

**ENVIRONMENTAL AND SOCIAL REVIEW SUMMARY (ESRS)**  
**PROJECT LEKELA EGYPT WIND # 40137**

**Project Description:**

IFC is considering an A loan of c. US\$ 25 million and mobilization provided under IFC's Managed Co-Lending Portfolio Program of c. US\$ 57 million to Lekela Egypt Wind (the Company), a special purpose vehicle incorporated in Egypt, and currently owned by Lekela Power BV. The Lekela Build Own Operate (BOO) Wind Project (the Project) consists of the construction, operation and maintenance of a 250 MW wind farm in the Eastern Desert, close to the Red Sea coast and around 28 km north of the town of Ras Gharib in Egypt's Red Sea Governorate. The project site is located within a broader 328 km<sup>2</sup> area previously set aside by the New and Renewable Energy Authority (NREA) for the purposes of generating electricity from wind. The anticipated annual average power production from the project will be c. 1120 GWh.

The project will be an independent power producer, selling the power generated by the project to the Egyptian Electricity Supply Company (EETC) under a 20-year power purchase agreement. Financial close is expected in the first or second quarter of 2019 and construction is currently expected to last for 24 months. The project consists of 73 Senvion 3.6 MW turbines with a tower hub height of 63 m and rotor diameter of 114 m, a substation and a network of site access roads. Turbine supplier Senvion will be the Engineering, Procurement and Construction (EPC) contractor and will thereafter operate the plant and take responsibility for Operations and Maintenance (O&M) on the equipment. The Sponsors are expected to provide the Balance of Plant O&M works.

EETC will be constructing two contiguous high-voltage transmission lines (TLs) to connect this project and other future projects in the vicinity to the national grid. One section comprises a 500 kV TL running east-west roughly parallel to the Ras Gharib – Minya road with an approximate length of 15 km (38 towers). EETC has provided written confirmation that the design and routing of this higher voltage section is being built to allow the utility to connect up to 500 MW of additional planned power plants to the grid (a total of 750 MW together with the project) expected to go on line by 2025. As such, it has not been determined to be an Associated Facility per IFC Performance Standard (PS) 1 definition. The other section comprises a 220 kV TL running north-south roughly parallel to the existing Ras Gharib – Zaafarana highway, also with an approximate length of 15 km (42 towers). This section is being constructed primarily for the purposes of linking the Lekela Wind Power project to the grid; as such, it has been determined to be an Associated Facility per PS 1. The TLs will be built on uninhabited state-owned desert land and no land acquisition is necessary to build them.

It is estimated that the project will require around 300 workers during the anticipated 24-month construction phase. No workers camp is currently envisaged, with workers being either sourced locally or accommodated in hotels and guest houses in Ras Gharib, to the south, though a final decision on whether site-based accommodation is needed has not been taken yet. Ten staff will be employed on site during the operations phase. The project site land is and will remain under the ownership of the Government of Egypt (GoE). The area has been designated for petroleum exploration activities (subsurface) and wind development (above ground). The project site comprises uninhabited flat, stony desert terrain around 2 km from the Red Sea. Due to its proximity to the Gulf of Suez and to Egypt's main oil and gas producing areas, the Gulf of Suez is

considered to be of strategic national importance. Movement of people in the area (both onshore and offshore, and especially foreigners) is restricted and there is a sizable local police, military and national intelligence presence which monitors population movements.

The nearest residential area is Ras Gharib, 28 km to the south. In addition there are two smaller communities to the south, namely Ras Shoqeir (approximately 60 km away) and Wadi Dara (approximately 72 km away). El Zaafarana village and tourism area is located 65 km north of the site. There is no human habitation, grazing or agriculture on, or adjacent to, the site. The area falls under the indirect authority of the Tababna Bedouin tribe, one of four such tribes resident along the coastline which have links to land and resources that are informally recognized by the Government. No Bedouin reside near the project site, nor do Bedouin use the project site for hunting, fishing, grazing or any other livelihood-related purposes. Some members of the Tababna tribe have been engaged to provide site security services to the project, based on a recommendation from the relevant state security agency.

