



# Concept Environmental and Social Review Summary

## Concept Stage

### **(ESRS Concept Stage)**

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**BASIC INFORMATION**

**A. Basic Project Data**

Country	Region	Project ID	Parent Project ID (if any)
Myanmar	EAST ASIA AND PACIFIC	P174584	
Project Name	National Energy Access Program (NEP2)		
Practice Area (Lead)	Financing Instrument	Estimated Appraisal Date	Estimated Board Date
Energy & Extractives	Investment Project Financing	10/18/2021	2/7/2022
Borrower(s)	Implementing Agency(ies)		
Republic of the Union of Myanmar	Ministry of Electricity and Energy, Ministry of Agriculture, Livestock and Irrigation Department of Rural Development		

Proposed Development Objective

Program Development Objective (PrDO) is to increase access to electricity, pilot clean cooking solutions and provide response in case of an eligible crisis or emergency.

Financing (in USD Million)	Amount
<b>Total Project Cost</b>	<b>500.00</b>

**B. Is the project being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?**

No

**C. Summary Description of Proposed Project [including overview of Country, Sectoral & Institutional Contexts and Relationship to CPF]**

The proposed Program will be in the form of Multiphase Programmatic Approach (MPA) for 10 years and it is expected to result in near universal electricity access for households, public institutions and enterprises and increased access to modern cooking solutions. The Program will build on NEP’s achievements, support the ongoing implementation of the National Electrification Plan and incorporate modern clean cooking solutions. The Program will



support the implementation of the National Electrification Plan of Myanmar to provide universal access to electricity by 2030, and build on the work under the ongoing NEP project. The electrification plan is envisaged to continue sustainably roll out nationwide, while additional focus is envisaged for inclusion aspects will be considered to address the inequality gap in Myanmar across regions, urban/rural, ethnicity, gender, and income level lines.

Phase I of the MPA will continue to: (i) develop an enabling policy and regulatory framework for energy access (LV finance, Mini-grid regulations, modern clean cooking strategy), (ii) expand MV and LV investment and scale-up public and private-sector led off-grid business models based on the updated least-cost electrification plan, (iii) test scalable business models for modern clean cooking, (iv) pilot sustainable business models that address social inclusion and enhance impact (eg. solar water pumping and productive use of electricity), and (v) ensure capacity building and technical assistance to stakeholders. Lessons learned from these pilots will be incorporated in subsequent phases of the Program that is expected to further roll out the energy access program towards areas more difficult to reach. The MPA will offer not only opportunities for geographic expansion in next phases but also for the diversification of the program, sharpening the focus of the Program on upper energy access tiers to enhance development impact. Therefore, the proposed MPA is expected to contribute to economic growth and human capital development

The Phase I of the MPA will be defined and used as the Project. The proposed Project will add a component on clean cooking solutions that will leverage the benefits of the electrification program particularly for women. The project is structured around four main components: (i) grid extension and densification; (ii) off-grid electrification; (iii) clean cooking solutions; and (iv) contingent emergency response. The first three components are supported by investment and TA aimed at increasing energy access and development impact.

Component 1: Grid Extension and Densification (IDA: US\$300 million). This component will support the distribution utilities to extend distribution networks and connect communities and households to the national power grid, including through the provision of goods and materials for: (i) the construction of new medium voltage or MV substations, (ii) the construction of new MV lines, low voltage or LV lines and MV/LV transformers; and (iii) household and community connections, and public lights. The Project will finance the cost of goods and materials (transformers, poles, conductors, insulators, switchgear, steel parts), as well as installation works. Technical assistance will continue to support the preparation of Government's inclusive connection policy, project implementation capacity building for stakeholders and promotion of productive use of grid electricity.

Component 2: Off-grid Electrification (IDA: US\$95 million). This Component will support the scale up of the mini-grid and off-grid solar program. The Project will expand household and enterprise connectivity as well as connection of schools, clinics, religious facilities, street lighting, drinking water, and other public facilities with significant human development and social benefits. Mini-grids provide 24/7 clean energy to households and businesses in rural remote areas, as well as reliable energy provision to health, education, religious, water pumping and other community services. Mini-grids are "technology neutral" and may include solar PV with storage, mini-hydropower, wind, biomass, biogas, or hybrid (eg. diesel and solar with/out storage), depending of the assessment of each community and their resource endowments. Mini-grids up to 1 MW in capacity are eligible for support under the program. The proposed Project will continue the off-grid solar investments begun in NEP, following the same business models. Off-grid solar will be provided for more remote, less accessible unelectrified villages with no expectation of getting grid or mini-grid electricity in the next 10 years. These communities are mainly in border, fragile states and areas with high poverty incidence and low electrification rate where the private sector has little or no interest in serving. Other renewable



energy applications and appliances will be supported under the proposed Program to enhance socio-economic impact.

Component 3: Clean cooking solutions (US\$ 5 million). The component will support the Government's clean cooking strategy, education campaign and behavior change, capacity building, design, promotion and implementation of more efficient clean cooking solutions. An ESMAP-funded study is currently under implementation to assess the policy and regulatory environment for electric cooking, demand, customer preferences and affordability, supply chain of electric cooking appliances, electric cooking inventory available in Myanmar and in the region, and required behavior change activities. The study will bring evidence on the gender gap in the area, collect baseline data on time spent by women for wood collection and cooking, and identify entry points for women employment and skills development along the supply chain. Other energy efficient technology options could be considered under the Program based on analytical work and lessons learned from the pilot that aims for lever 4-5 tier energy service. The pilot is expected to inform the Government's strategy and policy on expanding access to clean cooking solutions. The Component will contribute to MPA's gender tagging.

Component 4: Contingent Emergency Response (CERC, IDA: US\$0) Following an eligible crisis or emergency, the Borrower may request the Bank to re-allocate project funds to support emergency response and reconstruction. This component would draw from the uncommitted loan/credit/grant resources under the project from other project components to cover emergency response.

