



## Concept Paper

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Project Number: 46390  
March 2013

# Proposed Loan Myanmar: Power Transmission and Distribution Improvement Project

## CURRENCY EQUIVALENTS

(as of 15 February 2013)

Currency unit	–	kyat (MK)
MK1.00	=	\$0.00116
\$1.00	=	K858.865

## ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
MOEP	–	Ministry of Electric Power
PPTA	–	project preparatory technical assistance

## WEIGHTS AND MEASURES

GWh	–	gigawatt-hour
kWh	–	kilowatt-hour
kV	–	kilovolt
MVA	–	megavolt-ampere
MW	–	megawatt

## NOTES

- (i) The fiscal year (FY) of the Government of Myanmar and its agencies ends on 31 March.
- (ii) In this report, “\$” refers to US dollars.

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## I. THE PROJECT

### A. Rationale

1. The project will rehabilitate distribution network in five townships in Yangon, Mandalay, Sagaing and Magwe regions; and expand transmission and distribution systems. The project will help reduce the system losses and increase reliable electricity supply to urban and rural consumers for the country's inclusive and sustainable economic development.<sup>1</sup> The ADB's Myanmar Interim Country Partnership Strategy 2012–2014 emphasizes the need to support the energy infrastructure in power sector.

2. Even though electricity consumption in Myanmar has doubled during the last 10 years, in 2011, total electricity consumption was 6,312 gigawatt-hours (GWh). With a population of about 60 million, Myanmar's per capita electricity consumption was only 100 kilowatt-hours (kWh) per year, which was the lowest among the 10 Association of Southeast Asian Nations (ASEAN) countries. The low national average per capita electricity consumption is due to the low electrification rate, low industrial development and lack of investment. The country's average electrification<sup>2</sup> grew from about 16% in 2006 to 26% in 2011. Yangon City has the highest electrification ratio (67%), followed by Nay Pyi Taw (54%), Kayar (37%) and Mandalay (31%). The remaining rural areas are still poorly electrified averaging at about 16%.<sup>3</sup>

3. Total system installed capacity in August 2012 was 3,495 megawatts (MW)<sup>4</sup> consisting of 2,660 MW (76.1%) hydropower capacity, 715 MW (20.5%) gas-fired capacity, and 120 MW (3.4%) coal-fired capacity. Due to scheduled maintenance and various operational limitations at a number of stations, the actual firm capacity as of August 2012 was 1,957 MW. Although the installed capacity exceeds 2011 peak load of 1,533 MW, during the dry season, the hydropower plants cannot generate the full capacity due to lack of water. Hence, Myanmar power grid is experiencing significant load shedding during the dry season of up to 400–500 MW.

4. The regulatory framework for the power sector in Myanmar includes the Electricity Act of 1948 (as amended in 1967), the Myanmar Electricity Law (1984), and the Electricity Rules (1985). The power sector is the responsibility of the Ministry of Electric Power (MOEP).<sup>5</sup> Within MOEP, Myanmar Electric Power Enterprise (MEPE) is responsible for the development and implementation of transmission network, covering the voltage levels of 66 kilovolts (kV), 132 kV and 230 kV. Distribution systems consist of lower voltage level—33 kV, 11 kV, 6.6 kV and 0.4 kV. Two distribution enterprises operate the distribution systems in the country. The Yangon City Electricity Supply Board (YESB) is responsible for the supply of electricity to consumers in Yangon City. The Electricity Supply Enterprise (ESE) covers the rest of the country comprising 13 states and regions, including off-grid generation and distribution. It was reported that technical and non-technical losses of the transmission and distribution system were as high as

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<sup>1</sup> A project preparatory technical assistance (PPTA) will be undertaken for the project, details of which are available in Appendix 4.

<sup>2</sup> It is defined as the number of electrified households connected to the grid over the total number of households.

<sup>3</sup> The areas with lowest electrification ratios are Yakhine (6%), Ayeyarwaddy (9%) and Tannintharyi (9%).

<sup>4</sup> There are 32 mini-hydropower plants with a combined generating capacity of 33.1 MW for the off-grid power supply.

<sup>5</sup> In September 2012, the Ministry of Electric Power No. 1 (MOEP1) and the Ministry of Electric Power No. 2 (MOEP2) were merged into a single Ministry of Electric Power (MOEP). MOEP1 was responsible for developing, implementing, operating, and maintaining all large hydropower and coal power thermal plants. MOEP2 was responsible for (i) developing, operating, maintaining the transmission network and distribution system, (ii) operating and maintaining gas-fired thermal plants, and (iii) planning, implementing and operating mini-hydropower plants.

30% in 2003 and reduced to 27% in 2011. These high losses and low electrification ratio will require for improvement of transmission and distribution network in Myanmar.