The northernmost boundary of the Gebel El Zeit Important Bird and Biodiversity Area and Key Biodiversity Area (hereafter referred to as the Gebel El Zeit IBA) is located 12 km south of the project site. This IBA comprises a stretch of Gulf of Suez coastline regarded to be a very important migration corridor for migratory soaring birds, particularly raptors and storks. The closest operational wind farms are located in a cluster near Gebel El Zeit more than 60 km south of the site. This cluster comprises a series of contiguous sites developed by NREA with support from the Spanish Government (120 MW), the German Government (240 MW) and Japanese support (220 MW). The closest operational wind farm to the north is the 580 MW Zafarana wind farm, near Ain El Sokhna port, a similar distance (over 60 km) north of the site. The closest approved wind farm site is the 250 MW Engie BOO Wind Power Project, located c. 40km south of the project, which is under construction and expected to be commissioned in Q4 2019. Several other wind power projects are planned in the vicinity.

### **Overview of IFC's Scope of Review:**

IFC's review of this investment consisted of appraising technical, environmental and social (E&S) information made available by the sponsor and third parties in 2018. Key E&S documents include a Lekela BOO Wind Power Plant ESIA and corresponding E&S Management Plan (ESMP) compiled by local consultancy Environics (2018), a Stakeholder Engagement Plan (2018), a Non-Technical Summary, a Supplementary Social Assessment (by Kina consultants, (2018), a separate ESIA for the 200 kV and 500 kV transmission line segments and substation to be constructed by EETC (compiled by Environics in 2018), a Strategic and Cumulative Environmental & Social Assessment (SESA) for Wind Power Projects in the Gulf of Suez commissioned by the Regional Center for Renewable Energy and Energy Efficiency (RCREEE) in consultation with GoE agencies and produced by international consultants Lahmeyer (2018), a rapid cumulative effects assessment focused on migratory birds and a Critical Habitat Assessment (the last two both produced by international consultants The Biodiversity Consultancy, or TBC in (2018) on behalf of the company. In addition, IFC reviewed several internal Lekela documents, such as a project-specific Lekela ESMS Policy Manual, a Board Memorandum focused on security matters, a traffic study and Employers E&S Requirements. Finally, IFC has referenced an E&S due diligence report prepared by Rina, the Lenders' Independent E&S Consultants for this project.

The IFC team participated in Lender (IFC, EBRD and OPIC, accompanied by Rina) E&S due diligence meetings in Cairo as well as a site visit to the west Gulf of Suez area in June, 2018. In addition to project briefings involving Lekela staff and consultants, the team met with representatives of power transmission utility EETC, NREA, the Egyptian Environmental Affairs Agency (EEAA), RCREEE and conservation group BirdLife International (BirdLife). IFC has also provided extensive input into the scope and findings of certain supplemental studies prepared for the Lender group, for example the cumulative effects work undertaken by TBC. Finally, IFC considered the performance of its existing equity investment in the Lekela Power BV platform, which was made via Mainstream Renewable Power Holdings Africa, a JV partner in Lekela Power alongside Actis for the purpose of developing wind and solar projects in South Africa, Ghana, and Egypt. The ESRS for the previous Category A investment was disclosed in August 2015 and can be found here: <https://disclosures.ifc.org/#/projectDetail/ESRS/36845> The E&S performance of this portfolio project is currently rated as 'satisfactory' by IFC.

With respect to contextual risk, Egypt declared a national State of Emergency in April 2017 which remains in place. This has contributed to heightened sensitivity to security breaches and the threat of terrorism nationally and has resulted in numerous security checkpoints in the project area as well as tight state controls over the movement of outsiders in the project area, especially foreigners. Project staff and contractors will therefore be carefully briefed by Lekela and its EPC contractor in relation to aspects such as journey management procedures and the carrying of proper identification at all times.

**Identified Applicable Performance Standards:**

*While all Performance Standards are applicable to this investment, IFC's environmental and social due diligence indicates that the investment will have impacts which must be managed in a manner consistent with the following Performance Standards.*

- PS1: Assessment and Management of Environmental and Social Risks and Impacts
- PS2: Labor and Working Conditions
- PS3: Resource Efficiency and Pollution Prevention
- PS4: Community Health, Safety and Security
- PS6: Biodiversity Conservation & Sustainable Management of Living Natural Resources

PS 5 Land Acquisition and Involuntary Resettlement is not applicable to this project as all land is Government-owned and no project land is being utilized by communities. PS7 is not applicable as no Indigenous Peoples have been identified in the project area. PS 8 is not applicable as there are no registered cultural sites in the project area and no cultural heritage been identified on site.

