

# NON-TECHNICAL SUMMARY IN ENGLISH



FRV MASRIK

Closed Joint Stock Company

“Masrik 1 Solar PV Power Plant” Project

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## 1. INTRODUCTION

The Republic of Armenia (RA), with the support from the Climate Investment Fund's Scaling-up Renewable Energy Program in Low Income Countries (SREP) and International Bank for Reconstruction and Development (IBRD), launched in 2017 a bidding process for the implementation of a Utility-Scale Solar Power project located in Mets Masrik, Vardenis sub region of Gegharkunik Marz.

On behalf of the RA, R2E2 Fund (R2E2) has been responsible for the implementation of the bidding process (the implementation agency) and communication with the communities.

Fotowatio Renewable Ventures B.V. and FSL Solar S.L. (the "Developer"), as a consortium, have been awarded to develop, finance, construct and operate the Masrik 1 PV plant the 14<sup>th</sup> of May 2018 (hereafter referred to as 'the Project').

In accordance with the law on environmental impact assessment and expertise adopted in July 2014, the Ministry of Environment (MoEnv) classifies such a Project as "Category B" which requires the preparation of a comprehensive Environmental and Social Impact Assessment (ESIA) before an environmental permit is granted. The ESIA has been prepared and submitted to the MoEnv in February 2019 and an environmental conclusion which will include project-specific dispositions will be issued. The Developer will be seeking financing for the Project from prospective lenders, including International Financial Institutions (IFIs) – such as the European Bank for Reconstruction and Development (EBRD) and International Finance Corporation (IFC). Therefore, for the purpose of the ESIA this has also been developed in accordance with EBRD Environmental and Social Policy (2014) and Performance Requirements (PR) and IFC Performance Standards (2012).

This document (the Non-Technical Summary (NTS)) provides a summary in non-technical language of the findings contained in the ESIA Report. The ESIA Report contains more detailed information on the Project and the environmental and social issues considered (refer to 'Section 6' for details on disclosure of the ESIA report). It includes a description of the need for the Project; details of the Project and the main alternatives considered; the assessment of the potential effects from the proposed development on the environment and community; and details of any required procedures to mitigate significantly adverse environmental effects. It includes an Environmental and Social Management Plan (ESMP) which describes the monitoring and mitigation requirements for the duration of the project, including responsibilities and any legal requirements. The Developer commits to the ESMP.

A Livelihood Restoration Plan (LRP) has been developed, which describes the methodology considered for assessing the potential negative impacts on the Peoples Affected by the Project (PAPs), as well as a description of the public consultation, the outcomes of the land survey and compensation package.

An Environmental and Social Action Plan (ESAP) has been developed by the lenders and their advisors, which describes the action plan to be implemented prior to construction, during construction and the operational phase in order to address identified risks and monitoring actions.

A Stakeholder Engagement Plan (SEP) has also been developed for the Project, which describes the planned stakeholder consultation activities and engagement process as well as a grievance mechanism to ensure that it is responsive to any concerns and complaints particularly from affected stakeholders and communities.

### 1.1 Project Alternatives

During the Project's development (pre-bid) a number of alternatives have been identified and analysed, including project location, processes, technology and the "no project" alternative:

- The RA has considered several priority areas for the development of the Project within Armenia. Assessment of such priority areas were based on a feasibility study and a preliminary environmental and social impact assessment report (PESIA-February 2017) undertaken by the R2E2 and which took into account technical, financial, environmental and social factors to include: (i) ideal solar resources; (ii) land ownership logistics; (iii) distance to key sensitive receptors; (iv) natural landscape of the site; (v) proximity to grid; (vi) proximity to road networks; and (vii) social development potential to local communities. Based on PESIA and communities' consultations and Social Due Diligence (SDD), the Project area for the development of the Project was selected and the land was donated from the community to R2E2.

- As part of the PESIA, other solar technology alternatives which are suitable for the Project site were considered, compared and assessed such as crystalline and thin-film, fixed structure and single/double-axis tracking system but the assessment concluded crystalline technology is the preferred option.

## 2. PROJECT DESCRIPTION

### 2.1 Project Setting

The Project is located within Vardenis sub-region of Gegharkunik Marz in Lake Sevan in-shore Masrik valley approximately 170 km East of the capital city of Yerevan. More specifically, the Project site is located within the Masrik District which hosts several villages; the closest being is Mets Masrik village located at 4.2km to the southeast of the Project site. The Project is accessed by M11-M14 – a road which connects East with West of Armenia (following Lake Sevan shores) with Mets Masrik village. The total Project area is around 13km<sup>2</sup>. The Project area in general is located 7.2 km from Lake Sevan shore which is characterized as being grazing land (used for pastoral activities).

Figure 1 below presents the overview of the Project Location while Table 1 presents the Project coordinates.



