

European Bank for Reconstruction
and Development

Oslomej 2– Solar PV Plant

Environmental & Social Assessment: Non-technical Summary

REP/278197/004

Final | 11 May 2021

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 278197

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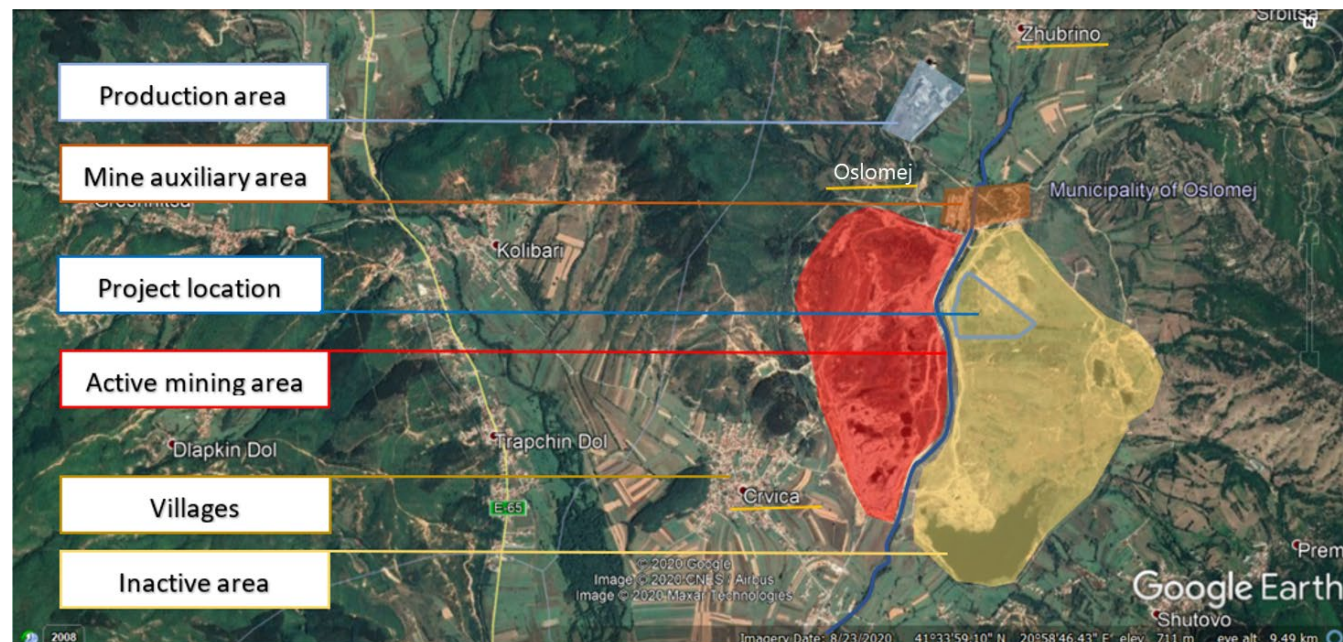
Oslomej 2 Solar PV Plant

JSC Elektrani na Severna Makedonija (ESM), the Macedonian public electricity generation utility, is proposing to construct and operate a 10MW Solar Photovoltaic (PV) Power Plant on ~18ha of land within the inactive mining area of REK Oslomej in the Municipality of Kichevo, the Republic of North Macedonia (the Project).

Figure 1: Oslomej 1, 2 and 3 planned PV projects



Figure 2: Oslomej 2 location in relation to local villages and REK Oslomej facilities



The Project will be located on an area of overburden from the REK Oslomej opencast coal mine.

A Preliminary Design for the Project is being prepared and has been subject to an Environmental and Social Assessment (ESA) in accordance with EBRD Environmental and Social Policy 2019. This Non-Technical Summary (NTS) summarises the finding of the ESA.

The development of the Project aims to support the energy decarbonisation targets of the Government of North Macedonia by contributing an estimated carbon reduction of 14,700 tonnes per year.

The Project is the second of three solar PV projects being developed by ESM within the inactive mining area at Oslomej. Oslomej 1 will be constructed before the Project. The development of Oslomej 3 is planned to follow the Project.

