

Public

Environmental and Social Data Sheet

Overview

Project Name:	<i>Scaling Solar PV Senegal</i>
Project Number:	<i>2017-0458</i>
Country:	<i>Senegal</i>
Project Description:	<i>The construction and operation of two independent solar PV plants totalling up to 60MWac under the World Bank Group's Scaling Solar program, located in Kahone and Touba, Senegal.</i>
EIA required:	yes
Project included in Carbon Footprint Exercise ¹ :	yes

(details for projects included are provided in section: "EIB Carbon Footprint Exercise")

Environmental and Social Assessment

Environmental Assessment

If the project was located within the EU, it would fall under Annex II of the EU EIA Directive, requiring the competent authorities to determine whether an EIA is required. In line with Senegalese EIA requirements and IFC Performance Standards, an EIA process was followed, Environmental and Social Impact Assessments (ESIAs) studies, including Environmental and Social Management Plans (ESMPs), were prepared for both plants and their grid connection tie-lines, and public consultation meetings were held in 2018 during the preparation of the ESIs. The Senegalese Ministry of Environment is expected to validate the ESIs that have been presented in February 2019, and issue the environmental permits in the second quarter of 2019 after the final public consultation on the ESIs.

Kahone

The 44 MW_p PV plant site is located over a 36 ha land that was used mainly for seasonal crops (groundnut, millet, sorghum, maize, beans, water melon and hibiscus plants). Fruit and forest trees will also be impacted by the plant. The area was used during the dry season (October to May) by pastoral nomads. Approximately 400 trees and shrubs will be removed for the plant and the 30 kV transmission line (300m underground).

Touba (Kael)

The 35 MW_p PV plant site is located over a 30 ha land that was used mainly for pasture, medicinal plant collection, and agricultural farming of seasonal crops (groundnut, millet, sorghum, beans and hibiscus plants). Approximately 240 trees and shrubs will be removed for the construction of the plant and the 30 kv transmission line (3km overhead).

In both cases, the land use change from agriculture and pastoral activities towards solar PV energy generation brought about involuntary economic resettlement that is being managed by the relevant governmental agencies (please see below Social Assessment section for more information).

¹ Only projects that meet the scope of the Carbon Footprint Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: 20 000 tonnes CO₂-e/a absolute (gross) or 20 000 tonnes CO₂-e/a relative (net) – both increases and savings.

Neither site includes or is within 500m of a protected area, nor is there any critical habitat or legally protected and internationally recognised areas in the vicinity of the sites. Several species of protected and “semi-protected” (as per Senegalese regulations) vegetation were recorded in the area of the sites, as recorded in the ESIA. The presence of fauna in both areas is low and reflects the areas’ peri-urban status. A very low to inexistent potential was identified in the ESIA for impacts on the habitat of several species of endangered or critically endangered birds; however, their presence in the area of the sites could not be positively confirmed. It is likely that those species are present in a habitat unit extending significantly beyond the project’s footprint. A low risk is reported in the ESIA for one critically endangered species of vulture (*Necrosyrtes monachus*) as per the Redlist of the International Union for Conservation of Nature and its Resources (IUCN); however, this species was not positively identified at the sites and is solely reported as present within the general region of the sites. A bird monitoring programme will be implemented by the borrower.

The main environmental impacts are expected during construction (air emissions and noise; vegetation removal, loss of access to pasture land and for medicinal plants). During operations, risks and impacts are expected to include increased water consumption (solar panels will have to be cleaned to avoid reduced efficiency due to dust built-up); erosion and dust generation resulting from vegetation removal; hazardous waste management (e.g. transformer oils), and vegetation clearing operations. Water for construction and operation will have to be sourced either through dedicated boreholes or by extending the supply from nearby distribution networks. The promoter is currently preparing a Water Management Plan that will outline the cleaning strategy and its implications on local water availability. This plan will need to be reviewed by EIB to its satisfaction.

The project will also have positive environmental impacts as solar generated electricity will displace a significant volume of gaseous pollutants such as particulate matter, SO₂, NO_x and CO₂, compared with thermal generation. The project is also expected to increase the country’s electricity supply and diversify the country’s energy mix, and thus avoid, or at least reduce, the need for fossil fuel generation in the country.

