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Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 14-Dec-2020 | Report No: PIDC30415

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Parent Project ID (if any)	Project Name
Myanmar	P174584		National Energy Access Program (NEP2) (P174584)
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
EAST ASIA AND PACIFIC	Oct 18, 2021	Feb 07, 2022	Energy & Extractives
Financing Instrument	**Borrower(s)**	**Implementing Agency**	
Investment Project Financing	Republic of the Union of Myanmar	Ministry of Electricity and Energy, Ministry of Agriculture, Livestock and Irrigation Department of Rural Development	

Proposed Development Objective(s)

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.

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	500.00
Total Financing	500.00
of which IBRD/IDA	400.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	400.00
IDA Credit	400.00

Non-World Bank Group Financing

Counterpart Funding	85.00

Borrower/Recipient	70.00
Local Communities	5.00
Local Govts. (Prov., District, City) of Borrowing Country	10.00
Commercial Financing	15.00
Unguaranteed Commercial Financing	15.00

Environmental and Social Risk Classification	Concept Review Decision
Substantial	Track II-The review did authorize the preparation to continue

Other Decision (as needed)

B. Introduction and Context

Country Context

1. **Myanmar is undergoing a profound transition.** With a population of 54 million[1], Myanmar is one of the largest countries in mainland Southeast Asia. The country's opening in 2011—both inwards through democratic reforms and outwards through trade, investment, and migration—marked the beginning of a complex transition on the political, peace, and economic fronts. Between 2011 and 2017, the economy grew at the rate of 7 percent a year on average, putting the country among the five fastest-growing countries in the world. According to *the Doing Business* ranking released in October 2019, Myanmar was among the 'top 20 improvers' thanks to initiatives that improved the conditions for starting business, protecting minority investors, and dealing with construction permits. The opening of the banking sector to foreign banks, the liberalization of the wholesale and retail trades, and the loosening of export licensing requirements contributed to economic growth. Poverty significantly decreased between 2005 and 2017 (from 48.2 to 24.8 percent).[2]

2. Despite the signing of the National Ceasefire Agreement, violence has flared up in Rakhine and other states over the last years posing a serious threat to the country's transition to peace and prosperity. One-third of Myanmar's townships are affected by conflict, and dozens of Ethnic Armed Organizations (EAOs) exert varying degrees of territorial control over border zones. People living in rural areas and conflict-affected states, and ethnic and religious minorities, are lagging on most dimensions of welfare—from stunting to

[1] data.worldbank.org
[2] The World Bank (2020). *Myanmar Economic Monitor*. June 2020. http://documents1.worldbank.org/curated/en/806001593183687694/pdf/Myanmar-Economic-Monitor-Myanmar-in-the-Time-of-COVID-19.pdf

educational attainment and access to basic sanitation and electricity services.

3. **Slowing economic growth caused by Covid-19 threatens to partially reverse Myanmar's recent progress in poverty reduction while deepening the poverty of households that are already poor.** Following strong activity in the first five months of the year, the pandemic and associated containment measures have undermined aggregate demand, disrupted value chains, and reduced the labor supply. GDP growth, which was 6.8 percent in FY2018/19, is projected to decline to 0.5 percent in FY2019/20. The COVID-19 crisis is particularly affecting the poor and excluded households due to job insecurity, employment in the informal sector, and low savings. Areas of the country that are affected by conflict, ethnic minority states with largest percentage of returning migrant workers, and poorer rural areas in other parts of the country that have been a traditional source of internal migrant labor (Ayeyarwady and Magway regions) will likely be exposed to increased rate of transmission of the disease, while experiencing more severe economic downturn with the decline of remittances.

