



BURNOYE PHOTOVOLTAIC SOLAR POWER PLANT PHASE 2 NON-TECHNICAL SUMMARY

1 PROJECT DESCRIPTION

The European Bank for Reconstruction and Development ("EBRD" or the "Bank") is considering providing financing to Burnoye Solar-2 LLP - a daughter of SAMRUK Kazyna United Green (the Company) for the construction and operation of a second Phase 50 MWe Solar photovoltaic power plant Burnoye-2 (SPP2) in the Zhambyl Region, South Kazakhstan. SPP2 is designed to become an extension to the existing 50MWe Burnoye Solar-1 (SPP1), funded by the EBRD and comissioned in 2015. The Project aims to provide renewable electrical energy for the region whose development is hindered by power shortage. There is a hope that the project will encourage further development of renuable energy sources in the region. The Project has been assigned category B as environmental and social impacts from the project are expected to be site-specific or short term.



Figure 1 Showing Burnoye-1 and Burnoye-2 areas (red and yellow contours) and the main objects of the assessment.

Project development and planning started in 2012. The location was chosen due to proximity and access to infrastructure and the desire of local authorities to have this type of investment in their region. To reduce the cost, the SPP2 was designed to be built just north of the SPP1.

The plant includes 198198 photovoltaic panels fixed at 43°, 33PV BOX RT invertor complexes (66 paired invertors) for DC/AC conversion, 10/220kV and 10/0.4kV transformers, 9km internal underground cables and 0.41km overhead line that connects the plant to the 220kV Dzhambul - Shymkent high voltage line. A 1.8m high iron net fence will be erected around the plant and connected to the Phase 1 fence. Potable water will be delivered from Nurlykent and stored in a 60m³ tank. No technical water will be used – the solar panels cleaning is not recommended by the manufacturer and the plant is not expected to have impermeable surfaces or extensive paving that would require cleaning Two 100m³ water reservoirs will store water for firefighting purposes.

The construction is planned to be started in winter 2016 and to be completed by September 2017 Two shifts of 300 workers each are involved in the construction. During the operation 25 workers (5 dispatchers, 4 electrical engineers and 16 security guards working in shifts of four) will maintain the plant.

The solar energy production method is 100% environmentally friendly; no air, water or soil pollution emissions are emitted during the electrical energy production. No fossil fuels are combusted during the power plant operation. It is also among the most efficient renewable energy production methods.

2 LEGAL ASPECTS AND COMPLIANCE WITH RELEVANT ENVIRONMENTAL AND SOCIAL LAWS

Since the solar power plant is likely to be given a low hazard category 4, its environmental performance during the construction will be controlled by the Regional Council Natural Resource Management Office, which will review the design documentation and issue the Emissions Permit. Health and safety issues are controlled by the Regional Emergency Situations Department of the Ministry of the Internal Affairs and the Consumer Rights Protection Department. The regional Committee of labour, social security and migration of the Ministry of Healthcare and Social Development controls adherence to the worker rights and working conditions.

To date the Company has a local preliminary EIA (predOVOS) approved by the Consumer Rights Protection Department in 2014. The predOVOS contains mainly the air emissions and waste generation calculations. No public hearings have been conducted and no information about the project has been disclosed at the predOVOS stage. Before the construction starts, the company will prepare and approve local EIA (OVOS) and obtain the Emissions Permit from the Natural Resource Management Office.

The project is consistent with the State policy towards promotion of renewable energy sources, legal requirements and other plans for the area of influence. It fulfils the main strategic plan to eliminate regional deficit in energy to allow its further development.

Before the operation, the company will develop an environmental and social management system, policy as well as grievance handling mechanism for this project based on the SPP1 experience.

3 IMPACTS AND IMPACT METIGATION AND COMPENSATION MEASURES

3.1 Surface and Ground Water

No impact on surface water is envisaged. The main important for cattle drinking water sources are the Teris River, Tikhiy Irrigation Channel, Teris-Ashibulak Reservoir and the permanent spring 530m south-west of the SPP1. Other sources like the river Bakyty with its tributaries 1.1km and 2.5km northeast of the SPP2 and the Voentorg mountain springs 0.8km south of the site are active only in spring but are still important water sources.

Yet, with improper management of fuel and oil, localised impact on groundwater is possible. Shallow unconfined groundwater in highly fractured schist rock is potable quality and abundant. It is used by

Nurlykent residents for cattle and to water vegetable patches and is not protected from surface contamination by thin silty clay layer.

Potable water will be taken from Nurlykent public well that taps a deeper confined aquifer with sufficient reserves for all users.

3.2 Animals and Plants

The SPP territory is located away from the main migratory routes of animals. The SPP2 construction will not affect the nesting birds due to their sparsity in the area. Disturbed annual vegetation is likely to recover within a season, which was confirmed during the SPP1 observation.