#### **D. Environmental and Social Overview**

D.1. Detailed project location(s) and salient physical characteristics relevant to the E&S assessment [geographic, environmental, social]

Approximately two-thirds of Myanmar's population have no access to the national grid and depend on limited electricity services from private/communal supply, own generators, batteries or have no electricity services of any form. During the UNDP household survey carried out from 2009-2010, 15% of households reported that they purchase electricity from private suppliers, 5% use communal or private generator, and 7% use batteries for lighting. Some grid-connected users also resort to private (off-grid) supply to compensate the often unreliable and inadequate services by the national grid, although the exact number is unknown. Those with no electricity services mostly rely on candles, kerosene and diesel oil lamps for lighting.

The geographical scope of the proposed Project is nationwide throughout Myanmar Regions, States and Districts. The Project will be implemented in rural areas, remote locations, peri-urban and urban areas. It could potentially be located in greenfield and/or brownfield areas. The expected type of investments to be funded under the proposed project that are relevant to the Environmental and Social Standards (ESSs) will include: (i) purchase and installation of equipment for medium voltage or MV substations, low voltage or LV and MV lines, MV/LV transformers, household connections for on-grid extension; (ii) off-grid systems including solar photovoltaic (PV), mini-hydro, wind, diesel, biomass, and hybrid systems; and (iii) clean cooking solutions such as provisions for electric cook-stoves.

Project activities will be implemented in the context of primarily rural population - an estimated 70% of Myanmar's multi-ethnic population lives in rural areas, with a large proportion having a high livelihood dependency on riverine,



forest and other natural resources. Across the nation, Myanmar also has numbers of key biodiversity areas, protected and reserved areas including vital habitat for threatened plant and animal species in terrestrial, freshwater and marine ecosystems. Myanmar is also rich in both tangible and intangible cultural heritage. Myanmar's tangible cultural heritage is one of the richest and most diverse in the Southeast Asian region coupled with intangible heritage such as communities beliefs, rituals, traditions and practices across country.

The Project is part of a Multiphase Programmatic Approach (MPA). This ESRS focuses on the first phase of this MPA and not the broader MPA. Potential risks for the future phases (Phase 2 and Phase 3) will be assessed during the preparation of these phases. Considering that the Development Objective of the consecutive phases will be the same as the Phase 1 but with different result targets, it is then expected that majority of the activities and components will remain the same. In this context, potential risks and impacts of the future phases are expected to be similar to the ones identified in Phase 1 but the Client will have better experience with implementation of risk mitigation measures while at the same time implementing project in more difficult to reach areas. The second or third phase may involve Financial Intermediaries in accordance to ESS9. More detailed risks assessment will be conducted for each subsequent phases. In addition, a training plan will be developed and implemented; taking into account the current needs as well as the needs identified for the subsequent phase.

#### D. 2. Borrower's Institutional Capacity

The implementing agencies for the proposed project is the Ministry of Electricity and Energy (MOEE) and the Department of Rural Development (DRD) in the Ministry of Agriculture, Livestock and Irrigation (MOALI). Both MOEE and MOALI's DRD have each established a central level Project Management Office (PMO) for grid and off-grid electrification, respectively, under the ongoing National Electrification Project (NEP) over the last five years. The current rating of safeguards performance is moderately satisfactory. MOEE's PMO will oversee Component 1 (Grid Extension) while DRD's PMO will implement Component 2 (Off-grid electrification) and Component 3 (Clean Cooking Solutions). The central level PMOs will be responsible for Project planning and implementation at the Union level. At the sub-national level (State/Region, District, and Township levels), joint PMOs headed by staff from the distribution utilities and DRD will coordinate and manage the Project at their jurisdiction. For Component 2, at the township and village levels, the DRD Township Engineers will provide guidance to village communities and townships in selecting and developing appropriate off-grid electrification solutions.

Following the existing institutional arrangement of NEP, both PMOs have assigned staffs who will be responsible for the implementation of the environmental and social risk management. These staffs have formal positions as Sub Assistant Engineer and Junior Engineer within the institutions; and limited training and experience in environmental and social (ES) related issues. In supporting this Project, the assigned staffs will be technically supported by a consultant team to assist in the preparation and implementation of the ES risk management instrument(s); while continuing to build staff capacity commenced under NEP.

Lessons learned from NEP suggest that there is experience towards operationalizing the World Bank Safeguards policies through the implementation of the Project's environmental and social management framework (ESMF). Safeguards capacities and performance of the PMOs vary among the implementing agencies. Environmental and Social staffs are based in the capital city of Myanmar, with no assigned staff at the sub-national level. Township Engineers have heavy workloads covering all other technical matters delegated by central PMOs of MOEE and DRD under ambitious timelines. Considering the large number of subproject spread across the nation, resources availability and capacities are very limited. In addition, MOEE and MOALI's DRD – through their respective PMOs – have no experience in preparing and implementing World Bank financed projects under the Environmental and Social



Framework (ESF). A project level institutional capacity assessment will be conducted during project preparation to: (i) assess on the agencies’ capacity at various levels in meeting the objectives of the relevant ESSs; (ii) identify critical short, medium, and long-term interventions to strengthen their institutional capacities for effective implementation of requirements of the relevant national guidelines and ESSs, that are applicable to the proposed project. These interventions, including provision of additional human and financial resources and training needs will be incorporated into the Environmental and Social Commitment Plan (ESCP) to ensure ownership and sustainability of the dedicated resources. A summary of this comprehensive institutional capacity assessment will be included in the project’s ESMF and ESCP, as appropriate.

## II. SCREENING OF POTENTIAL ENVIRONMENTAL AND SOCIAL (ES) RISKS AND IMPACTS

### A. Environmental and Social Risk Classification (ESRC)

Substantial

#### Environmental Risk Rating

Substantial

The environmental risk classification is Substantial given the geographically dispersed nature of the Project, the scale and large number of rural electrification activities throughout the country, and the limited experience and capacity of the implementing agencies to meet ESF requirements.

The proposed Project will scale up access to electricity for households, enterprises, and public facilities in urban, peri-urban, rural and remote areas of Myanmar through grid extension, off-grid systems, and clean cooking solutions. Potential environmental risks and impacts are limited but occurring at numerous locations across a large spatial extent of the nationwide coverage, at times in sensitive areas.