4. **In late April 2020, the Government launched the Covid-19 Economic Relief Plan (CERP) aimed at preserving macroeconomic stability and mitigating the impact of the pandemic on the population.** CERP presents an extensive range of mitigation and recovery measures that can provide relief and initiate a resilient recovery including tax relief, credit for businesses, food support and cash transfer to households, and policies to facilitate trade and investment. Inclusive and climate resilient growth, expansion of access to basic services, and restoration of livelihoods and jobs will remain at the core of country's recovery efforts. Improving the provision of basic services, such as electricity is critical for strengthening the health system's response to the pandemic, economic recovery and human capital development.

Sectoral and Institutional Context

5. **Myanmar's power system has a total installed capacity of 6,346 MW** of which 55 percent is from hydropower and solar, 42 percent from gas, and 2 percent from coal and diesel. The annual per capita electricity consumption in 2019 is only 420 kWh – about one-tenth of the world's average. Nevertheless, the annual consumption has grown by 10 percent on average since 2003 and is expected to continue to increase in the Covid-19 economic recovery phase. Demand growth is concentrated in the urban centers, with two largest cities, Yangon and Mandalay, consuming 60 percent of the country's consumption with the presence of large industries and residential areas. The demand in the rural areas has also begun to pick up with an expanding customer base.

6. **While access to grid electricity has doubled from 25 percent in 2010-11 to 50 percent in 2019-20, Myanmar still has the largest access deficit in Southeast Asia and ranks among top 20 countries in the world with electricity access deficit**. While grid extension is expanding access to electricity in both urban and rural areas, off-grid solutions play a critical role in supplying electricity to those without access to the grid, particularly in rural areas. According to the Multi-Tier Framework (MTF) that takes stock of the status of energy access, about 11.4 percent of households have installed solar home systems (SHSs), which provide lighting and can

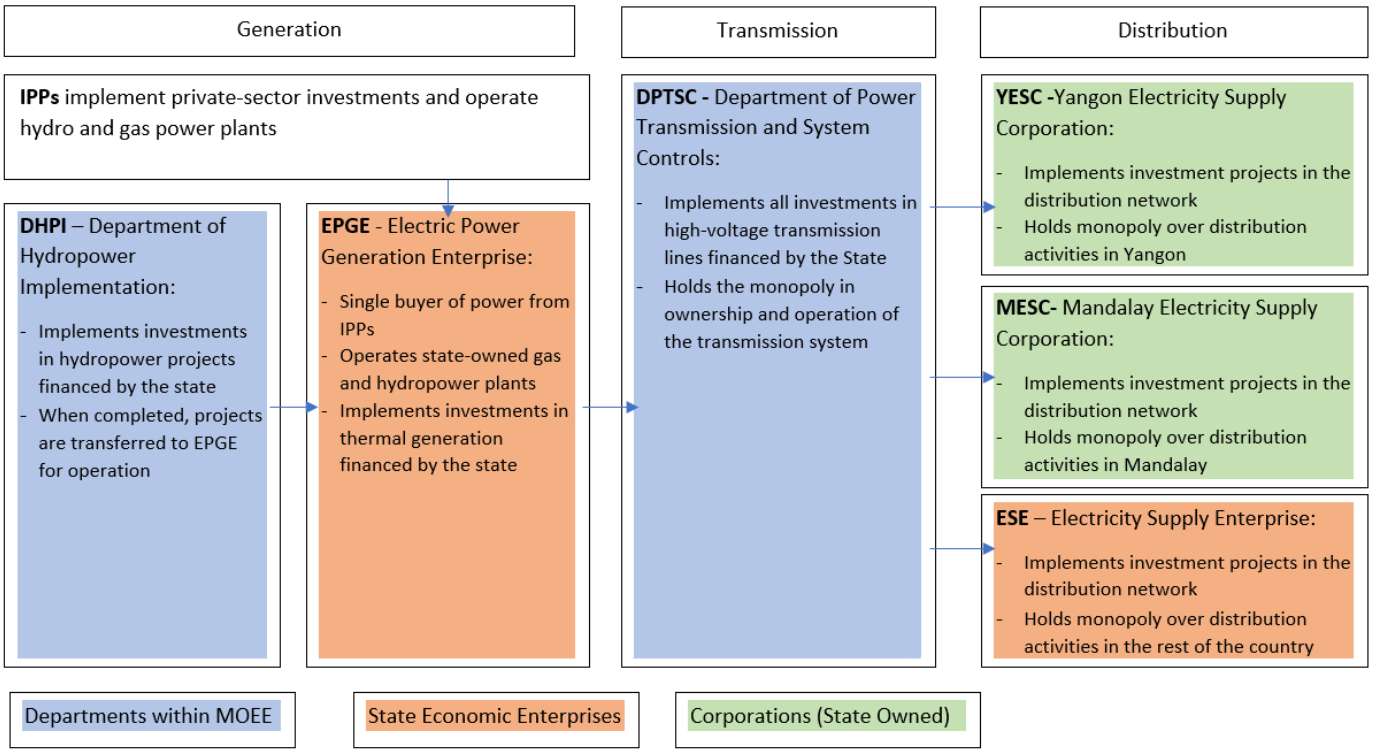
[3] Mainly driven by strong demand increases from the service and residential sectors. Ministry of Electricity and Energy and the Economic Research Institute for ASEAN and East Asia. Myanmar Energy Statistics 2019.

