Scatec Solar and Rengy

Tokarevka Solar Project

Non-Technical Summary

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Scatec Solar

Oslo (Head) Office
Karenslyst Allé 49, 0279 Oslo, Norway

Kiev Office
Bohdana Khmel'nyts'koho St, 17/52, Kyiv, 01030

Rengy

Kiev Office
8th floor, 72A, Chervonoarmiyska St, Kiev, Ukraine

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1 INTRODUCTION

The proposed Tokarevka project involves the development of a photovoltaic power plant located in the Mykolaivs'ka province of Ukraine with a proposed total installed capacity of 14MWAC. The project is located close to the municipality of Tokarevka. The site was previously used as a dairy, which hasn't been used since the 1990s.

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

- 47,040 fixed tilt risen solar panels formed with polycrystalline cells (330W nominal capacity)
- 5x2.5 MVA containerised inverters by Gamesa
- 10KV switching station
- 1.2km 10 KV buried line
- Warehouse
- Administration building
- Site road
- Perimeter fence

As detailed in Figure 1, the Project is located in southern Ukraine within the Mykolaivs'ka region. Tokarevka, is 94 km north west of the regional center Mykolaiv, and 407 km south of Kiev.

Figure 1: Project Location

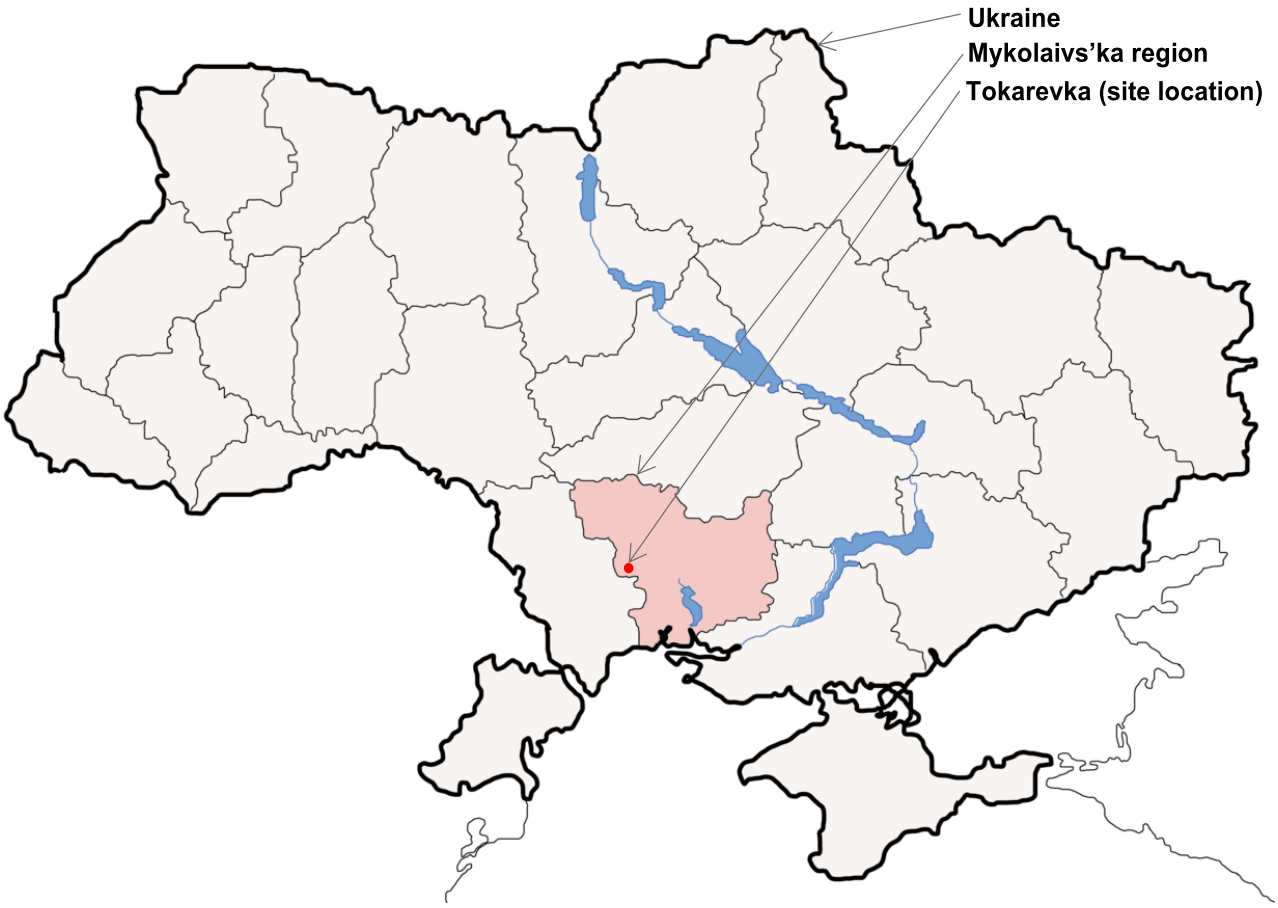

Figure 2 shows the site, its context in relation to Tokarevka, and the transmission line linking the site to the substations. The Tokarevka site is 20ha, which is being leased from the municipality of Tokarevka.

Figure 2: Tokarevka site

Current site access road	Route follows public right of way	Route follows or is close to current sub-station access road

2.2 Project Status

At the time of writing the final project design is being finalized, the final Project permits are being produced, and financing from the EBRD is being sort. Scatec Solar and Rengy intend to commence construction in the Autumn of 2018, with construction completed within six months.

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 of 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 new generation capacity within Ukraine.

As such renewable energy generation in the Ukraine can help provide the new generation capacity required by the 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 requirement for the Project.

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

During peak construction between 100 and 150 employees are expected to be on site. Up to 50 of these are expected to be workers which have specific skill sets. Construction is expected to last no more than 6 months. Although this work is temporary, job opportunities are expected to benefit the local community. Scatec's policy is to use local labour where possible. It is therefore likely that the unskilled labour will come from the local community, with skilled labour most likely coming from further afield.

During operation, six full time staff are anticipated. There will be a further 10 – 20 workers employed annually for a short period for 'cleaning of panels'. Scatec's policy is to use local labour, where possible, and although these numbers are limited, these job opportunities are expected to benefit the local community.

5 POTENTIAL ADVERSE SOCIO-ECONOMIC IMPACTS OF THE PROJECT

5.1 Land Acquisition, Involuntary Resettlement and Economic Displacement

The site has a land use designation for industry, transport, and energy production, and as such using the site for a solar project is within this