**Environmental and Social Categorization and Rationale:**

This is a Category A project per IFC's Policy on Environmental and Social Sustainability. Although the project is not located within Critical Habitat (the Gebel El Zeit Important Bird Area is located 12 km to the south), it does lie on the edge of the Rift Valley – Red Sea flyway for migratory soaring birds. Studies have shown that globally-important concentrations of thirteen bird species

migrate over the area during Spring and Autumn migrations; as such, the key E&S issue for this project concerns the avoidance, monitoring and management of potential adverse impacts (including cumulative impacts) on migratory soaring birds during wind farm operation. Other, more limited, E&S risks and issues are those associated with the construction phase of any wind farm project. Social risks and impacts are expected to be limited as there are no residences within 20 km of the site, affected land is not being used by any community, and construction phase labor influx is expected to be limited due to local sourcing labor policies of the project.

### **Environmental and Social Mitigation Measures**

#### ***PS 1 - Assessment and Management of Environmental and Social Risks and Impacts***

The E&S disclosure package shared with this E&S review summary comprises a project-focused ESIA and ESMP, a Stakeholder Engagement Plan, a Non-Technical Summary and a Supplementary Social Impact Assessment. In addition, the client commissioned its Egyptian environmental consultants (Environics) to complete a separate ESIA and ESMP covering the two transmission lines to be developed by EETC, one of which (the 220 kV line) is considered to be an associated facility by IFC and EBRD, whilst the other (the 500 kV line) is not. A Critical Habitat Assessment and a draft Analysis of Cumulative Effects focused on ornithological impacts have been developed by international consultants TBC. Finally, the project falls within an area which has been subject to an overarching Strategic and Cumulative Environmental & Social Assessment (SESA) for Wind Power Projects in the Gulf of Suez produced by international consultants Lahmeyer on behalf of the regional renewable energy agency RCREEE, in partnership with several GoE agencies. All the above-mentioned documents were finalized between February and October 2018 and the ESIA's were both conducted in accordance with both Egyptian and IFC E&S requirements. Following multiple exchanges and updates during the due diligence phase, both the Lenders and Rina consider the final E&S disclosure package to be fit-for-purpose for a wind project of this scale and character, i.e. covering all relevant E&S risks and impacts at an appropriate level of detail.

Cumulative impacts: In addition to a cluster of operational wind farms located near Gebel El Zeit over 60 km south of the project area and the 250 MW Engie BOO site c. 40 km south of the site, GoE has approved a series of additional wind farms ranging in capacity from 50-320 MW within a coastal strip in Egypt's Red Sea Governorate. These projects are planned in broad clusters located to the south and to the north of the town of Ras Gharib, respectively (this project will be the first wind farm developed north of Ras Gharib). Some of these wind farm projects are being developed by public sector actors (foreign governments, partnering with GoE), whilst others are being developed by private companies and/or consortia. Due to the sensitivity of the area for bird migration, a series of studies have been undertaken to date focused on understanding potential cumulative impacts on migrating birds from planned development of multiple wind farms within various parts of the main bird migration corridor. The cumulative effects analysis mentioned above has made use of available data from multiple sources in this broad area to identify priority bird species potentially affected by these wind farms, as described in more detail in the PS 6 (biodiversity) section below. This study draws on, amongst other sources, the recent strategic and cumulative impact assessment commissioned by RCREEE and conducted by Lahmeyer which focuses on a 284 km<sup>2</sup> area located north of Ras Gharib. This study area encompasses the project site as well as a series of other prospective wind power sites nearby.

The cumulative effects study commissioned by the company covers a broader geographic scope than the SESA and follows a structured process aimed at identifying and quantifying potential impacts on Valued Ecosystem Components, i.e. bird species of high conservation importance potentially impacted by the operation of the proposed wind farm.

The project ESMP outlines key mitigation measures identified via the ESIA and cumulative effects impact assessment processes that the company will implement during the project construction and operations phases to meet Egyptian and IFC E&S requirements. Construction and operations phase E&S management and monitoring responsibilities will be shared between the company and the EPC contractor. The company has drafted an overarching project E&S Management System (ESMS) Policy Manual aligned with IFC's PS 1 requirements, including guidance for the EPC on all key issues and the content of necessary management plans, will handle stakeholder engagement and liaison with GoE in relation to high-level issues, will oversee any community liaison and grievance management tasks and will provide oversight (directly and via an Owner's Engineer) over the EPC. Senvion, the turbine supplier, EPC and O&M contractor, will be contractually bound to implement those portions of the ESMP that fall within its scope of work. The company will develop and implement an appropriate environmental and social management system (ESMS) for the Project in line with PS 1 and ISO standards requirements. The ESMS will apply to the project, and contractors where relevant, and incorporate the necessary policies, procedures and plans including those developed during the ESIA process (ESAP action 1.1).