power televisions or fans, and about 8 percent relies on mini grids. A third of Myanmar's rural households still rely on candles, kerosene, batteries and diesel generators to meet their energy needs.[4]

7. **Recognizing the large investment needs, the government has implemented reforms to improve the sector's enabling environment for investments.** In July 2019, the Government significantly increased electricity tariffs for residential, commercial, and industrial consumers, after a five-year gap of no tariff adjustments. The largest rationalization was related to residential tariffs over the very low levels. A lifeline tariff has also been established to reduce the impact of the increase on the poorest. It would allow the government to redirect unsustainable tariff subsidies to finance new investments and improve the creditworthiness of the utility.

8. Figure 1 illustrates institutional setup of Myanmar's power sector with the key entities under MoEE, which is responsible for sector development. Three government-owned distribution utilities report to MoEE: Yangon Electricity Supply Corporation (YESC) and Mandalay Electricity Supply Corporation (MESC), which cover Myanmar's two most populous and urbanized regions, and the Electricity Supply Enterprise (ESE) for the rest of the country. In rural areas, the Department of Rural Development (DRD) under the Ministry of Agriculture, Livestock and Irrigation (MoALI) is responsible for off-grid electrification.

Figure 1: Institutional Setup of Myanmar's Power Sector



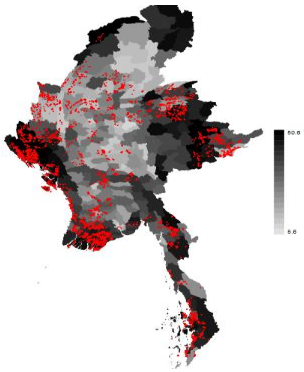
Source: Myanmar InfraSAP (2019)

[4] ESMAP. *Myanmar Beyond Connections. Energy Access Diagnostic Report based on the Multi-tier Framework*. 2019

9. **Energy access is at the core of the WBG engagement in Myanmar.** The Government has set the goal of achieving universal access to electricity by 2030 in alignment with the Sustainable Development Goal (SDG) 7, which calls for affordable, reliable, sustainable and modern energy for all by 2030. In 2014-15, the Government adopted the National Electrification Plan and a roadmap for its implementation. The Plan was underpinned by geospatial economic least-cost analysis for increasing electricity access in Myanmar by: i) extension of the national grid, and ii) off-grid investments in SHSs and mini-grids. The least-cost analysis is being updated to account for substantial development on the ground and will inform the continued implementation of the Plan.

