Scatec Solar

Chigirin Solar Project

Non-Technical Summary

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CONTENTS

1 INTRODUCTION

Scatec, through local project organisation Greenteco SES LLC, are proposing to develop a 45 MWac Photovoltaic (PV) solar power project, and associated 3km 150KV overhead transmission line, referred to here as 'the Project'. The Project will be located on a site to the east of the Dnieper River, and is surrounded by the municipality of Chigirin, in the south-western part of the Cherkasy region of the Ukraine. The site was previously designated as the location of nuclear power plant, construction was in the very early stages when the project came to a halt as a result of the Chernobyl disaster.

The Project will provide renewable energy to the Ukrainian electricity grid. This will reduce Ukraine's reliance on fossil fuels, which is expected to improve Ukraine's energy security, mitigate climate change, and improve environmental quality.

This Non-Technical Summary (NTS) provides a description of the project and describes the potential benefits and impacts associated with its construction and operation. It also describes how these will be mitigated and managed through all phases of the project's development. In addition, it provides a summary of the public consultation activities and the approach to future stakeholder engagement.

The NTS has been prepared ahead of the potential financing of the Project by the European Bank for Reconstruction and Development (EBRD).

2 WHAT DOES THE PROJECT INCLUDE?

2.1 The Project

The final detailed design of the Project is still to be finalised, however it is unlikely that any aspect of the project that is described will change significantly. The Project is expected to comprise of the following elements:

- 83,244 single axis tracking solar PV panels formed with monocrystalline cells (360W nominal capacity)
- 3km 150 KV overhead cable line
- Operations and Maintenance (O&M) building
- Site road
- Perimeter fence.

As detailed in Figure 1, the Project is located in central Ukraine within the Cherkasy region, 65 km from the regional center Cherkasy.

Figure 1: Project Location

Figure 2 shows the location of the site to the east of the Dnieper River, and surrounded by the district of Chigirin (Pop. c.8,740), with the transmission line linking the site to the substation. The site is approximately 82 hectares of brownfield land, and is being leased from the Chigirin district state administration for 25 years (beginning in 2018).

Figure 2: Project Site

2.2 Project Status

At the time of writing the final project design is being finalized, the final permits required for construction and operation of the Project are being produced, and financing from the EBRD is being sought. Scatec Solar intend to commence construction early 2019, with construction completed within c. 28 weeks.

3 WHY IS DEVELOPMENT REQUIRED?

Ukraine primarily produces electricity from nuclear power (54%), coal (34%) and natural gas (6%)[1]. Ukraine's nuclear fuel and natural gas are principally sourced from Russia. In addition, pre-2014 much of the coal used by Ukraine was anthracite sourced from the Donetsk and Luhansk regions, which are now controlled by separatist forces. Some lower grade coals are still available within areas controlled by the Ukrainian state; however, Ukraine has been importing anthracite to make up the short fall. Given the current geo-political situation, this reliance on Russian fuels and Anthracite poses an energy security threat to the Ukrainian state.

In addition, much of the energy generation capacity of Ukraine will require decommissioning or upgrading within the next decade. As such there is a requirement for new generation capacity within Ukraine.

[1] https://www.iea.org/statistics/statisticssearch/report/?country=Ukraine&product=electricityandheat

As such renewable energy generation can help provide the new generation capacity required by Ukraine, whilst also providing energy security. In addition, renewable forms of generation have a smaller environmental impact than, other forms of energy generation, in particular they do not contribute to climate change. To incentivise the development of renewables generation within Ukraine, the Ukrainian government has introduced a Feed in Tariff (FIT) scheme for renewable sources including solar. Given the challenges the Ukrainian energy sector faces, and the role the Ukrainian government envisions for solar generation, there is strong rationale for the Project realisation.

4 WHAT IS THE BENEFIT OF THE PROJECT TO THE LOCAL PEOPLE AND THE ECONOMY?

During peak construction between 500 and 600 employees are expected to be on site. Up to 50 of these are expected to be workers which have a specific skill sets and will most likely need to be brought in from wider regions. However, it is envisaged that the majority of jobs will go to members of the local community during construction. Construction is expected to last approximately 28 weeks. Although this work is temporary, job opportunities are expected to benefit the local community. Scatec Solar's policy is to use local labour where possible. It is likely that the unskilled labour will come from the local community, with skilled labour most likely coming from further afield.

During operation, 10 full time operations and maintenance staff including security guards are anticipated. There will be a further 20 – 30 workers employed annually for a short period for cleaning of panels.

5 POTENTIAL ADVERSE SOCIO-ECONOMIC IMPACTS OF THE PROJECT

5.1 Land Acquisition, Involuntary Resettlement and Economic Displacement

The site's land use designation is for industry, transport, and energy production, and as such using the site for a solar project is within this designation. The site is being leased by Greenteco, a company 100% owned by Scatec, from the district of Chigirin for 25 years (beginning in 2018). As such Scatec has legal rights to use the site, but the development of the site has not yet commenced.

The site is not currently occupied. Some stakeholder engagement has taken place by way of a Village Council meeting on the 27 November 2018. The village council advised that the site is very seldom used other than for access to the banks of the Dnieper River and very occasionally for firewood collection and hunting (however they confirmed that denser and better areas are available close by). Scatec propose to provide a replacement road around the perimeter of the site nearer to the local communities.

5.2 Social Interaction & Community Health and Safety

Workforce, Job Seekers & Social Conflict

As outlined above, during peak construction between 500 and 600 employees are expected to be on site, and during operation, ten full time staff are anticipated plus security guards, with a further 20 – 30 workers employed annual for short periods for cleaning of panels. It is intended that the majority of the employees would be from the local area as far as possible. A large influx of 'migrant workers' is not intended, approximately 50 workers are expected from outside the local area.

