

Environmental and Social Data Sheet

Overview

Project Name:	SIDI BOUZID 2 SOLAR
Project Number:	2024-0480
Country:	Tunisia
Project Description:	The project consists of the construction and operation of a solar PV plant with a capacity of ca. 120 MWp and its associated transmission infrastructure, located in Tunisia, in the Sidi Bouzid region, with a power purchase agreement awarded through a government tender.

E&S Risk Categorisation:	Medium risk
Project included in Carbon Footprint Exercise ¹ :	Yes

Environmental and Social Assessment

The project has been categorised as Medium according to the EIBG's Environment and Social Policy (2022). Based on information reviewed by the EIB, the proposed project will have limited adverse environmental, climate and/or social impacts and risks, site specific, largely reversible and readily addressed through mitigation measures and good international industry practice, and it has been determined that the preparation of an EIA/ESIA report is not required.

Environmental Assessment

The project consists of the construction and operation of a grid connected solar PV plant with a capacity of ca. 120 MWp, located in in Mezzouna delegation of Sidi Bouzid governorate, c. 260 km south of Tunis. The Project comprises two main components: (i) a photovoltaic (PV) plant including solar modules, a tracking system, inverter stations, step-up transformer station and associated facilities for power generation; and (ii) a high-voltage infrastructure consisting of a c. 12-kilometer 225kV overhead transmission line and a bay extension at the STEG Mezzouna 1 substation (such substation being currently already under construction and not part of the project scope).

The promoter is a special purpose vehicle incorporated in Tunisia for the sole purpose of owning and operating the project. It is co-owned by Scatec ASA (50%) and Aeolus SAS (50%), the later being part of the Japanese conglomerate Toyota Tsusho Group.

On the basis of Decree no. 2005-1991 of 11 July 2005 on environmental impact assessment (EIA), which defines the categories of units subject to environmental impact assessment and the categories of units subject to specifications, only electricity generation units with a capacity of at least 300 MW fall under Annex 1 (category B) of the Decree and are subject to EIA. Consequently, the PV plant, which

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

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has a capacity of 120 MW (less than 300 MW), does not require an EIA under the national legislation, and the transmission line does also not require an EIA under the national legislation. In line with EIB Standard 1, the promoter prepared a comprehensive set of information, in the form of an environmental and social assessment report (ESAR), covering the environmental and social impact of all components of the project, including the transmission line, and defining associated mitigation measures. Based on the criteria of the EIB Standard 1 and the information collected, the promoter also determined -further to the classification of the project under national environmental protection law-, with due justification, that the project did not require an ESIA.

The construction and operation of the solar PV plant and most of the transmission line will be carried out on uncultivated and uninhabited land. Approximately 4% of the land intersected by the line is used for agricultural activities, with the rest being open land that can be used for grazing livestock. The project is expected to have overall limited environmental impacts. With the implementation of mitigation measures -no significant residual impacts are expected. The ESAR indicates limited air emissions, minimal wastewater generation, and minor use of hazardous materials. Management plans will include dust control measures and waste handling procedures during construction.

During operation, the main impacts are related to loss and fragmentation of habitats, barrier effect, and birds collision risk with the overhead transmission lines. A waterless solution is expected to be used for the cleaning of the panels during operation. If this is not the case, a study will have to be provided to analyze among others the water use competition with local agricultural or community needs and provide mitigation as necessary.

Based on a review of currently available information, existing and projects under development in the area include (i) the existing STEG overhead line between Bouchema and Meknassy and (ii) the planned solar PV project (PV Plant Khobna, 198 MW) including its 45 kilometer transmission line, both running parallel to the project's overhead transmission line and lying at ca. 2km from it. The ESAR explored alternative routes for the overhead line of the project to assess the potential for reducing cumulative environmental impacts. The proposed route remains the most suitable option, as the alternatives considered could either increase the risk of bird collisions due to their orientation or create additional barriers to bird movement. Therefore, neither of the alternatives considered could provide a meaningful reduction in cumulative impacts.