Overall, the proposed Project is expected to deliver a number of environmental benefits as it provides clean and renewable energy solutions, reduces pressure on forest resources from the use of fuelwood as primary source of energy in most rural areas, reduces pollution from fuel wood/charcoal used for cooking and kerosene/diesel oil lamps used for lighting, as well as reduces respiratory illness due to indoor cooking smoke from cooking fuels. The Project’s activities and investments are not likely to cause significant or irreversible environmental impacts if well managed. Grid extension activities and investments (e.g. MV substations, new MV lines, and transformers) are small in scale and potential environmental impacts are limited. The off-grid systems including solar photovoltaic (PV) systems, mini-hydro, wind, diesel and hybrid systems may pose environmental risks and impacts which are mostly temporary, predictable and reversible. Mitigatory measures are readily available and reliable.

Significant impacts on high value and sensitivity (e.g. protected and international recognized areas) are generally not expected. However, as specific sub-projects and their locations are yet to be determined, further information will be needed during project implementation to ascertain specific impacts. The Project’s ESMF will provide specific screening provisions to determine if project activities are proposed in potentially sensitive areas. If the potential impacts are to be considered significant, the Project will not finance the particular sub-project.

MOEE and MOALI’s DRD – through their respective PMOs – are currently implementing World Bank-financed project requirements under safeguards policies. Safeguards compliance level is considerably weak due to the lack of PMOs ability to monitor the contractors/developers and enforce the environmental health and safety (EHS) measures. Further, capacity to manage risks and impacts consistent with the relevant ESSs (under the new ESF) is still very



limited. Significant Technical Assistance will be needed to support adequate environmental risk monitoring and management of over the large project area in addition to the implementation of risk management instruments outlined further.

### **Social Risk Rating**

Substantial

Potential social risks and impacts are considered large in spatial extent as the project has a nationwide coverage. Small size labor influx is expected for the construction works. The project carries a GBV risks which needs to be assessed during preparation.

Much of the work in Component 1 (Grid Extension) will be carried out by contractors and subcontractors, who tend to have inadequate consultation with affected communities and are lax in worker health and safety and community health and safety practices. Grid extension will require some temporary and permanent land acquisition, cutting of productive trees and restrictions of certain land uses (including construction of structures, plantation of trees) in the low voltage transmission line corridors. Similar to the NEP1 project, Voluntary Land Donations (VLD) will be an option, if it follows the VLD protocol. VLD runs the risk of being less than transparent and not quite voluntary if the protocol is not strictly followed. With village committees mainly responsible for arranging household connections, the project risks possible exclusion of vulnerable groups, especially poor or near poor who cannot afford connection or materials costs. The National Economic Coordination Committee (NECC) has agreed on the principle for the Government to finance Low Voltage (LV) and household's connection that can be recovered through different arrangements, to enable poorer households greater access. The project should follow up on this, an include in project monitoring the numbers and/or percent of poor and vulnerable households who have been able to connect to the grid under such arrangements.

Component 2 (Mini-grid and Solar Household) will be carried out in more remote and difficult to reach regions, with greater ethnic diversity and in some areas that have seen conflict in recent years. Much longer periods needed to construct some Mini-grid will require establishment of worker camps, and the need for adequate worker housing and facilities, in addition to the need to protect communities from adverse influences from the workers' camp. The Mini-grid facilities (solar arrays, generators, etc.) will require some permanent land acquisition (solar power plants require an estimated 0.6 hectares of land). The land for the solar power plans it typically bought from the land owner, using a negotiated settlement approach and the low voltage transmission line follows as much as possible existing right of way of roads. Similar to the NEP1 project, voluntary land donations will be an option, if it follows the VLD protocol. VLD runs the risk of being less than transparent and not quite voluntary if the protocol is not strictly followed. Some contractors may also arrange land transfers (for the Mini-grid power plant) prior to sub-project approval. The client will need to assure the contractors and sub-contractors have adequate consultation with affected communities, both those included in the Mini-grid and neighboring communities. Special attention needs to be given to ethnic communities, to determine if ESS7 is applicable (ethnic community/ groups is the term used in Myanmar as the term referring to Indigenous People as per ESS7). As with Component 1, there is the risk of possible exclusion of vulnerable groups, especially poor or near poor.

The ESMAP-funded study on aspects of Component 3 may indicate possible social benefits and risks, in addition to the expected health benefits for women and children by reducing the exposure to indoor pollution, and productivity gains for women. These will be addressed as plans for this component of the project become more concrete.



Lack of adequate client capacity, limited past efforts in stakeholder engagement, lack of transparency in land acquisition and VLD, with many activities in areas that are ethnically diverse and/or that have seen conflict in recent years, all contribute to substantial social risk rating.

## **B. Environment and Social Standards (ESSs) that Apply to the Activities Being Considered**

### **B.1. General Assessment**

#### **ESS1 Assessment and Management of Environmental and Social Risks and Impacts**

##### ***Overview of the relevance of the Standard for the Project:***

Lessons learnt from the ongoing NEP project, discussions with the Client and Task Teams, review of project related documents (AM, ESMF, ISRs, PADs, etc.), and guidance from the Technical Note on Screening and Risk Classification under the ESF, were used for screening the potential environmental risks and impacts from the proposed project.

Component 1 will finance goods and materials, and installation works for the construction of the grid extension such as new MV substations, new MV/LV lines, and MV/LV transformers, Household and community connection, and public lights. Potential environmental risks and impacts are limited and small in scale; mostly are related to (i) disposal of old/used equipment; (ii) potential accidents to workers and community during installation and operational. Typical environmental risk management for this type of investment include safe disposal of waste/old equipment, regular monitoring for any risk of fire or undesirable accidents to community and users during installation and operation, providing necessary repairs and maintenance work regarding the power lines.