Pressure on Social Infrastructure & Services

As the construction period is temporary, pressure on social infrastructure and services is likely only to be relevant in a relatively short period. No impacts were identified other than in relation to local road traffic, which will be managed through a project specific Traffic Management Plan (TMP).

A labour camp will not be required for the not from the local community. These workers will find accommodation within the local community providing an opportunity to the local community to provide accommodation – along with other services, such as meals – in order to benefit from the development.

Where local accommodation is rented, Scatec will carefully inspect the premises (e.g. establish an approved register) for accommodation that meets the basic amenity and sanitary requirements outlined under the IFC and EBRD Guidance Note (e.g. adequate sewage and garbage disposal; supply of safe water for all personal and household uses etc.).

Water

The Project will demand a relatively low level of water use and should not significantly impact any local supplies.

6 WHAT WILL BE THE KEY ENVIRONMENTAL IMPACTS OF THE PROJECT AND HOW WILL THEY BE MITIGATED?

6.1 Visual Impacts

Impact Overview

The site is not visible to local residents, other than those visiting the Dnieper River for recreational purposes. The existing road going through the centre of the site will no longer be available.

Summary of Mitigation Measures

The developer has commented that access to the river will be maintained, using a walkway / roadway running outside the site fence.

6.2 Biodiversity

Impact Overview

A qualified ecology conservation specialist has undertaken a walk over survey of the site and concluded that fish and aquatic plants will be unaffected by the project.

The development of the site has the potential to result in the loss of some general habitat for nesting/roosting birds. An additional desk top study and further investigation with local experts may be required.

A number of general mitigation measures are also proposed:

Summary of Mitigation Measures

The project will avoid the use as far as possible of chemical herbicides as part of the O&M Management of the Project, with this condition included in the O&M Management Plan.

A pre-clearance/pre-construction walkover survey will be undertaken on the site and associated cable grid connection route.

Undertake an arboricultural survey producing an inventory of trees, mapping the location and documenting the species, size and health of the specimens to be felled for estimation of trees loss and its future off-setting.

The implementation of general Biodiversity Protection and Compensatory enhancements, as follows:

- maintain free passage for mammals across the site and avoid significant barriers and pitfalls.
- During construction, measures should be to avoid potential injury or mortality, including:
    - Fencing off storage areas (noted as being practiced currently);
    - Safe storage of materials and/or chemicals; and
    - Covering of trenches and holes or provision of exit and escape routes.
    - Where possible, mature trees/scrub and rock piles/boulders should be retained.
    - Site clearance (e.g. removal of vegetation and hardstanding/boulders, etc.) should be undertaken in a sensitive manner so as to not kill or injure animals. Should it not be possible to avoid the months March-July (inclusive), it will be necessary to complete a pre-felling/clearance nesting bird check. Any nesting birds identified at this stage should be protected until young birds have fledged. This is in line with the requirements of the Wild Birds Directive.
    - Lighting should be kept to a minimum and directed away from retained shrubs and trees.

6.3 Water Usage & Discharges

Impact Overview

The Cherkasy region is at medium risk of water scarcity, although the Project will use a relatively low level of water, mainly just for general domestic purposes and occasional panel cleaning. However, the following general mitigation will be implemented:

Summary of Mitigation Measures

Where possible water consumption will be minimised, and where appropriate non-potable water will be used.

The Project will be designed on a zero-liquid discharge basis. All liquid waste will be pumped via proper designed septic tanks or via retention tanks for collection and disposal by specialist licenced contractors.

6.4 Construction Dust & Noise

Impact Overview

The project has the potential to mobilise dust during construction, although there are no residential properties nearby, this has some potential to cause nuisance to community members using the Dnieper River bank.

Summary of Mitigation Measures

If the site generates significant quantities of dust then standard dust mitigation measures (such as water sprays, and waste bagging) will be implemented.

6.5 Construction Traffic

Impact Overview

During construction, materials, plant and personnel will need to be brought to site. This is expected to result in an increase in heavy goods traffic on routes to the site, including on routes within this immediate area of Chigirin. This has the potential to generate dust and noise.

Summary of Mitigation Measures

A Traffic Management Plan will be implemented.

7 HOW WILL THE PROJECT ENSURE EFFECTIVE MANAGEMENT AND MONITORING OF IMPACTS?

Scatec and the construction contractors will fully implement the requirements of the Environmental and Social Action Plan (ESAP), developed for this Project. This includes a requirement to monitor the implementation of the ESAP, monitor EHSS performance, recruitment or appointment a corporate level Environmental and Health and Safety (EH&S) manager, who will be responsible for monitoring overall EH&S performance.

8 STAKEHOLDER ENGAGEMENT PLAN (SEP)

A Stakeholder Engagement Plan (SEP) has been developed with the objective of identifying key stakeholders and ensuring that, where relevant, they are informed in a timely manner of the potential impacts of project. The SEP also identifies a formal grievance mechanism to be used by stakeholders (internal and external) for dealing with complaints, concerns, queries and comments. If activities change or new activities relating to stakeholder engagement commence, the SEP will be brought up to date. It will also be reviewed periodically during project implementation and updated as necessary. The SEP includes the following:

- Public consultations and information disclosure requirements;
- Identification of stakeholders and other affected parties;
- Overview of previous engagement activities;
- Stakeholder Engagement Programme (SEP) including methods of engagement and resources; and a
- Grievance mechanism with a template for provision of comments/complaints.

Stakeholders could be individuals and organisations that may be directly or indirectly affected by the project either in a positive or negative way, who wish to express their views.

9 FURTHER INFORMATION

Contact information for this project is provided below:

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