

WEST BANK AND GAZA

**ELECTRICITY SECTOR
PERFORMANCE IMPROVEMENT
PROJECT**

**Environmental and Social Management
Framework**

February 2017

EXECUTIVE SUMMARY

The Electricity Sector Performance Project of the Palestinian Authority aims to improve the efficiency of the Palestinian electricity sector and energy security in Palestine through a set of measures along the energy supply chain. The project is made up of the following components: Component 1 supports staff salaries and operational expenditures for one year, equipment to operate HV substations and consultancy services, the installation of terminals for remote access to the Management Information Systems (MIS) incorporated by each DISCO; and auditing the adequate use of ERP systems by DISCOs. Component 2 is expenditure to implement a Revenue Protection Program supported by Advanced Metering Infrastructure (AMI), install MIS in each DISCO are unlikely to have any environmental and social impacts. Component 3 will deploy solar energy to improve energy security in Gaza by installing home solar systems in selected homes. Component 4 comprises technical assistance and capacity building of the PMU.

Of these four components, only Component 3 is likely to have any significant environmental and social impacts. These are addressed in this Environmental and Social Framework.

Legal framework

This ESMF is guided by the applicable Palestinian regulatory texts in the environment and power sectors, as well as the World Bank's environmental and social safeguards policies. Accordingly, the project has been given Category B status as its potential negative environmental impacts are neither unprecedented nor are they as critical as those of Category A.

Institutional and Implementation arrangements

The Palestinian Energy and Natural Resources Authority, PENRA, will implement the project. PENRA's Project Management Unit (PENRA-PMU) will recruit an Environmental and Social officer who will have oversight responsibility for implementing this ESMF. His responsibilities will include coordinating with the Ministry of Environmental Affairs (EQA) to monitor the compliance of the electricity distribution company, GEDCO, and contractors, with national environmental law and this ESMF.

Environmental and Social risk screening

The ESMF proposes a screening process to: (i) define the specific process to be followed in environmental permit applications to EQA; (ii) identify potential environmental and social impacts; (iii) determine appropriate environmental category, according to OP 4.01; (iv) review and approve sub-projects; and; (v) identify and mitigation and monitoring indicator measures. A screening checklist is also presented in Annex to the ESMF.

The likely environmental and social risks of the solar PV installations are linked primarily to the disposal of the storage batteries and the PV panels at end of life. It is also possible that heat or light reflection from the panels, into neighbouring properties, could become a source of grievance. The likely impacts and suggested mitigation measures are presented in the table below:

Issue	Likely Impact	Mitigation
Noise and Air Emissions	During production, waste disposal and recycling. Also noise during installation work	Inform neighbours of work schedule and only work during the daytime
Hazardous Chemicals	During production of solar modules. Could be dangerous during disposal	Identify suppliers (PV panels, inverters and batteries) of ISO- or best industry standard-compliant products and Handle products careful to avoid accidental breakage or spillage
Heat or light reflection	Reflection from the panels could become a source of grievance	Avoid installation sites that would require panels to be placed in a manner which would reflect light into an immediate neighbour's

Issue	Likely Impact	Mitigation
		wind, balcony or door for more than 30 days a year Install screens to prevent light from reaching an immediate neighbour's window, balcony or door
Biodiversity	No likely impact in urban Gaza, Trees could obstruct sun rays from panels and require cutting	<ul style="list-style-type: none"> • Avoid installation sites that require cutting or substantially pruning a protected tree, an old tree or known bird-nesting tree • If a tree needs to be pruned, only remove parts that are absolutely necessary. • Do not remove a mature tree unless absolutely necessary
Cultural heritage	Likely issues from light and heat reflection	Avoid selecting installation sites that are culturally or religiously sensitive
Employment	Temporary employment opportunities	<ul style="list-style-type: none"> • Train local workers as much as possible • Use local labour for skilled and semi-skilled labour
Economic impact and livelihoods	Help stabilize electricity supply to beneficiary households, thus revitalizing businesses	<ul style="list-style-type: none"> • Ensure wide dissemination of information to all stakeholders
Social conflicts	Could arise from fairness and equity in decision-making	<ul style="list-style-type: none"> • Ensure fair competition by creating a level playing field • Ensure access to information and transparency in decisions • Undertake public consultation and information dissemination • Establish and create awareness on grievance redress mechanism
Health and Occupational Safety	Possible accidents from working at rooftop level	<ul style="list-style-type: none"> • Respect all safety measures required for working on rooftops. • Provide workers with protective personal equipment
Waste disposal	Chemical contamination of soil and ground water from poor disposal of solar panels and batteries.	<ul style="list-style-type: none"> • Dispose packaging and construction waste at approved waste management sites using registered transport services. • Do not treat waste as domestic waste • Provide a temporary storage facility to contain waste ahead of final disposal to EQA-approved facility • Contract with recycling or waste disposal facility capable of handling solar panel and battery wastes

Public Consultations

Public consultations are critical in preparing effective and sustainable sub-projects. This requirement supports the participatory planning process as required by the WB and the national EIA regulations. It is important that beneficiaries are involved in the project cycle, from the design to implementation and monitoring. The same applies to relevant stakeholders.

The first step is to hold public consultations with the local communities and all other interested/affected parties during the screening process and where needed, when preparing an EIA.

To facilitate meaningful consultations, where required, PENRA should provide all the relevant material and information in a timely manner, and in a form and language that are understandable. The location of the relevant documents should be advertised through commonly used media. Depending on the public interest in the potential impacts of the sub projects, a public hearing may be required to better convey concerns.

Once the sub-project has been reviewed and cleared by the relevant local community, including the relevant City/town authority, the EQA will inform the public about the results of the review. It is important to note that any affected or interested individual or group has the right of appeal, if dissatisfied with the decision reached at any stage in the EIA process. The appeals process will be according to the national EIA regulations and the WB's provisions respectively.

LIST OF ACRONYMS

DISCO	Distribution Company
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
GEDCO	Gaza Electricity Distribution Company
GHG	Green House Gases
Gol	Government of Israel
GPP	Gaza Power Plant
GS	Gaza Strip
HEPCO	Hebron Electricity Power Company
IEE	Initial Environmental Evaluation
IFR	Interim Financial Reports
ISO	International Standards Organisation
JDECO	Jerusalem District Electricity Company
EQA	Environment Quality Authority
MIS	Management Information Systems
MVC	Municipalities and Village Councils
NEDCO	Northern Electricity Distribution Company
NGO	Non-Governmental Organisation
OP	Operational Policy
PA	Palestinian Authority
PEAP	Palestinian Environmental Assessment Policy
PEL	Palestinian Environment Law
PENRA	Palestinian Energy and Natural Resources Authority
PERC	Palestinian Electricity Regulatory Council
PETL	Palestinian Electricity Transmission Company Ltd
PLO	Palestinian Liberation Organization
PMU	Project Management Unit
PPA	Power Purchase Agreement
PPE	Personal Protective Equipment
PV	Photovoltaic
RPP	Revenue Protection Program
SELCO	Southern Electric Company
TEDCO	Tubas District Electricity company
TSO	Transmission System Operator
WB	World Bank