Component 2 will support the scale up of the mini-grids (solar PV, mini-hydro, wind, biomass, or hybrid) and off-grid solar program such as the installation of solar home systems (SHS). Potential environmental risks and impacts are mostly limited to the following categories: (1) Construction-related risks such as noise and dust generation, minor accidents to workers and community, and construction waste generation of those impacts that are temporary, predictable, reversible and mitigatory measures are readily available and reliable; (2) Waste generation from installation, maintenance and operational of Mini-grid systems with particular concern on disposal of used batteries; (3) potential accidents to workers and households such as battery explosion and fire hazards during installation and operation of the systems; and (4) Potential risks of unexploded ordnance (UXO) and landmines especially in post-conflict areas. Effective management and controls measures will need to be in place to avoid and minimize the associated risks. These measures will include minimizing the risk of occupational and community health and safety, and proper management and dispose of hazardous wastes.

Component 3 will support the Government's clean cooking strategy, and implementation of more efficient clean cooking solutions; which include provision for electric cook-stoves. No potential environmental risks and impacts are expected. Main concern will be on the safety of the new users due to unfamiliarity of the electric cookstoves. Although the project will finance specific sections of grid and off grid electrification, some associated facilities (such as access roads and high voltage transmission lines and high voltage transformer stations) could be essential for the project to achieve its development objectives. As these facilities form part of the project's area of influence, the ESMF will include provisions for screening and reasonable due diligence to be applied. The Bank will review all relevant ES instruments for the associated facilities when they become available and ensure their material consistency with the ESF prior to commencement of works for the associated facility or an audit will be implemented for those associated facilities built in anticipation of the project. Should any significant gaps in approach be identified, the instruments or existing facilities will then be updated accordingly.





Potential social risks and impacts involve (i) inadequate consultation with affected communities, especially of ethnic communities, by the contractors and sub-contractors carrying out the work, (ii) lax worker health and safety, including inadequate use of PPE, (iii) lax community health and safety practices, especially for Mini-grid projects with longer construction activities, (iv) coerced 'voluntary' land contributions, tree contributions or other less than transparent land transfers and restrictions of land use in the transmission line corridor, and (v) possible exclusion of minority groups in communities, including their community spaces (separate religious buildings, community centers), especially in post-conflict areas, and of vulnerable households, especially poor or near poor who cannot afford connection or materials costs, (vi) GBV (SEA/SH) risk with labor influx and workers. Project screening is intended to address most of these issues, though will require considerably more monitoring of the sub-projects than has been done under the ongoing NEP project.

Technical Assistance (TA) related activities will be included in each project's components. TORs for TA activities, where relevant, will be reviewed by the Bank to ensure that the relevant ESSs requirements are effectively integrated. In addition, given the weak capacity to monitor the contractors/developers level of compliance in the implementation of EHS measures as well as considering the scale and number of activities across the nation, an ICT (information and communication technology) based solution will be needed. The PMOs will further discuss the possible application of this monitoring solution during project preparation.

At the preparation stage, MOEE and DRD will develop an ESMF, building on the existing ESMF prepared for NEP. It will include lessons learned from the implementation of the ESMF. It will also outline (among others) a screening process to decide ES risk management instruments based on the degree of significance of anticipated impacts and associated risks. Based on screening results of the proposed sub-projects, ES instruments may include the application of (i) an environmental and social code of practice (ECOP) for a generic health and safety procedure on the installation, use and maintenance of relevant systems; or (ii) a site specific environmental and social management plan (ESMP); or (iii) ESIA; and/or (iv) cumulative impact assessment. ESMF will also guide monitoring and transparent reporting on ES management measures implementation, including through utilizing phone based digital system such as developed for the ongoing project.

The ESMF implementation will be mainstreamed into the project design through the following actions: (a) sections in the ECOP that are relevant to the identified risk management measures – particularly on health and safety procedures – are to be included in the existing standard operating procedure (SOP) or installation guideline for contractors/developers; (b) both PMOs will ensure that contractors are legally obliged to deliver ES requirements through the provision of ES requirements in the Specification section of the bidding documents, and included in the final contract; and (c) DRD PMO will set up a mechanism to take back depleted lead acid batteries and centrally take care of adequate disposal to a reputable recycling firm.

The project will also include the CERC. This component would ensure that once a disaster, crisis or emergency is triggered, funds can be quickly allocated to this component. A CERC Manual and ESMF or ESMF Addendum will be prepared by PMOs and the ESCP will include provisions for a CERC Manual and a CERC-ESMF.

**Areas where "Use of Borrower Framework" is being considered:**

The client's E&S Framework is not proposed to be relied on for this project, in whole or in part. The Framework will not likely address the risks and impacts of the project in a manner to achieve objectives materially consistent with the



ESSs. However, as relevant and consistent, national legal framework and legislation can be referred to and recognized.

### **ESS10 Stakeholder Engagement and Information Disclosure**

Mapping of stakeholders, individuals and groups likely affected directly and indirectly is being done during project preparation by the ES teams of the ongoing NEP project, based largely on their previous experience. Local communities and individual households to gain access to electricity will be the major beneficiaries (direct affected parties). Other Interested Parties include contractors and subcontractors who will implement the subprojects, their workers, local administration, traders and small and medium enterprises, NGOs and other CSOs involved in the project / sub-project areas. At the local village level, Village Electrification Committees (VECs) play a central role in organizing, planning, communication and management of the electrification activities. The Stakeholder Engagement Plan (SEP), being prepared by jointly by the two implementing agencies, will provide guidance on the types and frequency of consultation during preparation and implementation of the project and its sub-projects, including methods of communication with various groups. A draft of the SEP will be disclosed publicly as early as possible and begin to be implemented during project preparation.

Stakeholder engagement will be begin under Component 1 by local MOEE staff as the routes for the transmission lines are planned and affected communities are identified, including meetings to determine land ownership and use affected by the project and other concerns. Contractors and subcontractors will be expected to continue engaging with the local communities before and during implementation. Stakeholder engagement under Component 2 will begin as subprojects are identified and planned. Initial identification of potential sites will be done by DRD township staff in consultation with local administrators, community leaders, and local CSOs. After subprojects are identified, contractors are expected to be responsible for stakeholder engagement with the affected communities at the subproject level, with assistance from the township engineers. The E&S teams of both components should make spot checks of selected sites during implementation to monitor compliance by the contractors with stakeholder engagement requirements.