5. Since January 2012, the electricity tariff has been 35 Kyats/kWh for general purpose (households), street lighting, government office; and 75 Kyats/kWh for domestic power, small power and bulk.<sup>6</sup> Off-grid consumer tariffs vary depending on the cost of generation by diesel or other means (e.g., solar, mini-hydropower) and may range between 100 and 300 Kyats/kWh.

6. The power sector in Myanmar needs significant investment to (i) improve and upgrade the distribution system, especially in Yangon and Mandalay regions; (ii) address the current shortage of power generation through rehabilitation and new additions; (iii) reinforce the transmission grid and associated substations; and (iv) extend transmission and distribution network to connect more consumers, particularly rural areas.

7. ADB provided five loans totaling \$31.6 million and three TAs projects totaling \$1.27 million until 1987 for the energy sector in Myanmar. Since 1987, no loans and technical assistance were provided. The Myanmar Energy Sector Initial Assessment (October 2012) recognizes that ADB should resume to provide assistance to the power sector in enhancing the reliability of the power supply by rehabilitating and expanding transmission and distribution network. To enhance the capacity of MOEP, ADB is engaging (i) international power sector advisor under TA 8244-MYA<sup>7</sup>; (ii) international power grid code expert, international electric standards and specification expert, and power system rehabilitation expert, under TA 8251-MYA<sup>8</sup>; (iii) international and national financial management experts under TA 8216-MYA<sup>9</sup>; and (iv) international resettlement specialist, international indigenous peoples specialist, and international environment specialist under TA 7566-REG<sup>10</sup>. Also, a policy and advisory technical assistance for Enhancing the Power Sector's Legal and Regulatory Framework will be provided.

## **B. Impact, Outcome, and Outputs**

8. The impact of the project will be increased reliable supply of electricity to urban and rural consumers for country's inclusive and sustainable economic development. Its outcome will be the increased capacity and the reduced losses in transmission and distribution system.

9. The outputs of the project will be (i) rehabilitation of distribution network in five townships<sup>11</sup> in Yangon; and Mandalay, Sagaing and Magwe regions; (ii) expansion of about 125 kilometer (km) of 500 kV transmission line between Kamarnat and Hlaingthaya in Yangon subject to a parallel co-financing of 4 substations by JICA;<sup>12</sup> (iii) expansion of 230 kV transmission lines between Baluchaung 2 and Taungoo (about 170 km); between Taungoo and Shwedaung (about 177 km), and between Thaketa and Ahlone in Yangon (about 17.7 km); and (iv) preparation of 5-year investment plan. Appendix 1 provides project information and Appendix 2 presents the problem tree. The design and monitoring framework for the project is in Appendix 3.

<sup>6</sup> The tariff for foreigners is 12 cents/kWh.

<sup>7</sup> CDTA 8244-MYA: Capacity Development and Institutional Support.

<sup>8</sup> CDTA 8251-MYA: Capacity Building for Project Identification.

<sup>9</sup> S-CDTA 8216-MYA: Financial Management Assessment of Energy Sector.

<sup>10</sup> RETA 7566: Strengthening and Use of Country Safeguard Systems (subproject: Capacity Building for Implementing Environment and Social Safeguards in Myanmar).

<sup>11</sup> It includes Hlaingthaya, Insein, Kamayut, Mayangone, and Mingaladon townships in northern district.

<sup>12</sup> ADB has discussed the co-financing of 500 kV transmission systems with JICA. In principle, both agreed to it. This should be further discussed and confirmed.

### C. Investment and Financing Plans

10. The project is estimated to cost about \$330 million (to be determined during PPTA).

**Table 1: Tentative Investment Plan (to be confirmed)**

Source	Amount (\$ million)
<b>A. Base Cost</b>	
1. Rehabilitation of distribution networks	60
2. Expansion of 500 kilovolt transmission line and substation	160
3. Expansion of 230 kilovolt transmission line and substation	80
<b>Subtotal</b>	<b>300</b>
<b>B. Contingency</b>	20
<b>C. Financing Charges During Implementation</b>	10
<b>Total</b>	<b>330</b>

Source: Asian Development Bank estimates.

11. Tentative financing plan is provided in Table 2. The amount of ADB financing will be determined later pending on availability of Asian Development Fund (ADF) resources. With confirmed ADF amount and cofinancing sources, the investment item will be adjusted accordingly.

**Table 2: Tentative Financing Plan (to be confirmed)**

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank	150.0 <sup>a</sup>	45.5
Other Financiers <sup>b</sup>	130.0	39.3
Government	50.0	15.2
<b>Total</b>	<b>330.0</b>	<b>100.0</b>

<sup>a</sup> To be confirmed later pending on availability of ADB resource.

<sup>b</sup> Cofinanciers: to be determined, \$100 million for JICA through parallel financing.

Sources: Asian Development Bank and Ministry of Electric Power estimates.