Both the PV solar plant site and the overhead line are located in arid pre-Saharan steppe zones characterized by degraded vegetation, low plant cover (5–15%), and limited floristic diversity. No plant species recorded on the project site have special conservation status on the IUCN Global Red List, except *Stipa tenacissima* (Needle Grass), which is present in the vicinity of the project footprint and listed as Vulnerable (VU) globally but is not included in either REGNES (Registre national des espèces sauvage) or the National Red List of Tunisia. *Acacia tortilis* (Umbrella Thorn Acacia) is also present (including around 15 individuals within the PV site) and classified as Least Concern (LC) globally, but is listed as Vulnerable (VU) in the REGNES and is a protected species under Tunisian law. It plays an important ecological role in arid ecosystems by stabilizing soils, providing shade, and supporting biodiversity. The project design will minimize the impact and avoid the areas with the presence of these species. An appropriate biodiversity management plan will be developed and inform the need for additional measures to achieve the related biodiversity protection objectives of these species, if necessary.

Two field surveys were conducted in spring and summer 2025 for the avifauna. The observed bird community is dominated by steppe-dwelling passerines that are partially or fully synanthropic and highly adaptable to habitat changes. Only one observed species is listed on the IUCN Global Red List (Pie-

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grièche à tête rousse *Lanius senator*, NT), while five other observed species are listed on the Tunisian National Red List as VU (Aigle royal *Aquila chrysaetos*, Alouette des champs *Alauda arvensis*, Alouette calandre *Melanocorypha calandra*) or NT (Cratérope fauve *Argya fulva*, Buse féroce *Buteo rufinus*), but all five are LC on IUCN. Regular sightings of large raptors (*Buteo rufinus*, *Aquila chrysaetos*) and high micromammal abundance confirm the area's importance as a foraging and nesting habitat. No specific bat habitats have been identified within the PV plant and the overhead line, and the nearest observations of bats are reported at more than 10 km of the project area.

There are two areas of conservation sites within 10 km of the solar PV project. The Bouhedma National Park & International Bird Area (IBA) is located ~3.4 km away and dominated by steppe flora with tree cover similar to the pseudo-savannahs unique to Tunisia, vegetation highly adapted to arid conditions providing refuge to a variety of birds. It hosts bird species such as the Subalpine Warbler, Pharaoh Eagle-owl, Barbary Partridge, and Moussier's Redstart. The sebkhet Ennaoual IBA & RAMSAR Site is located ~2.5 km away and supports similar avifauna, including the Red-necked Nightjar, Houbara Bustard, and Greater Hoopoe-lark, as well as large numbers of waterbirds in its steppe wetland habitat. The African Houbara (*Chlamydotis undulata* - VU) is a species cited in the bibliography for both sites, but has undergone significant population declines in recent decades and, according to the 2023 IUCN assessment, is now considered possibly extinct in northern Tunisia, and the Tunisian Red Data Book notes that only relict populations remain in the far south of the country, occurring at low densities and with a heterogeneous distribution. Data indicates the most recent sighting in 1993 of two individuals at c 75 km west of the project. The species is therefore considered likely absent from the area. Although not recorded during field surveys within the project site, the *Bubo ascalaphus* (Pharaoh Eagle-owl - LC) is listed in both protected areas and is considered likely to be affected as it is considered to have a risk of collision with overhead transmission lines due to its flight behavior and nocturnal activity patterns. To minimize collision risks, Bird Flight Diverters (BFDs) will be installed.

Ecological analysis of the regional landscape context indicates that regular, daily movement of passerines between these nearby conservation areas and the project site is highly unlikely. This is due to the limited home ranges of most passerine species (typically within a 1 km radius) and their relatively low dispersal capacity. Similarly, waterbirds are strongly tied to aquatic habitats and are unlikely to move outside of such environments during migration stopovers or wintering. In contrast, raptors are highly mobile and may actively move between the project site and surrounding protected zones, traveling up to 20 km in search of prey. The ESAR indicates that the pylons of the overhead line may enhance nesting opportunities for those raptors. Given the distance to the sensitive areas and the lack of ecological connectivity, the ESAR concluded that the project is not expected to have a significant impact on the conservation objectives of these sites.