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1. Introduction

A sustained reform process supported by the donor community has, over the past two decades, improved and consolidated the Palestinian energy sector from a fragmented municipal-based system to a more efficient single-buyer model. The Palestinian Energy and Natural Resources Authority (PENRA), was established in 1995 and its mandate consolidated in 1997. The reform consolidated the electricity distribution services of numerous fragmented municipalities and village councils (MVC) into larger distribution companies (DISCOs) to benefit from economies of scale. Currently there are 6 DISCOs (5 in West Bank and 1 in Gaza). However, 150 MVCs have yet to transfer their electricity services to the DISCOs because they use the revenues from electricity bills to subsidize other municipal services. In 2009 the Palestinian Electricity Regulatory Council (PERC) was established with a mandate of regulating and monitoring the energy sector. Established in 2013, the mandate of the Palestinian Electricity Transmission Company Ltd (PETL) is to be the single buyer and Transmission System Operator (TSO) for the Palestinian energy sector. Despite the Palestinian's government authority, led by the Fatah party, extends to all Palestinian Territories, in reality it is constrained to the West Bank, while Hamas rules the Gaza Strip. This division has an impact in the governance and daily operations of PENRA, PETL and PERC.

In September 2016, the PA and the Government of Israel (GoI) signed an agreement to resolve past electricity sector debt and agreed on general principles for a future Palestinian energy market. This agreement confirmed the role of PETL as the sole purchaser of electricity in the Palestinian Territories. The commercial relationship between IEC and PETL would be governed through a Power Purchase Agreement (PPA) to be signed within six months of signing the agreement (March 31 2017). In addition, four high voltage substations financed by the European Investment Bank and constructed by IEC in the West Bank would be energized, bringing critical additional power supply and reducing losses.

Given this background, the proposed Electricity Sector Performance Project (P148600) seeks to improve the efficiency of the Palestinian electricity sector and improve energy security through a carefully selected set of measures along the Palestinian energy supply chain, from generation, distribution, transmission to regulation.

1.1 Project Description

Component 1 - Strengthening the capacity of Palestinian electricity sector institutions The sustainability and performance of two key organizations, the Palestinian Electricity Transmission Company Ltd (PETL) and the Palestinian Electricity Regulatory Council (PERC) are the cornerstone of the on-going transformation of the Palestinian electricity sector.

This component supports PETL's staff salaries and operational expenditures for one year, provides equipment to operate HV substations and consultancy services. It will also support PERC in monitoring performance and quality of service of DISCOs by tracking key performance indicators, auditing financial statements, and reviewing the use of ERP systems

Component 2 - Improving the operational performance of Palestinian electricity Distribution Companies (DISCOs) This component will finance a "Revenue Protection Program" (RPP) aiming to meter and bill every unit (kWh of electricity) consumed on a permanent basis. It also this proposes to incorporate Management Information Systems (MIS) in five DISCOs (JDECO, NEDCO, HEPCO, SELCO and TEDCO) to improve on service delivery.

Component 3 - Improving energy security in Gaza with solar energy

Gaza suffers from severe electricity shortage but all existing solutions are heavily tied to regional politics. The available power supply in Gaza only meets half the demand resulting in blackouts where 8 hours of electricity supply are followed by 8 hours of power cuts. During winter and summer peak load conditions, the power schedule is further reduced to 3-4 hours per day, a situation which frequently leads to mass protests and anger towards the governments and distribution companies.

To supplement electricity from the grid, and provide a cheaper and more cost effective alternative to private generators, this component will aim to install 1-3KWp solar home systems on residential rooftops for a total of 1MW installed capacity. To ensure poor consumers are also able to participate, smaller battery-only systems, excluding solar panels, will be provided at lower costs. Since the purpose of the program is to reduce the upfront cost of these alternative power supply options, consumers will pay the cost of the system in monthly installments under a pay-as-you-go scheme until the system is paid off and theirs to own.

GEDCO plans to install solar home systems of sizes 0.5KWp, 1KWp, 2KWp, and 3KWp with a pay-as-you-go financing plan. This pilot project, which will target 500 beneficiaries, will be offered to consumers with excellent payment track records. GEDCO requires beneficiaries to pay back the cost of the system within 18 months through monthly payments of approximately US\$ 100, 150 and 250 for the 1, 2 and 3KWp systems respectively. Beneficiaries will be selected through a two-pronged approach to ensure social inclusion. The pay-back scheme will be designed so that the top 80% of the population can afford the monthly payments without the need for subsidies. The bottom 20%, which can be targeted through the World Bank's existing Cash Transfer Program (CTP), will receive relevant subsidies to ensure they are also able to participate in the program. This two-pronged approach, with 80% non-subsidized, and 20% partially subsidized solar systems, strikes a good balance between ensuring that the poor are included in the program and the revolving fund continues to revolve, thereby creating a sustainable business model that can be adopted by the private sector.

Revenue from bill payments will be turned into a revolving fund which will be used to install more solar systems for consumers with good payment records thus incentivizing payment loyalty. The project proposed here is intended to expand substantially the coverage of GEDCO's pilot project.

Systems are composed of PV panels, inverters and batteries. According to GEDCO, the batteries are sized to be small to increase affordability but can provide 6hrs of electricity at 200W load during blackouts. It is assumed that the batteries will constitute 30% of total cost and will need to be replaced every 4yrs. Most systems will be stand-alone 'off-grid' systems; however, larger systems will have the option to be 'hybrid' systems which connect to the grid for net metering when grid power is available.

Component 4: Technical Assistance and Capacity Building This component will finance salaries and operational expenditures of the Project Management Unit (PMU) for two years. The PMU is located at the offices of the Palestinian Energy and Natural Resources Authority (PENRA) in Ramallah. The PMU staff will be integrated in PENRA's payroll after two years to ensure the Project's sustainability. This component will also finance training for DISCOs, PERC, PETL and PENRA.

1.2 ESMF applicability to project components

This Environmental and Social Framework has been prepared because the exact locations of sub-projects will be fully determined during project implementation. Project financing will include interventions for installation of rooftop PV solar panels, smart meters, equipment for operation of sub-stations, and other meters installed on the networks. The environmental impacts of these interventions are limited, localized, and easily mitigated.

2. Legal Framework

The project will be implemented in compliance with applicable Palestinian laws, policies and regulations, as well as the applicable World Bank safeguard policies and relevant ratified international laws and treaties.

The Palestinian Authority (PA) through the Palestinian Liberation Organization (PLO) is the borrower of the Project, while the Palestinian Energy and Natural Resources Authority (PENRA) is the executing agency.

The PA's affairs are administered through relevant ordinances and legislation applicable respectively to the Gaza Strip (GS) and the West Bank. These include the laws and ordinances adopted into the PA legal regime in 1994, based on all laws in force prior to 1967.

