procurement opportunities in subcontracting, equipment supply, and services. While contractors and operators are not yet selected, the Developer is committed to prioritizing local employment and procurement, which could indirectly boost local businesses and services.

To enhance these benefits, the EPC Contractor should establish Local Recruitment and Procurement Procedures ensuring fair and transparent hiring and subcontracting while coordinating with other wind farm developers. A Social Responsibility Program should also be developed based on community needs assessments to fund and support local development projects. These measures will maximize socio-economic benefits and foster sustainable community growth.

3.16 Cumulative Impacts

The project can potentially result in cumulative impacts from the combined impacts of existing and planned wind farm developments within the Gulf of Suez (GoS) region.

The wind farms present in the surrounding area of the proposed Project location have the potential to increase the cumulative noise level at the identified sensitive receptors. Noise was modelled and contour maps for the worst-case noise scenario have been generated for cumulative assessments. Based on the results of the noise study no mitigation for noise is required for the Project.

Cumulative shadow flicker impacts from the proposed Wind Farm layout and the nearby SWE Wind Farm were assessed to determine any combined effects on identified sensitive receptors. Cumulative shadow flicker refers to the total exposure resulting from the operation of multiple wind turbines across different wind farms, which may collectively increase flicker at certain locations. The assessment examined whether shadow flicker from turbines at both sites could overlap and intensify exposure at any of the sensitive receptors. The results confirmed that there is no overlap in shadow flicker impact between the two wind farms at any of the identified locations. Therefore, no further action is required regarding cumulative shadow flicker impacts.

4 Environmental and Social Management System (ESMS)

To ensure the project is developed in an environmentally and socially responsible way, a dedicated Environmental and Social Management System (ESMS) will be implemented. This system outlines how environmental, health, safety, and social (EHSS) aspects will be managed during both construction and operation. The ESIA provides a high-level overview of how the ESMS will function.

A main component of the ESMS is an Environmental, Health, Safety and Social (EHSS) Manual, developed as a separate document. The manual sets out the full structure of the ESMS and includes key policies, legal frameworks, roles and responsibilities, training needs, inspection protocols, and reporting procedures.

One of the main tools within the ESMS is the Environmental and Social Management Plan (ESMP). This plan includes specific measures to address potential impacts of the project and will be developed by the EPC Contractor and Project Operator, based on the framework provided by the Developer and the ESIA. The ESMP is a set of typical ESMPs with the purpose of addressing in detail the management of all relevant EHSS risks and impacts. The ESMP will consist of the following documents:

- Stakeholder Engagement Plan (SEP);
- Active Turbine Management Plan (ATMP)
- Biodiversity Management Plan (BMP) / Biodiversity Action Plan (BAP)
- Water Management Plan
- Waste Management Plan
- Air Quality and Noise Management Plan
- Traffic and Transport Management Plan
- Worker Influx and Accommodation Plan
- Emergency Preparedness and Response Plan
- Security Management Plan
- Soil Management Plan
- Wastewater Management Plan
- Procurement and Supply Chain Management Plan
- Labor Management Plan

Occupational Health and Safety Plan The ESMS will establish clear roles and lines of communication between different parties, including the Developer, contractors, and other institutions. Key staff, such as an EHS Manager, HR Manager, Community Liaison Officer, and others will oversee implementation, ensure compliance with standards, and maintain regular communication.

To support the ESMS, all staff will receive training on EHS topics, regular inspections and audits will be conducted, and meetings will be held to monitor performance. All these efforts will help ensure that the project meets national regulations and international standards while protecting the environment and surrounding communities.

5 Stakeholder Engagement and Public Consultations

5.1 Stakeholder Consultations

The main outcomes of the stakeholder consultations undertaken are presented below.

