

Rykove Solar Project

Non-Technical Summary

16 July 2018

1 Introduction

This document provides a non-technical overview of the proposed development plans of private company *Grin Agro Servis* to construct a solar photovoltaic (PV) power plant in Kherson 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 *Grin Agro Servis LLC* 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:

- *Grin Agro Servis LLC* company offices
Address: 72A Velyka Vasytkivska St., 8th floor, Kyiv, Ukraine
Phone: +38 044 585 9150
- Rykove Urban-type Settlement Council
Address: 28, Tsentralna Street, Rykove, Genicheskiy District, Kherson Oblast, Ukraine
Phone: +38 05534 32023

Furthermore, the documents will be available online at www.uself.com.ua and rengydevelopment.com. 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
<i>Sergiy Komornyj</i> , Porogi 2 Project Director	Company: <i>Grin Agro Servis LLC</i> Postal Address: Ukraine, Kyiv, 72A Velyka Vasytkivska St., 8th floor Phone: +38 044 585 9150 E-mail: info@rengydevelopment.com.ua

2 Description of the Proposed Development

The project will put in 35,316 photovoltaic modules and associated equipment, which will provide an installed capacity of 11.5MW p/ 9 MW_{AC}, and approximately 14.3 GWh (gigawatt-hours) of net electricity generated per year.

The plant will be operated on an area of 16 hectares that is leased for the project. The plant will be connected to the distribution grid via a 1.9km long 10kV underground cable attached to an existing substation "*Partyzany*" owned by *Ukrzaliznytsa* (State Railways). Electricity will be sold to the national grid at the "green tariff".

The Project will be located near Rykove (former name Partyzany) urban-type settlement (3,514 residents) in Genicheskiy district of Kherson Oblast. The nearest residential properties of Rykove are located at 40m from the Project site. The location of the project 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 and operated by *Block Master Ukraine* (general contractor, and operation and maintenance contractor) under the general supervision of *Grin Agro Servis (GAS LLC)*. These are Ukrainian companies that have been engaged in the development, construction and operation of the solar photovoltaic power plants across the country for several years.

It is planned to start the construction in August 2018, and complete it within 16 weeks. The commercial operation of the project (start of electricity sales to the grid) is expected to begin in March 2019.

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, 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. An Environmental and Social Action Plan (ESAP) has been developed as part of the environmental and social due diligence process. The ESAP identified mitigation measures to prevent or reduce potential negative impacts of the project and ensure its compliance with EBRD's Performance Requirements.

A Stakeholder Engagement Plan (SEP) has been developed to describe how *Grin Agro Servis* 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 *Grin Agro Servis* in a timely manner. The grievance mechanism is outlined in the SEP.

A public consultation meeting on the General Development Plan for Rykove, including zoning of the territory for siting this PV project, was already carried out in Rykove on 12 Dec 2017. The meeting was attended by 25 participants, including representatives of local government, NGOs and residents. Also, an additional project presentation meeting was carried out on 29 May 2018. Further planned consultation activities are outlined in the SEP.

3.2 Sensitive locations

The project is located in an agricultural zone, close to the residential area of Rykove. There are no environmentally protected areas or sites of cultural/archaeological heritage on, or in the vicinity of, the project site.

There are no permanent water bodies in the vicinity of the project.

The nearest residential properties (3 households) of Rykove urban-type settlement are located at approximately 40m east of the project site boundary. Some increased traffic, dust and noise can be expected during the short period of construction works, and these public nuisances will be mitigated accordingly. The operating plant will not generate any emissions, noise or flickering, and thus will not disturb the residents of the nearby properties. The glint/glare impacts are assessed as low, because due to panel inclination the sun rays will generally be reflected upwards.

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, *Grin Agro Servis* 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, generation of construction wastes, etc.	<ul style="list-style-type: none"> - Prepare and implement construction environmental and social management plan to reduce and mitigate general construction impacts, including noise, air emissions, waste generation and disposal, land 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. - Remove and dispose of the solid waste present on the project site in an environmentally safe manner, and compliant with national regulations (using licensed contractor for waste handling, and licensed facility for waste disposal).
2	Land use change	Land use change from cattle pasture to energy generation, and restrictions on landuse under the transmission cable line.	<ul style="list-style-type: none"> - Ensure that sufficient and adequate alternative cattle grazing areas are available in Rykove and the vicinity, to compensate the local community for the loss of pastures allocated to the project. - Engage with the local authorities to identify the alternative grazing options and inform the community, as necessary. - Conclude servitude agreements with land-owners where relevant, and ensure minimal disturbance during construction.
3	Bypass road	The landplot allocated to the project includes a section of a local dirt road. The loss of access to this road, may affect the local farmers and other residents.	<ul style="list-style-type: none"> - Ensure a rerouted road bypassing the project site is made available to the local farmers and other users in replacement for the current road which crosses the site.
4	Transmission line	Impacts of construction of a transmission cable (10kV, 1.9km) for grid connection.	<ul style="list-style-type: none"> - Ensure appropriate design and routing of the transmission line to avoid sensitive locations where possible. - Obtain a permit for the crossing of the railway by the transmission cable underground and comply with this permit.

			<ul style="list-style-type: none"> - 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.
5	Plant decommissioning	Waste generation and disposal during decommissioning of the plant at the end of the 25-year life cycle.	<ul style="list-style-type: none"> - 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.