The agreements signed among the private companies and the communities for the off-grid projects will need to be meaningfully consulted, transparently disclosed and properly documented. The PMU safeguard steam will review and approve these plans and they will be submitted for no-objection to the WB.

Prior to appraisal, there will be timely and transparent public disclosure and public consultation of all draft key ES documents (ESCP, SEP ESMF including the RPF, IPPF as annex). These documents will then be updated to include the results of the public consultation and redisclosed. Plans to be prepare during implementation such as IEEs or ESIA, RAPs/ARAPs, or IPPs, for particular sub-projects or other specific project activities will be similarly disclosed, consultant and updated to allow sufficient review by all concerned parties.

Communication and consultations with local communities should be in the language they understand. If there is more than one ethnic group in a community using more than one language, communications and consultation should be made in all the languages used in that community, so that no persons or groups are intentionally left out of the process. If the contractors or developers of sub-projects do not have in-house capacity in any of these languages, they will need to engage translators or staff who can communicate with those ethnic groups. Effort should also be



made to assure other vulnerable groups or individuals (disabled, poor, single-parent households, etc.) have access to the information and are included in consultations.

The Grievance Redress Mechanism (GRM) instituted under the ongoing NEP will be continued and adjusted as needed.

## **B.2. Specific Risks and Impacts**

**A brief description of the potential environmental and social risks and impacts relevant to the Project.**

### **ESS2 Labor and Working Conditions**

Project workers covered under ESS2 will include Direct Workers, if the project engages project personnel other than government civil servants), Contracted Workers with contractors, subcontractors, and other businesses directly involved in project implementation, and Primary Supply Workers, such as those working for the companies providing solar cells, batteries, electric cookstoves, and other equipment for the project.

Among the potential social risks and impacts related to labor and working conditions are (i) discrimination in hiring and in work (whether by gender, age, disability, ethnicity, or religion), (ii) workers not informed of their rights, conditions of employment, or changes to employment, (iii) workers not given overtime, compensation, or benefits as provided in their contracts or stipulated by law, (iv) SEA/SH and (v) the use of forced or child labor by contractors or primary suppliers.

Labor Management Procedures will be prepared as part of the ESMF by the client to outline how this ESS will apply to different categories of project workers. Direct and contractual workers are to be provided with clear, understandable documents and information on the conditions of their employment, in a language they understand.

A grievance mechanism will be established to allow direct workers and contracted workers to express any workplace concerns. This should be separate from the project GRM, as grievances raised by workers would need to be dealt with confidentially to protect them against possible reprisals from their employer.

Many of the potential social risks and impacts will be covered under the ECOPs applicable to each type of sub-project, though more monitoring of sub-project implementation would be needed than under the current NEP to assure compliance.

Of particular concern is the potential use of forced or child labor as well as inadequate worker safety measures by primary suppliers, as a number of project supplies are expected to come from countries where such issues have been identified. The project needs to select primary suppliers carefully, and assure contracts with those suppliers include specific requirements on child labor, forced labor, and worker safety. If a significant risk has been identified, the project will need to monitor the performance of that primary supplier.



The project carries a risk for SEA and SH. This needs to be looked at as part of the Social Assessment as part of the ESMF preparation. This assessment will determine if the GBV actions are best reflected in a GBV plan as an annex to the ESMF or incorporate the required actions throughout the ESMF. It is foreseen that GBV actions will include labor influx management provisions (e.g. local hire, workers camps, workers training), as well as a standard CoC for direct workers and organize training on establishing a respectful workplace at the PMU.

Measures relating to Occupational Health and Safety (OHS) are for protecting workers from injuries, illness or impacts associated with exposure to hazard encountered in the work place or while working. For NEAP, OHS related issues may include: (i) Inadequate personal protective equipment (PPE) and sanitation facilities for workers at construction and camp sites; and (ii) Inadequate health and safety procedure in handling used batteries.

The current ESMF that is being implemented through the ongoing NEP has included guidance in the form of an Environmental Code of Practice (ECOP), and health and safety standards. This includes provisions for the contractors to ensure that only trained and certified workers will be allowed to install, maintain or repair electrical equipment. These tools were developed based on the World Bank Group's Environmental, Health and Safety (EHS) Guidelines for Power Transmission and Distribution. Contents of this ESMF will be updated to accommodate OHS related issues for the Off-grid systems. The ESMF will include procedures on incident investigation and reporting, recording and reporting of non-conformances, emergency preparedness and response procedures and continuous training and awareness to workers.

For subprojects located in the post conflicts areas, the screening forms will include provisions on the potential safety risks for workers of the likely presence of unexploded ordnance (UXO) or landmines. Under the ongoing NEP, PMOs have started drafting the Guideline on UXO/Landmine Risk Management which includes screening procedure and disposal of landmines and other explosives, risks mitigation and the Chance Find Procedure as outlined in the section on ESS8. This Guidelines will need to be finalized during the preparation stage of the proposed project. The final version will then need to be included in the ESMF.

In addition, the ECOP will outline health and safety procedures applicable for each Mini-grid system. If workers housing is required, provisions for water supply, sanitation, health care, provision of meals, solid and liquid waste management are to be in place. Sections in the ECOP that are relevant to the health and safety procedure are to be included in the existing standard operating procedure (SOP) or installation guideline for contractors/developers. Both PMOs will ensure that OHS requirements are included in the bidding documents as well as the final contract.

### **ESS3 Resource Efficiency and Pollution Prevention and Management**

The proposed project is expected to deliver a number of environmental benefits as it provides clean and renewable energy solutions and reduces pollution from fuel wood/charcoal used for cooking and kerosene/diesel oil lamps used for lighting.

Potential impacts from the project that are directly relevant to achieve the objectives of ESS3 include risks relating to (i) installation works of grid extension such as MV substations, MV/LV lines, household/community connections, and public lights; and (ii) construction, installation and operational of the off-grid electrification such as Mini-grid systems.



Installation works of the grid extension related impacts are limited and small in scale; mostly are related to disposal of old/used equipment and other general wastes. Typical environmental risk management for this type of investment include safe disposal of waste/old equipment.