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

designation. As such Scatec Solar/Rengy has legal position of the site, but the development has not yet commenced.

The site is not currently occupied; however it is being used for limited intermittent grazing. Stakeholder engagement indicates that there is ample grazing land of equal value within close proximity to the site, as such no resettlement, or economic displacement is expected.

Social Interaction & Community Health and Safety

Workforce, Job Seekers & Social Conflict

As outlined in section 4, the Project will generate job opportunities. However, most positions will be filled locally. As such A large influx of 'migrant workers' is not intended, as the approximately 50 workers that are expected from outside the local area are not expected to pose a risk in terms of social conflict.

Pressure on Social Infrastructure & Services

As the construction period is temporary, pressure on social infrastructure & services is likely only to be relevant for 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).

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 Site Contamination

Impact Overview

The site is contaminated with damaged asbestos cement bonded waste materials, which if handled in an uncontrolled manner could represent an exposure risk to workers and the general public.

Although asbestos cement bonded waste materials are generally relatively low risk, Asbestos is a Category 1 Carcinogen Material, and as such exposure must be minimised.

Summary of Mitigation Measures

A waste management plan will be implemented. This will ensure asbestos materials are safely disposed at an appropriate legal and engineered landfill, avoiding use of local dumpsites.

6.2 Water Usage & Discharges

Impact Overview

The Mykolaivs'ka 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 washing. 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.

6.3 Construction Dust & Noise

Impact Overview

The project has the potential to mobilise dust, and generate noise during construction, and given the proximity of properties to the south of the site, this has the potential to cause nuisance.

Summary of Mitigation Measures

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

Noise generating activities will be undertaken away from receptors, and noisy works will only occur between 9.00 to 18.00.

6.4 Construction Traffic

Impact Overview

During construction, materials, plant and personnel will need to be brought to all sites. This is expected to result in an increase in heavy goods traffic on routes to the sites. 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 Solar/Rengy and the construction contractors will be required to 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 Environmental and Health and Safety (EH&S) manager) in Ukraine by the project owners 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 projects. The SEP also identifies a formal grievance mechanism to be used by stakeholders (internal and external) for

dealing with complaints, concerns, queries and comments. It will be reviewed and updated on a regular basis. 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.

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:

Oslo (Head) Office
Karenslyst Allé 49, 0279 Oslo, Norway

Kiev (Project) Office
Bohdana Khmel'nyts'koho St, 17/52, Kyiv, 01030