The PV power plants are expected to produce an average of ca. 132 GWh/a, and will not generate any absolute CO₂ emissions. 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 Senegal (50% operating margin and 50% build margin), the project will result in emissions savings estimated at 60 000 tonnes of CO₂ equivalent per year. 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

Kahone

The construction and operation of the plant will result in economic displacement on 36 ha of land controlled by 3 family lineages, represented by 3 heads of household, with a total of 98 dependants. About 80% of the land was actively farmed by 28 farmers with mainly seasonal crops. The area was used during the dry season (October to May) by pastoral nomads allowed by farmers to station their livestock in order to access pasture land and in return enrich farmers’ fields with manure. Pastoral nomads establish seasonal residential structures that they systematically dismantle as the rainy season approaches and they have to vacate the area for farmers to use it for their cropping activities.

Touba (Kael)

The proposed site for the installation of the power plant at Kael covers approximately 30 hectares of land, at the outskirts of the Kael Municipality. A 30kv medium voltage line will connect the installation to the national grid via the Mbacké/Touba substation, 2.5km away.

The construction and operation of the plant will result in economic displacement on 30 ha of land controlled by 19 family lineages, represented by 19 heads of household with a total of 688 dependants. 11 Plots owned or worked by 19 heads of households will be affected leading to loss of livelihoods.

Luxembourg, 29.04.2019

While no infrastructure has been identified in the project footprint, 49% of the total land take (power plant and the rights of way for the 30kv line), is agricultural land. This land is mainly used for annual crops (such as groundnuts, millet, sorghum, vegetables), fruit trees (Jujubier) and timber trees (144 Acacia albida and 147 Balanite aegyptiaca). Additionally the land is used as pasture and for medicinal plant collection.

General

All impacts of economic displacement on local farmers (i.e. landowner/user, landowner/non-user, and user/non-landowner) and the pastoral nomads, as applicable, will be addressed through compensation and livelihood restoration measures proposed in the respective Resettlement Action Plans (RAPs). The RAPs were developed in compliance with Senegalese law. First drafts of the RAPs were submitted in October and November 2018, for Kahone and Touba (Kael) respectively, for lenders' review. The RAPs will be finalised in line with EIB E&S standards and recommendations of the other Lenders, and will have to be endorsed (plan and budget) by Senelec, as it is responsible for implementing the RAP. The Project Companies will collaborate with Senelec to achieve outcomes that are consistent with the EIB Standards.

More specifically, the Project Companies are committed to supervising this "government-led" resettlement process and – at the Lender's request - to developing a **'detailed implementation plan for livelihood restoration'** based on the final Senelec RAPs and on Senelec's allocated budget. Should compensation and livelihood restoration measures eventually not meet EIB's requirements, the Project Companies will develop a **'corrective action plan'** to complement Senelec's actions. This may include additional compensation for lost assets, and additional efforts to restore lost livelihoods if applicable. After completion of RAP implementation, the Project Companies will commission an **'external completion audit'** of the process to assess whether lender E&S standards have been met and if necessary develop and implement complementary measures.

The promoter will address, either through the detailed plan for livelihood restoration or, later on through their corrective action plan, the following points:

1. Align the definition of PAP (project-affected persons) to EIB E&S Standards, and adjust proposed mitigation measures accordingly.
2. Carry out a gender-disaggregated census including vulnerability criteria. Prepare a livelihood restoration budget in line with local guidelines, and based on a consultation of all PAPs as determined by the census.
3. Adjust compensation values to take into account Standard 6 of the EIB E&S Standards, and in particular the principle of fair compensation therein.
4. Design a Grievance Mechanism that takes into account the PAPs' profile and cultural context.

About 100 workers are expected during construction for each plant (200 in total), most of whom will be recruited locally. When operational, the project is expected to employ only a limited number of staff. Each Project Company will develop its own HR Policy and procedures for the construction and operation phases. Each Project Company will ensure that the EPC and O&M contractors develop similar policies and procedures. At a minimum, the HR Policies will incorporate provisions such as working relationship; working conditions; terms of employment; workers' organisations; non-discrimination and equal opportunity; grievance mechanism; prohibition of child and forced labour; and occupational health and safety. A procedure to ensure that contractors' labour and working conditions comply with Lenders' requirements and Senegalese Laws will be further put in place.

Furthermore, each Project Company will include EHS (environment, health and safety) provisions in the EPC and O&M contracts and the contracts with their sub-contractors. These provisions will include as a minimum: compliance with labour legislation, terms of OHS (occupational health and safety) management, and access to a workers' grievance mechanism including review and response to anonymous complaints. Each Project Company will monitor third-party compliance with approved EHS requirements.