### D. Indicative Implementation Arrangements

12. The Executing Agency will be the MOEP and the implementation agencies will be the MEPE, YESB and ESE. A separate project management unit will be organized within MOEP to supervise project implementation. Within each implementing agency, a project implementation unit will be created to handle project implementation. The government's in-kind contribution will be the provision of counterpart staff and salaries, office space, and other logistical support. The part of civil works will be undertaken by the concerned implementing agencies. Advanced contracting and retroactive financing will be required. Goods, equipment, and civil works to be financed under the project will be procured in accordance with ADB's *Procurement Guidelines* (2010, as amended from time to time). Approval for advanced procurement action and retroactive financing will be required.

## II. TECHNICAL ASSISTANCE

13. The TA will assist the government in formulating the proposed investment in accordance with ADB policy requirements. The TA outcome will be to produce an agreed project design, feasibility study, and implementation arrangements suitable for ADB financing. The TA scope will include the phased preparation of the project. Details are in Appendix 4.

### III. DUE DILIGENCE REQUIRED

14. Due diligence is required for the project, including:
- (i) **Technical.** The technical viability of the project for rehabilitation of distribution network and expansion of transmission lines and associated facilities. Capability of local construction by enterprises and operation and maintenance, particularly for 500 kV transmission line and substations.
  - (ii) **Economic and financial.** The economic and financial viability of the project will be evaluated as well as the review of concerned enterprises' current and projected financial situation.
  - (iii) **Governance.** Financial management, indicative procurement packages and financing plan, assessment of training needs, anticorruption, policy and legal, capacity, and other institutional issues and mechanisms will be assessed under the PPTA.
  - (iv) **Procurement.** Indicative procurement packages and financing plan for all components, as well as training needs will be assessed.
  - (v) **Poverty and social.** Social impacts are expected to be minimal owing to the low requirements for land acquisition. Poverty and social dimension aspects of the project such as participation and empowerment, employment opportunities (in particular, for the poor and vulnerable population), compliance with core labor standards and possible negative impacts will be addressed under the PPTA.
  - (vi) **Safeguards.** Indicative classification of rehabilitation work is Category C and expansion work is Category B for both environment and involuntary resettlement impact. There are no indigenous peoples near the proposed project areas. The due diligence will verify and confirm these classifications, and support the preparation of required initial environmental examination and environmental management plan, and land acquisition and resettlement plan, including assessment of social impact, as required.
15. This is the first investment project by ADB for the power subsector. There is a risk of delay in processing and implementation of projects in line with ADB policy and procedures. This risk is being addressed through other supportive TA programs.<sup>13</sup>

### IV. PROCESSING PLAN

#### A. Risk Categorization

16. The ADB total investment would be about \$150 million and is less than \$200 million. But this project is the first to the power sector after ADB's re-engagement to Myanmar and no previous ADB experience exists for the executing agency and three implementation agencies. It is therefore proposed to tentatively categorize the project as complex.

#### B. Resource Requirements

17. Staff requirements for due diligence of the loan include: mission leader, 5 person-months; economist, 1 person-month; financial specialist, 1 person-month; environmental specialist, 1 person-month; social development specialist (resettlement), 2 person-months; social development specialist (gender and ethnic minorities), 1 person-month; associate project

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<sup>13</sup> Footnotes 9 and 10.

analyst, 2 person-months; and operations assistant, 2 person-months. A PPTA of \$1,500,000 will be provided by the Japan Fund for Poverty Reduction (JFPR) to finance the engagement of a team of international and national consultants to be recruited (Appendix 4).

### C. Processing Schedule

18. Table 3 shows the major milestones of the project for processing the proposed loan.

**Table 3: Proposed Processing Schedule**

<b>Milestones</b>	<b>Expected Completion Date</b>
PPTA inception mission	May 2013
Loan fact-finding mission	July 2013
Management review meeting	August 2013
Loan negotiations	October 2013
Board consideration	December 2013
Loan signing	February 2014
Loan effectiveness	April 2014

PPTA = project preparatory technical assistance  
Source: Asian Development Bank estimates.

### V. KEY ISSUES

19. As ADB re-engages with Myanmar, MOEP's adherence to ADB policies and guidelines is essential for smooth implementation and is likely to require support from other ADB Departments—the Regional Sustainable Development Department for safeguards and Operations Services and Financial Management Department for procurement and financial management related issues, particularly advanced procurement and retroactive financing.

20. There is limited information available on Myanmar's 5-year investment plan for the power sector development. During the PPTA, it is necessary to confirm the total investment plan for transmission and distribution network.



