Ekotechnik Shestirnya Solar Project
Non-Technical Summary

31 May 2018

1 Introduction

This document provides a non-technical overview of the proposed development plans of private company *Ekotechnik Shyroke* to construct a solar photovoltaic power plant in Dnipropetrovska Oblast of Ukraine.

It also presents a summary of potential environmental and social impacts and other environmental and social issues relevant to the project activities. Appropriate measures to mitigate key adverse environmental and social effects that may arise during project construction and operation are provided in *Table 1* at the end of this document.

The project developer *Ekotechnik Shyroke* has approached the European Bank for Reconstruction and Development (EBRD) for financing this development. The project is thus subject to EBRD's 2014 Environmental and Social Policy and has been determined as a Category B project.

This Non-Technical Summary (NTS) document, and a Stakeholder Engagement Plan (SEP) for the project will be placed in the locations shown below for public review and comment:

- *Ekotechnik Shyroke LLC* company offices
  Address: 39, Tsentralna Street, Shestirnya, Shyrokivskiy district, Dnipropetrovsk Oblast, 53761
  Phone: +38 097 076 9223

- Shestirnya Village Council
  Address: 37, Tsentralna Street, Shestirnya, Shyrokivskiy district, Dnipropetrovsk Oblast, 53761
  Phone: +38 05657 28 142

Furthermore, the documents will be available online at www.uself.com.ua and ekotechnik.ua. Any interested party is encouraged to provide comments and suggestions on the environmental, social and other aspects of the project. For further information or comments please contact:

Name	Contact information
Yuri Zasyadvovk, Director	Company: *Ekotechnik Shyroke LLC* Postal Address: 39, Tsentralna Street, Shestirnya, Shyrokivskiy district, Dnipropetrovsk Oblast, 53761 Telephone: +38 097 076 9223

2 Description of the Proposed Development

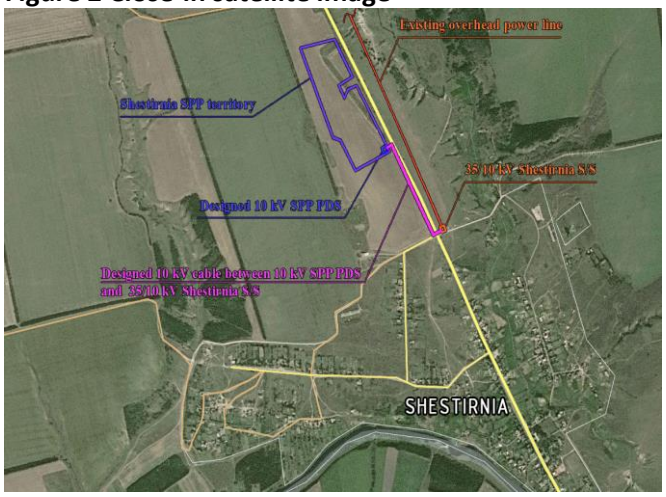
The project will put in 21,774 photovoltaic modules and associated equipment, which will provide an installed capacity of 6.97 MW, and approximately 8,400 megawatt-hours of net electricity generated per year.

The plant will be operated on an area of 21.6 hectares that is leased for the project. The plant will be connected to the distribution grid by means of a 700m long 10kV aerial Over-Head electric line attached to an existing substation "*Shestirnya*" owned by Oblenergo. Electricity will be sold to the national grid at the "green tariff".

The Project will be located near Shestirnya village (740 residents) of Shyrokivskiy district in Dnipropetrovsk Oblast, approximately 27km south of Kryvyi Rih. The nearest residential area is in 675m from the Project site. The location of the project site is shown on the Figures 1 and 2 below.

Figure 1 General map view

Figure 2 Close-in satellite image



The plant will be constructed, commissioned and operated by *Ekotechnik Shyroke Limited Liability Company*, which was established for implementation of this project in 2011. The parent company, Ekotechnik, is a Czech company specialized in solar power development since 2004.

By employing the renewable solar power, the project will provide significant environmental benefits over other types of energy generation, such as those using fossils fuels (gas, coal) or nuclear. It will contribute to the reduction of emissions of greenhouse gases (expected annual emission reductions are 6,747 tons of carbon dioxide equivalent), create some temporary construction jobs, and improve the security of energy supply in the area.