Location

The Project site is on land owned by ESM within the REK Oslomej mining and power complex.

Figure 3: Project Site



The nearest villages are Oslomej (~1 km north-west), Zhubrino (~2 km north-east), Srbica (~2.5 km north-east) and Shutovo (~2 km south-east).

Access to the Project site is via State road R2231 which runs between the Mine Auxiliary and inactive mining areas.

Alternatives

Three alternative sites on ESM lands around REK Oslomej were considered for the Project in addition to the Project site. The area is not

suitable for wind power. The selected Project site was found to be the most suitable from a ground stability and land contamination perspective. The preferred site from a biodiversity perspective could not be progressed due to unsuitable ground conditions.

The grid connection is being developed as part of the Oslomej 1 development.

Figure 4: Alternative Sites



Construction

Construction is expected to take ~9 months.

Infrastructure to be constructed on the Project Site is expected to include an array of fixed solar panels mounted on metal frames, small Project control and electricity inverter

buildings, access road and water supply (for cleaning).

Figure 5: Example PV array



Construction ground works will include limited site levelling, trenching for cables / pipes, foundation excavations and road preparation. Excavators and mini excavators will be used.

The solar panel frames will be fixed to steel piles, driven into the ground (~2m) by a small piling rig.

Small quantities of concrete will be required for foundation works and there will be limited oil and lubricant storage and use on the construction site.

Construction wastes will primarily comprise non-hazardous packaging wastes.

Operation & Maintenance

The most frequent maintenance activity will be cleaning of the solar panels. Wet or dry-cleaning options are possible. Wet cleaning if selected, requires ~21,000 litres of water per cleaning cycle and the cleaning system is mounted on a tractor or truck.

Very small quantities of oil, grease and diesel will also be required for regular maintenance.

Wastes are expected to be small but may include damaged solar panels which contain potentially harmful substances.

Decommissioning

Decommissioning will involve removal of the infrastructure. Potential impacts will be similar to construction.

Solar panels include harmful materials and ESM is committed to safe recycling / disposal of these according to good practice at the time.

Permitting

A Spatial Planning Conditions Elaborate has been issued and Environmental Protection Elaborate approved. ESM is progressing with

obtaining the remaining permits required for construction and operation of the Project, which include the State Urban Planning Document, Construction Permit and approval from the Ministry of Economy.

Pollution Prevention and Control

Emission of pollutants to ground, water and air (including from e.g. oil spillages or erosion of soil by wind or rain) from Project construction activities, including wastes is possible but expected to be small and localised.

The Project is also located in industrial surroundings and, whilst noisy activities will take place on site (such as piling), there are no properties close by that could be adversely affected.

However, there are sensitive biodiversity features very near to the Project Site and construction workers could also be affected if management of pollution is not carried out effectively.

ESM is therefore committed to developing a series of plans that will set out how pollution risks will be avoided during construction or if avoidance is not possible (such as in the case of

an accident), minimised in accordance with Good International Practice.

The Project site is on mining overburden and contaminated ground could be encountered during construction. ESM is committed to assessing and mitigating risks in accordance with Good International Practice.

Resource Use

ESM is committed to assessing the feasibility of options to minimise and measure water consumption during operations as part of the detailed design.

Glint & Glare

Solar farms have the potential to cause nuisance or hazard to people nearby by reflecting the sun's rays. Potential safety risks to users of the State road R2231 are not expected as the solar panels will be angled away from the road. It is considered very unlikely that glint and glare will cause a nuisance to local villages due to the number of obstructions in view, but if a nuisance is reported there is potential to shield views by planting a low hedge.

Road Safety

There will be deliveries of machinery and materials, and transfer of construction workers to site each day. There will be a small increase in vehicles using local roads, and more frequent use of the junctions to the REK Oslomej inactive mining area.

Figure 6: State Road R2231



To minimise safety risks and nuisance to the public and Project workers, ESM is committed to assessing traffic risks and implementing road and traffic safety measures in accordance with North Macedonian legislation and Good International Practice.