10. **The World Bank-funded National Electrification Project (NEP, IDA credit of US$400 million equivalent) has laid the ground for scaling up access**, advancing policies to pursue grid extension and densification agenda, piloting various public and private-led off-grid business models to reach remote and marginalized people, including in conflict-affected areas, and ensuring high socio-economic impact of electricity. To date, over 3.5 million people have been connected to electricity services under NEP. The SHS public program footprint (Figure 2[5]) based on geospatial tagging shows that the project has reached to a great extent the most marginalized regions of the country. NEP has promoted efficiency[6], sustainability, and innovation, including through introduction of pay-as-you-go (PAYGO) financing scheme; citizen engagement platform; and efficient work monitoring, verification and contractor's payment for the off-grid solar program through a management of information system (MIS).

Figure 2: SHS Delivery (red dots) against Multidimensional-Deprivation Index



Source: World Bank staff

11. **Electricity access scale-up would require increased support to financing LV distribution networks and increased focus on social inclusion and socio-economic impact.** The LV distribution network's support by communities along with additional connection and internal wiring charges (varying between US$100-265) has impeded the pace of grid electrification. The high upfront connection cost has been identified as a key barrier to grid electricity access by rural population.[7] Investments by the Government in the LV network grid extension enabled by recent policy changes will need to be accompanied by financing mechanisms to make grid access affordable to low-income population. Continued efforts to roll-out off-grid solutions would be required to reach remote and disadvantaged populations with clean and reliable electricity. Developing targeted approaches for low electrified states, fragile and conflict affected areas remains a key challenge to be addressed. Targeting methodologies, community engagement mechanisms, innovative business delivery and financing models, as well as robust verification and monitoring mechanisms will be incorporated in electricity access scale-up to ensure social inclusion. Moreover, interventions to enhance economic and social impact will be required to ensure the sustainability of the electrification program and translate energy

[5] The red dots show households with SHS installations while township colors are based on their score in the Multi-dimensional Disadvantage Index (MDI). The more disadvantaged the township, the darker is its representation on the map.
[6] The international competitive bidding for solar home systems has resulted in cost efficiency and savings of US$40 million
[7] The 2019 Energy Access Diagnostic Report based on Multi-tier Framework for Myanmar found that 86 percent of the urban population have access to grid electricity compared to 22 percent in the rural areas. About 62 percent of the rural population cannot access grid electricity because they are located too far (beyond 3 miles) from the national grid to make the extension cost-effective, and those furthest (10 miles) from the national grid are being provided with electricity from off-grid solutions. Of the 20 percent of rural population that cannot afford grid electricity, 96 percent identified the upfront connection charges as prohibitively high. However, 80 percent of this population would be able to pay the connection cost if the payment can be spread over 12 months.

access in economic growth and human capital development.

12. **While electrification efforts under NEP are noticeable, Myanmar lags on access to modern cooking solutions.** Myanmar scores very low (23/100) on the Access to Clean Cooking Pillar of the Regulatory Indicators for Sustainable Energy (RISE) due to lack of enabling framework for clean cooking solutions. Over 73 percent of households use inefficient biomass fueled cook stoves with multiple adverse impacts, including health and safety risks, productivity losses and deforestation. Almost half of the households use three-stone stoves exclusively (45.6 percent). Exposure to smoke from traditional cookstoves and open fire causes more than 48,000 deaths and affects more than 49 million people in Myanmar each year. Women and young children are the most affected by health problems associated with exposure to cookstove smoke, with more than 3,500 children in Myanmar dying every year as a result of acute respiratory infections, including pneumonia, caused by use of solid fuels. The MTF recommends adoption of clean fuel stoves, particularly electric stoves given the important health benefits of using clean fuels for cooking. Addressing barriers such as high upfront costs and lack of awareness will be key to widespread adoption of improved cooking solution according to 2019 Myanmar Systematic Country Diagnostic. Current efforts on clean cooking solutions are minimal and there is no national policy for this SDG.