Figure 1: Overview of Project Location

No.	X Armenian Land register	Y Armenian Land register	No.	X Armenian Land register	Y Armenian Land register
1	8561119.8555	4454460.1224	11	8562664.2855	4455602.5654
2	8560954.3871	4454681.2610	12	8563015.2235	4455289.0294
3	8560904.1609	4454786.2978	13	8563015.2155	4454887.5104
4	8560711.0215	4455190.2052	14	8562548.9398	4454876.5493
5	8560908.6657	4455212.5150	15	8562520.1308	4454850.8569
6	8561402.3295	4455266.6119	16	8562452.1489	4454794.3969
7	8561793.5210	4455181.0899	17	8562466.5590	4454701.7211
8	8562048.5680	4455184.4239	18	8561879.1444	4454712.5803
9	8562210.3797	4455287.5968	19	8561358.0098	4454584.6775
10	8562411.7522	4455375.2692			

Table 1: Project Site Coordinates

The Project will result in crucial positive environmental and economic impacts on the strategic and national level given the current challenges the energy sector in Armenia is facing. Such positive impacts underpin rationale for the Project. These include the following:

- The Project allows for more sustainable development and shows the commitment of the RA to realizing its Energy Strategy for addressing the three principal challenges in its energy sector:
  - i. an emerging supply gap;
  - ii. the need to maintain energy supply reliability;
  - iii. the need to maintain affordable tariffs.

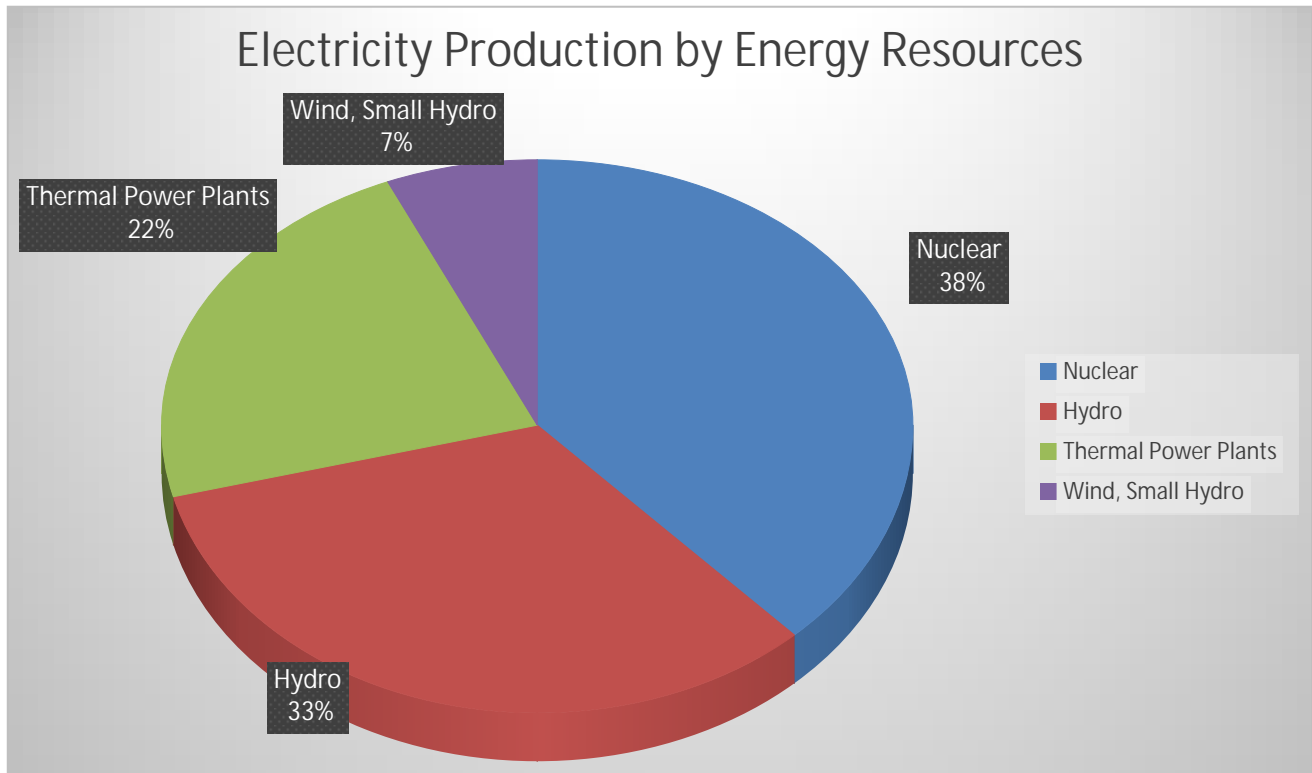


Figure 2: Energy mix in Armenia

- The Project will contribute to increasing energy security through reliance on an indigenous, inexhaustible and mostly import-independent energy resource. The expected electricity generation from the Project will serve the annual electricity needs of more than 25,000 local households;
- The Project will produce clean energy which will contribute to lowering electricity generation costs when compared to the current costs associated with liquid fuels; and
- Generating electricity through PV power is rather pollution-free during operation. Compared with the conventional way of producing electricity in Armenia, the clean energy produced is expected to reduce consumption of liquid fuels for electricity generation and will thus help in reducing greenhouse gas emissions as well as air pollutant emissions.

## 2.2 Project Components

The key components of the Project are the power arrays which are composed of PV panels which convert solar energy (radiation from the sun) into electricity. Throughout the site the total number of PV Panels will be just over 180,000 PV Panels. A typical PV power array that is composed of PV panels is shown in Figure 3 below.