The company will ensure that the EPC contractor develops and implements a more detailed Construction ESMP (CESMP) and (later) an Operations ESMP in accordance with E&S requirements contained in Lekela's Employer's Requirements, as per ESAP action 1.2. The company will also develop and implement a Construction Oversight Management Plan reflecting all principles, guidelines, commitments and requirements for contractor management, especially those contained in the company's Employers E&S Requirements (ESAP action 1.3). This plan will include a contractor audit and inspection programme.

The company will ensure that sufficient staff and contractor resources are allocated to E&S management at all times, per ESAP action 1.4. The company shall employ, at a minimum, a project ESG Manager and a Community Liaison Officer, who will be supported by a Health, Safety & Environment (HSE) Inspector employed by the Owner's Engineer and, as needed, E&S consultants. The company shall require the EPC and O&M contractors to appoint sufficient counterparts to these staff, including enough Health & Safety Officers to ensure satisfactory oversight of the entire construction labor force. Detailed post-construction bird monitoring surveys and periodic E&S monitoring during construction and operations, will be the responsibility of the company, which will commission one or more suitably experienced E&S consultancies with trained bird observers to perform the necessary actions (details presented in the PS 6 section below).

Construction workers will receive training on E&S matters, OHS awareness, use of appropriate personal protective equipment, site rules concerning housekeeping matters such as waste

management and traffic / driving safety, as detailed in the ESIA/ESMP. This training will be delivered by the EPC contractor and supplemented as necessary by the company's ESG Manager. Operations and maintenance (O&M) work will be conducted largely by highly trained O&M technicians who receive specialized OHS training off-site. The ESMP contains a series of E&S monitoring commitments for the project, such as OHS performance, operations phase noise and bird mortality monitoring. The EPC contractor will keep records of OHS performance during both the construction and operations periods. The client will summarize biodiversity monitoring outcomes (described under PS 6 below) as well as the results of its other E&S monitoring programs and will share the results with the relevant authorities and lenders on a periodic basis.

### ***PS 2 – Labor and Working Conditions***

It is estimated that the project will require around 300 workers during the anticipated 24-month construction phase, of whom a large proportion of unskilled and semi-skilled workers (up to 75%) will be sourced locally. The project is working closely with the Ras Gharib City Council, local Ministry of Labor representatives and organizations such as the ILO to determine local labor availability: the results to date suggest that there is a pool of semi-skilled (technicians) and unskilled labor available locally since the broader project area supports around 70 % of Egypt's oil and gas production. Around ten staff will be employed on site during the operations phase, in addition to a limited security personnel presence required to safeguard project infrastructure.

No workers accommodation camp is currently envisaged on site, with workers being either sourced locally or accommodated in hotels and guest houses in Ras Gharib, to the south. A final decision on whether site-based accommodation is needed has not been taken yet.

The company will develop a Human Resources Policy for sharing with contractors and will require these contractors to provide all workers – including sub-contractors – with written documentation concerning the terms and conditions of their employment, including their rights under Egyptian labour regulations, as per PS/PR 2 requirements (ESAP action 2.1). This shall include a Worker Grievance mechanism that will be made available to all project workers, irrespective of their employer. Should site-based accommodation be needed, the company will ensure that any accommodation provided to project workers is in line with EBRD and IFC guidelines for worker accommodation (ESAP action 2.2).

It is unlikely that workers' unions will be involved in the project as the main concentration of workers will be on site during a short-lived construction period only; as noted above, the operations staff will be small. Nonetheless, the company will not in any way prevent workers from seeking to join unions or other workers' organizations. The company will ensure that a worker grievance mechanism is established to ensure that workers (including all contractors and sub-contractors) can raise any grievances and have these systematically recorded, tracked and addressed.

As described in Lekela Egypt's Human Resources Policy, the company will make employment decisions based on equal opportunity and fair treatment, and in accordance with Egyptian regulations on non-discrimination. No child or forced labor will be used by the project at any

time. Proof of identification and age will be required at the time of employment. The company and Senvion will ensure that all workers are issued with appropriate personal protective equipment, that workers are adequately trained to identify and manage the OHS risks specific to their tasks, and that they are overseen by suitably qualified site and project supervisors. Senvion will prepare a site-specific OHS plan for the project and the company's as defined in the Employers Requirements document developed by the company. The Owner's Engineer will ensure that OHS, amongst other matters, is given sufficient attention during the construction process. OHS performance will be recorded by Senvion and shared with the company, Lenders and the Egyptian authorities. Operations and maintenance work will generally be undertaken by trained Senvion technicians familiar with the turbines, tasks and specific OHS risks involved with windfarm operation and upkeep. The EPC contractor will make use of safety manuals specifically developed for the turbines to be used by the project when conducting routine O&M tasks.

