



European Investment Bank (EIB)

Luxembourg, 8th December 2020

Environmental and Social Completion Sheet (ESCS)

Overview

Project Name:	MEGALIM SOLAR THERMAL PLANT
Project Number:	2012-0677
Country:	Israel
Project Description:	Design, construction and operation of a solar thermal power plant with a gross installed capacity of 121 MW on a Build-Operate-Transfer (BOT) basis.

Summary of Environmental and Social Assessment at Completion

The project concerns the implementation of a concentrated solar power (CSP) system with a nominal electrical capacity of 121 MW_e. It applies a heliostat/receiver technology using superheated steam as a heat transfer fluid. The plant is located in the western Negev desert in Israel, 35 km south of the city of Beer Sheva.

EIB notes the following key Environmental and Social outcomes at Project Completion.

The project was subject to an EIA which was approved by the authorities in December 2012. The main environmental impacts identified in the EIA related to effects on local vegetation, avifauna, visual impacts and noise impacts. The project did not entail any physical or economic displacement of local populations and its social impacts were deemed to be overall positive.

The project started its construction in March 2015. No significant environmental or social issues were noted during construction. In terms of impacts on flora, the EIA had identified several protected acacia trees which were protected during the construction phase. In addition, a preservation plan was put in place and approved by the authorities. In terms of biodiversity, small animal passages were included in the perimeter security fence and they are inspected periodically. With regards to avian species, the promoter carried out monitoring activities during the construction period with a view to the operation phase which was expected to entail impacts for avian species.

During the construction phase, the promoter maintained a stakeholder engagement plan and a grievance mechanism. Complaints and observations were addressed and the promoter carried out continuous awareness activities with the local population to inform them of expected impacts. In addition, the promoter developed a landscape rehabilitation plan, which the local community approved.

The project entered operation on April 2019. After the first year of operation, no significant environmental or social issues were noted. The following key environmental and social (E&S) outcomes at project completion are presented with reference to issues highlighted at appraisal.



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The project includes an auxiliary boiler operating on natural gas. Its NO_x emissions have been at times above the limits required by the environmental permit. In order to address the issue, the promoter took remedial measures which solved the elevated concentration of NO_x.

In terms of water needs, the project uses water primarily for the condenser and for heliostat cleaning. In the first year of operation, the water consumption was higher than anticipated. The promoter has taken measures to optimize water consumption. The excess water consumption is attributed to the ramp-up phase of the first year of operation and relates to longer start-up time and cloud transient management. As more experience is gained with the operation of the plant, the water usage is expected to be reduced to the levels anticipated at appraisal.

Regarding the project impacts on avifauna, the promoter has implemented a monitoring plan for the first year which did not indicate significant mortality rate. Though the project is not located in a major migratory flyway, monitoring will continue as it was confirmed that the project attracts small birds which in turn attract raptors. The promoter has implemented measures to prevent small birds from approaching and nesting on the site including cameras and frequent inspections. In 2020, the promoter included additional monitoring measures in the monitoring plan to increase its accuracy. The monitoring plan did not include the impacts of the grid connection line on birds, as (1) the grid connection line is far from attractors such as fish ponds or garbage dumps, and (2) the expected mortality due to collision or electrocution was very low, less than one death per year.

During operation, the main impacts to the local population relates to noise and glare. The project has procured independent noise measurements which confirmed that the noise impact of the project is below national standards. During operation, there are no active complaints about the noise. With regards to the glare, there were complaints which related to glare from defocused heliostats. Such complaints were forwarded to the solar field operators who adjusted the algorithm for the positioning of defocused mirrors. At present there is no active complaint about the glare.

EIB notes the following key Environmental and Social aspects to be monitored during operations:

- Monitor the water consumption on the 2nd year of operation.
- Monitor the avian impacts according to the revised monitoring plan and measures which were introduced in Q2 2020.

Summary opinion of Environmental and Social aspects at completion:

EIB is of the opinion based on reporting from the promoter and inputs provided by lenders' supervisors during construction that the project has been implemented in line with EIB Environmental and Social Standards, applicable at the time of appraisal.