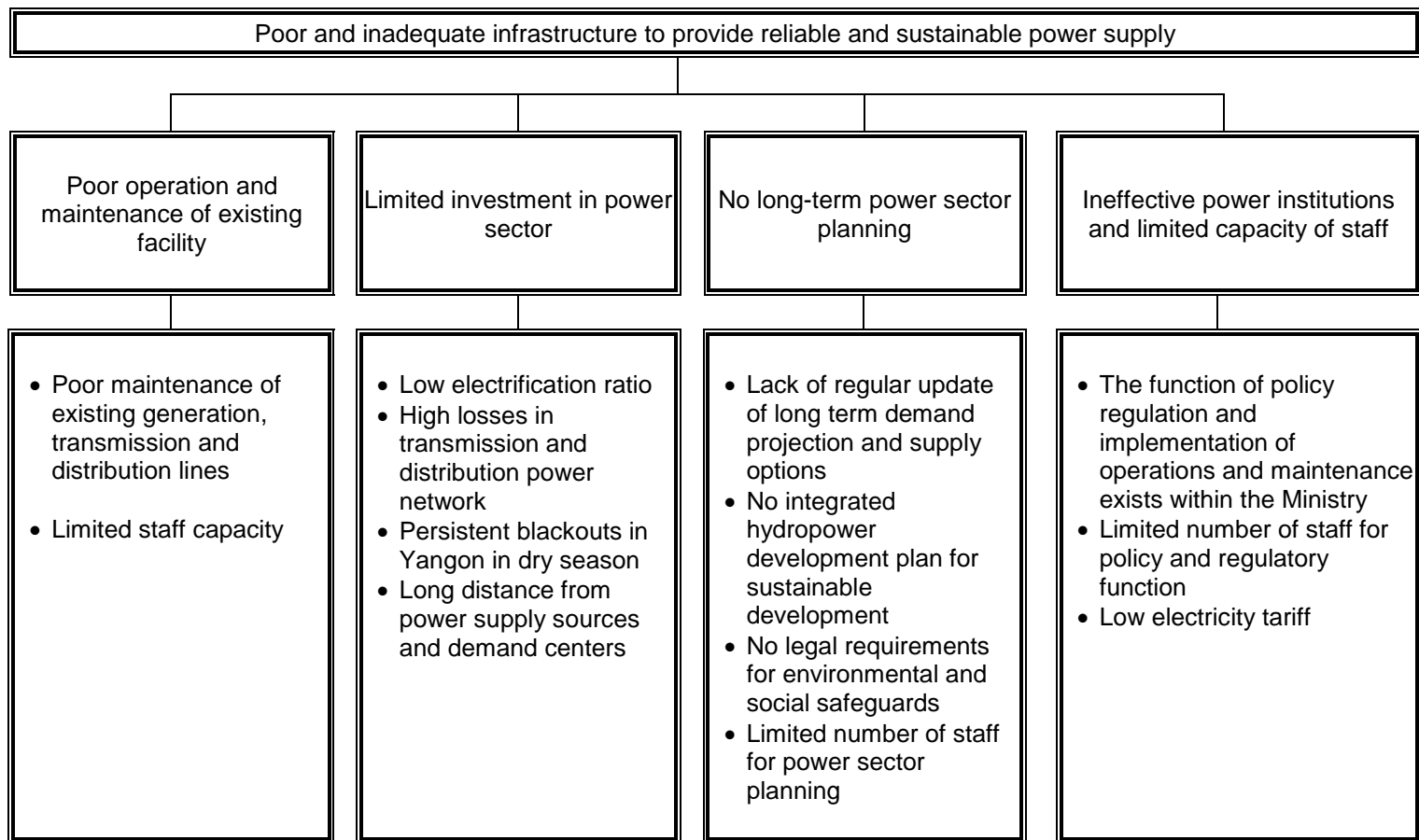
### BASIC PROJECT INFORMATION

Aspects	Arrangements								
Modality	Project Loan								
Financing	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">ADB</td> <td style="text-align: right;">\$150 million</td> </tr> <tr> <td style="padding-left: 20px;">Other financiers</td> <td style="text-align: right;">\$130 million (cofinanciers to be determined, \$100 million for JICA)</td> </tr> <tr> <td style="padding-left: 20px;">Government</td> <td style="text-align: right;">\$ 50 million</td> </tr> <tr> <td style="padding-left: 20px;">Total</td> <td style="text-align: right; border-top: 1px solid black;">\$330 million</td> </tr> </table>	ADB	\$150 million	Other financiers	\$130 million (cofinanciers to be determined, \$100 million for JICA)	Government	\$ 50 million	Total	\$330 million
ADB	\$150 million								
Other financiers	\$130 million (cofinanciers to be determined, \$100 million for JICA)								
Government	\$ 50 million								
Total	\$330 million								
COBP/ RCOBP	ADB. 2012. <i>Interim Country Partnership and Strategy: Myanmar. 2012–2014</i> . Manila.								
Classification	Sector (subsector): Energy (Electricity transmission and distribution) Themes (subtheme): Economic growth Targeting classification: General intervention Gender mainstreaming category: No gender elements Location impact: rural (low), urban (high), and national (high) Safeguards: environment (B) <sup>a</sup> , involuntary resettlement (B) <sup>a</sup> , indigenous peoples (C)								
Risk categorization	Complex								
Partnership(s)	During the PPTA, ADB will seek parallel co-financing from JICA and other partners.								
Use of a PBA	None								
Parallel PIU	None								
Department and division	Southeast Asia Department, Energy Division								
Mission leader and members	J.Kim, Lead Energy Specialist, SERD E. Gagnon, Principal Procurement Specialist, Operations Services and Financial Management Department G. Peralta, Senior Safeguards Specialist (Environment), SERD C. Jung, Energy Specialist, SERD M. Paterno, Finance Specialist, SERD P. Rhee, Counsel, Office of the General Counsel M. Suga, Social Sector Specialist, SERD M. Samoza, Associate Project Officer, SERD								
Peer reviewer	T. Luo, Senior Energy Specialist, Central and West Asia Department								