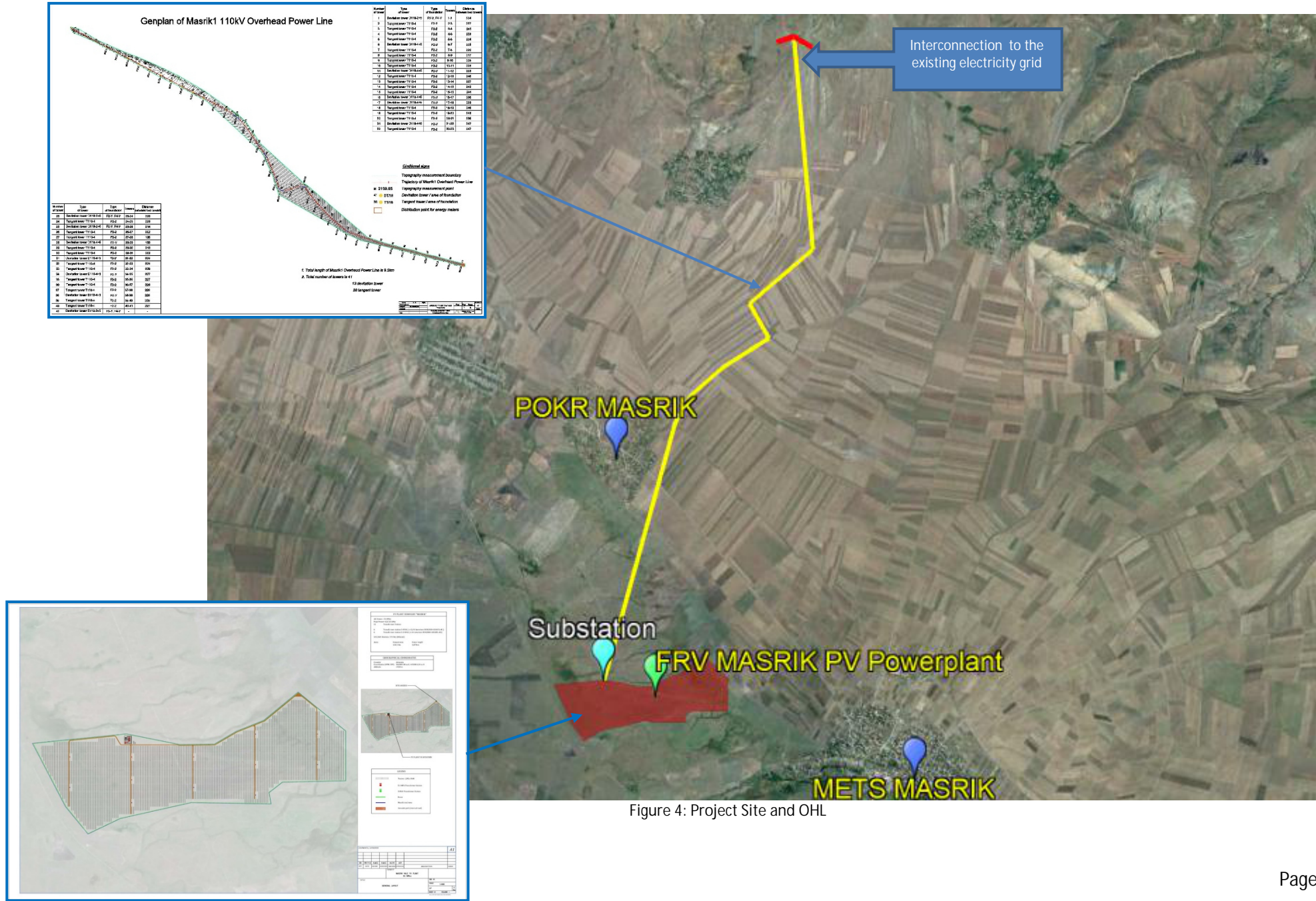


Figure 3: Typical PV Power Arrays Composed of PV Panels

Other buildings and infrastructure needed onsite include:

- Central inverter stations which converts electricity from the panels from Direct Current (DC) to Alternating Current (AC). Inverter stations connect to a substation through underground cables;
- Substation which converts voltage from 33kV to 110kV that is appropriate for connection with the High Voltage National Grid (110 kV);
- Building Infrastructure will mostly include offices for normal daily-operational related work, as well as a warehouse for storage of equipment and machinery;
- Road network to include an internal road network for ease of access to the arrays for operation and maintenance purposes as well as security road around the perimeter of the Project site for security patrolling;
- Fencing around the entire facility and security will be required to ensure safety from criminal activity and trespassing of unauthorized personnel; and
- All consumables needed for the works and the operation of the site facilities (water, electricity, telecom, etc.) as well as their connection works;
- An Overhead Line (OHL), with a length of 9.2km, from the Project Site to connect to the High Voltage National Grid (110kV).