- The project site is located within key bird migration routes, requiring thorough impact assessment.
- The Red Sea Governorate conducts environmental campaigns to monitor and prevent environmental violations.
- There is a need for a cumulative impact assessment of wind energy projects in the Gulf of Suez.
- Continuous consultations with EETC during both the ESIA and operational phases.
- No recorded archaeological sites near the project.
- Wind farms with tip heights above 100m in Gebel El Zeit and 120m in the Gulf of Suez are not currently accepted.
- Approval for taller turbines requires a cumulative study of wind energy impacts in the region.
- There should be local hiring with minimal reliance on non-local labor.
- Contractors must comply with environmental regulations, especially waste disposal.
- Job recruitment should be managed through the City Council or Labor Office for transparency.
- The project should avoid reliance on local water and electricity resources, which are scarce.
- No conflict between the project site and existing water/sanitation facilities.
- Water and wastewater services should be provided by licensed contractors due to logistical challenges.
- Communities feel limited direct economic benefits from wind energy projects.
- Developers are not perceived as hiring local contractors and suppliers despite their availability.
- More job opportunities for local youth and women should be provided.
- Village faces electricity and water shortages, relying on diesel generators and water trucks.
- The project site falls under the Ghafra system of the Ma'aza tribe, particularly the Hammadin family

5.2 Public Disclosure Sessions

A public disclosure session was undertaken on 16.02.2025 with the following key topics addressed:

- **Employment Opportunities & Training**: local stakeholders emphasized the need for training programs and skill development for youth and engineers.
- **Electricity Facilities for Wadi Dara**: Residents raised concerns about insufficient electricity supply affecting farms and poultry businesses.
- **Environmental Concerns**: Attendees highlighted potential negative impacts on land use, natural resource loss, and habitat fragmentation.

- **Biodiversity Protection:** Clarifications were made with regards to the habitat protection plan is in place to minimize impacts on wildlife, including the Egyptian Spiny-Tailed Lizard.
- **Waste Management During Decommissioning:** Attendees inquired about potential environmental impacts from project decommissioning.

5.3 Project Stakeholder Engagement Plan (SEP) and Grievance Mechanism

5.3.1 Stakeholder Engagement Plan

Stakeholder Engagement is an on-going process that involves: stakeholder analysis & planning, disclosure & dissemination of information, consultation & participation, grievance mechanism, and on-going reporting to Affected Communities. A Stakeholder Engagement Plan (SEP) has been developed and implemented that is scaled to the Project risks and impacts and development stage, and be tailored to the characteristics and interests of the Affected Communities and key stakeholders.

The SEP for the Project describes the planned stakeholder consultation activities and engagement process and includes the following:

- Define the Project's approach to ongoing and future stakeholder engagement;
- Identify stakeholders within the area influenced by the Project;
- Profile identified stakeholders to understand their priorities;
- Propose an action plan for future engagement with identified stakeholders; and
- Set out the grievance/project complaints mechanism.
- Understand the concerns, needs, and expectations of stakeholders;
- Facilitate communication between the Project and neighboring communities; and
- Ensure dissemination of information regarding Project progress, key milestones, and the management of Environmental and Social impacts.

The Developer is committed to implementing the requirements of the SEP throughout the lifetime of the Project. The SEP is provided as a standalone document.

5.3.2 Grievance Mechanism

The management of grievances is a vital component of stakeholder engagement and an important aspect of risk management for a project. Grievances can be an indication of growing stakeholder concerns (real and perceived) and can escalate if not identified and resolved. Identifying and responding to grievances supports the development of positive relationships between projects, communities, and other stakeholders. Monitoring of grievances will signal any recurrent issues, or escalating conflicts and disputes. Grievance mechanisms will be done one for external stakeholders and one for the Project's workforce as described below.

<u>External Stakeholders</u>

A Grievance Mechanism will be implemented to ensure that it is responsive to any concerns and complaints particularly from affected stakeholders and communities. The Developer will accept all comments and complaints associated with the Project and individuals who submit their comments or grievances have the right to request that their name be kept confidential. At all times, complainants are also able to seek legal remedies in accordance with the laws and regulations of Egypt.

The developer will register and monitor the way in which grievances are being handled and ensure they are properly addressed within deadlines specified within the mechanism presented below. The developer will also report regularly to the public on the grievance mechanism implementation, protecting the privacy of individuals.

The project will need to establish a "grievance database" to record grievances. Such a database will need to distinguish between genuine grievances on the one hand and requests for information and/or clarification due to misunderstanding on the other hand, through information that clarifies the subject of the complaint/inquiry.

All grievances should be documented to ensure verification of the process. A quarterly grievance monitoring report should be developed to track all submitted grievances. These quarterly reports must include an analysis of the aforementioned indicators. Additionally, key findings and analyses should be documented in the annual report.

The grievance documentation process begins at the stage of receiving grievances. The first step following receipt is verifying the grievances based on their subject matter: determining whether the grievance is related to project activities and whether it is a genuine issue or a malicious claim without basis. Once the grievance has been verified, the resolution process begins. The steps involved in addressing the complaint are outlined in the diagram below.