Potential environmental risks and impacts that are applicable to all the off-grid electrification systems during construction, installation and operational stages may include: (a) Construction-related risks and impacts such as noise and dust generation, minor accidents to workers and community, construction waste generation, and pollution from accidental spills of toxic containing materials. However, these potential risks and impacts are temporary, predictable, reversible and mitigatory measures are readily available and reliable; and (b) Waste generation from installation, maintenance and operational of mini-grid systems with particular concern on disposal of used batteries. Effective management and controls measures will need to be in place to avoid and minimize the associated risks. These measures will include proper management and dispose of hazardous wastes. Under the ongoing NEP project, the DRD PMO is expected to set up a mechanism to take back old or non-functional Lead-acid batteries and centrally take care of adequate disposal to a reputable recycling firm. Under this scheme the return of those batteries will be incentivized to avoid sallies to informal recyclers in Myanmar. In addition, the collection and recycling of Lithium-ion batteries is found to be underdeveloped and so less likely to be disposed of or recycled effectively. During project preparation, DRD PMO will ensure that this mechanism is finalized and agreed at the national level and incorporated into the ESMF.

Specific potential environmental risks and impacts from the following mini-grid systems:

1. PV system: The use of toxic containing materials for batteries (Lead-acid batteries), waste generation from installation and post operation (e.g. PV panels disposal), and land/vegetation clearing for site preparation and access routes. Mitigation measures will include (i) promoting the use of lithium-ion batteries instead of the more prevalent but also more toxic Lead-acid batteries; (ii) safe disposal of used batteries and used/broken PV panels; and (iii) if removal of any large trees is unavoidable, the project will ensure that for every tree felled, the developer will do compensatory planting, at sites selected by the community, of two (2) saplings of species of equal or greater value. The project will also minimize the loss of the existing tree cover, and promote the use of non-toxic substances for vegetation clearing.
2. Biogas power plant: Waste generation from installation and operational (end product form the engine gasifier). Mitigation measures will include safe disposal of wastes generated from Biogas plant.
3. Diesel generator: Noise generated from engines during operational stage, and pollution from accidental spills of toxic containing materials such as oil spillage form diesel engines. Mitigation measures will include selection / promoting the use of engines with low noise emission, and including spill containment basins in the project design and developing and implementing a spill management plan.
4. Mini-hydro power plant: Pollution of nearby waterbody from accidental spills of hazardous materials such as fuels especially during installation of turbines, erosion of the natural steam banks and siltation into the intake, changes in water flow with potential impacts on the downstream communities, extensive vegetation clearance for ancillary facilities, construction of access roads, disturbance of natural habitats, damage to physical cultural assets, and visual impacts on relatively pristine environment . Mitigation measures will include the implementation of a proper waste disposal plan, measures to prevent or reduce erosion of the natural banks and siltation into the intake as well as prevent erosion from waters released through the tailrace will be included in the project design. Measures to



mitigate the potential water flow changes will also be considered in the project design. Other appropriate measures accordance with the mitigation hierarchy will be set in the Environmental and Social Codes of Practice (ECOP) in order to mitigate the potential impacts in, further site specific measures will be considered in the project design.

5. Wind energy: Land/vegetation clearing for site preparation and access routes, construction and operational noise. If removal of any large trees is unavoidable at the sites for the wind turbines, power stations, any related facilities/infrastructure, the project will ensure that for every tree felled, the developer will do compensatory planting, at sites selected by the community, of two (2) saplings of species of equal or greater value. The project will also ensure to minimize the loss of the existing tree cover. Measures to prevent and control noise are mainly related to engineering design standards and turbine siting. Other noise mitigation measures may include operating turbines in reduced noise mode.

Some of these potential impacts are temporary, predictable, reversible and not likely to be significant. Mitigatory measures are readily available and reliable through the application of good engineering designs and practices for construction by incorporating the environmental mitigation measures in the technical design and tender documents. In addition, the ESMF will include screening procedures to identify the nature of potential impacts that the subproject could generate within its area of influence (e.g. distance to human settlements or to water body, the nature of the water body, etc.). This will inform the selection of ES instruments (e.g. ESIA, ESMP, Cumulative Impact Assessment, etc.) that would be required to assess the potential impacts in further detail. The choice of instruments primarily depends on the degree of significance of anticipated ES impacts and the level of associated ES risks. The ESMF will also include a spill management procedures which will outline the protocols to mitigate accidental spills from the operational of Mini-grid systems in addition to the Environmental and Social Codes of Practice (ECOP) which will serve as the basic risk management tool for all activities.

#### **ESS4 Community Health and Safety**

The proposed project is expected to deliver a number of community health benefits as it provides clean and renewable energy solutions and reduces respiratory illness due to indoor cooking smoke from cooking fuels.

The project may have some manageable and localized impacts to community health and safety as a result of some project activities. Potential risks would be dependent on the type of sub-project (i.e. on-grid, off systems) and its distance to sensitive receptors (settlements, school, hospitals, market, etc.). In general, risks to community health and safety that are related to construction activities may include road/traffic related accidents due to an increase in movement of heavy vehicles for the transport of construction material and equipment, particularly households living along the transportation route in the proximity of construction site. The contractors will identify and put in place a mechanism to manage potential road safety risks to nearby communities and other road users. During operational phase, the contractor will ensure that proper safety and warning signs are installed in local language. Adequate signage along with barriers (e.g. fences with gates, locks on gates and substation doors, steel posts surrounding towers) will help prevent contact with potentially dangerous equipment.

Specific safety measures will apply to the following systems:

1. Grid Extension subprojects: Safety measures such as lightning arrestors as well as earthing cables at each new MV substation will be installed to prevent damage of equipment due to lightning during a storm event. In addition,



regular monitoring and surveillance of the Power Lines will be conducted to check for any risk of fire or undesirable accidents and providing necessary repairs and maintenance work regarding the power lines.

2. Solar systems (solar home system or SHS, solar PV, and solar-diesel hybrid): Potential risks of battery explosions, fire hazards, electrocution or accidents during installation and operational stage. Batteries will be located out of reach and inaccessible to young children. Warning signs must be visible on the housing, in English and local language, to prevent any tampering or attempts to alter the system, clearly stating the risks of electric shock, fire and explosion. Specific for SHS, after installing the system, contractor must provide training to household members on the proper use and care of the system, and on safety measures. A safety poster and an instruction booklet in local language will be made available for each SHS. Safety during wiring for household connection and solar home system (SHS). Wiring is to be done by the contractor only to ensure it is adequately safe. If the household already has wiring, the contractor will replace it with the wiring and materials provided under SHS.

3. Biomass: Safety measures associated with the risk of pressure from methane produced from digestion chamber may include installation of manometer (pressure gauge) to check the pressure of the produced methane from the digestion chamber, water trap to take away the water content from the outlet gases, Sulphur cleaner and outlet pipe to control the Hydrogen Sulfide produced from the digester before entering the engine / dynamo to convert the bio gas into electrical power. Conventional safe handling practices will be adhered to and usage of safety measures such as PPE is to be provided to the workers in operation. Contractor must provide training to household members on the proper use and care of the system, and on safety measures. A safety poster and an instruction booklet in local language will be made available for each participating household.

4. Electric and Magnetic Fields (EMFs): In regards to the possible health effects from exposure to typical EMF levels from power lines and equipment, the management of EMF exposure will include: (i) considering siting new facilities so as to avoid or minimize exposure to the public; and (ii) application of engineering techniques (e.g. modification to size and spacing, and configuration of conductors, etc.) will be considered to reduce EMF produced by power lines, substations, or transformers.

For subprojects located in the post conflicts areas, the screening forms will include provisions on the potential safety risks for nearby communities of the likely presence of unexploded ordnance (UXO) or landmines. Under the ongoing NEP, PMOs have started drafting the Guideline on UXO/Landmine Risk Management which includes screening procedure and disposal of landmines and other explosives, risks mitigation and the Chance Find Procedure. This Guidelines will need to be finalized during the preparation stage of the proposed project. The final version will then need to be included in the ESMF.

The project carries a GBV (SEA/SH) risk, especially with workers in remote ethnic communities, which have a low absorption capacity and are difficult to monitor. This needs to be looked at as part of the Social Assessment, which is part of the ESMF. This assessment will determine if the GBV actions are best reflected in a GBV plan as an annex to the ESMF or incorporate the required actions throughout the ESMF. It is foreseen that GBV actions will include labor influx management provisions (e.g. local hire, workers camps, workers training), as well as a standard CoC for direct workers and organize training on establishing a respectful workplace at the PMU.



### **ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement**

The project will require some land acquisition and loss of assets. Most permanent land acquisition or loss of assets will be small plots for transmission line poles, transformer poles, MV substations, with larger plots (approximately 0.6 Ha) required for Mini-grid solar arrays and other Mini-grid infrastructure. Some permanent restrictions on land use (limited plant height, location of physical structures) will also be applied. Temporary land acquisition and loss of assets are expected for construction sites, worker housing, and access roads during construction.

As the footprints of the sub-projects are generally small, physical relocation or resettlement of people is not expected, though the Resettlement Policy Framework (RPF) will allow for this if it arises in an exceptional case. The RPF will be prepared prior to appraisal

Most of the smaller plots (for transmission line poles, transformer poles an area of 30 cm by 30 cm is required per post) are expected to be obtained through voluntary land donations. Land ownership of these plots will not be transferred. A VLD procedure is to be included in the RPF (annexed to the ESMF) to assure such land donations are done without coercion, with the full consent of the donor, that it does not lead to economic stress for the donor by loss of too much productive land, and there are no competing claims of ownership or use of the land In line with footnote 10 of ESS5. Based on the small impact and proper following of the VLD protocol, VLD is allowed under the current NEP1 project. The VLD system and practice under NEP1 is reviewed by the WB and it is working and will continue to be followed up on, including through spot checks. Spot checks for NEP1 (undertaken in late 2019) identified that although the documentation of VLD was not always adequate, land was donated voluntarily in the communities visited. In cases where people refuse to donate their land, low voltage transmission lines are re-routed in close consultation with the community and potential affected people.

Plots required from off-grid energy generation plants, such as the solar power plant will be purchased, using a negotiated settlement, from the owner. Procedures for cutting of productive trees and land use restrictions under the Transmission Lines are included in the RPF.

Other potential risks and impacts include (i) land acquired or assets and livelihood losses compensated at too low a price, (ii) land acquired by contractors or sub-contractors prior to the project, (iii) land acquired from someone who is not the actual owner, (iv) those using land being displaced, even if they do not own it, (v) land acquired is communal land, and (vi) land owners and users not adequately compensated for temporary losses of land, assets, land use restrictions in the right-of-way of the transmission lines, cutting of productive trees or livelihood.

The RPF will provide the protocol for permanent and temporary loss of livelihoods and loss of assets, as well as the permanent and temporary loss of land and land use restrictions. In areas where land needs to be acquired and assets or livelihoods lost, even in part, a site specific Abbreviated Resettlement Action Plan will be prepared to provide detailed procedures for compensation, if as expected only a few people or households are affected and the impacts are minimal.

### **ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources**

The proposed project is expected to deliver a number of environmental benefits as it provides clean and renewable energy solutions and reduces pressure on forest resources from the use of fuelwood as primary source of energy in most rural areas.





The project is not expected to have potential adverse impacts on natural and critical habitats or ecosystem services. However, as specific subprojects and their locations are yet to be determined, further information may be needed during implementation to ascertain specific impacts. As part of the project preparation, both PMOs will conduct the following assessment: (i) lessons learned from the implementation of NEP’s ESMF, particularly those activities that are relevant to ESS6 application; (ii) identification of the potential project related risks and impacts on habitats and the biodiversity; (iii) potential impacts leading to reduction to terrestrial habitat alteration and aquatic habitat alteration during the construction and maintenance phases of the distribution right of way (ROW), access roads, lines, and substations ; and (iv) risk management measures in accordance with the mitigation hierarchy. In regards to risks and impacts related to habitats and local biodiversity, the ESMF will include an ECOP ensuring the following measures for land clearing activities (ROW for distribution lines, mini-grids sites and access road, and solar home systems) are in place: (i) careful site selection and layout may minimize the loss of the existing tree cover; (ii) if removal of any large trees is unavoidable, every tree felled, the developer will do compensatory planting, at sites selected by the community, of appropriate seedlings numbers of equal species or greater value as defined by the relevant authorities and applicable National regulations.