Based on the field surveys and the assessment of biodiversity in the project area (including both the PV power plant and the overhead line corridor), the ESAR concluded that the project area does not qualify as Critical Habitat. While several species of conservation interest are present (notably *Stipa tenacissima*, *Acacia tortilis*, *Lanius senator*), no globally or nationally Endangered (EN) or Critically Endangered (CR) species were recorded. The species present within the project footprint are either widespread and ecologically dominant in the region, occur in low numbers within the project footprint, or showed only occasional or rare presence during surveys. None are considered to be dependent on the project area or to occur in concentrations that would make the site essential for their persistence. Additionally no significant congregations, endemic or restricted-range species, or migratory bottlenecks were identified.

As required by the ESAR, habitat clearance and construction will be undertaken outside of breeding

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season, and mitigations measures including installation of bird divertors on the overground portion of grid connection will be implemented.

Climate Assessment

Climate change mitigation:

The project substantially contributes to the climate change mitigation objective.

Climate change adaptation:

Residual risks from physical climate hazards are deemed low.

Paris Alignment of projects:

The project has been assessed for Paris alignment and is considered to be aligned both for low carbon and resilience goals against the policies set out in the Climate Bank Roadmap and the Bank's Energy Lending Policy.

EIB Carbon Footprint Exercise

Estimated annual emissions related to the project:

- 0 ktonnes of CO₂ equivalent per year for absolute emissions.
- -112 ktonnes of CO₂ equivalent per year for relative emissions.

The direct CO₂ equivalent emissions of this project are negligible. In accordance with the Bank's current Carbon Footprint methodology it is calculated that, based on the avoidance of electricity generation from a combination of existing and new power plants in Tunisia (combined margin for intermittent electricity generation), the total relative effect of the project is a net reduction in CO₂ equivalent emissions by 112 kt CO₂e/yr.

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

Social Assessment

The land for the PV plant is under private ownership and covers an area of 305 hectares (13 land titles), of which 180 hectares will be used for the installation of the panels. The land required for the solar PV site has been obtained on a "willing lease, willing lessor" basis. The PV plant does not involve expropriation or physical displacement, and economic displacement is expected to be very limited. The PV plant area will be divided into three non-contiguous sections. Two main access roads will remain unfenced and fully accessible, ensuring continued access for nearby households.

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The 12 km 225 kV high-voltage overhead transmission line (OHTL) crosses mostly state-owned land over approximately 7 km, the remainder crossing approximately 19 privately owned plots. Approximately 4% of the land intersected by the line is used for agricultural activities (land used for fruit growing (almond and olive trees) and vegetation planting) with the rest being open land that can be used for grazing livestock. Land will be required for the temporary construction activities of the line pylons, for the permanent footprint of pylons, and for the permanent road access for operations and maintenance reasons of the transmission line. There will be additional land use restrictions within (and below) the right of way based on safety requirements during operations (minimal distance of 30m from the conductors). Four residential structures were identified along the route, with the nearest one located more than 100 m away from the line. The national legislation provides a right of way for electricity lines, allowing power lines to cross private lands, including agricultural areas, without needing to buy the land or expropriate it. Regarding occupation of land for the transmission line (e.g. for the pylons), temporary occupation agreements will be concluded, and the promoter (through STEG) can ultimately resort to legal proceedings that essentially forces a landowner to accept the occupation of their land.

Considering that the project may result in a loss of livelihood, a Land Acquisition and Resettlement Framework (LARF) has been prepared for the project and the interconnection line. A Land Acquisition and Livelihood Restoration Plan (LALRP) will then be prepared for the project, providing for compensation at full replacement cost, transition and assistance allowances as needed, to ensure compliance with lenders' standards. At this stage, the expected losses of livelihood are related to herders using land for grazing and to agricultural activities potentially impacted by the pylons of the line. The restrictions of use related to the rights of way of the transmission line are not expected to lead to loss of livelihood, as the LARF did not identify any tall trees or vegetation that require removal. However, this shall be confirmed in the LALRP. The ESAR did not identify indigenous people in the area of the project site. There is no cultural heritage identified in the PV solar plant area, while some locations along the current overhead line may suggest potential archaeological interest. Pre-construction archaeology survey will be undertaken at the pylon locations, and precautionary chance find procedure will be established to handle any accidental archaeological discoveries during the construction phase.