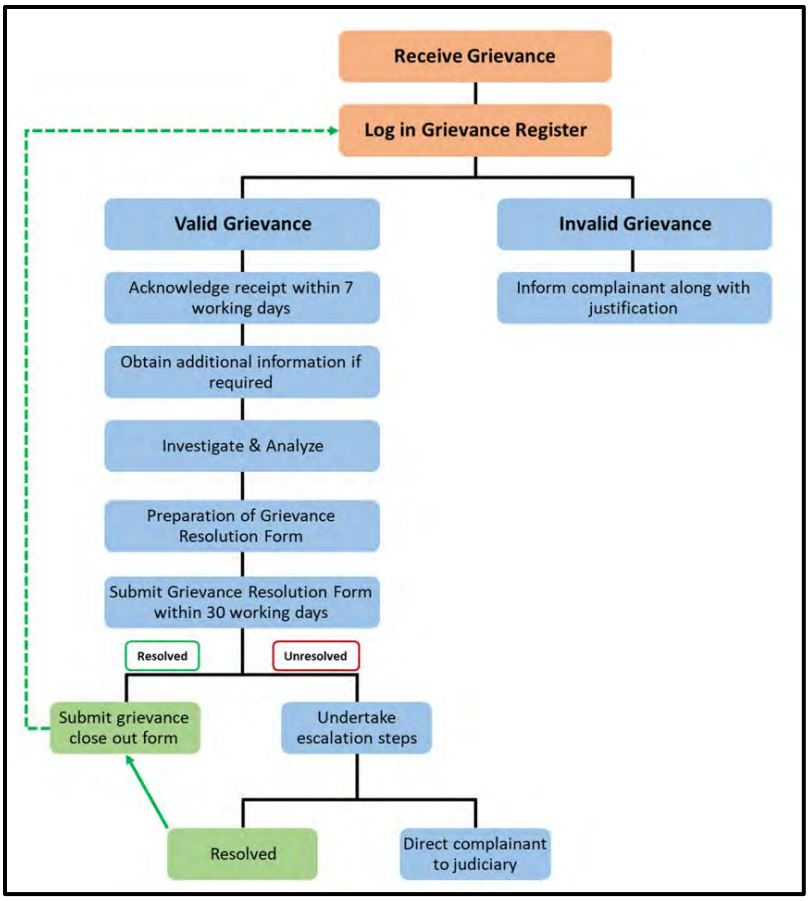

Figure 2: Stakeholder Grievance Process Diagram

If the complainant is dissatisfied with the resolution process, they have the right to escalate their complaint to a higher level by submitting it Direct Contact to the developer. Should there be no response or resolution, the complainant retains the right to seek legal recourse.

Project Workforce

The Project workforce includes all people working on the Project, including those of the EPC contractor and its sub-contractors, as well as casual workers/ day laborers. A Grievance Mechanism will be established that will set out the process for workers to communicate their grievances. The grievance mechanism will be available to workers of the developer, Contractors and subcontractors. A Code of Conduct will set out practice measures that the construction workers will have to adhere to, to ensure a positive relationship is built and maintained with the landowners and local communities.

6 Assessment for Associated Facilities

The OHTL is considered a key component for the Project as it will supply the electricity produced by the Wind Farm to the National Grid. Without the OHTL, the Wind Farm Project cannot be realized. The main component of the OHTL is the transmission towers which will transport the electricity from a substation located within the Project site to the High Voltage National Grid. The figure below shows the OHTL route as well as the project site, the existing OHTL and the project substation. The OHTL has a length of approximately l.5 km and connects to the existing HV network via a connection pylon.