ADB = Asian Development Bank, ADF = Asian Development Fund, COBP = country operations business plan, DMC = developing member country, JICA = Japan International Cooperation Agency, PBA = programmatic based approach, PIU = project implementation unit, PPTA = project preparatory technical assistance, RCOBP = regional cooperation operations business plan, SERD = Southeast Asia Department.

<sup>a</sup> to be confirmed during PPTA implementation.

## PROBLEM TREE



## DESIGN AND MONITORING FRAMEWORK FOR THE INVESTMENT PROGRAM

Design Summary	Performance Targets and/or Indicators	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b> Increased reliable supply of electricity to urban and rural consumers for country's inclusive and sustainable economic development</p>	<p>Electrification ratio in 2018: 35% (baseline: 26% in 2011)</p>	<p>National statistics  Project benefit and monitoring and post-evaluation reports</p>	<p><b>Assumption</b> Political reform process within Myanmar continues</p>
<p><b>Outcome</b> Increased capacity and reduced loss in transmission and distribution system</p>	<p>Loss in transmission and distribution in 2018: 20% (baseline: 27% in 2011)  xxx of households connected by 2016</p>	<p>National statistics  Project benefit and monitoring and post-evaluation reports</p>	<p><b>Risk</b> Counterpart staff is familiar with ADB guidelines and rules</p>
<p><b>Outputs</b></p> <ol style="list-style-type: none"> <li>1. Rehabilitation of distribution network in five townships in Yangon, Mandalay, Sagaing, and Magwe regions</li> <li>2. Expansion of transmission line between Kamarnat and Hlaingthaya in Yangon</li> <li>3. Expansion of transmission lines between:               <ol style="list-style-type: none"> <li>(i) Baluchaung 2 and Taungoo;</li> <li>(ii) Taungoo and Shwedaung; and</li> <li>(iii) Thaketa and Ahlone in Yangon</li> </ol> </li> <li>4. Preparation of 5-year investment plan in transmission and distribution system (2013–2018)</li> </ol>	<p>By 2016 About 1,000<sup>a</sup> km of distribution line, xxx transformers</p> <p>About 125<sup>a</sup> km of 500 kV of transmission line</p> <p>About 230 kV of transmission lines about:</p> <ol style="list-style-type: none"> <li>(i) 170 km</li> <li>(ii) 177 km</li> <li>(iii) 17.7 km</li> </ol> <p>Prepared investment plan</p>	<p>MEPE, YESB, ESE annual reports  ADB review missions  ADB project completion report</p>	<p><b>Assumption</b> Right of way and land acquisition is undertaken on time</p> <p><b>Risks</b> Engagement of consultants and contractors is delayed by external factors</p> <p>Procurement process is new to Myanmar</p>

Activities with Milestones	Inputs
<p><b>1. Rehabilitation of distribution network in Yangon and other cities</b></p> <p>1.1 Engagement of consultants 1.2 Preparing feasibility study for rehabilitation (July 2013)</p> <p><b>2. Expansion of transmission line and distribution line</b></p> <p>2.1. Engagement of consultants 2.2. Preparing feasibility study for expansion (June 2014)</p> <p><b>3. Preparation of 5-year investment plan in transmission and distribution systems</b></p> <p>3.1. Engagement of consultant 3.2. Preparing the draft investment plan (Feb 2014) 3.3. Conference for discussion on the draft investment plan 3.4. Submission of investment plan</p>	<p><b>ADB financing: \$150.00 million</b> (to be determined)</p> <p><b>Government financing: \$50.00 million</b></p> <p><b>Other financiers: \$130.00 million</b> (to be determined, \$100.00 million for JICA through parallel financing)</p>

ADB = Asian Development Bank, ESE = Electricity Supply Enterprise, JICA = Japan International Cooperation Agency, km = kilometer, kV = kilovolt, MEPE = Myanmar Electric Power Enterprise, RRP = Report and Recommendation to the President, YESB = Yangon City Electric Supply Board.

<sup>a</sup>The exact figure will be finalized during the implementation of the PPTA.

Source: Asian Development Bank staff estimates.

## PROJECT PREPARATORY TECHNICAL ASSISTANCE

### A. Justification

1. The Government of the Republic of the Union of Myanmar has requested the Asian Development Bank (ADB) a project preparatory technical assistance (PPTA) to conduct due diligence and prepare the relevant project documents for an investment project prepare a feasibility study for rehabilitation and expansion of transmission and distribution networks in Myanmar.