13. **Targeted gender interventions are required to ensure equal opportunities to the benefits of electricity.** According to the Global Gender Gap Report, 2020 from the World Economic Forum (WEF, 2019), Myanmar ranks the 114th out of 153 analyzed countries on gender equality. There are gender gaps in education, integration into labor market and wage level[8] although there is potential of integrating more women in STEM related fields, including energy[9]. Men are responsible for decision making and household income as household's head while women are relegated to take care of the housework and children. A study conducted by ENERGIA in Myanmar shows that men and women use energy differently, with men more likely to benefit from access to electricity interventions. Men own more businesses than women and use electricity and diesel mostly, whereas women tend to use charcoal and firewood given their household tasks. Further analysis will be required to examine the gender gap and design specific gender interventions such as electric cooking, women's employment and skills development.

14. Since its re-engagement in Myanmar in 2012, **the World Bank has committed US$894 million IDA credit and grants and over US$6 million for knowledge activities to support the energy sector.** Investments have focused particularly on electrification, improving gas-fired electricity generation efficiency to lower electricity cost and debottlenecking transmission constraints. The World Bank has supported the implementation of the Government's National Electrification Plan though NEP and increased capacity, reliability of power supply and efficiency of thermal power generation through the Electric Power Project (EPP, IDA financing US$140 million) and recently, approved the Power System Efficiency and Resilience Project (IDA US$ 350 million). Advisory activities include the Government's electrification plan, solar PV energy development (including hydro-linked solar PV), assessment of the electricity sector's financial viability and tariff reform, economic pricing of domestic gas, least-cost system dispatch, options for LNG

[8] While 81.5% men are part of the labor force compared to 51.7% women work force. Women earn about half of what men do under the same conditions and qualifications (WEF, 2019). Women are less represented in agriculture than men (20% vs. 29%) and in skilled manual jobs (11% vs. 21%). Women are more integrated in sales and services jobs (25% vs. 10%) and unskilled manual jobs (34% vs. 31%).
[9] The WEF (2019) reports that 47.34% women enrolled in the formal education system are attending a STEM field career compared to 46.79% men.

infrastructure to cope with the declining domestic gas production, sector's climate adaptation and resilience, and regional power trade.

15. **Advisory and investment services provided by the International Finance Corporation (IFC) are also supporting private-led power generation and the electrification agenda.** IFC is providing equity and debt financing to Yoma Micro Power to generate and distribute electricity to power telecom towers in rural Myanmar and off-grid communities using solar-based micro power plants and mini-grids. IFC-led Lighting Myanmar program is assisting companies in creating a market for high-quality off-grid solar energy solutions.

Relationship to CPF

16. **The proposed Program will support national development priorities laid out in the Myanmar Sustainable Development Plan (MSDP)[10] for 2018-2030.** The MSDP is the first comprehensive governmental vision for a democratic, peaceful and prosperous country. Pillar 2 (goal 3, strategy 3.6) of the MSDP aims at building priority infrastructure to facilitate sustainable growth and economic diversification. Pillar 3 (goal 5, strategy 5.4), providing affordable and reliable energy to populations and industries, recognizes the importance and direct linkage between improved access to electricity and greater economic opportunities for households and firms, including small and medium enterprises (SMEs) in both urban and rural areas. The Project will facilitate Pillar 3 (goal 4) by strengthening the health and education system with access to electricity and other basic services and by harnessing productivity, including in agriculture sector. Pillar 3 (goal 5, strategy 5.2), which seeks to increase climate change resilience and reduce exposure to disasters and shocks, identifies the development of resilient infrastructure as an opportunity to reduce the country's exposure to climate change and embark on a low-carbon development path. Finally, the MSDP recognizes gender empowerment, equity and inclusion as a cross-cutting priority to be mainstreamed into all of its pillars.