The Project will provide up to 240 jobs during the construction phase for a duration of eighteen (18) months which will include unskilled labour (e.g. security personnel), semi-skilled labour (electricians, welders, fitters, etc.) and skilled labour (engineers and management professionals). During operation, the Project will provide approximately 12 jobs for a duration of 20 years, which will include skilled labour (such as electrical and mechanical technicians) and unskilled labour (such as module cleaners and security personnel).



## 2.3 Project Phases

- Planning and Construction Phase (September 2019 – February 2021): This phase includes preparation of a detailed design for the Project, planning and transportation of the various Project components to the site (e.g. PV modules), and onsite preparation activities for installation of the PV arrays and various other components. Site preparation activities could include excavations, grading, and land clearing activities.
- Operations Phase (2021- approximately 2041): This phase involves operation and maintenance of the PV Power Arrays and all the various electrical equipment. This includes, for example, regular PV module cleaning to prevent dust build-up which could affect their performance. Operation phase also includes commissioning tests which involves standard electrical tests for electrical infrastructure as well as the panels, and inspection of routine civil engineering quality records.

Subject to the Developers and RA agreeing the terms and conditions, the operation phase may be extended.

- Decommissioning Phase (to be determined): After the operation phase the plant will be decommissioned and the panels are dismantled. Decommissioning activities could include the disconnection of the various Project components (PV array, central inverter stations, delivery station, etc.) for final disposal. In addition, internal road network will be restored, and gates and fences will be removed.

## 3. SUMMARY OF ENVIRONMENTAL AND SOCIAL BASELINE CONDITIONS & IMPACTS

### 3.1 Introduction

The national Environmental and Social Impact Assessment (ESIA) comprised of environmental and social baseline studies and an assessment of impacts. Mitigation measures, which are included in the ESMP, were identified for potential significant effects and the significance of residual effects was also determined. The impact assessment followed an assessment methodology developed to reflect current best practice.

The national ESIA has provided the engineers and designers with important information regarding the sensitivities of baseline environmental and social resources that could be affected by the proposed development. The resulting design proposal has been developed to take account of these sensitivities and avoid negative environmental effects wherever possible. The key baseline and impact assessment findings are further discussed below.

### 3.2 Environmental & Social Baseline Conditions & Impacts

#### (i) *Landscape and Visual*

The Project area in general can be characterized as being dominantly of fairly flat surfaces. The site can be classified as a grazing land that is covered by a poor quality flora which is a typical habitats of the central part of Armenia as shown in Figure 5. The altitude is 1900-2000m and the flat surface has steepness to the West and is covered by a strong alluvial sediments layer. Within the Project area in general there are no key sensitive visual receptors.

When preparing for construction, certain leveling works, insignificantly changing the landscape, will be made. After the preparation of the area, the modules will be installed. The change of a scene will be visible from Mets Masrik and Vardenis villages, however for the vicinity it will not be a relevant visual impact.

The key impacts from the Project development are limited to the operation phase and which include impacts from Project visibility and impacts from glare, both of which are discussed below.

Given the maximum height of the PV arrays (2 - 3.5m only), the Project is expected to be visible within the immediate vicinity and up to some kilometres around the Project site only, and thus is likely to create visual impacts. However, given that there are no key sensitive visual receptors within the surrounding vicinity of the Project site, such impacts are considered to be of minor significance.

There is potential for glare caused by sunlight being reflected off the PV panel modules. Figure 6: shows the typical glare from PV Panels. Nevertheless, not all of the incoming sunlight is absorbed and thus a minimal amount of incoming sunlight is reflected, which could be associated with insignificant potential for glare. PV modules reflect much less light and have a lower potential for glare when compared to other materials widely



used in other human developments such as steel, standard glass, plastic and even when compared to snow and smooth water.

The Overhead Line (OHL) corridor will mainly pass through the unused areas or pastures.