### B. Major Outputs and Activities

2. The project will prepare a comprehensive investment plan for the improvement of the power transmission and distribution systems in Myanmar and prepare a feasibility study for rehabilitation and expansion of existing system. The PPTA would: (i) assess the power demand projections and suggest expansion plan with investment requirements; (ii) assess the losses of Yangon City Electricity Supply Board (YESB) and Electricity Supply Enterprise (ESE) and its loss reduction program, and identify measures for loss reduction; (iii) assess capacity and staff skills in the power sector, identify training needs, and prepare short and long term training plan; (iv) identify an urgent rehabilitation and expansion of transmission and distribution projects. For the identified projects, the PPTA will undertake a feasibility study to (i) propose the project scope; (ii) prepare detailed engineering design and bidding documents; (iii) undertake the procurement and implementation capacity assessment of executing agencies (EAs) and implementing agencies (IAs); (iv) prepare cost estimates; (v) undertake economic and financial analyses; and (vi) complete social and environmental safeguards requirements.

3. The TA major outputs and activities are summarized in Table A4.1.

**Table A4.1: Summary of Major Outputs and Activities**

Major Activities	Expected Commencement Date	Major Outputs	Expected Completion Date
1 Rehabilitation of distribution network in Yangon and other cities	March 2013	Final report	July 2013
2 Expansion and transmission line and distribution line	March 2013	Final report	June 2014
3 Preparation of 5-year investment plan in transmission and distribution systems	December 2013	Investment plan	February 2014

Source: Asian Development Bank estimates.

### C. Cost Estimate and Proposed Financing Arrangement

4. The TA in the amount of \$1,500,000 equivalent will be financed on a grant basis by the Japan Fund for Poverty Reduction, and administered by ADB. The government will provide counterpart support in the form of counterpart staff, counterpart staff salaries and office space and other in-kind contributions. Upon completion of the TA, all equipment will be turned-over to the Ministry of Electric Power (MOEP). The detailed cost estimate is presented in Table A4.2.

**Table A4.2: Cost Estimates and Financing Plan**  
(\$'000)

Item	Total Cost
<b>Japan Fund for Poverty Reduction<sup>a</sup></b>	
1. Consultants	
a. Remuneration and per diem	
i. International consultants (34 person-months)	950.0
ii. National consultants (40 person-months)	160.0
b. International and local travel	120.0
c. Reports and communications	20.0
2. Equipment (computer, printer, etc.) <sup>b</sup>	22.0
3. Workshops, training, seminars, and conferences <sup>c</sup>	30.0
4. Surveys	28.0
5. Miscellaneous administration and support costs	20.0
6. Contingencies	150.0
<b>Total</b>	<b>1,500.0</b>

<sup>a</sup> Administered by the Asian Development Bank.

<sup>b</sup> Equipment. The equipment will be turned over to the MOEP upon completion of PPTA.

Type	Quantity	Cost
computer	5	6,000
printer	2	3,000
photocopier	1	4,000
scanner	2	3,000
x-y color plotter	1	6,000

<sup>c</sup> Workshops, training, seminars, and conferences

Purpose	Venue
Conference on investment plan in the transmission and distribution system	Nay Pyi Taw
Consultation workshop for environmental and social impact assessment	Nay Pyi Taw, Project Sites

Source: Asian Development Bank estimates.

## D. Consulting Services

5. A consulting firm will be engaged to provide technical services for a total of 72 person-months of consulting services (34 person-months of international consulting inputs and 38 person-months of national consulting inputs) following the quality and cost-based selection method with 90% weight for quality and 10% weight for cost. The consultants will report to the ADB and to the MOEP. The team leader will be the power transmission specialist. Below is a summary of consulting services requirements.<sup>1</sup> If the government wants to proceed with a project on rehabilitation and a project on expansion separately, necessary individual consultants may be engaged with concurrence of OSFMD.

**Table A4.3: Summary of Consulting Services Requirement**

International Experts	Person-months	National Experts	Person-months
Team Leader and Transmission Engineer	9	Transmission Engineer	10
System Planning Specialist	3	Substation Specialist	4
Substation Specialist	3	Financial Analyst	4
Power System Economist	4	Social Specialist	4
Financial and Institutional Analyst	4	Resettlement Specialist	10
Social Specialist	3	Environment Specialist	6
Resettlement Specialist	4		
Environmental Specialist	4		
<b>Total person-months</b>	<b>34</b>		<b>38</b>

Source: Asian Development Bank estimates.

<sup>1</sup> Distribution and rehabilitation specialist will be engaged under TA 8251-MYA: Capacity Building Support for Project Identification.