17. **The Program supports the WBG's proposed Country Partnership Framework (CPF) FY20-23.** It supports Focus Area 1: building human capital and fostering peaceful communities by improving inclusive access to infrastructure and community services. New approaches will be incorporated in the MPA Program design to make energy service more affordable and inclusive. The Program will continue to strengthen the capacity of public institutions to deliver energy services and enhance accountability through performance monitoring and citizen engagement mechanisms. The Program supports Focus area 2: fostering responsible private sector-led growth and inclusive economic opportunities and the World Bank's *"Maximizing Finance for Development"* (MFD) by creating an enabling environment for private sector participation in narrowing the energy access gap through decentralized electrification and clean cooking solutions. The Program will comply with Focus area 3: Enhancing climate and disaster resilience and sustainable natural resource and environmental management by reducing the deforestation risk through promotion of efficient cooking, rolling out climate resilience-informed grid infrastructure and harnessing local renewable sources (solar, water) for off-grid electrification, displacing diesel and other pollutant energy sources to ensure more reliable, affordable and sustainable electricity service.

18. **The Program is aligned with WBG Covid-19 Crisis Response Approach Paper that aims at saving lives**

[10] The Government of the Republic of the Union of Myanmar (2018). *Myanmar Sustainable Development Plan, 2018-2030.*

threatened by the virus, preserving jobs and ensuring more sustainable business growth. It will contribute to the electrification of health facilities through grid, mini-grid and sustainable off-grid solar solutions, which is expected to enhance the response capacity and resilience of the health system to the current crisis. The World Bank has initiated cooperation with GAVI/UNICEF that is mandated to support the Ministry of Public Health and Sanitation (MoPHS) through Department of Public Health (DPH) for improving Central Expanded Programme of Immunization (CEPI) and vaccine cold chain. The cooperation aims at ensuring knowledge exchange on standardization of packages and sustainable business models for off-grid solar electrification as well as increased impact of the electrification programs through cold chain development, clean water drinking and other infrastructure services. Moreover, electricity access will facilitate communication, safety and remote connectivity during the pandemic. The Clean cooking component will reduce indoor pollution with positive impact on women and children. The Program is expected to generate local jobs especially in remote, rural areas for supply chain development, construction, operation and maintenance, including in the renewable sector and efficient appliances.

MULTI PHASE APPROACH

A. Higher-Level Objective (all Phases)

19. **The higher-level objective of the Program is to support the GoM reach the SDG7 goal of providing access to affordable, reliable, sustainable and modern energy for all.** The proposed MPA is designed to support the Government in reaching these targets by planning for the long-term while undertaking implementation in manageable shorter-term tranches. The Program will address complex social inclusion development challenges and continue to build and strengthen inter-sectoral synergies (health, education, agriculture, water) to maximize the benefits of electricity for local development.

B. Proposed Development Objective(s)

20. **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.

Key Results (From PCN)

1. Program Results Chain

21. **The proposed 10-year Program 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. Phase I of the MPA will: (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 opportunities not only for geographic expansion in the 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.

2. Proposed MPA Program Development Objective (PrDO)

22. **The 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.**

23. **The following are the key preliminary PDO indicators**:
    a. Number of people provided with access to electricity under the project by household connections, of which *grid, mini grid*, *off-grid solar;*
    b. Number of community electricity connections under the project*;*
    c. Number of enterprises (farmers, business, commercial, small entrepreneurs) provided with access to electricity;
    d. Number of people provided with access to clean cooking; and
    e. Greenhouse gas (GHG) emissions avoided (tCO_2).

C. Concept Description

1. Description

24. **The proposed 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. Each component is supported by investment and TA aimed at increasing energy access and development impact.

25. **Component 1: Grid Extension (IDA: US$300 million)** 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) construction of new MV substations, (ii) construction of new MV lines, LV lines and MV/LV transformers; and (iii) household and community connections, and public lights. The Program will finance the cost of goods and materials (transformers, poles, conductors, insulators, switchgear, steel parts) as well as technical assistance for sector stakeholders and promotion of productive uses of electricity.