### ***PS 3 – Resource Efficiency and Pollution Prevention***

Given its use of renewable wind energy, this project will not generate GHG or criteria pollutant emissions during the operational phase and only temporary emissions of dust and equipment exhaust during construction. It is estimated that the project will offset over 500, 000 tCO<sub>2</sub>e/yr based on Egypt's national average CO<sub>2</sub> emissions from all power generation sources. The site is located 2 km to the east of the Ras Gharib – Zaafarana Highway and the nearest residences are in the coastal town of Ras Gharib about 28 km south of the site. As such, the impact related to air and noise emissions, visual intrusion and to potential shadow flicker are negligible, as concluded in the project ESIA.

Water requirements will be low during windfarm construction and operations. Water will be sourced from the Hurghada – Ras Gharib water pipeline by a contractor and stored in an on-site tank. The volumes involved are too low to impact any other water users in the broader project area. Water use intensity will be considerably lower than for an equivalent capacity thermal power plant, which would require cooling water: this is a positive factor for wind power in an arid country such as Egypt.

The company will ensure that the EPC contractor develops and implements a waste management plan prior to the commencement of construction incorporating designated waste storage areas, procedures for the responsible management of solid and liquid wastes and spill prevention measures for fuel and hazardous substances (ESAP action 3.1). Domestic waste water generated during construction will be collected in a septic holding tank and removed by authorized contractors for off-site disposal in a licensed wastewater treatment plant. Limited volumes of non-hazardous domestic solid waste will be disposed of at a licensed municipal landfill by a certified contractor, whilst small volumes of hazardous wastes (mainly waste oils and lubricants) will be safely stored for collection by suppliers or removed by a licensed waste management contractor. Should other wind power projects be developed nearby in parallel to the project, the company will consider potential cumulative impacts or risks associated with water use and waste generation and implement the necessary measures to avoid or reduce such risks together with other developers and/or the authorities (ESAP action 3.2).

### ***PS 4 – Community Health, Safety and Security***

Given the relatively small construction workforce, the likelihood that the bulk of project labor requirements will be sourced locally and the long distance to the nearest settlement, it is unlikely that the area will experience project-related population influx or associated social impacts.

As there are no communities living near the project site, security related risks are likely to be associated mainly with interactions between security personnel and construction workers, visitors or members of the public who visit the site or any project-related accommodation facilities in Ras Gharib and any transport-related activities involving a security presence. The site is remote and is inaccessible to the public due to access controls instituted by oil and gas companies undertaking exploration activities nearby. Early stage security arrangements include the use of local Bedouin tribesmen to safeguard the site. These Bedouin are typically armed, as is the norm in Egypt. The company has committed itself in the ESIA and supplemental SIA to undertake a security risk assessment covering risks and impacts on workers and local communities resulting from security arrangements. Nonetheless, to ensure adequate security management, the company will require the EPC contractor to develop a Security Risk Assessment and Management Plan addressing community safety and security aspects, as per ESAP action 4.1.

As discussed further in the Stakeholder Engagement section below, state security closely monitors the movement of people (particularly foreigners) in and out of the project area which, due to its proximity to the Suez Canal and oil and gas production areas, is classified as a restricted area. The National Security Agency has direct responsibility for the protection of foreigners and, as such, requires detailed information on the presence and movement of foreigners in the region. The Egyptian military focus on supporting search and rescue operations, emergency response and population protection across outlying geographies (such as the Western and Eastern Deserts). The local police forces (including the traffic police) tend to act as the first physical contact point for visitors and provide escort services at the request of the National Security Agency. None of these public agencies is expected to provide direct security services (i.e. security personnel or equipment) at the project site.