Figure 5: The panorama of the area requested for Masrik 1 PV Plant

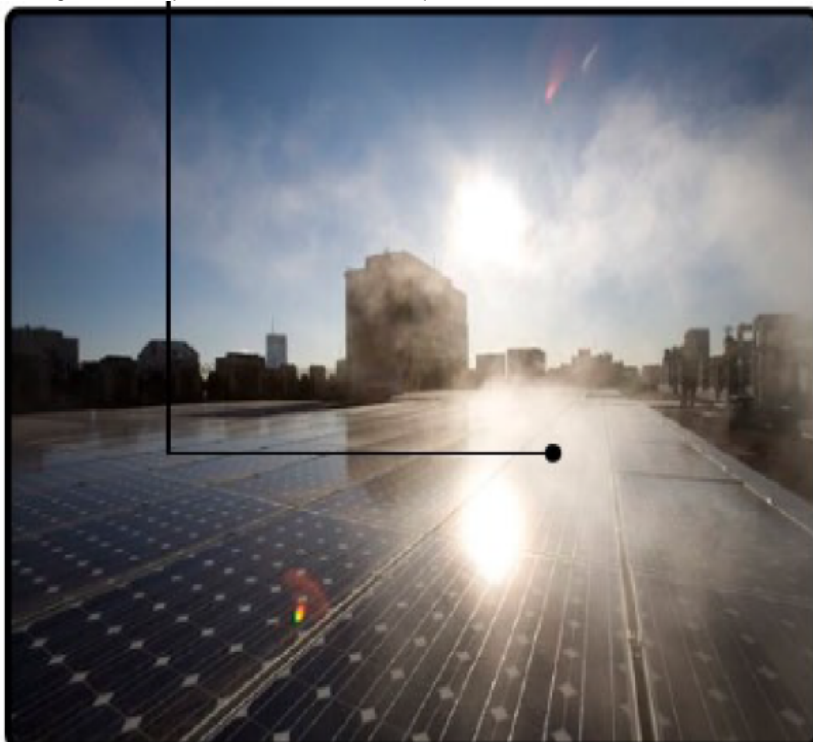


Figure 6: Typical Glare from PV Panels

## *(ii) Land Use*

The Project site location does not conflict with any land use planning as set by the various governmental institutions (such as the land use planning by the Ministry of Municipal Affairs, area of critical environmental concern planning by the Ministry of Environment, grazing reserves planning by the Ministry of Agriculture, etc.).

The ESIA also investigated the actual land use of the Project area, which can be summarized as follows:

PV project site:

- The land was owned by Mets Masrik community and free of rights of third parties, the target position is agricultural (land was registered under agricultural category). There will be only 1 affected land plot with 128.3 ha surface area. The area is used only as pasture land. There are no cereals or other crops, as well as constructions or infrastructures and are not considered a major source of livelihood not even for self-sufficiency purposes. Based on consultations with Mets Masrik municipality and local communities there are additional areas utilized for grazing activities – therefore the Project site itself has no specific agricultural value to the local communities.
- Access to the project site is through an existing path from road N14 just north of the Project site.
- Grazing activities undertaken by the local community are also very limited and are not considered a major source of livelihood in the area not even for self-sufficiency purposes. The limited grazing activities are generally undertaken in those areas. Finally, based on such discussions with Mets Masrik Municipality and the local communities it was concluded that the Project site has no specific grazing value to the local community due to the widespread alternative lands of similar habitat extending within the area which can be used for grazing activities.

Overhead Line (OHL) lands:

The impact of OHL and Project site on land use has been assessed in a stand-alone Livelihood Restoration Plan (LRP) and which can be summarized in the following table:

13 LAND PLOTS FOR 41 POLES+T connection			LAND only impacted by SERVITUDES		
Number of poles	Ownership	Usage	Number of Servitude parcels	Ownership	Usage
1	FRV (Project site)-1 plot	N/A	5	Pokr Masrik community	Not used
9	Pokr Masrik community-2 plots	Pasture land	6	3 Private owners	Not used
5	Pokr Masrik community, rented to 4 private users-2 plots	Arable land	7	Arpunk community	Not used
9	3 Private owners-3 plots	Arable land			
3	Arpunk community, rented to 1 private user-1 plot	Arable land			
14 + T connection plot	Arpunk community-4 plots	Pasture land			

Table 2: Land use impact - OHL

- The OHL is 9.2km long
- There are 41 poles + T connection plot along the 9.2 km of OHL. The regulation in Armenia requires to secure the ownership of the parcels where the poles will be located
- There are 12 parcels where servitude rights will be granted

The above table describes the location of each poles and servitudes confirmed by the independent valuator licensed by the GoA. The compensation package for the parcels' acquisition and servitude rights should have been agreed and implemented prior to construction activities.

Taking the above into account, the development of the Project will not result in any issues linked to the actual land use of the site. Nevertheless, the ESIA and LRP identify proper management measures to ensure that the potential negative impacts are duly compensated. With the implementation of such measures the impact is considered not significant.

*(iii) Geology, Hydrology, and Hydrogeology (Soil and Groundwater)*

The area requested for the PV Plant has the valley relief. During the spring season, waters occurring in a result of precipitations and thaw, are mainly being absorbed or partially form the small temporary ponds, which cause waterlogging of the soil. During summer, only traces of these waterlogging remain – the stripping's with depth of up to 0.5 meters covered by lush vegetation. A hydrology study has been performed and the project layout will take into account the specificity of the land.

Masrik valley to the west (to Lake Sevan) is the concavity of mild steepness surrounded by the mountain ranges of Sevan (from northeast), Eastern Sevan (from southeast) and Vardenis (from south).

Eastern Sevan Kongur mountain range is situated in the confine of the RA Gegharkunik Marz and Artsakh. It encompasses the Lake Sevan by length of 40 km in the southeast. It serves as water division between River Tartar and Lake Sevan.

Other potential impacts are mainly from improper housekeeping practices during construction and operation (such as illegal disposal of waste to land) which could contaminate and pollute soil which in turn could pollute groundwater resources. The ESIA has identified adequate mitigation measures which aim to control such impacts and ensure proper conduct and housekeeping practices are implemented. With the implementation of such measures the impact is considered not significant.

*(iv) Biodiversity*

The biodiversity baseline assessment concludes that the Project site in general is barren and of low ecological significance and sensitivity. The assessment identified several flora, fauna and avi-fauna species within the Project site most of which are considered of least concern and common to such area habitats and with a wide range of distribution. There are no sensitive habitats recorded within the Project site.