26. **Component 2: Off-grid Electrification (IDA: US$95 million)** will support the scale-up and sustainability of the mini-grid and off-grid solar connectivity of households, enterprises and community facilities (education, schools, religious facilities, street lighting, drinking water), development of new renewable energy applications for social and economic impact, technical assistance for strengthening policy and regulatory framework, capacity building, and productive use. Both public and private-led business models will be implemented for various off-grid applications and targeted areas. While the off-grid component will

continue to be supported through grants and technical assistance, close monitoring of the financial sector development and compliance with the World Bank policies[11] will be ensured for the implementation of other financing instruments that would unlock private sector capital for off-grid market development and productive use of electricity. Annex 1 provides a detailed description of electricity access components.

27. **Component 3: Clean cooking solutions (IDA: US$5 million)** will support the development of the Government's clean cooking strategy, education campaign and behavior change, capacity building, design, promotion and implementation of more efficient clean cooking solutions. Phase I will implement an electric cooking pilot, which is expected to inform the Government's strategy and investments aimed at increasing access to clean cooking solutions in subsequent phases. An ESMAP-funded electric cooking market assessment in Myanmar[12], currently under implementation, is expected to inform this pilot. Other modern cooking technologies could be considered under the Program based on analytical work and lessons learned from the pilot. The component will contribute to MPA's gender tagging.

28. **Gender.** Beyond clean cooking that has direct gender benefits, the proposed energy access program will complement interventions under other WB-funded projects and programs supported by development partners to promote women's employment and skills development. Measures to address gender productivity gap at work are being implemented for MoEE under the Power System Efficiency and Resilience Project. Moreover, DRD with support from GiZ has developed the NEP Off-grid Gender Mainstreaming Strategy and an Action Plan that aim to encourage gender equality and increase women's participation in the electrification program, enhance business opportunities and economic growth for women, share evidence-based lessons learned and assessments to promote gender equality within the NEP Off-grid.

29. **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.

2. Overall Risk and Explanation

30. **The overall risk of the proposed Project is assessed to be Substantial**. While NEP has strengthened the capacity of the implementing agencies and other stakeholders and the proposed Program's technical design has been overall tested, the MPA will be implemented in a complex political environment and economic uncertainty. It also aims to expand energy access roll-out towards areas more difficult to reach.

Risk Categories	Rating (H, S, M, or L)
1. Political and Governance	S
2. Macroeconomic	S

[11] Currently only two commercial banks will comply with the World Bank's policies for financial intermediation
[12] The study will provide evidence on the gender gap, 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

3. Sector strategies and policies	S
4. Technical design of project or program	M
5. Institutional capacity for implementation and sustainability	M
6. Fiduciary	M
7. Environment and social	S
8. Stakeholders	S
9. Other	
Overall	S

31. **Environment and social (Substantial).** The environmental and social risk classification is Substantial given the geographically dispersed nature of the Program, the scale and large number of rural electrification activities throughout the country, and the limited experience of the implementing agencies to meet Environmental and Social Framework (ESF) requirements. Potential environmental and social risks and impacts are considered large in spatial extent as the Program has nationwide coverage. Overall, the proposed Program 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 Program's activities and investments are not likely to cause significant or irreversible environmental impacts if well managed. 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 Program will involve construction, with much of the work carried out by subcontractors, some land acquisition, work in remote, difficult to reach areas with ethnic minority communities and work in some states / regions that have seen conflict in recent years. Contractors and sub-contractors tend to have inadequate consultation with affected communities, especially of ethnic minority communities, and are lax in worker health and safety and community health and safety practices. Limited client capacity, inadequate past efforts in stakeholder engagement, lack of transparency in land acquisition and potential for coerced 'voluntary' land contributions, with many activities in ethnically diverse area and in states and regions that have seen conflict in recent years, all contribute to substantial social risk rating.