The main road traffic risk associated with the project is associated with transport of the turbines, blades and wind tower components to site from one of Egypt's ports during the construction phase. A significant amount of heavy equipment will be transported to the site from a port located either on the Mediterranean or Red Sea coastline. The EPC contractor will complete a detailed route assessment of the options available. If a Mediterranean port is selected, it will be necessary for convoys to traverse the north east outskirts of Cairo (Alexandria – Cairo – Ain Sokhna) and measures will be necessary to ensure that all relevant stakeholders (e.g. traffic police) are notified in advance of convoys so that appropriate traffic management procedures can be put in place. Material transfers will generally take place overnight to avoid traffic blockages and unsafe road conditions and minimize risks to residents of roadside settlements. Any security-related risks related to heavy traffic will be reviewed in the Security Risk Assessment referred to above under ESAP action 4.1. The company will require the EPC contractor to prepare emergency preparedness and response and construction transport safety plans prior to the commencement of construction, as per ESAP action 4.2.

***PS 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources***



Egypt sits on the Rift Valley - Red Sea Flyway, the second largest flyway for migratory birds in the world. Millions of migratory soaring birds traverse multiple countries along this flyway biannually from north to south in autumn and in the opposite direction during the spring season when the birds head to their breeding grounds in Europe and Central Asia. Within the flyway in Egypt, both the west coast of the Gulf of Suez and the Sinai Peninsula are particularly important locations. The project site is located in the Eastern Desert, on the west coast of the Gulf of Suez in a flat, gravel landscape with negligible vegetation, dissected by small sparsely vegetated wadis. As mentioned in the 'Project Description' section, the Gebel El Zeit IBA is located 12 km to the south of the project (also on the west bank of the Gulf of Suez). This IBA lies adjacent to the narrowest point in the southern part of the Gulf of Suez, a bottleneck and resting area particularly for birds of prey and storks. The 15 km 500 kV TL, which is owned and operated by EETC and will be developed in parallel to an existing TL corridor, is located on the western edge of the northern tip of the Gebel El Zeit IBA.

Along the east bank of the Gulf of Suez, parallel to the Gebel El Zeit IBA and 33km (also to the east) of the project site, lies the El Qa Plain IBA, which has a similar role and importance to migratory birds as the Gebel El Zeit IBA. The Ain Sokhna IBA, located 110 km northwest of the project and the Hurghada Archipelago IBA, located 115 km of the southeast of the project, are other areas where migratory soaring birds concentrate in significant numbers.

As mentioned in the PS 1 section of this ESRS, the Government of Egypt and RCREEE have developed a Strategic and Cumulative Environmental and Social Assessment (SESA) to assess the likely environmental and social impacts of future wind farm development within a 40 km strip of desert close to the west bank of the Gulf of Suez. The SESA objectives were to identify likely significant impacts of wind power development in the area, identify whether impacts necessitated wind projects to be restricted or cancelled, and if impacts could be mitigated, identify appropriate mitigation measures and environmental and social management requirements and assess how these might affect the viability of wind power in the area. A key component of the SESA was field surveys, including migratory birds surveys. These covered the spring 2016-17 and autumn 2017 bird migration periods. The SESA identified turbine collision mortality and wind project barrier effects as major potential hazards to birds.

A key SESA recommendation is to avoid developing wind power projects in specific areas, principally to the northwest of the project site, to create migration corridors between (planned) developments and to reduce barrier effects. Additionally, the SESA recommended a suite of monitoring and mitigation measures focused on minimizing collision risk to migratory soaring birds. Preceding the SESA, the Ministry of Electricity and Energy and NREA, conducted a ESIA for a large, 300 sq. km swath of land, directly adjacent to the SESA study area, which was funded by the Arab Fund of Economic and Social Development. As part of this ESIA, bird baseline studies were conducted in multiple vantage points in 2012 and 2013. Other wind power projects have conducted bird surveys at various times over the past six years. All are publicly available and where used as sources of information in assessments of cumulative environmental impacts described below.

As part of the project-specific ESIA, bird baseline surveys for the project site and the transmission line route were conducted during two spring and two autumn seasons (i.e. two years) between 2015-17, and also utilized monitoring carried out from vantage points within and adjacent to the site as part of the SESA bird monitoring program during 2016-17. A literature review and survey of terrestrial fauna determined that a small number mammals and reptiles are potentially present in the project area. Of these, only the Egyptian Spiny-tailed Lizard *Uromastyx aegyptia*, is IUCN Red-Listed Vulnerable.

