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Public

Environmental and Social Data Sheet

Overview

Project Name:	Kozani 230MW PV
Project Number:	2020-0644
Country:	Greece
Project Description:	The project comprises the development, construction and operation of three solar PV plants with a total installed capacity of ca 230MWp, in Kozani, West Macedonia prefecture, Greece.
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

The project consists of the development, construction and operation of three solar PV plants with a total installed capacity of ca 230MWp, in Kozani, West Macedonia prefecture, Greece. The project scope also includes the ancillary infrastructure for the grid connection and the access roads. The total capacity of the project is divided in two 15MW plants ('IPDM 1' and 'IPDM 2') and one 200MW plant ('IV1'). IV1 is divided over several plots of land – the first group of plots is adjacent to the IPDM2 site, whereas the second is located ca 3.5km to the West, adjoining the IPDM1 site. The grid connection of all three plants will be accommodated via two new Medium-to-High Voltage ('MV/HV') substations that will be constructed close to IPDM 1 and IPDM 2. The PV plants will be connected to the substations via Medium Voltage ('MV') cables installed underground. The substations will be connected to existing 150kV overhead lines, located within a very short distance (less than 100 meters). For this connection, it is possible that an existing high voltage pylon per substation will need to be moved – this will be determined in the final design to be approved by the grid operator. The construction of IPDM1 and IPDM2 has commenced, whereas for IV1 it is expected to commence in Q2 2021.

The technical configuration of the PV plants includes mono-facial and bi-facial PV modules (the latter for IV1), string or central inverters, fixed supporting structures for IPDM1 and single-axis trackers for IPDM2 and for IV1.

The approval process followed by the Bank for this project is executed in two stages (Stage I and Stage II).

[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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Environmental Assessment

PV plants and their grid connection facilities fall under Annex II of the EU EIA Directive 2011/92/EU as amended by Directive 2014/52/EU, leaving it to the competent authority to determine whether a full Environmental Impact Assessment ('EIA') is required. According to Greek Law 4014/2011 (GG 209/A/21.09/2011), as amended by Law 2471/2016 (GG 2471/B/10.08.2016), public and private projects and activities are classified into two main categories (A and B) depending on their estimated environmental impact. Category A includes projects and activities, which might have a significant environmental impact for which an Environmental Impact Study ('EIS') is necessary. Category A is divided into subcategory A1, which includes projects and activities that might have a very significant environmental impact and subcategory A2, which includes projects and activities that might have significant environmental impact. According to the aforementioned legislation, PV plants with capacity above 2MW (which is the case for each of the three plants of the project), are classified as A2.

The three PV plants were screened in and they have all undergone independent EIAs, in which the corresponding ancillary works were included. The relevant environmental approvals were issued in 2011. The latest modification of the environmental permits took place in early 2020, for which an updated environmental study covering the cumulative impact of all three plants was prepared. A further update of the environmental approvals is required for all three plants and their respective grid connections, in order to reflect the final technical design and the equipment to be installed.

The project site (consisting of several land plots located close or next to each other) is located on a lignite mining area, where excavated soil from nearby lignite mines was being deposited until 2005. Lignite power plants operate in the wider area, which forms part of a Just Transition region in Greece – the Territorial Just Transition plan of the country envisages the phase out of fossil fuel plants by 2028 and their replacement by low-carbon generation, including more than 2GW of solar PV in this area.

As concluded in the EISs, the project is expected to have limited environmental impact due to its installation on a brownfield site. The project area is not within or close to any Natura 2000, RAMSAR designated sites, National Parks or aesthetic forests. A wildlife refuge (Kariochori-Spilia) is located approximately 1km south of the site area. The closest Natura 2000 site, Oros Vermio, is located ca 8km away. The biodiversity assessment conducted as part of the EIS, concluded that the impact on these areas is insignificant. Furthermore, no cultural heritage or archaeology monument is located within or in the vicinity of the project site. According to the available documentation, the installation area is mainly mountainous grassland.

The closest settlement to the project is Agios Christoforos, located ca 0.5km from IPDM1 and from IV1, and Karyochori, located ca 1.5km from IPDM1 and 0.5km from IV1. IPDM2 is more than 4km away from the closest settlement. According to the EIS, the visual and landscape impact of all sites is expected to be limited, mainly due to the technology of the project, the nature of the wider area (lignite mines), and in particular for IPDM1, due to the existing trees surrounding the site.

E&S impacts identified in the EISs are typical for solar PV projects, and mainly include the production of hazardous and non-hazardous waste during construction, noise and dust from the construction works, landscape impacts, as well as electro-magnetic radiation from the high voltage equipment. Relevant mitigation measures proposed in the EIS include spraying water in the construction and circulation areas to minimise dust, determining sites for excess excavation materials, the development of waste management and disposal plans, water

reservoir(s) for the accumulation of rain water/surface waters, routing of medium voltage cables in parallel with existing access routes, appropriate fire protection and lighting systems, H&S signage etc.

EIB Carbon Footprint Exercise

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 Greece (combined margin for intermittent generation), the total relative effect of the project is a net reduction in CO2 equivalent emissions by 240 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 the project's cost.

Public Consultation and Stakeholder Engagement

Public consultation was carried out under the EIA process, as required by the EU, and as transposed into national and regional law. The promoter has not developed/conducted further stakeholder engagement activities.

Other Environmental and Social Aspects

The promoter currently operates a fleet of ca 170MW of RES projects in Greece, comprising of wind farms, small hydropower plants and solar PV plants. The construction of the project will be undertaken by experienced contractors.
The promoter has not yet developed an Environmental and Social Management System ('ESMS') and, therefore, relies on external contractors to produce H&S plans and Waste Management plans, in line with Greek legislation requirements. As a first step towards developing an ESMS, the promoter will create a grievance mechanism and assign E/S/H&S roles and responsibilities, as appropriate for their organisational structure.

Conclusions and Recommendations

Based on the information provided, no significant environmental or social impacts are expected. Any impacts will be mitigated in the project's design and as prescribed in the environmental permits.

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

a) A waste management plan for each PV plant will be developed and applied in line with Greek law requirements;

b) An H&S plan that includes provisions relating to COVID-19 and to the surrounding operating lignite mines will be produced and implemented for each PV plant. The plan will be subject to review by the Lenders' engineer and the Bank;

c) The promoter will shall establish a grievance mechanism and will assign E/S/H&S roles and responsibilities as necessary, as part of the development of an ESMS. The grievance mechanism will be reviewed by the Lenders' Engineer and the Bank;

d) The project permits (including the environmental approval) will be updated in order to reflect the final technical design of the PV plants. Should an updated EIS be required during this process, the EIS and the relevant approval by the competent authorities

will be submitted to the Bank for review prior to any disbursements towards the respective PV plant.

Final E&S contractual undertakings and conditions will be defined after completion of the Bank's due diligence and prior to financial close.