32. MoEE and MOALI's DRD – through their respective PMOs – are currently implementing World Bank-financed project requirements under safeguards policies. The grievance redress mechanism (GRM) is active in both components, and the DRD PMO is tracking all the grievances and inquiries. While safeguards capacity building has been provided to implementing agencies, township engineers, community and contractors/private sector, more Environmental and Social Risk Management trainings, including sub-project screenings and documentation will be required since the World Bank's ESF will be applied for the first time under the proposed MPA. Capacity building for sector institutions will be continued under the proposed MPA.

33. **Stakeholders (Substantial).** NEP has provided robust technical assistance program to implementing agencies, contractors, mini-grid developers, off-grid solar companies on project implementation, technical,

economic, financial, safeguards and fiduciary aspects. Various consultative mechanisms among government institutions, donors and public-private dialogue have been established to address NEP project implementation and plans for electrification roll-out. The capacity building program and stakeholders' engagement mechanisms will continue under the proposed MPA and other technical assistance programs implemented by GIZ, JICA, Smart Power, AFD, KFW, ADB and other development partners. Since the MPA is expected to expand the electrification footprint into areas that potentially require engagement of EAOs, the stakeholders' risk is assessed as substantial.

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts

34. Overall, the Project is expected to deliver a number of environmental and social 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. Access to electricity has been shown to improve education by increasing student's time to study, improve health care by expanding availability of health services including additional hours at health centers and refrigeration needed for many types of medication, diversify economic activities leading to improved incomes and reduce poverty, and reduce time required for housework, often the responsibility of women, with labor saving devices.

35. 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 of the implementing agencies to meet ESF requirements.

36. The social risk classification is Substantial given lack of adequate client capacity, limited past efforts in stakeholder engagement, lack of transparency in land acquisition and potential for coerced ?voluntary? land contributions, with many activities in ethnically diverse areas and in states and regions that have seen conflict in recent years. Much of the implementation is carried out by contractors and subcontractors who tend to have inadequate consultation with affected communities, especially with ethnic minorities, and are lax in worker health and safety and community health and safety practices. The project also carries a GBV risk and risks possible exclusion of vulnerable groups, especially poor or near poor who cannot afford connection or materials costs

37. Potential environmental risks and impacts related to Component 1 are limited and small in scale; mostly are related to (i) disposal of construction waste and old/used equipment; and (ii) potential accidents to workers

and community during installation and operational. Typical environmental risk management for this type of infrastructure include safe disposal of construction waste and regular monitoring for any risk of fire or undesirable accidents to community and users accidents during operation and providing necessary repairs and maintenance work regarding the power lines, and potential fire hazards. The main social risk of Component 1 is the potential exclusion of poorer households who cannot afford the costs of connection and internal wiring. Other potential social risks are (i) lax worker health and safety practices, such as insufficient use of PPE, (ii) lax community health and safety practices, including traffic safety, (iii) exclusion or limited access to the grid by ethnic or religious minorities who may not be adequately served by the local VECs, and (iv) coerced ?voluntary? land donations, inadequate compensation for temporary and permanent land acquisition and loss of assets or livelihood, and other issues with land acquisition.

38. Relevant Standards include: ESS1, ESS2, ESS3, ESS4, ESS5, ESS7 and ESS10.

39. Potential social risks and impacts related to Component 2 involve (i) inadequate consultation with affected communities, especially of ethnic minority 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 or other less than transparent land transfers, 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. Project screening and ECOPs are 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. Relevant Standards include: ESS1, ESS2, ESS4, ESS5, ESS7 and ESS10.

40. For Component 3, no potential negative environmental or social risks and impacts are expected. Main concern will be on the safety of the new users due to unfamiliarity of the electric cookstoves. A safety manual (in local language and/or picture) on the safe use and maintenance of the stoves will be made available for each new users. Relevant Standard include: ESS4.

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