Natural Hazards

The Project is located in a seismically active area and ESM is committed to designing the Project in accordance with North Macedonian legal regulations for seismic protection and risks to workers will be managed through an emergency response plan.

Biodiversity

Biodiversity surveys were undertaken and research into species that are likely to be present at the Project site was carried out.

These studies identified species of conservation value (and protected nationally or under European Union Directives) relevant to the Project site.

Habitats on and surrounding the Project site that could be affected by the construction and operation of the Project were surveyed and biodiversity specialists assessed whether they were important (and being used or could be used) by the species of conservation value.

The assessment concluded a number of habitats on or close to the Project site were 'Critical Habitat' for a number of amphibian and reptile species listed on Annex IV of the EU Habitats

Directive or National Red Lists of Amphibians and Reptiles. These species are listed below.

Protected Species identified on Site

Amphibians

- Common newt
- Macedonian crested newt
- Green toad
- European tree frog
- Yellow-bellied toad

Reptiles

- Hermann's tortoise
- Balkan green lizard
- Green lizard
- Erhard's wall lizard
- Common wall lizard
- Whip snake
- Smooth snake
- Aesculapian snake
- Dice snake
- Nose horned viper

All habitats within the study area qualify as ‘Critical Habitat’ for these species.

Further studies would be required to determine the importance of the habitat for a number of other species. These include wolf and the bird species pygmy cormorant, common pochard and European turtledove. As a precaution, the biodiversity assessment assumed the Project site ‘Critical Habitat’ for these species as well.

ESM is committed to implementing the following actions to manage potential biodiversity impacts:

- Avoiding temporary (seasonal) wetlands and permanent wetlands
- For the scrub and woodland Critical Habitat lost (7.8ha), plant replacement habitat in a suitable location (for the area lost plus 10%)
- Undertake vegetation clearance outside of breeding season for species of conservation value.

Figure 7: Avoided Wetlands



Blue cells show the provisional layout of the PV panels avoiding the wetlands

- Employ an ecological specialist to undertake pre-construction checks for species of conservation value and move any individuals found to a safe place.
- Undertake habitat reinstatement post-construction to maximise the potential of the terrestrial habitats under and adjacent to the solar PV cells for the species of conservation value.
- Implement Good International Practice pollution prevention to avoid contamination of habitats including wetlands.
- Design security fencing with access / migration gaps (including for wolf) to allow free movement of species.
- Biodiversity monitoring post-construction to confirm mitigation was effective.

Communications

ESM has identified the stakeholders who are likely to have an interest in the Project and developed a Stakeholder Engagement Plan setting out who, how and when it will communicate with them. A copy of the Stakeholder Engagement Plan is available at:

www.esm.com.mk

Enquiries or grievances about the Project can be made to:

Attention: Office of General Manager and
Julija Simjanovska - Environmental

Address: 11 October str. 9, Skopje

Tel/Fax: + 02 3149 121

E-mail: contact@elem.com.mk;

julija.v.simjanovska@elem.com.mk (in cc);

A complaint form and overview of the complaints handling process for the Project is provided on the next page..

Full Name and Surname: <i>(you can remain <u>anonymous</u> if you prefer or request not to disclose your identity to the third parties without your consent)</i>	
Contact information: Please mark how you wish to be contacted (mail, telephone, e-mail)	By Post: (Please provide postal address) _____ _____ By phone: _____ By e-mail: _____
Preferred language of communication:	Macedonian Other: _____
Description of incident/grievance: What happened? Where did it happen? Who did it happen to? What is the result of the problem?	
Date of incident/grievance:	One-time incident/grievance (date _____) Happened more than once/how many times? (_____) On-going/currently experiencing problem
What would you like to see happen to resolve the problem?	
Signature:	Date:
Please return this form to: Office of General Manager and Julija Simjanovska - Environmental email: contact@elem.com.mk ; julija.v.simjanovska@elem.com.mk (in cc); Tel/Fax: + 389 (0)2 3149 121	Address: Elektrani na Severna Makedonija ul. 11 Oktovmri 9, 1000 Skopje Republic of North Macedonia