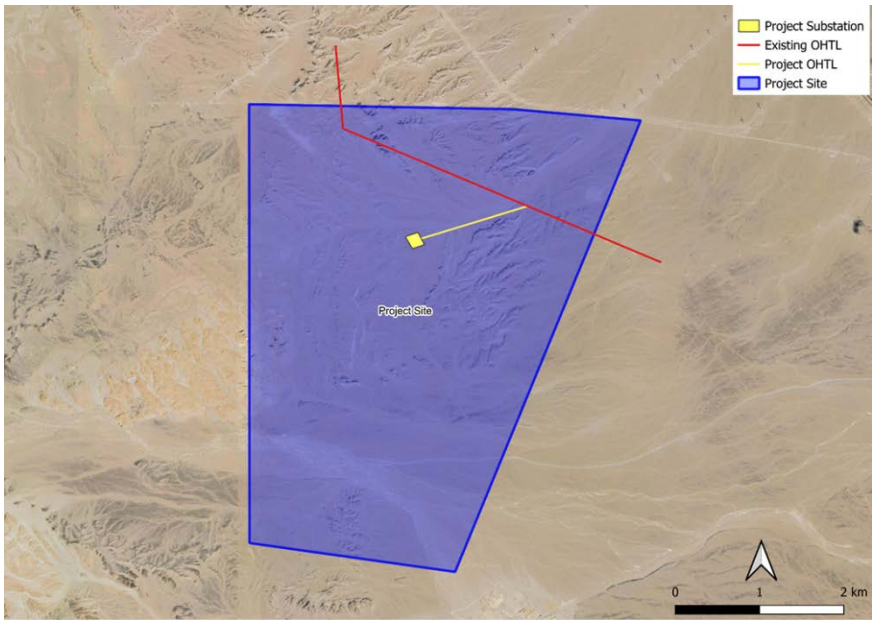

Figure 6-1: OHTL Route in relation to the Project Site and Substation

6.1 Environmental and Social Assessment of the OHTL

6.1.1 Landscape and Visual

The site visit confirmed that no significant visual receptors are present within the Project area and its 100m buffer zone. The surrounding landscape is predominantly barren and industrial, characterized by petroleum activities and wind farm developments, which reduce its aesthetic sensitivity. Visual impacts are mainly associated with the OHTL towers, including their color, height, and number, and their interaction with the surrounding landscape. However, these structures are not expected to result in a substantial alteration of the area's visual character. Furthermore, the presence of multiple existing transmission lines in the region reduces the relative impact of the proposed project.

6.1.2 Land Use

The OHTL route and its 100m buffer contain no physical structures, economic activities, or evidence of land use such as grazing, agriculture, petroleum operations, or Bedouin settlements. The entire

route is within vacant, unoccupied desert land under government ownership, allocated to NREA, eliminating the need for land acquisition or compensation. Since the site is uninhabited and lacks economic activities, no physical or economic displacement impacts are anticipated.

6.1.3 Biodiversity

The impacts during the construction phase of the OHTL are similar to those of the wind farm, including but not limited to habitat loss and fragmentation, introduction of non-native species, soil erosion, vehicle collisions, noise disturbance, and waste generation. These impacts and their mitigation measures are detailed in Section 3.6.

The main impacts during the operational phase are the direct and indirect OHTL collision impacts on birds. The 1.5 km route crosses a major bird flyway, including the Gebel El Zeit IBA and the East Africa Flyway, areas with high migratory bird activity. Birds move along a broad front across the Gulf of Suez, increasing the risk of collisions with powerlines.

Overhead powerlines are a known cause of mortality for migratory and soaring birds, leading to severe injuries or death from high-speed collisions. Electrocution risks are lower for high-voltage OHTLs but remain a concern. Additionally, the presence of multiple wind projects in the area may exacerbate cumulative impacts on bird populations.

Large soaring and fast-flying species are at risk of collision with OHTLs due to their size, flight behavior, and limited ability to detect and avoid obstacles. However, smaller, maneuverable species (e.g., falcons, harriers) actively avoid OHTLs, and larger soaring raptors (eagles, vultures) typically fly at higher altitudes, reducing their risk.

Existing bird survey data from nearby wind farms and OHTLs indicate that under normal conditions, the collision risk for most MSBs is low. However, poor weather conditions and the need to rest or roost may increase the likelihood of birds flying at lower altitudes, making them more susceptible to collisions.

Direct and Indirect Impacts on Birds as a result of Collision with OHTL

The OHTL towers are free-standing without support wires, minimizing potential bird collisions. A meta-analysis (Bernardion et al., 2019) found that wire-marking reduces bird collisions by 50.4%, though effectiveness varies based on location and species. To further mitigate risks, Bird Flight Diverters (BFDs) will be installed every 10 meters along the shield wire, using dynamic and illuminated models (e.g., FireFly diverters) to improve visibility, especially during low-light conditions.