However, Masrik 1 Solar Power Plant and OHL are situated in the Sevan National Park protection zone and is included in the Ramsar area, therefore the ESAP will include, as an action item, the completion of an additional biodiversity survey to evaluate any specific disposition applicable to the OHL and the Project Site to be undertaken.

There are no endangered plant and animal species identified so far, and the nature of activities and the distance from the Sevan National Park (6.3 km far from "Gilli" reserve and it is separated from the reserve by arable lands and pastures), allows to conclude at this stage, that the construction and operation of the PV Plant should not impact the National Park. Such conclusion should be confirmed by the additional biodiversity survey currently being conducted and which will be finalised end of June.

The ESIA, along with the additional biodiversity survey to be completed, has identified adequate mitigation measures which aim to control any potential impacts and monitor that actions are duly implemented. With the implementation of such measures the impact is considered not significant.

*(v) Archaeology and Cultural Heritage*

According to the RA Ministry of Culture Agency for Protection of Historical and Cultural Monuments, there are no historical or cultural sites located in the proposed PV plant site and OHL corridor.

The assessment concludes that there are no records of any sites of interests or significance within the Project area.

The main impact anticipated is during the construction phase from site preparation activities. As noted earlier there are no archaeological remains on the surface of the Project site, and therefore there are no anticipated impacts. However, there is a chance that throughout construction activities, archaeological remains buried in the ground are discovered. Improper management (if such sites are discovered) could potentially disturb or damage such sites. Nevertheless, the ESIA identifies appropriate mitigation measures which should be

implemented should such remains in the ground be discovered throughout the construction phase. With the implementation of such measures the impact is considered not significant.

*(vi) Air Quality and Noise*

Construction and operation activities of solar PV Projects are passive in nature and do not result in any key air emissions or significant noise sources. However, construction activities may increase level of dust and particulate matter emissions, which will temporarily impact ambient air quality. Moreover, the use of machinery and equipment are expected to be a source of noise and vibration within the Project site and its surroundings.

As part of the ESIA, appropriate mitigation measures have been identified for dust suppression and noise control and which will be implemented during the construction phase. This includes for example regular watering of all active construction areas, proper management of stockpiles, the use of well-maintained mufflers and noise suppressants for high noise generating equipment and machinery, etc. With the implementation of such measures the impact is considered not significant.

*(vii) Infrastructures and Utilities*

Water Resources and Utilities – water requirements for the Project during construction and operation are rather minimal and can be easily satisfied through tankers trucks, unless a suitable installation of water pipes from a reservoir is possible. The total water requirements during the construction phase are likely to be around 50m<sup>3</sup>/day. During operation it is likely to be around 0.7m<sup>3</sup>/day for potable use and 400m<sup>3</sup> per year for cleaning of the panels (2 cleaning cycles per year with water while the rest will be through a dry cleaning method). The Project contractor and Project operator is required to coordinate with Municipality of Mets Masrik to secure water requirements for the Project which will most likely be through tankers.

Wastewater and Solid Waste – Wastewater and solid waste generated during the construction and operation phase will be minimal and are expected to be easily handled by the Project contractor. The contractor and operator are expected to coordinate with the relevant authorities for disposal of such waste streams.

Hazardous Waste Utilities: Hazardous waste generated during the construction and operation will be minimal and are expected to be easily handled by hazardous waste disposal facilities (in Yerevan).

The decommissioning phase of the Project will involve the disposal of a significant number of PV panels and electrical equipment. The ESIA requires that before any decommissioning activities take place, the Developer prepare a decommissioning plan for disposal of panels and associated equipment which must first consider recycling programs for PV Panels and as a last option disposal at existing hazardous waste facilities in Armenia.

*(viii) Socio-economic Conditions*

The main impact anticipated on socio-economic conditions is related to potential job opportunities from the Project. However, such impacts are limited taking into account the nature of activities for the Project. During the construction and operation phases, the Project is expected at a minimum to provide job opportunities for local communities. The Project will create the following job opportunities as discussed earlier:

- A maximum of 240 job opportunities will be provided during the Project's construction phase for a duration of 18 months. This will include unskilled labour, semi-skilled labour and skilled labour. Where relevant, the Developer will prioritize all job opportunities to the local communities and/or Armenian residents with required qualifications and skills and ensure contract terms are clearly explained through effective management mechanisms.
- A maximum of 12 job opportunities will be provided during the Project's operation phase for a duration of 20 years. This will include unskilled labour, semi-skilled labours and skilled labour. Where relevant, the Developer will prioritize all job opportunities to the local communities and/or Armenian residents with required qualifications and skills and ensure contract terms are clearly explained through effective management mechanisms.

The Developer is aiming to adopt and implement a community integration plan which will demonstrate how the local communities will be involved and integrated in the Project in terms of job opportunities as well as other



indirect socio-economic benefits (from increase in demand for local services, supplies and business such as accommodation services).

*(ix) Occupational Health and Safety*

During the construction and operation phase there will be generic occupational health and safety risks to workers, such as working on construction sites, exposure to electric shock hazards during maintenance activities, etc. The ESIA requires that the contractor and operator of the Project prepare an Occupational Health and Safety Plan (OHSP) tailored to the Project's site and activities. Such plan aims to ensure the health and safety of all personnel in order to concur and maintain a smooth and proper progress of work at the site and prevent accident which may injure personnel. With the implementation of such measures the impact is considered not significant.