The Kahone plant will be located in an industrial zone next to a secondary road, while the Touba (Kael) plant will be located in a rural area. As such, increased traffic associated with the project, in particular during the construction phase, may pose some safety risks to neighbouring communities. During the operational phase,

the site will be fenced and public access to the solar plant will be restricted. At the moment of appraisal, security arrangements had not been made but the promoter has confirmed that security will be provided by a private firm and CCTV system. Non-armed guards will be posted on site. The promoter will assess the risks posed by the project's security arrangements and ensure that the security contractor operates in line with EIB requirements. The development and implementation of a '**Traffic Management Plan**' and of a '**Security Management Plan**' is expected to reduce any community risks linked to traffic and security aspects, whereas the development and implementation of a '**Waste Management Plan**' is expected to reduce any community health risks.

Public Consultation and Stakeholder Engagement

During the preparation of the ESIs, public consultations were held in July and August 2018, for Kahone and Touba (Kael), respectively. With respect to Kahone, most concerns were related to community health and safety during construction, employment opportunities, training, and provision of electricity as a project benefit. With respect to Touba, main concerns were related to community health and safety during construction, employment opportunities, influx of workers and impacts on communities, ongoing information about the development, occupational health and safety, danger of electrical equipment, training, and provision of electricity as a benefit of the development. A final public hearing will be held for each project and the comments from those hearings will be included in the final version of the ESIs. On this basis, the authorities will issue the environmental permit, expected in the course of Q2 2019.

During the RAP development process, consultations with affected people were held in March and April 2018, for Kahone and Touba respectively. With respect to Kahone, main concerns were related to the loss of access to land and the lack of replacement lands, conflict resolution, lack of confidence related to Senelec's commitment in implementing the RAP, the importance of a transparent compensation process, skills needed to engage in alternate livelihood activities, and capacity building. With respect to Touba, main concerns were related to the loss of revenues resulting from displacement, livelihood restoration, conflict resolution, need to address vulnerability of people, and food security.

The project will further develop and implement a Stakeholder Engagement Plan (SEP), including a grievance mechanism, and hire a Community Liaison Officer (CLO) to ensure the continuous and effective engagement of affected and interested parties, in particular surrounding communities.

Other Environmental and Social Aspects

The promoter is a consortium led by ENGIE and Meridiam, together with Fonsis (the sovereign wealth fund of Senegal). ENGIE is a large multinational energy company. Meridiam is a global investor and asset manager specialising in public and community infrastructure. Both have good environmental and social capacity to implement the project.

The Project Companies will develop and implement their own '**Environmental and Social Management Systems**' (ESMSs) for the construction and operational phases. The ESMSs will outline the set of management processes and procedures, 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.

The ESIs for Kahone and Touba (Kael) include '**Environmental and Social Management Plans**' (ESMPs) defining management programmes related to the identified risks and impacts. During construction and operations, the EPC Contractor will have an EHS Officer at each site. This Officer will supervise and coordinate all EHS activities of the different sub-contractors. Each Project Company will also set up an EHS team to support the Contractor's EHS Officer to ensure that mitigation measures of ESMPs are effectively implemented. This team will be composed of an EHS Manager, and a Community Liaison Officer (see the Stakeholder Engagement section above) responsible for managing grievances and overseeing implementation of the '**Livelihood Restoration Plan**'.

Luxembourg, 29.04.2019

It should be noted that both Senelec and the Project Companies have engaged their own E&S advisors. Lenders are of the opinion that the development of the RAPs and ESIA's by Senelec have reached the highest achievable level and agreed to aim for full compliance with their E&S standards, through the commitment of the Project Companies to assess and address any gaps in the corrective action plan, with the aid of their E&S advisor which has been assessed as having adequate capacity.

Conclusions and Recommendations

The ESIA study and process carried out to date are considered satisfactory in light of the EIB's Environmental and Social Standards. 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 Standards. Progress monitoring on compliance with the ESAP will further be included as a requirement in the financial contract. The implementation of the ESAP will be monitored by the Lenders' independent Environmental and Social Advisor (ESA).

The following conditions that will be included in the ESAP are the provision, to the satisfaction of the Lenders, of:

- Environmental and Social Management System;
- Final RAPs and, if applicable, Corrective Action Plans to complement government action in regard to the RAPs;
- Detailed Livelihood Restoration Plan;
- Stakeholder Engagement Plan;
- Traffic Management Plan and Security Management Plan;
- Waste Management Plan;
- Water Management Plan;
- Bird monitoring programme;

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 being in line with the measures and actions outlined in the environmental and social documentation² and the environmental permit.

With the above conditions, the project is acceptable for EIB financing in E&S terms.

² ESIA, ESMP, ESAP, RAP, Livelihood Restoration Plan, SEP