Installation of BFDs will be completed within one week and recorded by the Project Ecologist, with inspections conducted every six months before migration seasons. Damaged BFDs will be replaced within two months, with adjustments made based on Post-Construction Fatality Monitoring (PCFM) outcomes, in consultation with lenders and stakeholders.

Operational monitoring will follow best international practices as outlined in the Post-Construction Bird and Bat Fatality Monitoring Handbook (EBRD, IFC, KfW 2023). Post-Construction Fatality Monitoring (PCFM) will be conducted along the entire OHTL, including carcass searches, searcher efficiency trials, and carcass persistence trials. The results will inform a GenEst Analysis, ensuring data-driven assessments of bird mortality. Monitoring will also extend to adjacent OHTLs, particularly in areas with high movement of at-risk species.

An adaptive management strategy will be implemented if higher-than-expected mortality is observed, especially for species of conservation concern. Additional mitigation may include retrofitting or replacing Bird Flight Diverters (BFDs), installing improved models, or expanding BFD coverage to unmarked sections. Drones may be used for BFD installation to avoid powerline disruptions. Any modifications will be coordinated with lenders and stakeholders.

The remaining impacts during the operation phase of the OHTL are similar to those of the wind farm, including but not limited to vehicle collisions, lighting, introduction of non-native species and pest species. These impacts and their mitigation measures are detailed in Section 3.6.

The following section describes cumulative impacts with regards to the OHTL and the surrounding projects.

Cumulative Impacts with the SWE wind farm

The cumulative impacts between the turbines and the OHTL have been considered. Without mitigation it is likely there would be a significant impact on MSBs. The turbines themselves are to operate on a 'Shut down on demand' strategy. This should mean that the combined impact of the turbines and OHTL is of minor significance, when proposed with mitigation along the length of the OHTL. An adaptive management scheme is proposed which will monitor higher than predicted mortality and further mitigation undertaken.

There are several windfarms in operation within the same area with associated OHTLs, and therefore the addition of new OHTL lines may have a cumulative impact on species within the area (figure below).

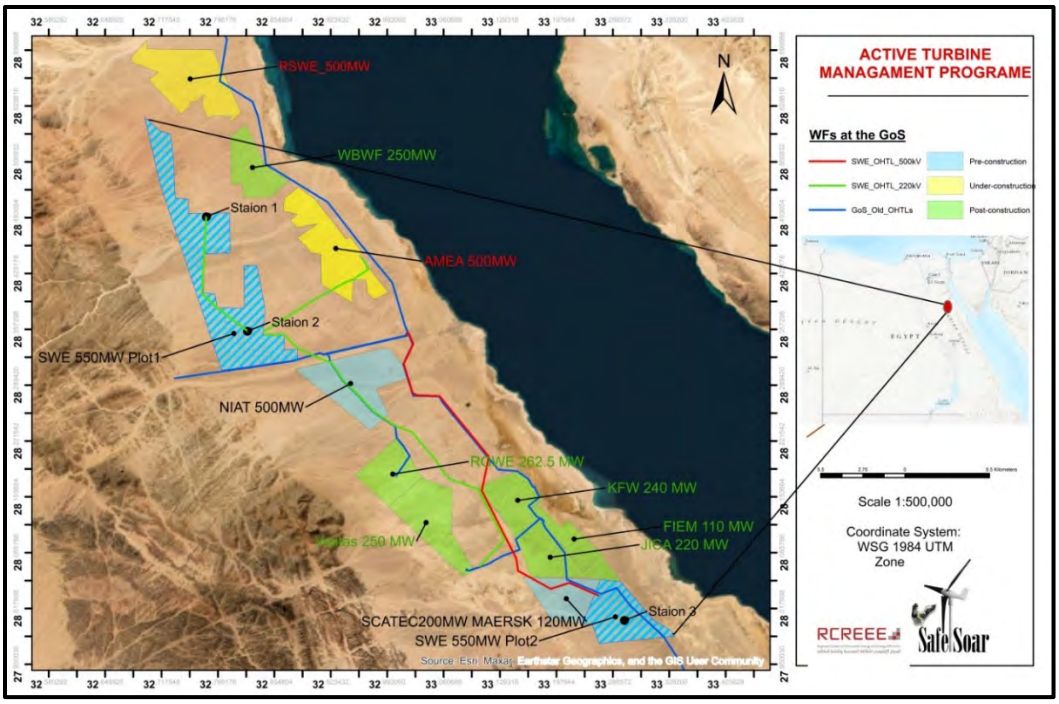

Figure 6-2: Wind and OHTL projects within the Gulf of Suez

Adaptive Management for Avifauna

Adaptive management adjusts mitigation measures when thresholds are exceeded or new data indicates changing risks to bird populations. If priority species face increased risk, mitigation is revised to ensure population viability. If risk decreases, thresholds may be reassessed. Non-priority species showing higher risk may be reclassified, assigned thresholds, and managed accordingly.