2.1 Laws and Regulations Relating to Environmental Management

The Palestinian Environment Law (PEL) No 7 of 1999 has the following objectives:

- To protect the environment from all sorts and types of pollution;
- To protect public health and social welfare;
- To incorporate environmental resources protection in all social and economic development plans and promote sustainable development to protect the rights of future generations;
- To conserve ecologically sensitive areas, protecting biodiversity, and to rehabilitate environmentally damaged areas;
- To promote collection and publication of environmental information and to raise public awareness of environmental issues.

Articles 12 and 13 of the PEL provide for the disposal of hazardous materials, such as solar panels and storage batteries, only under the umbrella of the Ministry's approval, in coordination with the specialized agencies. Furthermore, a special license is required from the Ministry to import hazardous materials, such as could be contained in solar panels and batteries. Article 45 empowers the Environment Quality Authority (EQA) to set standards for environmental impact assessment studies and to prepare the relevant rules and procedures for such studies.

The PEL further requires the EQA to cooperate with the competent authorities to follow up on the implementation of decisions that are issued concerning the environmental impact. The EQA is also required to monitor compliance with approved specifications, standards and instructions for the protection of environment and vital resources. The law further empowers EQA inspectors and other appointed inspectors to record the environmental violations and crimes that may take place and violate this law. The EQA inspectors shall also have, in cooperation with the competent departments and authorities, right of entry into the installations for the purpose of: inspecting them, taking samples, carrying out measurements, and ascertaining the application of the standards and conditions of the environment protection and prevention of pollution.

The Ministry is also empowered to stop, for a period not exceeding two weeks, any project works that could constitute a serious hazard to the environment. The stoppage can only be extended by a judicial order from the competent court.

2.2 Palestinian Environmental Assessment Policy

The Palestinian Environmental Assessment Policy (PEAP), approved through resolution No: 27-23/4/2000 has the following goals:

- Ensuring that development activities improve the standard of life, without negatively affecting the social, cultural and historical values of people;

- Preserving and sustaining the natural environment;
- Conserving biodiversity, landscapes and the sustainable use of natural resources; and
- Avoiding irreversible environmental damage, and minimizing reversible environmental damage, from development activities.

The Ministry of Environment applies the following PEAP-defined screening process based on the requirements of relevant land use plans, to determine whether an Initial Environmental Evaluation (IEE) Report or an Environmental Impact Assessment (EIA) Report is required. The screening process determines whether the project is likely to: Use a natural resource in a way that pre-empts other uses of that resource;

- Displace people or communities;
- Be located in or near environmentally sensitive areas such as natural reserves, wetlands, or registered archeological and cultural sites;
- Generate unacceptable levels of environmental impact;
- Create a state of public concern; or
- Require further, related development activities that may cause significant environmental impacts.

The IEE is for projects where significant environmental impacts are uncertain, or where compliance with environmental regulations must be ensured. An EIA is required for projects, which are likely to have significant environmental impacts. An IEE may determine whether to carry out an EIA.

2.3 Relevant World Bank Safeguard Policy

The proposed project has triggered World Bank Operational Policy 4.01 on Environmental Assessment. The Policy categorises projects as follows:

- Category A projects are projects likely to have significant adverse environmental impacts that are sensitive, diverse or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. Such projects require full environmental assessments;
- Category B projects are projects whose potential adverse environmental impacts on humans or environmentally important areas are less adverse than those of Category A project. This category requires partial assessment;
- Category C projects are projects that have minimal or no impacts on the human or natural environments.

This Policy requires that the proposed project screens early for potential negative impacts and select appropriate instruments to assess, minimize and mitigate potentially adverse impacts. It further requires early consultations with the affected groups and relevant NGOs.

This project has been assigned the Environmental Category B for Partial Assessment. The environmental specialist in PENRA's project team will carry out the screening process.

2.4 Gap Analysis

Issue	Palestinian Environmental Framework	World Bank OP4.01	Recommendations
Impact Categorization	The threshold for "significant" impacts not precisely defined. Project categorization based on an established list of	"Significant" refers to projects with adverse impacts that are sensitive, diverse, or unprecedented, and	Apply the WB's method for impact categorization

	projects	where impacts may affect an area broader than the site of physical works.	
Public Disclosure	Public disclosure not required for projects that do not require a full ESIA	Public disclosure required for all EIA reports, including those that do not require full ESIA.	WB's requirements for public disclosure will apply to this project
Public consultation and accountability	Weak requirements for public consultations. Public availability of the documents is required for full ESIA's. While consultations are required during the preparation of the full ESIA between communities and the project proponent, public hearings are at the government's discretion during the ESIA review and approval process.	Requires consultation with the affected peoples	Ensure consultation and ongoing communication throughout the project implementation period
Environmental and Social Management Framework	Does not include the ESMF approach to projects with multiple sub projects	Adopts the framework approach for projects with multiple sub-projects to establish a screening protocol to outline simple environmental mitigation measures (a simplified EMP) for sub-projects not requiring a full ESIA report.	Adopt the WB's framework approach for this project with multiple sub-projects and whose precise locations are unknown at time of project preparation.

3. Project Institutional and implementation arrangements

Established in 1995, the Palestinian Energy and Natural Resources Authority (PENRA) is the project implementing entity. PENRA's Project Management Unit (PMU) has a reputation for delivering tangible results for all donor-funded projects, including the Bank's Electricity Utility Management Project (closed in September 2016) and the Gaza Electricity Network Rehabilitation Project under supervision. PENRA-PMU will carry out due diligence for procurement, finance, environmental safeguards, and reporting for the project and will supervise all activities implemented by the Gaza Electricity Distribution Company (GEDCO).

3.1 PENRA-PMU

The PENRA-PMU core team comprises an interim Project Director, Procurement Officer, Accountant, Project Engineer and two engineers who provide procurement support. The PMU staff salaries and operational expenditures will be financed by the Project for two years. It has been agreed with PENRA that all PMU staff will be absorbed under PENRA's payroll after this date in order to reduce donor dependency and ensure Project sustainability. Salaries paid to PETL staff under the Project are subject to PENRA's administrative and staff regulations. The PENRA-PMU ensures coordination with PETL, PERC and the DISCOs on all equipment and technical assistance to be provided under the Project. The role of PENRA-PMU includes:

- providing assistance to PENRA on overall project management and implementation supervision;
- preparing bidding documents for procurement packages and executing bidding process;
- monitoring and reporting project performance against the agreed indicators;
- preparing and submitting progress reports to the MOF, PENRA, PETL, PERC, DISCOs, the Bank and all other financing agencies as required;
- managing the financial aspects of the Project;
- managing the environmental and social safeguards aspects of the Project
- preparing and submitting Interim Financial Reports (IFRs) and disbursement forecasts to the Bank; and
- organizing external yearly audits of project financial statements, including expenditures made through the DAs and SOEs.

PENRA/PMU's implementation of Component 3 of the project will be in partnership with GEDCO and selected contractors. This will comprise joint preliminary technical inspection visits to customer homes to examine roof space and electrical loads in individual homes. GEDCO and PENRA will also jointly supervise construction and project implementation.

The **PMU will recruit an environmental and social officer to administer the protocols outlined in this ESMF**. The Officer must have a background in environmental management and be provided training specific to energy projects.

The Officer will be responsible for the screening of the identified sub-projects, ensure that the bidding documents include mitigation measures that will be developed as EMPs as per the guidelines of the ESMF, and that contract documents include environmental and social clauses. The Officer will:

- in coordination with EQA, monitor the project's – GEDCO and Contractors - compliance with national environmental law and the ESMF;

- report on the progress of ESMF implementation and ensure the inclusion of these reports in the regular reporting structure of the PMU to the Bank.
- Liaison point for all developers/contractors to assist in following the procedures set out in this ESMF, particularly the screening and approval processes.
- Monitor the compliance of social and environment aspects related to sub-projects
- First point of contact for Grievance Redress Mechanism

3.2 GEDCO

Gaza Electricity Distribution Company (GEDCO) is responsible for increasing power supply to consumers, improve energy security, decrease the need for illegal connections and incentivize payment loyalty to increase collection rates. It will, in collaboration with PENRA, be responsible for the installation of the PV rooftop installations. It will also oversee the implementation of mitigation measures to ensure compliance with Environmental and Social requirements.

3.3 Ministry of Environmental Affairs

The EQA will be responsible to ensure decommissioning and disposal of PV equipment – panels, inverters and batteries - as per the manufacturers guidelines, as well as the agreed procedures under the ESMF.

4. Environmental and Social Risk Screening

The purpose of the screening process is to determine whether future sub-projects are likely to have potential negative environmental and social impacts; to determine appropriate mitigation measures for activities with potentially adverse impacts; to incorporate mitigation measures into sub-project design; to review and approve sub-project proposals; and to monitor environmental parameters during a sub-project's implementation.

The extent of environmental work that might be required for sub-projects prior to construction, if any, will depend on the outcome of the screening process described below. Also, EQA may need to periodically update, review and approve by the checklist, with input from the WB.

The Palestine Environmental Assessment Policy (PEAP) subjects development projects in Palestine to EIA Regulations, which specifies that the EIA process will need to be completed for all projects, except those listed as not requiring an EIA. However, both the PEAP and PEL provide less comprehensive guidance on environmental and social screening than the World Bank's safeguards policies. Thus, the Bank's Operational Policy OP 4.01 will apply to the project in order to ensure the environmental and social soundness of the projects, in addition to integrating the project's environmental and social aspects into the decision-making process.

The Environmental and Social Risk Screening and Management Guidelines are prepared for the sub-projects envisaged under the project to ensure compliance with the World Bank and the Palestine Government's social and environmental policy framework. The guidelines include parameters for environmental assessment, public consultations and measures to enhance project benefits to communities and women. Together, these guidelines provide the methods to identify the environmental and social problems associated with the implementation of sub-projects and include measures to mitigate such problems as well as enhance environmental and social performance.

The proposed Screening Process will: (i) define the specific process to be followed in environmental permit applications to EQA; (ii) identify potential environmental and social impacts; (iii) determine appropriate environmental category, according to OP 4.01; (iii) review and approve sub-projects; and; (iv) identify and mitigation and monitoring indicator measures.

The risk significance of the sub-projects can be determined through the use of the Screening Checklist presented in Annex 1. PENRA's environmental and social specialist is responsible for carrying out the screening, completing the form and providing a copy to the EQA for review and clearance.

4.1 Risk Screening Process

4.1.1 Environmental and Social Screening of Sub-projects

The purpose of this step is to identify the scale of the impacts and appropriate mitigation measures to determine the level of EA required for the project. As noted earlier, it is anticipated that the EQA will request an ESMP for smaller projects with smaller footprint and limited likely impacts and an ESIA for larger projects with wider footprint and higher impacts.

The initial environmental and social screening will be carried out, in accordance with the provisions of the Bank's Safeguard Policy, OP 4.01.

This form will also provide an initial checklist to complement the EQA's screening requirements. The checklist has more focused information related to project characteristics.

An application will need to be submitted by the developer/proponent to the EQA along with the checklist and the EIA Screening Form.

4.1.2 *Assigning Appropriate Environmental Category*

Based on the screening results and the EIA screening process, the EQA will be responsible for assigning the appropriate environmental category to the proposed sub-projects. Such assignments must be in accordance with the requirements of OP 4.01 and national requirements for Initial Environment Examination (IEE). The sub-projects need to be filtered through the following Environmental Categories to assure proper categorization.

(a) *Category A*: A proposed project is classified as Category A if it is likely to have significantly adverse environmental impacts. These impacts may affect an area broader than the sites or facilities subject to physical works. A full EIA is required for a Category A project.

The EIA examines the project's potential negative and positive environmental impacts, compares them with those of feasible alternatives, including a no-action i.e. *no-project*, alternative and also incorporates public consultations as per the national EIA regulation requirements. The EIA will recommend needed measures to prevent, minimize, mitigate or compensate for adverse impacts and help improve environmental performance.

Sub-projects determined to be of environmental category A, as a result of the environmental and social screening process, will not be eligible for project financing.

(b) *Category B*: A proposed project is classified as Category B, if its potential adverse environmental impacts on human populations and environment are less adverse than those of Category A. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigation measures can be designed and implemented more readily than for Category A projects. All potential impacts and mitigation measures must be within threshold of Category B to be considered.

The Screening Process will recommend two types of impacts: (i) Category B1 to sub-projects requiring only the application of simple mitigation measures; and (ii) Category B2 for those sub-projects that may require an EIA report due to the severity of their potentially adverse environmental and social impacts. These categories also correspond to the EQA requirements of either an Environmental and Social Management Plan (ESMP) or an EIA. A checklist ESMP can be considered for screening outcomes that would identify low risk sub-projects.

(c) *Category C*: A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further environmental action is required for a Category C project.

When the screening indicates the need to conduct an EA, and the EQA decides to request an EA, there will be three categories of assessments that will be prescribed. For projects with smaller impacts and limited scale/footprint, an ESMP will be required.

4.1.3 *Conducting an Environmental and Social Assessment*

If an EIA is required, a registered EIA Consultant must prepare it according to national Regulations. The completed EIA should identify and assess the potential environmental impacts for the applicable sub-project, assess alternative solution and included mitigation, management and monitoring measures, as applicable. All these measures should be included in the ESMP for the sub-project.

An ESMP is the minimal level of assessment according to national requirements. An ESMP is also required for Category B projects. An ESMP covers information about the project and management plans for the likely impacts including mitigation measures, monitoring

programme, identification of responsibilities, reporting and financing environmental management.

4.1.4 Review and Approval of EIA

Completed EMPs will have to be submitted to EQA for approval, and to obtain a license, before going ahead with the sub-project.

4.1.5 Public Consultation and Disclosure

Public consultations are critical in preparing effective and sustainable sub-projects. This requirement supports the participatory planning process as required by the WB and the national EIA regulations. It is important that beneficiaries are involved in the project cycle, from the design to implementation and monitoring. The same applies to relevant stakeholders.

The first step is to hold public consultations with the local communities and all other interested/affected parties during the screening process and where needed, when preparing an EIA.

To facilitate meaningful consultations, where required, PENRA should provide all the relevant material and information in a timely manner, and in a form and language that are understandable. The location of the relevant documents should be advertised through commonly used media. Depending on the public interest in the potential impacts of the sub projects, a public hearing may be required to better convey concerns.

Once the sub-project has been reviewed and cleared by the relevant local community, including the relevant City/town authority, the EQA will inform the public about the results of the review. It is important to note that any affected or interested individual or group has the right of appeal, if dissatisfied with the decision reached at any stage in the EIA process. The appeals process will be according to the national EIA regulations and the WB's provisions respectively.

4.1.6 Monitoring and Reporting

The objectives for monitoring are: (i) to alert project authorities by providing timely information about the success or otherwise of the EIA process as outlined in this ESMF in such a manner that changes to the system can be made in a timely manner, if required; (ii) to make a final evaluation in order to determine whether the mitigation measures designed into the sub-projects have been successful in such a way that the pre-subproject environmental and social condition has been restored, improved upon or are worse than before.

Environmental monitoring needs to be carried out during the construction as well as operation and maintenance of the sub-projects in order to measure the success of the recommended mitigation measures. A number of indicators would be used. Indicators may include: how many people are employed than before; have the biophysical environmental conditions of the area improved?

It may be useful to institute monitoring milestones and provide resources, as necessary, in order to carry out the monitoring activities. Also, the proposed indicators may be further elaborated and validated to accommodate any significant site-specific needs, in each case with input and oversight of the EQA.

Monitoring activities in the field will be carried by EQA designated, qualified persons. Monitoring results will have to be discussed by PENRA before submitting the results to EQA. Any changes in monitoring parameters must have the concurrence of the EQA and the PENRA as well as the concerned City/Town Authorities.

5. Environmental and Social Management Framework

The environmental and social screening, which took place at an early stage of the project cycle, identified that the sub-projects under Component 3 will not trigger full ESIA requirements as the environmental and social concerns of the roof top home solar installations are low.

This ESMF provides technical day-to-day guide for making sure that the roof top solar system is implemented in an environmentally and socially responsible manner. It provides guidance for screening the installations against environmental and social risks. Based on the outcome of the risk identification and appraisal, location eligibility for financing will be determined based on negative lists and screening criteria.

The main objectives of this Environmental and Social Management Framework (ESMF) are to:

- (i) develop the necessary protocol for assessing potential environmental impacts prior to and during sub-project implementation;
- (ii) incorporate a system for monitoring environmental impacts, protect against involuntary resettlement and;
- (iii) assist to develop a capacity building program for stakeholders to carry out effective environmental screening throughout the project.

5.1 Likely environmental and social impacts project impacts

The project components are likely to result in sub-projects with little or no significant environmental impacts. Component 3 sub-projects are based on the principle of renewable energy: generating electrical power through domestic solar panel installations.

5.1.1 Air emissions

GHG emissions, caused by fossil fuel sources used in the production, manufacturing, waste disposal and recycling, are embodied in renewable technologies. These are however significantly lower than those emitted from the diesel generators currently used by the Palestinian authorities to generate electricity.

5.1.2 Noise emissions

Construction and installation phase could generate increased noise and disturbance to surrounding properties and neighbours. However, the roof top solar panel installations will not emit noise during the operational phase.

5.1.3 Hazardous Chemicals

Hazardous chemicals such as mercury and cadmium are often used in the production of solar modules. However, these do not pose danger during the operational phase and only become dangerous during disposal.

5.1.4 Heat or Light reflection

Neighbouring properties could be affected by the reflection of sunlight from the panels, especially if angled towards neighbouring windows, doors or balconies. If this reflection is sustained for a prolonged period, it may become a source of grievance.

5.1.5 Impacts on biodiversity

Generally, roof top solar installations do not have adverse impacts on biodiversity. Furthermore, the installations are in the urban areas of West Bank and Gaza which does not contain much biodiversity.

If adjoining properties have trees that could obstruct the use of solar panels in beneficiary buildings, and it is determined that the tree is not a protected species, it might warrant cutting the tree. A mitigation measure for such tree felling is to plant replacement trees in an agreed upon site with the tree owner.

5.1.6 Cultural Heritage

Proposed solar installations should not affect any buildings or places in West Bank and Gaza that are deemed to have significant cultural values. Care must be taken to ensure that reflections off solar panels do not affect the historic setting of such cultural property.

5.1.7 Employment

The installation of the domestic solar systems will help to address the high youth unemployment in the area by providing temporary employment for technical and unskilled labour.. Contractors will be bound, in contract documents, to hire at least 50% of their installation crews from within the Gaza area.

5.1.8 Economic Impact and livelihoods

The roof top solar installations will help to stabilize electricity supply to beneficiary households, while making use of an abundant raw material – sunlight. This could result in cost savings, improved standard of living, increased household income. It could also contribute to increasing business operations and thus revitalize businesses that depend on electricity to function.

5.1.9 Social conflicts

The likelihood for social conflicts is minimal, and manageable. Potential conflicts could arise from: fairness and equity in decision-making, the use of non-local manpower during project implementation (installation). To the extent possible, local manpower should be employed to deploy the installations. To this end, contract documents will require contractors to hire at least 50% of their installation crews from within the Gaza area. Poor maintenance by beneficiaries may lower intended impacts.

5.1.10 Health and Occupational Safety

The use of personal protective equipment (PPE) is recommended for the construction and installation phase. Contractors should sanction workers who refuse to wear PPE.

5.1.11 Waste disposal

All waste generated from the project, before, during and after installation must be disposed of at the EQA-designated disposal site. The storage batteries are estimated for replacement every three years. These hazardous materials must be disposed under the guidance of the EQA.

Decommissioned solar panels have a very high negative impact on the environment due to the presence of some heavy metals used in their manufacture. They thus constitute hazardous waste and must also be disposed of under guidance from the EQA.

5.2 Suggested mitigation measures

This section suggests mitigation measures to minimize the negative impacts described in the preceding section. These mitigation measures will be executed by the various entities participating in project implementation.

Impact	Pre-Construction Phase	Construction Phase	Operation Phase
Air Emissions	Identify suppliers of ISO- or best industry standard-compliant products		
Noise Emissions	-	Daytime installation activities only Inform neighbours of work schedule	Undertake maintenance activities only during daytime
Chemicals	Identify suppliers (PV panels, inverters and batteries) of ISO- or best industry standard-compliant products	Handle products careful to avoid accidental breakage or spillage	If the roof is used for rainwater harvesting, check the panels frequently for any damage to the panels.
Heat or light reflection	Avoid installation sites that would require panels to be placed in a manner which would reflect light into an immediate neighbour's window, balcony or door for more than 30 days a year	Install screens to prevent light from reaching an immediate neighbour's window, balcony or door	Same as construction stage, if a new building is constructed next to the site, following installation.
Biodiversity	Avoid installation sites that require cutting or substantially pruning a protected tree, an old tree or known bird-nesting tree	If a tree needs to be pruned, only remove parts that are absolutely necessary. Do not remove a mature tree unless absolutely necessary	Same as construction stage
Cultural Heritage	Avoid selecting installation sites that are culturally or religiously sensitive	-	-
Employment	Train local workers as much as possible	Use local labour for skilled and semi-skilled labour	Same as construction phase
Economic impacts and livelihoods	Ensure wide dissemination of information to all stakeholders	-	Ensure project performance information results are widely shared
Social conflicts	<ul style="list-style-type: none"> • Ensure faire competition by creating a level playing field • Ensure access to information and transparency in decisions • Undertake public consultation and information dissemination • Establish and create awareness on grievance redress mechanism 	Create awareness on grievance redress procedure	Same as construction phase
Occupational Health and Safety	-	Respect all safety measures required for working on rooftops.	Same as construction phase

Impact	Pre-Construction Phase	Construction Phase	Operation Phase
		Use safety nets where roofs facing roads to prevent debris accidentally falling to the street Place appropriate warning signs on the road Wear protective gear	
Waste disposal	Identify suppliers (PV panels, inverters and batteries) of ISO- or best industry standard-compliant products	Dispose packaging and construction waste at approved waste management sites using registered transport services. Do not treat waste as domestic waste	Provide a temporary storage facility to contain waste ahead of final disposal to EQA-approved facility Contract with recycling or waste disposal facility capable of handling solar panel and battery wastes

5.3 Screening Criteria

This involves criteria for reviewing the available environmental information about the sub-project and its surrounding areas in order to provide a preliminary idea regarding the nature, extent, and timing of environmental issues to be addressed. The screening criteria applicable for the installation of the roof top home solar installations, with the batteries, are presented in the checklist in Annex 1.

5.4 Environmental and Social Management Plan

This section outlines the issues to be addressed by an ESMP for relevant sub-projects deemed to require an environmental assessment following the screening process. The site-specific ESMP will reflect the requirements of the Palestine authorities and the World Bank, and reflect the ESMF mitigation measures at various stages of project implementation. The ESMP will include the following sections:

Issues and impacts: Identify anticipated project impacts – environmental and social - and mitigation measures. The issues covered by an ESMP may vary from site to site and include: waste disposal, noise control, protection of water sources, tree cutting, disturbance to wildlife, relocation/maintenance of social services relocation such as water supply lines, electricity, etc...

Mitigation: Site-specific, cost-effective and detailed measures for each impact that will reduce the identified adverse impacts to acceptable levels. It should also include compensatory measures, such as tree planting, where applicable.

Alternatives: Recommendation of alternative measures for avoiding impact.

Mitigation Indicators and Monitoring Program: Provide information on the mitigation indicators to be measured. Identify how well mitigation measures are working, and where better mitigation may be needed. Identify what information will be collected, how, where and how often. Indicate at what level of effect there will be a need for further mitigation.

Monitoring methods Simple mitigation monitoring methods, consistent with collecting useful information, such as regular observations of solar panel installation activities or sites during construction and then when in use. Are there any breakages of panels or spills from

storage batteries? If so, what was done? Were the ESMF protocols observed? Are there any obstructions to easy access to the installed equipment? Most observations of inappropriate behavior or adverse impacts should lead to common sense solutions. In some case, there may be need to require investigation by a technically qualified person.

Responsibilities Define the people, groups, or organizations that will carry out the mitigation and monitoring activities, as well as to whom they report and are responsible.

Capacity Development and Training (if necessary): There may be a need to train people to carry out these responsibilities, and to provide them with equipment and supplies. Outline what specific, targeted training is required for project staff, contractors and community groups to ensure the implementation of environmental recommendations.

Implementation Schedule and Cost Estimates: Provide (a) implementation schedule for all mitigation measures, indicating the timing, frequency and duration of mitigation measure and monitoring to be carried out; (b) cost estimates for implementing the ESMP.

Integration: Integrate ESMP into the project plan, design, budget, specifications, cost estimates, bid documents, contract/agreement clauses. Contract documents will be finalized only when site-specific ESMP recommendations are incorporated into the project documents mentioned above. Annex 2 presents guidelines for addressing the Contractors' issues in contract documents.

Timing: ESMP preparation early in the project cycle when initial designs have been established. The executing agency, with the assistance of the EQA, will verify that ESMP recommendations are incorporated into the contract documents.

6. CONSULTATIONS

Public consultations are critical in preparing effective and sustainable sub-projects. This requirement supports the participatory planning process as required by the WB and the national EIA regulations. It is important that beneficiaries are involved in the project cycle, from the design to implementation and monitoring. The same applies to relevant stakeholders.

The first step is to hold public consultations with the local communities and all other interested/affected parties during the screening process and where needed, when preparing an EIA or ESMP.

To facilitate meaningful consultations, where required, PENRA should provide all the relevant material and information in a timely manner, and in a form and language that are understandable. The location of the relevant documents should be advertised through commonly used media. Depending on the public interest in the potential impacts of the sub projects, a public hearing may be required to better convey concerns.

Once the sub-project has been reviewed and cleared by the relevant local community, including the relevant City/town authority, the EQA will inform the public about the results of the review. It is important to note that any affected or interested individual or group has the right of appeal, if dissatisfied with the decision reached at any stage in the EIA process. The appeals process will be according to the national EIA regulations and the WB's provisions respectively.

7. Monitoring and Capacity Building

A monitoring program is needed to ensure that no unforeseen impacts occur and that the mitigation measures that have been applied and implemented are functioning as intended. The following are some of the pertinent parameters and verifiable indicators that can be used to measure ESMF process, mitigation plans and performance.

- Have project resulted in better living standards for the community?
- How has the adoption of the ESMF requirements improved the environmental health and biophysical state of the participating islands?
- Has ESMF adoption resulted in sustainable use of energy and improved efficiency?
- Are periodic monitoring reports being completed and sent to EQA?
- Are processes defined in the ESMF working well?
- How many complaints/grievances have been received regarding the project?
- Final Question: Based on the results of monitoring, what, if any changes to the ESMF are needed? Should there be additional training/capacity building measures to increase performance of participating Councils?

7.1 Project-specific Monitoring Indicators

Impact	Indicator	Information Source	Responsibility
Air emissions	<ul style="list-style-type: none"> • Reduction in GHG caused by the project • Cumulative reduction in GHG emissions from project installations 	PMU	PENRA, EQA
Noise emissions	Noise intensity and duration in installation of solar panels	Contractor, third party monitoring	PENRA, GEDCO, EQA
Heat or light reflection	Number of complaints on heat or light reflection	Contractor, city authorities,	PENRA, EQA
Biodiversity	<ul style="list-style-type: none"> • Number of trees felled • Reported number of incidents of injury of killing of birds 	Contractor, City authorities	PENRA, EQA
Chemicals	<ul style="list-style-type: none"> • Details of the number of solar panels by manufacturer and supplier 	Contractor, GEDCO	PENRA, EQA
Cultural heritage	Reported complaints on reduction of aesthetic value or impact on heritage	Contractor	PENRA, EQA
Employment	<ul style="list-style-type: none"> • Number of technical and unskilled workers hired and contract duration • Local to foreign worker ration 	Contraction	PENRA, EQA
Economic and livelihood impacts	<ul style="list-style-type: none"> • Individual project cost saving to utility company • Price of solar panels purchased per kW • Cumulative cost saving to government • Changes in household incomes in project locations • Proportion of household expenditure on electricity 	GEDCO	PENRA, EQA

Social conflicts	<ul style="list-style-type: none"> • Number of stakeholders consulted and minutes of the meeting • Number of complaints received on inconvenience and maintenance 	Contractor GEDCO	PENRA, EQA
Health and safety	<ul style="list-style-type: none"> • Quantity of day to day waste produced and taken to waste management site • Quantity of solar panel special waste taken to designated waste site • Quantity of solar panel waste exported 	Contractor	PENRA, EQA

7.2 Monitoring and reporting responsibilities

The EQA will be the lead agency for monitoring and evaluation on environmental and social impacts, to observe the issues at site level and support the implementation of the project. Though EQA will be responsible for most of the monitoring oversight, it could be necessary to use the services of third party monitors to provide independent and objective, assessments of progress, shortfalls and challenges in the implementation of specific components.

PENRA will be responsible for regular monitoring and reporting. EQA will carry out regular oversight of the implementation progress by evaluating the contractors' reports and spot visits to implementation sites.

The monitoring and reporting of the ESMF at different stages will include:

Pre-construction stage Ensure that: (i) proposed construction activities, as applicable at each site(s), are subjected to environmental screening; plan and design for construction activities confirms to the Environmental Guidelines of the WB and/or the Government of Palestine; and (ii) site specific Environmental Assessment (EMP or EIA) is prepared in time and incorporated into bidding documents for submission to the EQA for review and approval, as necessary;

Construction Phase: The EQA and PENRA/PMU will conduct compliance monitoring, using the specific environmental measures relevant to, and prescribed for the activities as well as to assess general environmental management/performance. Report should contain information with regard to environmental compliance as well as any difficulty or outstanding works need to be prepared. The EQA will establish monitoring mechanism for operational stage monitoring, in collaboration with the PENRA/PIU. The Government of Palestine may further consider an annual independent monitoring on environmental management and performance.

Post-construction Phase: The EQA and the PENRA-PMU may agree to jointly prepare a post-project completion report for their records, and to be shared with the WB.

7.3 Evaluation

The objective of evaluation is to judge the impact of implementation effectiveness. It will be done through independent consultants having experience in similar tasks. This will be undertaken during midterm and end of the project. The evaluation will assess ESMF's effectiveness in addressing environmental and social impacts of the project. The midterm evaluation will give feedback for implementation of the ESMF.

7.4 Capacity Building

PENRA-PIU will provide for capacity building for PENRA-PMU, EQA and any other institutions whose participation is identified as necessary for the attaining environmental and social compliance, through the following suggested measures:

- Providing renewable energy related training and awareness sessions to environmental policy makers;
- Providing Environmental Assessment and Monitoring training specific to energy projects to EQA staff;
- Preparing manuals and guidelines on how to assess the environmental impacts of PENRA projects;

7.5 ESMF Implementation Budget

This ESMF will be implemented and funded for most part by the project. The submissions, preparation of subsequent EAs and funding the mitigation measures will be the responsibility of the Contractors. The PENRA will be responsible for financing the Environment and Safety Officer post and monitoring activities, as part of the project administrative costs.

8. GRIEVANCE MECHANISM

Grievances are likely to come up as a result of project design and activities. Potential grievances could include:

- Complaints against the contractors from:
 - the property where the Solar PV units are installed
 - neighbouring properties
 - road users
- Complaints against the PENRA
- Complaints against the presence of solar PV units from:
 - project building tenants or users
 - neighbouring properties
 - members of the public or groups if the units are placed in historical, religious or cultural sites.
- Complaints against equity issues related to the use of roofs and the visible benefits to the buildings or property.
- Complaints from the developer against damage to the panels from the neighbours or the building users.

The Grievance Mechanism proposed here must be reviewed during ESIA or ESMP preparation and, if required, adjusted to suit the specific needs of the stakeholders, particularly building users and neighbours. The PENRA-PMU Environmental and Social Specialist will publish the number of a Complaints Hotline at the City Council and EQA premises.

Tiers of Grievance Mechanism	Nodal Person for Contact	Contacts, Communication and Other Facilitation by Project	Timeframe to address grievance
First Tier: City Council	<p>City Council will be the first point of contact. Designated contact persons should be established within the Council.</p> <p>Complaints received by Police will also be shared with the contact person(s) at the Council.</p>	<ul style="list-style-type: none"> • In the City Council Office there will be an Information Board listing the names and contact telephones/emails. • Grievances can be registered informally by contacting the City Council (directed to the contact person(s)). • If the grievance cannot be resolved informally, an aggrieved party must submit a complaint on a letter addressed to the Mayor on the Tier I Complaint Form to take the grievance further. For those who cannot write, the Council staff will fill a Complaint Form and get it signed by the aggrieved party. A copy of the form must be provided as a receipt to the aggrieved person at the time of submission. The form will be prepared, produced and supplied to the Council by PENRA. • The Council must screen the grievance to determine if the issues and concerns raised in the complaint falls within the mandate of the Project. 	7 working days

Tiers of Grievance Mechanism	Nodal Person for Contact	Contacts, Communication and Other Facilitation by Project	Timeframe to address grievance
		<ul style="list-style-type: none"> • The list of grievances classified as project related must be maintained on a register at the City Council. Grievances communicated in an informal must also be listed on the register and must be maintained by the designated contact person(s) at the council. • The council will determine the solutions to the issues either by (i) discussing internally; (ii) joint problem solving with the aggrieved parties or; (iii) a combination of both options. • If the complaint is resolved within 7 working days the Council must communicate the decision to the aggrieved party informally or in writing, depending on how the complaint was lodged. • The aggrieved party must acknowledge the receipt of decision and submit their agreement or disagreement with the decision within 10 days. • If no acknowledgement is submitted from the aggrieved party then the decision will be considered as accepted. 	
<p>Second Tier: Ministry of Environmental Affairs</p>	<p>For relevant sub-projects, will forward the grievance to the PENRA-PMU.</p>	<ul style="list-style-type: none"> • If unresolved, the aggrieved party can elevate the grievance to Tier 2 and submit a complaint on a letter addressed to PENRA or on the Tier II Complaint Form. Submission must contain a copy of Tier I submission form or letter and if available, the decision statement from Council from Tier I. • PENRA-PMU will screen the grievance to determine if it is related to the Project. If it is unrelated, the aggrieved party must be notified in writing and the way forwarded must be outlined to them including the necessary government institutions to follow up, like the Police. • A contact person in PENRA-PMU must be identified for processing a grievance through the Second Tier. • If required, the PENRA-PMU must arrange a public meeting to address the tier 2 grievance and notify the nature of the grievance and the meeting venue to the aggrieved party. 	<p>15 Working Days</p>

Tiers of Grievance Mechanism	Nodal Person for Contact	Contacts, Communication and Other Facilitation by Project	Timeframe to address grievance
		<ul style="list-style-type: none"> • PENRA-PMU may also visit the site and hold onsite discussions and meetings. • The PENRA-PMU will be responsible to ensure that there is no cost imposed on the aggrieved person, due to the grievance mechanism at the second tier. • If the complaint is resolved within 15 working days the PENRA-PMU must communicate the decision to the aggrieved party in writing. • The aggrieved party must acknowledge the receipt of decision and submit their agreement or disagreement with the decision within 10 days. • If no acknowledgement is submitted from the aggrieved party then the decision will be considered as accepted. • If the grievance is not resolved to the satisfaction of the aggrieved party within 15 working days of submission of the grievance to tier 2 then the aggrieved party may notify the PENRA-PMU, in writing, of the intention to move to tier 3. 	
<p>Third Tier: Judiciary Power / Assistance to Vulnerable Persons beyond the Project's Grievance Redress Mechanism</p>	<p>Judges will remain as an option for an aggrieved person and/or community in case that the others tiers haven't been effective.</p>	<ul style="list-style-type: none"> • The legal system is accessible to all aggrieved persons. • Assistance from the project is available only for vulnerable person(s) as per this grievance mechanism. • In cases where vulnerable person(s) are unable to access the legal system, the Attorney General's office will provide legal support to the vulnerable person(s). The PENRA-PMU must assist the vulnerable person(s) in getting this support from Attorney General's Office. PENRA-PMU must also ensure that there is no cost imposed on the aggrieved person if the person belongs to the vulnerable groups. The list of vulnerable groups is as defined in the footnote but may be further defined by PENRA-PMU. • The verdict of the Courts will be final. 	<p>As per established judicial procedures in Palestine</p>

NOTE: A vulnerable person/group is "a person who is poor, physically or mentally disabled/handicapped, destitute, disadvantaged for ethnic or social reasons, an orphan, a widow, a person above sixty years of age, or a woman heading a household".

Annex 1 - Checklist for environmental and social assessment

Subproject Name:

Homeowner:

Name of neighbourhood:

Reviewer:

		Yes	No
A. Will the subproject or subproject site:			
1	Build or rehabilitate any structures or buildings?		
2	Be located in or near an area where there is an important historical, archaeological or cultural heritage site?		
3	Be located within or adjacent to any areas (eg. protected tree, heritage site, protected area) that are or may be protected by government?		
4	Be located on a water-harvesting roof?		
5	Be located in an area where plans for future land use may affect the project?		
6	Produce solid wastes during construction, operation or decommissioning?		
<i>If the answer to any of the questions 1-6 is "yes", please use the indicated section(s) of the ESMF for guidance on how to avoid or minimize risks. If the answer to Q2 or Q3 is 'yes', follow the EIA procedure.</i>			
B. Environment – will the subproject or any subproject site:			
7	Risk causing contamination of drinking water?		
8	Need to cut down any trees?		
9	Be located within or adjacent to environmentally sensitive areas, threatened species or a protected tree?		
10	Require freshwater during operations?		
11	Release any pollutants or any hazardous, toxic or noxious substances to the air during construction or operation?		
12	Will there be any liquid discharge to surface or ground water during construction or operations?		
13	Involve use, transport, handling or production of substances or materials that can be harmful to human health or raise concerns about the actual or perceived risks to human health?		
<i>If the answer to any of Q7-Q11 is "yes", please use the indicated section(s) of the ESMF for guidance on how to avoid or minimize risks</i>			
C. Social			
14	Will the proposed beneficiary house roof require additional improvement works before the solar panels are installed?		
15	Will the installation create new and additional jobs?		
16	Will there be health impacts during the construction and operational phases?		
17	Will the project have adverse impacts on livelihoods? (if the answer is 'yes' and livelihoods will be adversely affected, please attach details of how it will be impacted and the type, magnitude and severity of impact)		
18	If livelihoods will be impacted, are adequate alternatives or compensations considered? (if yes, please provide details)		
19	Are there any disputes/complaints from neighbours/neighbouring properties?		
<i>If the answer to any of Q16, Q17 or Q18 is "yes", please use the indicated section(s) of the ESMF for guidance on how to avoid or minimize risks.</i>			

Based on the screening, the project falls under the following environmental category:

A

B

C

NOTE: Category A sub-projects are excluded from project financing, as the overall project was authorized as a Category B operation with manageable adverse environmental and social impacts.

Annex 2 Contractual Guidelines for environmental and social management

Contractors are important project stakeholders who are also responsible for identifying and mitigating adverse impacts early in the construction cycle. Contract documents will thus clarify the following roles/responsibilities of contractors:

- Specifications for industry compliant materials in the PV solar generation sector
- Maintain health and safety at work sites
- Do not allow workers to haphazardly dispose waste, especially in environmentally sensitive areas;
- Enforce use of EQA-recommended sites for waste disposal;
- Provide personal protective equipment to workers;
- Hire as many workers as possible from the local community
- Avoid damaging or disturbing cultural and natural heritage sites.

Proponent/Contractor's obligations and legal requirements

Prior to commencing construction works, contractors will be required to prepare site-specific ESMPs, based on the guidance provided in this ESMF. The Contractor ESMP shall include all steps to be taken to protect the environments in accordance with the guidance provided in the ESMF, national environmental regulations and the World Bank's environmental and social safeguards.

In addition, the Contractor ensure the following:

- Ensure low noise levels from machinery and construction activities for the health, safety and protection of workers and neighboring properties within the vicinity of the construction site;
- Prevent any oils, lubricants and wastewater used/produced during the execution of works from entering groundwater
- Prevent and minimize the impacts on the biophysical environment including any protected areas, local communities and their settlements.
- Discourage construction workers from engaging in any activities that might have a negative effect on the environment.
- Provide appropriate facilities for garbage disposal and sanitation to construction workers;
- Ensure public safety and meet traffic safety requirements for construction work in proximity to the road in order to avoid accidents.