3.3 Local Traffic, Road Safety, Noise and Vibration

The local traffic is not intensive. The SPP construction and operation will not make any notable effect to the local or transit traffic and road safety because the main road is crossed via the U-turns engineered with safety consideration. While some traffic will be occasionally observed during construction, during operation water tank trucks will do only 3 hulls a month.

Ambient noise and vibration is low despite presence of the A2 road 1.5km from the site. The site noise and vibration will be generated by the construction equipment and machinery but it will not reach the residential area 2.7km away. There will be no noise during operation.

3.4 Contractor Management

The contractor provision of safe and healthy working and living environment for their workers will be controlled through various plans, procedures and regular audits. In addition the Regional Committee of Labour Social Security and Migration of the Ministry of Healthcare and Social Development controls adherence to the worker rights and working conditions.

3.5 Occupational Health and Safety

No issues in this area have been identified. The Company however will develop health and safety policy and site specific plan, identify risks and conduct regular HS audits. Personal protection equipment will be provided for the workers. Emergency response plan will provide actions for prevention and response to fire.

3.6 Public Health and Safety and Cultural Heritage

The workers that rent houses in Nurlykent have potential to disrupt traditional pattern of living. To limit any adverse impacts, construction workers and site staff will be provided appropriate facilities and adhere to the worker code of behaviour.

No objects of cultural or archaeological significance are located in or close to the power plant area.

3.7 Impacts on Businesses and Employment

During the SPP2 construction, 250 local workers from Nurlykent village will benefit from employment. However, no locals are qualified enough to be hired to maintain the power plant operation. Letting local houses to 50 imported workers will bring additional income to the locals. If these houses do not comply with the EBRD/IFC accommodation requirements, the Company may choose to turn a derelict shop into a dormitory. After the construction the dormitory can be converted into a temporary community hall or to serve other beneficial purposes.

3.8 Risk of Economic Displacement

Together with the SPP1, the SPP2 project results in 30% reduction of near village pastures. Overgrazing the reduced pasture may lead to reduction of milk and meat yield, thus potentially reducing the incomes of households dependent on the milk and meat trade. For approximately 55 families owning one or two cows that attend the herd which uses the reduced pasture, there is a risk of losing daily cash income from selling milk to the nearby cheese plant and the need to find money to buy milk from the neighbours.

To compensate for shrinkage and fragmentation of the Nurlykent pasture the Company will arrange three 50-70m wide livestock passages through arable land to 557ha of additional pastures and allow the village to herd sheep and cut grass inside the SPP1 and 2. The appointed by the Company Community Liaison Officer (CLO) will monitor the effectiveness of this compensation as described below.

4 MONITORING OF IMPACT AND EFFECTIVENESS OF COMPENSATION MEASURES

Construction will be monitored through weekly checking adherence to the environmental management plans. During operation monitoring will be conducted monthly. Annual reports to EBRD on environmental and social performance will reflect the plans implementation progress. The reports will be checked against the legislative and the EBRD performance requirements. Monitoring will be carried out throughout the life of the project.

The CLO will monitor Nurlykent cattle twice a year via the veterinary database by identifying changes in the numbers and composition in both the north and south herds. Significance difference between the herds would indicate inefficiency of the suggested pasture reduction compensation measures. Livelihood of 55 families identified as most vulnerable will be investigated in person, if number of these households cows fall to zero.

The Stakeholder Engagement Plan provides a mechanism for monitoring public opinion and consideration and response to further comments. It describes the Company approach to interacting with the stakeholders, including the general public, and the disclosure of relevant information with respect to Company's operations and the project. The CLO will manage the grievance handling process and ensure that the grievance mechanism is available to all stakeholders, involves an appropriate level of management and addresses concerns promptly, using an understandable and transparent process that provides feedback to those concerned without any retribution. He will use stakeholder engagement plan as a guidance. The stakeholder engagement plan and grievance mechanism will be maintained for the project duration. The plans effectiveness will be monitored. The EBRD website will also act as a platform to receive further comments.

Further information can be obtained from the SPP-1 Community Liaison Officer Mr. Pavel Komartsev, tel.: +7701 950 57 45, e-mail: pk@skug.kz. Grievances and suggestions can be left in the mailboxes located in the rural area council on the information board, mail or electronically via e-mail. This mechanism does not limit the public's rights to use the conventional routes to place grievances and the available legal system.

5 CORPORATE SOCIAL RESPONSIBILITY PROGRAM

With the Nurlykent Public Governance Council, the Company will discuss possibility of solving some Nurlykent needs in the frame of the Corporate Social Responsibility Program (CLRP). The Program will include actions that fit the agreed criteria: 1) do not overlap with state programs 2) sustainable with possibility of jobs creation and 3) fit in the allocated for the Program budget. Implementation of the Program will be made transparent for the Nurlykent public.