3 Environmental, Health, Safety and Social Review

3.1 Project studies and documents

Solar energy power plants can be considered as having perhaps the least impact on the environment and the biodiversity of the surroundings. However, to assess and manage their impacts, several environmental documents have been prepared, as explained below.

The project preparation included assessment of the environmental conditions of the site, surrounding area, as well as environmental and social impacts. These have been summarized as a separate environmental section in the project design documentation. As part of the environmental and social due diligence, an Environmental and Social Action Plan (ESAP) has been developed. The ESAP identified mitigation measures to prevent or reduce potential negative impacts of the project and to ensure its compliance with EBRD Performance Requirements.

A Stakeholder Engagement Plant (SEP) has been developed to describe how *Ekotechnik Shyroke* will communicate with people and institutions who may be affected by, or interested in the project, at various stages of project preparation and implementation. The SEP will be disclosed to the public together with this NTS. The company will assign a social liaison function to one of its staff, who will be responsible for keeping an open dialogue with stakeholder groups and local residents. At any time before and during construction and operation, any stakeholder can raise concerns, provide comments and feedback about the project. All such comments or grievances will be accepted, processed and answered by *Ekotechnik Shyroke* in a timely manner. The grievance mechanism is outlined in the SEP.

3.2 Sensitive locations

The project is located in an agricultural area. There are no environmentally protected areas on, or in the immediate vicinity of, the project site.

Several archaeological heritage sites (Kurgans No 3860-1,3) are located nearby, but outside of the project boundaries. The project is not expected to have any impacts on these archaeological sites, as all project facilities will be located outside of kurgans' respective protection zones.

The nearest residential properties of the village Shestirnya are located at 675m to the south and south east of the project site. Some increased traffic, dust and noise can be expected during the short period of construction works, and these public nuisances will be accordingly mitigated. The operating plant will not generate any emissions, noise or flickering, and thus will not disturb the residents of the nearby village. The glint/glare impacts are assessed as low given the distance to the residential area and materials used in PV panels.

The nearest significant water body, Inhulets river, is located at 1.7km to the south of the project site.

3.3 Project impacts and their mitigation

The evaluation of potential environmental and social impacts has determined that, in addition to its benefits, the project may have some negative impacts on the environment and people, if not managed carefully. Therefore, *Ekotechnik Shyroke* will implement certain actions (called "mitigation measures") to prevent or reduce potential negative impacts of the project as outlined in the ESAP. Key mitigation measures are summarized in the table below.

Table 1 Overview of Key Potential Project Impacts and Their Mitigation

No	Issue	Potential impact	Mitigation measures
1	General construction activities	Impacts during construction of the main (solar modules and inverter stations) and associated (transmission line) project facilities, such as land excavation, dust, noise, air emissions from vehicles involved, vehicle traffic, etc.	- Prepare and implement construction management plan to reduce and mitigate general construction impacts, including noise, air emissions, waste generation and disposal, erosion. - Prepare and implement traffic management plan, including consideration of delivery routes, other road users, speed limits, and warning signs. - Ensure project contractors adhere to relevant environmental and social requirements. - Continuously monitor impacts to comply with appropriate national environmental standards and EBRD requirements.
2	Cultural (archaeological) heritage	Impacts on the group of Kurgans No 3860 located close-by during project construction	- Mark the boundaries of the Kurgans and their respective protection zones on the ground. - Ensure no physical impacts on the sites or their protection zones during the project construction. - Implement all recommendations and follow the requirements issued by the Center of the protection of cultural heritage of Dnepropetrovsk Oblast.
3	Transmission line	Impacts of construction of an aerial transmission line (10 kV, 700m) for grid connection.	- Ensure appropriate design and routing of the transmission line to avoid sensitive locations where possible. - Comply with relevant sanitary and environmental and social requirements and norms, including those of the EBRD. - Conclude servitude agreements with the land-owners where relevant. - Mitigate any residual impacts after the completion of construction.
4	Plant decommissioning	Waste generation and disposal during decommissioning of the plant at the end of the 25-year life cycle.	- Ensure recycling and appropriate disposal of PV modules at the end of their lifetime in line with best environmental practices, including the ones under the PVCycle international initiative