*(x) Community Health, Safety, and Security*

During construction and operation phase there could be potential impacts mainly limited to trespassing of unauthorized personnel into the Project site and which could result in potential risks from several hazards of the various Project components (e.g. electric shock, exposure to chemicals and hazardous materials, etc.). Nevertheless, it is expected that as part of the detailed design the security measures to prevent unauthorized access to the Project site will be identified which in turn will control any such impacts. The detailed design is expected to include security measures such as fencing around the entire perimeter of the Project site along with a number of security guards onsite. With the implementation of such measures the impact is considered not significant.

### 3.3 Summary of Stakeholder Consultations

The table below provides a summary of all stakeholders that were consulted and engaged throughout the ESIA study. The table provides a summary of the stakeholder groups that were engaged and the main objective and outcome.

Stakeholder	Objective and Outcome
RFP Scoping Session January 30, 2018 <i>(national governmental entities, local governmental agencies, municipalities, communities, experts)</i>	A scoping session was held for the tendering process in Mets Masrik. R2E2, as Implementation Agency, introduced the Project and various processes (Preliminary ESIA, Social Due Diligence, Resettlement Policy Framework) to be implemented in the context of the project development phases.
ESIA Scoping Session October 15, 2018 in Geghamasar (Sokt) and Mets Masrik <i>(Developer, E&amp;S experts, municipalities, communities)</i>	In accordance with the "EIA law of 2014", a scoping session was held for the Project in Mets Masrik (impacted by the PV plant) and Geghamasar (impacted by the OHL). The Project was introduced and various components explained, the proposed methodology for the ESIA was outlined and anticipated impacts throughout the Project's phases were discussed.  A Public Notice has informed the stakeholders about that public consultation. The main issues raised by stakeholders during the session were related to (i) socio-economic development; (ii) infrastructure and utilities; (iii) geology and hydrology; (iv) land use. Such issues are discussed further in the ESIA which also summarizes how such issues were taken into account as part of the ESIA. Additional details are provided in the minutes of the meeting attached to the ESIA and the Stakeholders Engagement Plan.
Local Community Consultation Session managed by The Expertise Center December 13, 2018 in Geghamasar (Sokt) and Mets Masrik <i>(Expertise Center, E&amp;S experts, Municipal Council members which are representatives of the local communities, elder)</i>	A local community consultation session was undertaken with the local community representatives in Mets Masrik and Geghamasar. The meetings were headed by the Expertise Center (Ministry of Environment agency). Stakeholders were invited through formal public notice 7 days prior the public consultation meetings. Throughout the session, discussions were undertaken about the project, environmental and social impacts, land use patterns in the area, and socio-economic conditions and development. Additional details are provided in the minutes of the minutes attached to the ESIA and the Stakeholders Engagement Plan.

<i>representatives, members of communities.</i>	
Expertise Center - Ministry of Environment (MoEnv)	Discussion on general concerns and environmental and social impacts from the Project development prior Terms of Reference (ToR) issuance
Local Community Consultation Session managed by E&S experts January 30, 2019 in Geghamasar (Sokt) and Mets Masrik <i>(E&amp;S experts, Municipal Council members which are representatives of the local communities, elder representatives, members of communities.</i>	A local community consultation session was undertaken with the local community representatives in Mets Masrik and Geghamasar. The meetings were headed by the E&S experts. Stakeholders were invited through formal public notice 7 days prior the public consultation meetings. Throughout the session, discussions were undertaken about the project, environmental and social impacts, land use patterns in the area, and socio-economic conditions and development in accordance with ToR requirements prior ESIA report submission to Expertise Center. Additional details are provided in the minutes of the minutes attached to the ESIA and the Stakeholders Engagement Plan.
Local Community Consultation Session managed by Social experts January 30, 2019 in Geghamasar (Sokt) and Mets Masrik <i>(E&amp;S experts, Municipal Council members which are representatives of the local communities, elder representatives, members of communities.</i>	A local community consultation session was undertaken with the local community representatives in Mets Masrik and Geghamasar. The meetings were headed by the Social experts. Stakeholders were invited through formal public notice 7 days prior the public consultation meetings. Throughout the session, discussions were undertaken about the project social and land use impact of the PV plant and OHL. Additional details are provided in the minutes of the meeting attached to the Livelihood Restoration Plan and the Stakeholders Engagement Plan.
Peoples Affected by the Project (PaPs) meeting managed by Social experts April 26, 2019 in Pokr Masrik, Arpunk and Geghamasar (Sokt), <i>(E&amp;S experts, Municipal Council members which are representatives of the local communities, elder representatives, PaPs.</i>	A meeting was undertaken with the local community representatives and PaPs in Pokr Masrik, Arpunk and Geghamasar (Sokt). The meetings were headed by the Social experts. Stakeholders were invited to the meetings by direct approach. Throughout the session, discussions were undertaken about the compensation for the use of land and servitudes and temporary negative impact on crops. Additional details are provided in the minutes of the meeting attached to the Livelihood Restoration Plan and the Stakeholders Engagement Plan.
Municipalities of Mets Masrik	Discussions on anticipated impacts from the Project, any concerns over the Project site and development, etc.
Ramsar representant/advisor to the RA Minister of Nature Protection Mr Karen Jenterejyan November 30, 2018 <i>(Environment Expert, Resettlement specialist, Ramsar representant)</i>	Discussion on biodiversity issues related to the Project (methodology for baseline assessment, anticipated impacts, any concerns over the Project site and development, mitigation and monitoring requirements, etc.). Additional details are provided in the minutes of the meeting.