6.1.4 Archaeology and Cultural Heritage

The site survey confirmed that no archaeological or cultural heritage sites exist within the OHTL route and its 100m buffer area. While site preparation activities such as land clearing, excavation, and grading have a minimal disturbance footprint, there is a possibility of uncovering buried archaeological remains during construction. If improperly managed, such discoveries could be disturbed or damaged.

To mitigate this risk, the OHTL Contractor must implement a chance find procedure, requiring the immediate halting of work, fencing off the area, placing appropriate signage, and notifying the Ministry of Tourism and Antiquities/Red Sea and Suez Antiquities Inspection Office. Work may only resume after the Ministry grants clearance. Construction in unaffected areas can continue as usual. With proper implementation of these measures, the residual impact is considered negligible.

6.1.5 Air Quality and Noise

Site preparation for the OHTL transmission towers will generate temporary dust, emissions, and noise, potentially affecting air quality and worker health. Construction activities involving machinery and vehicles may emit pollutants (SO_2, NO_2, CO) and cause vibration and noise disturbances. To mitigate

these impacts, the OHTL Contractor must monitor emissions, implement dust suppression measures (e.g., watering, covering materials, limiting truck speeds), and ensure regular equipment maintenance. Worker safety must be ensured through OSHA-compliant PPE and noise control measures such as mufflers and suppressants. Regular inspections and reporting will help manage any excessive dust, noise, or emissions, ensuring minimal environmental and health impacts.

6.1.6 Occupational Health and Safety

The project presents occupational health and safety (OHS) risks during both the construction and operation phases, requiring appropriate management measures. Construction-related hazards include slips and falls, working at heights, struck-by incidents, moving machinery, confined spaces, hazardous materials, and electrical risks. During operation and maintenance, risks primarily involve working at heights and exposure to electrical and thermal hazards.

To mitigate these risks, the OHTL Contractor must develop an Occupational Health and Safety Plan covering emergency response, communication protocols, first aid, training, inspections, incident management, and monitoring procedures. The plan should identify project-specific activities, associated hazards, and required preventive measures, including collective protective equipment (signage, work zone markings) and PPE based on job-specific risks).

6.1.7 Community Health, Safety and Security

The OHTL is located over 5 km from Wadi Dara, and no community health, safety, or security impacts are anticipated. Potential impacts during operation include public access risks, exposure to Electric and Magnetic Fields (EMF), and noise emissions.

Unauthorized public access to transmission towers could pose safety hazards, such as electric shock or thermal burns. EMF exposure from transmission lines, while widely studied, has no confirmed adverse health effects, though it remains a subject of limited concern. The project will adhere to International Commission on Non-Ionizing Radiation Protection exposure limits to ensure public safety. Given the absence of nearby receptors or permanent settlements, no significant community health or safety impacts are expected during operation.

7 Additional Information

Additional details on the topics covered in this NTS can be found in other documents, namely:

- Environmental and Social Impact Assessment Report (ESIA) including the Environmental and Social Management Plan (ESMP);
- ESHS MS Manual;
- Climate Change Risk Assessment Report
- Gender & Human Rights Risk Assessment
- Cumulative Effects Analysis (CEA)

- Critical Habitat Assessment (CHA)
- Biodiversity Management Plan (BMP) / Biodiversity Actin Plan (BAP)
- Stakeholder Engagement Plan (SEP);
- Mini-Strategic Environmental and Cumulative Effect Assessment
- Environmental and Social Action Plan (ESAP).

To encourage public engagement, the project's environmental and social impact assessment (ESIA) package will be disclosed in line with lender requirements once finalized. This allows the public to access information about the project and share their feedback.

All related documents, including this NTS, will be available on Scatec's website and EBRD's disclosure platform below.

Website to be added

Any inquiries, concerns, or feedback regarding the ESIA process can be submitted using the contact details provided below.

Mobile:
email: