Luxembourg, 22.07.2014

Environmental and Social Data Sheet

Overview

Project Name:	NEGEV SOLAR THERMAL PLANT
Project Number:	2009-0731
Country:	Israel
Project Description:	Design, construction and operation of a solar thermal power plant with a gross installed capacity of 120 MW on a Build-Operate-Transfer basis.
EIA required:	yes
Project included in Carbon Footprint Exercise[1]:	yes

Summary of Environmental and Social Assessment, including key issues and overall conclusion and recommendation

The project concerns the implementation of a concentrated solar power (CSP) parabolic trough plant with a nominal electrical capacity of 121 MW_e. The plant will be located in the Western Negev Desert in Israel, 35 km south of the city of Beer Sheva.

If located in the EU, the project would fall under Annex I of the EIA Directive 2011/92/EU, and would require a full environmental impact assessment (EIA). The EIA for the project site, together with the two other sites for solar projects planned in the National Outline Plan 10/b/1 (NOP), was submitted to the Ministry of Environmental Protection (MEP) in January 2012 and it did not identify any significant negative residual environmental and social impacts, if the mitigating measures indicated in the NOP were adequately applied. The EIA was approved in December 2012.

According to the EIA, project environmental impacts relate to effects on local vegetation and avifauna, visual and noise impacts. They have been adequately addressed, and are expected to be minor. The project will use a wet cooling system, designed to minimise water consumption. Local groundwater will not be used for cooling purposes.

The project does not involve any physical or economic displacement of local populations. Project social impacts are deemed to be overall positive, given the employment opportunities this project represents, in particular for low to semi-skilled workers.

Environmental and Social Assessment

Environmental Assessment

The CSP plant will emit significantly less gaseous and pollutant emissions, including greenhouse gases, than conventional thermal power plants. The current power plant mix in Israel is still dominated by coal and natural gas.

The EIA for the project site was submitted to the Ministry of Environmental Protection (MEP) in January 2012. The EIA addresses all the topics mentioned in the EU Directive 2011/92/EU, including noise, land use and land designation, and geology.

Public consultation, in compliance with the Israeli guidelines, consisted of the publication of the NOP for public hearing in September 2012 for a period of 45 days. Further to formal public consultations, the State organised an informal public participation process, which included up to five public information meetings with relevant stakeholders. This process

[1] Only projects that meet the scope of the Pilot Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: above 100,000 tons CO2e/year absolute (gross) or 20,000 tons CO2e/year relative (net) – both increases and savings.

spanned from 2010 to 2012. The objections raised during the public consultation process were mainly related to possible air pollution, noise and landscape effects of the power plant on the area. These objections were heard and addressed during the December 2012 meeting of the National Board for Planning and Building (NBPB), in which the EIA was approved.

The environmental study indicated potential environmental impacts on local vegetation and avifauna. The project's residual environmental impacts will be mainly visual and related to noise, during operation. Noise will be kept within permitted limits and only limited atmospheric emissions from the plant are expected.

The EIA included two additional solar projects and the common grid and gas connections. The grid connection will consist of a 161 kV tie-line of ca. 11 km in length. Its major expected impact would be on migratory birds. However, the grid connection will be installed in the electricity corridor located alongside an existing highway, minimising its impact. The gas connection is an underground line of ca. 25 km in length. The water connection infrastructure will be covered in a separate EIA, to be performed by Mekorot (National Water Company of Israel). The Bank will require a copy of the water connection EIA prior to its construction.

The project site is located in the Negev desert, on land that was previously used as military training area, with very low flora and fauna biodiversity. The EIA developed for the project shows no impact on special natural habitats and thus no need for special mitigating measures. The nearest site of natural interest is the Mashabim Sands Nature Reserve, which is located approx. 500 m north of the site. The project is not expected to have any significant impact on this or any other natural protected sites in the region.

As for fauna and flora, according to the EIA, most species found in the EIA study area are not threatened or protected. The related survey conducted during the preparation of the EIA showed that some protected species such as Convolvulus lanatum and Iris Maria Mashabim were found in the above mentioned Nature Reserve.

According to the EIA, the project area and general surroundings appear to be situated near a secondary migration flyway, relative to the major flyways known for this region. As a result of the EIA, the NOP permitting requirements include a monitoring plan for the impact of a power plant on migratory birds flying in the project area. A bird survey will be conducted for the project area between April and June 2014, and the monitoring plan will be developed accordingly. The monitoring plan shall include impact on birds due to the grid connection line.

Other environmental impacts included water consumption, mainly for cooling purposes. The project will use a wet cooling system, which minimises water usage using a larger number of recycles than industry practice for CSP plants. The tender documents specified that the project would be equipped with a wet cooling system. Its total annual water needs are about 1.6 hm^3/a. According to the National Outline Plan (NOP), water will be supplied from the national water supply infrastructure managed by Mekorot. Its water sources include surface water, groundwater and output from desalination plants. The water needs for the project amount to less than 0.1% of current water consumption in Israel.

The project is expected to create ca. 633 person-years of temporary employment during construction. Permanent employment is expected to be 35 full time jobs associated with the operation and maintenance of the plant.

EIB Carbon Footprint Exercise

Absolute CO_2 emissions from the project in a standard year of operation will be around 56 kt CO_2 e/a.

The baseline emissions are calculated assuming that electricity generated by the project will displace generation from a mix of existing thermal power and new generation (combined-cycle gas turbines and renewable). Compared to this baseline the project is estimated to save 188 kt CO_2 e/a.