The company also conducted an Analysis of Cumulative Effects based on an evaluation of project-specific observations and the other aforementioned sources of data, which assesses the cumulative effects on biodiversity in the areas north and south of Ras Gharib, including the Gebel El Zeit area. This analysis identifies 13 priority bird Valued Environmental Components (VECs) or “priority bird populations” assessed to be at highest risk from cumulative effects of wind power projects. Priority bird populations are as follows: 9 migratory raptor populations (Steppe Eagle - IUCN Red-Listed Endangered [EN], Egyptian Vulture [EN], Pallid Harrier - Near Threatened [NT] and the Booted Eagle, Eurasian Buzzard, Black Kite, European Honey-buzzard, Greater Spotted Eagle and Levant Sparrowhawk – all Least Concern [LC]), and 4 migratory waterbird populations (Common Crane, White Stork, Black Stork and Great White Pelican – all LC). These birds were identified based on observations made during the baseline surveys on site and will likely be migrating through the area in the future.

Although the impact on habitat is minor given the vast extent of the Eastern Desert and the minimal project footprint, unmitigated impacts on migratory soaring birds would be significant, especially during the spring season and the company has thus committed to a No Net Loss objective as specified in the project’s ESMS Policy Manual given the applicability of IFC’s PS6 Natural Habitat requirements to the project. Additionally, although both the ESIA and SESA conclude that the impacts during autumn may be less significant, the project has committed to a mitigation and monitoring approach that is equally robust in both the spring and autumn seasons given that the movements of migratory birds across this large of a corridor could be unpredictable.

The company’s ESIA, ESMS Policy Manual and Cumulative Effects Analysis recommend a host of mitigation and monitoring actions that all aligned with and go beyond the recommended measures in the SESA. On the project site, the company commits to, *inter alia*, the following: multiple good construction management practices (e.g. footprint minimization; avoiding off-road driving; avoiding disturbance to wadis and vegetation; and good waste management practices); micro-siting of turbines; avoiding lighting that may increase collision risk; burying connector lines underground; implementing shut-down on demand with in-flight monitoring conducted by live (i.e. human) observers during operations; and, implementing fatality monitoring during operations. The shutdown on-demand (with observers) and fatality monitoring are commitments for the life of the project. The level of effort will be comparable in spring and autumn, even though the SESA prescribed a decreased effort in autumn.

In addition to human observers, the company also commits to implementing its shutdown on-demand program using radar. This approach has shown success at a KfW-funded wind power project located to the south known as the Gulf of Suez / Gulf of El Zayt Windfarm. Furthermore,

as specified in the SESA, the project will take part in an area-wide “Active Turbine Management Program” (ATMP). The ATMP will be developed by RCREEE and consists of a coordinated approach to shutdown on-demand from the wind power projects located north of Ras Gharib. In addition, EBRD will be contributing to the development of the coordinated post-construction monitoring aspects of the ATMP through the development of a Regional CEA in the coming months. The company has committed to all coordination activities with other companies, according to SESA recommendations, including the ATMP and will participate in EBRD’s regional CEA.

An exceptional aspect of wind farm development north and south of Ras Gharib on the west coast of the Gulf of Suez is the commitment from three branches of government to implement the SESA recommendations and ATMP approach for all wind power projects in the area (it is not common that government ministries of distribution and/or energy are so fundamentally involved with the management of avian impacts). Based on IFC’s direct engagement with EETC, NREA, the Ministry of Environment and BirdLife during the appraisal mission, IFC understands that the three government agencies will continue to work in coordination with RCREEE in the implementation of the ATMP.

As indicated in ESAP action 6.1, the company will conduct additional analysis on the raw pre-construction data to better understand the potential correlation between species-specific migratory bird flight movements and climatic factors. The company will conduct three-years of additional monitoring of migratory birds independent of the shutdown on-demand monitoring to study bird movements. This activity would be designed to optimize shut-down on demand and would be conducted during the operations phase with a focus on the 13 priority bird species. As indicated in ESAP action 6.2, the company will undertake bias correction trials for scavenger removal and for searcher efficiency in both autumn and the spring seasons for the first three years of project operations (i.e. six per year) and with the aim to develop correction factors. The project will also ensure that an expert wind-wildlife specialist is hired to develop accurate fatality rate estimates with statistical correction factors. The company will also immediately begin identifying potential carcasses for the use in scavenger removal trials (avoiding the use of chickens) as the selection of the carcass is key to the accuracy of the results. The company will also maintain a freezer on the project site for the storage of carcasses.

As indicated in ESAP action 6.3, six months prior to the operational phase, the company will produce an Operations Phase Biodiversity Management Plan (BMP), which will contain detailed protocols on (i) shutdown on-demand; (ii) fatality monitoring; (iii) bias corrections trails; (iv) calculating fatality rate estimates; (v) migratory bird monitoring; and (vi) adaptive management.