6. The outline terms of reference for the PPTA consultants are described in paras. 7–15.

**1. Transmission Engineer** (9 person-months of international; 10 person-months of national)

7. The international transmission specialist/team leader will coordinate the activities of other experts, provide quality control, harmonize proposal and recommendations, will ensure the stakeholders' participation and in building ownership. As an expert, he/she will undertake the following tasks including the preparation of the relevant appendixes and sections of the RRP. The national transmission engineer will assist international transmission engineer in undertaking the following tasks:

- (i) review the actual unit cost of the 500 kV, 230 kV and 132 kV power transmission lines in Myanmar and compare them with international benchmarks. Review technical standards in use including design of towers, choice of conductors, insulators, earth wire, grounding system, equipment selection, insulation level coordination, safety coefficients and all other important parameters that are used during the design of a transmission lines. Propose if needed new technical standards that will lead to a substantial decrease in the cost/km based on international standards and practices;
- (ii) in coordination with the other experts, confirm that the subprojects to be identified are the least cost solution to meet the power demand in the country. Alternative solutions like the upgrade of existing transmission lines versus construction of a new transmission lines will be explored (such as the use of ACSS, ACCR or ACCC conductors; the installation of FATCS and/or real time monitoring solutions). In the analysis, special care will be taken to the technical losses that need to remain within acceptable ranges;
- (iii) carry out a survey of the proposed transmission lines; determine the Right of Way (ROW) at an early stage that will have the minimum social and environmental impact. Together with the social and environmental specialists, prepare the land acquisition, compensation and resettlement plans and mitigation measures costs;
- (iv) for each subproject, prepare a detailed implementation schedule, taking into account any seasonal constraints during construction and the planned commissioning date of the power producers;
- (v) propose a suitable contract packaging and procurement plan, taking into account the availability of foreign and local funds, co-financing if any other local regulation or local practices that might have an impact on procurement;
- (vi) carry out the conceptual design of the transmission lines including but not limited to: tower design, longitudinal profile of the line, flat plan survey, and foundations;
- (vii) prepare for the financial analyst and the economist the detailed cost estimates, broken down into foreign exchange and local currency, for the civil works; supply and erection of the overhead transmission line and substations including other items that might have an impact on the final price such as land acquisition, resettlement, environmental, anti-seismic design, access roads and bridges (if any), engineering services, and physical and prices contingencies based on parameters acceptable by the ADB and by MOEP;
- (viii) prepare a detailed list of equipment; prepare the cost estimates both in foreign and local currencies; and detailed implementation schedule separately for each transmission line;

- (ix) prepare the technical specifications, prequalification, if any, and bidding documents for the transmission lines in accordance with ADB's *Procurement Guidelines* (2010, as amended from time to time);
- (x) provide on the job training in terms of project management, planning and procurement;
- (xi) evaluate the technical losses in the transmission system with and without the project and assess the carbon dioxide (CO<sub>2</sub>) emission reduction; and
- (xii) in collaboration with the other team members, prepare the project administration manual (PAM). Discuss the same with EA and IAs and agree on its content.

**2. System Planning Specialist** (3 person-months, international)

8. The international system planning specialist, under the supervision and coordination of the team leader, will undertake the following tasks, including the preparation of relevant appendixes and sections of the RRP:

- (i) review the demand forecast for Myanmar up to the 2030 horizon;
- (ii) undertake system simulations, including load flow, static and transient stability studies, short-circuit calculation, sensitivity analyses on the macro-economics in order to ascertain as much as possible the investment required in the transmission power system of Myanmar for the next 10 years;
- (iii) ascertain the time schedule for the development of new transmission assets facilities for the second and third tranche (next coming 3-4 years) and for the subsequent tranches (up to the year 2020);
- (iv) based on the above review prepare a realistic investment plan for MOEP showing the three years rolling investment requirement and estimate the capital expenditure cost (CAPEX);
- (v) assess the current transmission system losses and proposed target to decrease them;
- (vi) compare the solution of increasing the capacity of existing power transmission lines by re-conducting them with the ACCC or high temperature low sag conductors rather than to build additional transmission lines on the segments of lines that are fully loaded;
- (vii) based on the system studies determine the level and location of reactive power compensation to be installed. The consultant will also carry out an assessment of the use of Flexible AC Transmission systems and other systems in order to remove bottlenecks in the transmission system;
- (viii) conduct load flow simulations, short circuit calculation and steady state and transient stability studies under various configurations (up to the year 2020 in terms of development of new generation schemes);
- (ix) based on above, determine the least cost investment for the transmission facility, taking into account the optimal technical design, and the phasing of the investment project that matches with the expecting commissioning dates of the new generation facilities; and
- (x) assess the carbon dioxide emissions reduction attributable to the proposed project and update the country-specific emission factor for Myanmar. Examine the eligibility of the project to carbon credit facilities in cooperation with ADB's Clean Development Mechanism Facility. If eligible, prepare the required documentation Project Design Document for CDM (CDM-PDD) registration.