Based on the assessment, MOEE and DRD will develop an ESMF for NEAP. The ESMF will provide specific screening provisions – with measurable and verifiable criteria – that will exclude and thus avoid any combination of activities likely to cause adverse impacts with sensitive receptors. If avoidance is not possible, an alternative design (e.g. alternative route for power lines, alternative location for Mini-grid locations, etc.) will be pursued to avoid risk to natural and critical habitats, biodiversity and the ecosystem services that they provide. The screening process will also identify spatial and temporal boundaries of the project that could have effects on the habitats and biodiversity. This is of particular importance to ensure that the project does not cause unintended harm to natural or critical habitats, such as ecologically sensitive areas or key biodiversity areas; for which protection is required under this ESS and National Laws and regulations.

### **ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities**

There is the potential risk that ethnic communities (ethnic communities or groups is the term used in Myanmar to describe IPs under ESS7) and other vulnerable groups may not be able to receive equitable benefits from NEAP subprojects. They may be excluded from local decision-making processes that discuss strategies and approaches to access electricity. Contractors or developers working in their communities may not be aware of or respect their local customs and culture. An Indigenous Peoples Policy Framework (IPPF) is being prepared for the project.

Initial screening of the grid extension and Mini-grid sub-projects are expected to ascertain the presence of ethnic groups, and if the project will lead to potential loss of or damage to lands or natural resources used by the community or to loss of or damage to a place of cultural or religious importance to the community. If so, the project ES unit will determine or engage outside experts to determine if the ethnic community is considered as “indigenous people” under ESS7, if there is then the need for additional assessments and free, prior and informed consent with these communities, and whether the developer should prepare a proportionate sub-project Indigenous Peoples Plan (IPP). Consultation and social assessment—at a scale proportional to the sub-project’s potential impacts—may be required to gain insights into potential cultural, language and other dimensions that need to be considered in order



to ensure that sub-projects provide appropriate benefits to, and do not have adverse impacts on, those ethnic groups.

**ESS8 Cultural Heritage**

ESS8 is relevant as the proposed project activities could affect the tangible and intangible cultural heritage and/or access to them. There is also the potential of discovering unknown cultural heritage during clearing activities for infrastructure (e.g. solar PV plant, mini-hydro, etc.). A guideline for identification of physical cultural resources and procedures in case of a ‘chance find’ were developed for NEP. During project preparation, as part of the preparation of the ESMF, both Guidelines and Procedure will be reviewed and revised to address among others, intangible cultural heritage ESF requirements for NEAP.

**ESS9 Financial Intermediaries**

This standard is currently considered not relevant for phase 1. The project will not make use of or support financial intermediaries as defined by this standard during phase 1.

**B.3 Other Relevant Project Risks**

There is no other potential relevant project risks anticipated.

**C. Legal Operational Policies that Apply**

**OP 7.50 Projects on International Waterways** No

**OP 7.60 Projects in Disputed Areas** No

**III. WORLD BANK ENVIRONMENTAL AND SOCIAL DUE DILIGENCE**

**A. Is a common approach being considered?** No

**Financing Partners**

A Common Approach is not being considered.

**B. Proposed Measures, Actions and Timing (Borrower’s commitments)**

**Actions to be completed prior to Bank Board Approval:**

- Environmental and Social Management Framework, including RPF, IPPF, lessons learned from NEP implementation, summary of institutional capacity assessment, ECOPs, Cultural Heritage Guideline and Chance Find Procedure, Labor

Public Disclosure



Management Procedures including Workers’ Grievance Procedure, GBV actions and Preparation of Budget, staffing and operational arrangements for project environmental and social risk management;

- Environmental and Social Commitment Plan (ESCP), including a training plan for capacity building of MOEE and DRD staffs in the management of environment and social risks and compliance with the WB ESF;
- Stakeholder Engagement Plan and Grievance Procedure.

**Possible issues to be addressed in the Borrower Environmental and Social Commitment Plan (ESCP):**

All framework instruments are expected to be prepared, disclosed, consulted upon, and finalized during preparation. During project implementation, if the risks and impacts are likely go beyond the scope of the ESMF and other ESF instruments, environmental and social screening will be conducted and a site specific ESMP will be developed. Sufficient funds shall be ensured to cover the costs of implementing the ESMP. In addition, the client will raise awareness, organize training and capacity building, and operationalize the plans and procedures. Commitments will include:

- Budget, staffing and operational arrangements for project environmental and social risk management
- Environmental Social Management Plans or other required environmental and social instruments e.g.
- Activity-level: Grievance Procedure, engagement requirements, labor management procedures, worker grievance procedure, community health and safety
- Resettlement Action Plan/s as needed
- Indigenous People Plan/s as needed
- Cultural Heritage Assessment/s as needed
- ESF training requirements and training delivery modalities needed.

**C. Timing**

**Tentative target date for preparing the Appraisal Stage ESRS**

01-Mar-2021

**IV. CONTACT POINTS**

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**Borrower/Client/Recipient**

Borrower: Republic of the Union of Myanmar

**Implementing Agency(ies)**

Public Disclosure



Implementing Agency: Ministry of Electricity and Energy

Implementing Agency: Ministry of Agriculture, Livestock and Irrigation Department of Rural Development

#### **V. FOR MORE INFORMATION CONTACT**

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#### **VI. APPROVAL**

Task Team Leader(s):	Raluca Georgiana Golumbeanu, Sunil Kumar Khosla, Myoe Myint
Practice Manager (ENR/Social)	Mona Sur Recommended on 20-Dec-2020 at 19:27:11 GMT-05:00
Safeguards Advisor ESSA	Nina Chee (SAESSA) Cleared on 21-Dec-2020 at 12:54:25 GMT-05:00