Beyond the potential economic displacement, the project's main social risks and impacts relate to traffic, increased presence of workers and labour risks. Increased traffic associated with the project, in particular during the construction phase, may pose some safety risks to surrounding communities. The development and implementation of a traffic management plan is expected to reduce community risks. Any worker accommodation needed for the project will comply with the lenders' standards. Project-specific E&S management plans will be developed, including measures to mitigate potential influx of people and gender-based violence and harassment risks. Adequate EHS (environment, health and safety) provisions will be included in the EPC contracts, including compliance with labour legislation and lenders E&S Standards and access to a workers' grievance mechanism including review and response to anonymous complaints. The project will also develop specific measures aimed at increasing the use of local workforce.

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Public reports are pointing out the possibility of use of forced labour in the supply chain of solar PV panels. Scatec has established a Supply Chain Management System with a supplier code of conduct and policies that prohibit forced labour and provides for processes to identify, manage, and monitor supplier risks. All suppliers undergo integrity due diligence, which includes human rights considerations. The project shall also comply with the EIB Group Environmental and Social Policy and the EIB Environmental and Social Standards, which foresee a zero tolerance of forced labour. The promoter shall make reasonable efforts to assess and address the labour risks associated with the solar PV panels used in the project, including throughout the supply chain, as required by the EIB E&S Standards. The due diligence to be performed by the promoter (including the supply chain mappings) will be reported to and reviewed by the Bank.

Public Consultation and Stakeholder Engagement

A Stakeholder Engagement Plan ("SEP"), including a project-specific grievance redress mechanism (GRM), has been developed for the project. Early engagement with the authorities and adjacent communities has been undertaken by the promoter, and a dedicated Community Liaison Officer will be hired before the commencement of the construction phase, responsible for the implementation of the different engagements foreseen in the SEP and the management of external grievances throughout the lifetime of the project.

Besides the project-specific GRM, Scatec has also a website where general information about the company and its activities can be found. A general grievance mechanism and a whistle-blower channel are also available through this website and allows confidential grievance in order to prevent retaliation risks.

Other Environmental and Social Aspects

The leading sponsor of the project, Scatec, has experience in developing and building similar projects in the country, and is used to International Finance Institutions E&S Standards. Scatec has management systems certified ISO 14001:2015 (environmental management) and ISO 45001:2018 (occupational health & safety management), along with relevant policies and procedures in place at a corporate level.

An Environmental and Social Management System (ESMS) at project-company level for the construction and operational phases will be developed and implemented for the project. The ESMS will outline the set of management processes and procedures at project level, including the roles and responsibilities and measures to be developed/taken by the various actors for duly addressing any project-related environmental and social risks and impacts.

Conclusions and Recommendations

Following the review of the Bank, it is concluded that this operation is acceptable to the Bank from an environmental and social point of view under the following conditions:

- The project's financing contract will include an Environmental and Social Action Plan (ESAP) that will provide the subsequent measures and actions required in line with the Bank's Environmental and Social



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Standards. The finalization of the ESAP to the satisfaction of the Bank will be set as a condition for EIB financing.

- The promoter will undertake to ensure that the land acquisition required for the project is carried out in accordance with the requirements of the EIB E&S Standards, and document and report on the land acquisition process accordingly to the Bank, including by preparing a LALRP to the satisfaction of the Bank prior to construction.

- The promoter will develop and implement a project-specific Environmental and Social Management System and its associated plans in line with the ESAR prior to the start of construction (e.g., traffic management plan, waste management plan, biodiversity management plan, human resources management plan, land acquisition and livelihood restoration plan, etc).

- The promoter undertakes to make reasonable efforts to carry out appropriate due throughout its supply chains, with the aim of avoiding the use of forced labour in the supply chains of the solar panels that will be used for this project. The outcome will be reported to and reviewed by the Bank.

- The promoter will submit to the Bank annual E&S performance reporting (including on ESAP implementation, SEP implementation and resolution of grievances, etc). The Bank will reserve the right to request that the review of the ESAP / ESMS implementation be undertaken by a suitable third party, if deemed necessary by the Bank.

The finance contract will also contain an undertaking that the project will be implemented and operated in compliance with EIB's Environmental and Social Standards, including specific representations on Solar PV supply chain forced labour issue.