Table 3: Summary of Previous Stakeholder Engagement Activities

In order to monitor and examine possible complaints, concerns and suggestions in the course of the construction process, a detailed measurement and census survey, a valuation of the compensation by the Developer, and a Grievance Redress Mechanism (GRM) have been elaborated for the Project, so that community residents or potential PAPs have the opportunity to submit proposals or to appeal any decision, practice or activity that may arise during Project implementation, as well as the compensation process for land

or other property. The Grievance Redress Mechanism is implemented, so that people can have their problems solved and grievances redressed in a timely and effective manner without directly addressing the court.

### 3.4 Cumulative Impact

The ESIA investigated the cumulative impacts which could result from incremental impacts from other known existing and/or planned developments in the area based on currently available information. The ESIA concludes that there are no existing and/or planned developments which would result in cumulative impacts on any of the environmental/social receptors investigated as part of the ESIA.

## 4. ENVIRONMENTAL & SOCIAL MANAGEMENT & MONITORING

The ESIA includes an Environmental and Social Management Plan (ESMP) which provides an outline plan for managing and monitoring the environmental and social impacts during construction, operation and decommissioning of the Project. The ESMP identifies the mitigation measures which aim to eliminate and/or reduce the potential impact to acceptable levels and monitoring actions to ensure that the identified mitigation measures are implemented.

During both construction and operation, certain activities, indicators and environmental and social receptors will be monitored. Monitoring may include observation and recording, or may include data gathering and sampling. Monitoring reports will be required from the Contractor and Operator during the construction and operational phases. The monitoring results will be useful for assessing the long term cumulative effects, if any. If on-going problems occur, adaptive mitigation measures can be developed and implemented.

In addition, in accordance with the “EIA law” (2014), the Expertise Center (being MoEnv), will be responsible for undertaking compliance monitoring to ensure that the responsible entity is adhering to the ESMP requirements.

Lenders and their advisors will issue an ESAP, as a project finance document. The Developer will have to comply with action plans to cover any potential gaps with Environmental and Social international standards prior to construction, during construction and during operation. A monitoring and reporting management plan will be implemented in order to insure compliance with the ESAP.

## 5. FURTHER INFORMATION & CONTACT DETAILS

Full project preparation documents, including the ESIA, NTS, and Stakeholder Engagement Plan (SEP) including the grievance mechanism for affected stakeholders and communities will be available at the following locations:

- Municipality of Mets Masrik  
Location: City Hall, Mets Masrik, Armenia  
Email: [metsmasrik.gegharquniq@mta.gov.am](mailto:metsmasrik.gegharquniq@mta.gov.am)  
Tel: (374) 26 961 283
- R2E2 Fund  
Location: Renewable Resources and Energy Efficiency (R2E2) Fund  
Sayat- Nova 29/1 str., Yerevan, Armenia  
Tel: (374) 10 588 011

### Contact Details for the Public

#### FRV Services Middle East DMCC

Jumeirah Business Center – 14<sup>th</sup> floor, Unit 1403-1404, Cluster G, Jumeirah Business Center 1, Jumeirah Lakes Towers P.O Box 392632, Dubai, United Arab Emirates,  
Telephone: (971) 4 375 4138  
E-mail: [cyril.perrotey@frv.com](mailto:cyril.perrotey@frv.com)

## Annex 1. Public Grievance Form

Reference No:	
Full Name <i>Note: you can remain anonymous if you prefer or request not to disclose your identity to the third parties without your consent</i>	<input type="checkbox"/> I wish to raise my grievance anonymously <input type="checkbox"/> I request not to disclose my identity without my consent
Contact Information  Please mark how you wish to be contacted (mail, telephone, e-mail).	<input type="checkbox"/> By Post: Please provide mailing address: _____ _____ _____ <input type="checkbox"/> By Telephone: _____ <input type="checkbox"/> By E-mail _____
Preferred Language for communication	<input type="checkbox"/> Language 1 (specify) <input type="checkbox"/> Language 2 (specify) <input type="checkbox"/>
Description of Incident or Grievance: What happened? Where did it happen? Who did it happen to? What is the result of the problem?	
<div style="height: 60px;"></div>	
Date of Incident/Grievance	
	<input type="checkbox"/> One time incident/grievance (date _____) <input type="checkbox"/> Happened more than once (how many times? _____) <input type="checkbox"/> On-going (currently experiencing problem)
What would you like to see happen to resolve the problem?	
Signature: _____  Date: _____  Please return this form to:  [name], Health and Safety Manager, or Community Liaison Officer [company name],  Address _____  Tel.: _____ or E-mail: _____	