As indicated in ESAP action 6.4, the company will finalize its Analysis of Cumulative Effects, expanding on the current analysis, including numeric fatality thresholds for the all priority bird population VECs, which, if exceeded, will trigger an adaptive management response. If fatality thresholds are identified as part of EBRD’s Regional CEA, the company will commit to adopt them and not develop separate ones in their project-specific Analysis of Cumulative Effects document. As described in ESAP action 6.5, in order to address cumulative effects on sensitive bird populations the Company will (i) collaborate with EETC on the installation of bird flight deterrents on the 500 kV transmission line (TL); (ii) conduct fatality monitoring along sensitive sections of

both the 220 kV and 500 kV TLs; and (iii) contribute to management actions that further the conservation of migratory soaring birds in the Gebel Al Zeit IBA. As per ESAP action 6.6, the company will agree with Lenders on the profile and experience of all teams engaged in ornithological work referred to in the PS 6-related ESAP items prior to commencement.

**Stakeholder Engagement:**

The project site is located in a remote desert area with no evidence of nearby permanent settlements. Ras Gharib, the nearest town to the site, is situated 28 km south and accessed by the Sukhna-Ras Gharib highway. In addition to Ras Gharib there are two smaller communities to the south, Ras Shoqeir, (60 km away from the project site) and Wadi Dara village (72 km away). El Zaafarana village is located c. 65 km north of the site. The area falls under the indirect authority of one of the coastal Bedouin tribes, but the Bedouin do not use the project site for hunting, fishing, grazing or any other livelihood-related purposes. As a result, there are no communities nearby and stakeholder engagement activities have focused mainly on the residents and local authorities in nearest town (Ras Gharib) - where the project is likely to house some or all of its workers – as well as with state security agencies, a small number of local Bedouin involved in providing security services to the company on site, GoE environmental agencies, RCREEE and conservation CSOs such as BirdLife that are focused on bird migration through the area.

The Red Sea Governorate, the administrative area in which the Project will be constructed, has a long history of industrial development and hosts approximately 70 % of Egypt's current oil and gas production. The Red Sea coastline also leads into the Suez Canal and for these reasons (as mentioned in the project description above) the area is considered to be of strategic national importance. Given its importance, movement in the area (both onshore and offshore) is restricted and there is a sizable local police, military and national intelligence presence. Community consultation protocols are in place and these require a number of permits and administrative authorizations before local community engagement can take place. As such, the regional and local government (Red Sea Governorate and Ras Gharib City Council), as well as the state security apparatus, represent key project stakeholders.

The local Bedouin population comprises of four main tribes, the Tababna, Sheikh Fadi, Hamadine and Khushman. These tribes have links to local land and resources, which are informally recognized by the authorities. Outside of traditional roles, the Bedouin are primarily employed in security roles. This is the case for the project, where Bedouin from the Tababna tribe have been engaged to provide site security services to the project, based on a recommendation from the relevant state security agency.

The client has developed a Stakeholder Engagement Plan (SEP, disclosed with this ESRS) which identifies these key stakeholders and describes how project information has been and will be disclosed and discussed with them as part of the ESIA and permitting process, and what consultation processes will be maintained. The main public meeting arranged for the national ESIA process was held in April 2018; in addition, the company has been engaging with local and national authorities, EEAA, EETC, RCREEE and BirdLife, amongst others, on a regular basis since mid-2017 or before and focus group meetings have been held with various sub-groups in Ras Gharib. Key issues raised by stakeholders to date have included local employment opportunities

and possible impacts on migratory birds. The SEP indicates how the project will continue to interact with local communities and other stakeholders on an ongoing basis, especially in the run-up to the start of the construction phase. The company has also developed a stand-alone Community Feedback Procedure to be used in conjunction with the Stakeholder Engagement Plan, the purpose of which is to outline the process for receiving, investigating, responding to and closing out concerns, issues, complaints or grievances from affected communities and other stakeholders in a timely, fair and consistent manner. The procedure explains the various ways in which stakeholders can provide feedback to the project, the process via which feedback will be formally acknowledged, the process to be followed by the company to assign and investigate any concern/grievance raised, the response and close-out time frame expected (close-out expected within 30 days) and the recourse and appeal options available to stakeholders should the company not deal with their issue in the desired manner.

The company has committed itself to implementing a social investment program, primarily targeting residents of the nearest settlement, i.e. Ras Gharib, where it also expects to draw workers from.

**Broad Community Support:**

BCS – Not Applicable