**3. Substation Specialist** (3 person-months, international; 4 person-months, national)

9. The international substation specialist, under the supervision and coordination of the team leader, will undertake the detailed tasks below including the preparation of relevant appendixes and sections of the RRP. The national substation specialist will assist the international substation specialist in the following:

- (i) review the actual unit cost of the 500 kV, 230 kV and 132 kV power transmission lines in Myanmar and compare them with international benchmarks. Review technical standards in use by MOEP including design of towers, choice of conductors, insulators, earth wire, grounding system, equipment selection, insulation coordination and propose, if needed, new technical standards that will lead to a substantial decrease in the cost/km based on international standards and practices;
- (ii) in coordination with the other experts, confirm that the subprojects to be identified are the least cost solution to meet the power demand in the country;
- (iii) carry out a survey of the proposed substations of the third tranche; determine the amount of land to be acquired. Together with the social and environmental specialists prepare and cost the land acquisition, compensation and resettlement plans and mitigation measures costs;
- (iv) for each subproject, prepare a detailed implementation schedule, taking into account any seasonal constraints during construction and the planned commissioning date of the power producers;
- (v) propose a suitable contract packaging and procurement plan, taking into account the availability of foreign and local funds, co-financing if any other local regulation or local practices that might have an impact on procurement;
- (vi) carry out the conceptual design of the substation including but not limited to: substation layout, sections, bill of quantities, control system, telecommunication system and load dispatch center data requirements;
- (vii) prepare for the financial analyst and the economist the detailed cost estimates, broken down into foreign exchange and local currency, for the civil works; supply and erection of the substations including other items that might have an impact on the final price such as land acquisition, resettlement, environmental, anti-seismic design, access roads and bridges (if any), engineering services, and physical and prices contingencies based on parameters acceptable by the Bank and by MOEP;
- (viii) prepare a detailed list of equipment; prepare the cost estimates both in foreign and local currencies; and detailed implementation schedule separately for each substation;
- (ix) prepare the technical specifications, prequalification, if any, and bidding documents for the transmission lines and substations in accordance with ADB's *Procurement Guidelines* (2010, as amended from time to time); and
- (x) provide on the job training in terms of project management, planning and procurement.

**4. Financial and Institutional Analyst** (4 person-months, international; 4 person-months, national)

10. The international financial and institutional analyst, under the supervision and coordination of the team leader, will undertake the following tasks, including the preparation of

relevant appendixes and sections of the RRP. The consultant's activities will be guided by, and outputs prepared in accordance with, ADB's *Financial Management and Analysis of Projects* (2005) as described in the *Financial Due Diligence Methodology Note* (2009).

- (i) Based on inputs from the Transmission Engineer, prepare detailed Project Cost Estimates Tables for the proposed investment (and any defined sub-projects) taking into account all relevant financial costs which include physical and price contingencies, interest during construction, commitment fees and up-front fees, and produce final detailed and summary cost tables in accordance with ADB's requirements.
- (ii) Prepare a financing plan for the Project, including proposed ADB lending, any prospective co-financing, appropriate counterpart funds for local currency expenditures; all relevant financial costs that include physical and price contingencies, interest during construction, commitment fees, and up-front fees.
- (iii) Carry out in-depth financial analysis of the proposed investment (and any defined subprojects), including calculation of the financial internal rate of return and weighted average cost of capital, taking into account all the financial costs and benefits of the proposed Project; identify all risks to project revenue and costs and conduct relevant sensitivity analyses on the financial internal rate of return against these variables.
- (iv) Review Ministry of Electric Power Enterprise's (MEPE) transmission charges and bulk tariff structure to determine whether the true cost of supply is being adequately recovered and/or being subsidized through a transparent mechanism; and identify the specific sources and projection of revenue from the Project's subprojects, which will ensure the financial viability of the Project, also taking into account the reduction of technical line losses and any improvements in operational efficiency.
- (v) Design the project fund-flow mechanism and review direct/on-lending arrangements to ensure compliance ADB policy, the design should take account (i) the financial management responsibilities of each involved entity and (ii) the most efficient and least cost mechanism for the Government and EA. As applicable, review or suggest disbursement procedures, including Imprest Account and SOE arrangements.
- (vi) Assess MEPE, YESB and ESE financial management capabilities which will include a review of earlier ADB and other lender studies, and provide recommendations for institutional strengthening of financial management along with a recommended time-bound implementation plan; provide recommendations to ensure that IAs have the capacity to manage and monitor project disbursements, generate the required ADB financial reports and provide cost estimates of the corresponding manpower, equipment, software requirements for this purpose.
- (vii) Discuss ADB's auditing requirements (audited project financial statements and associated management letter, audited financial statements) for MEPE, YESB and ESE, audit of imprest account and statement of expenditure procedures; audit opinion on use of funds (i.e. for intended purpose) and compliance with financial covenants and requirements of the revised Public Communication Policy (namely that audited project financial statements will be posted on the ADB's website 30 days from receipt).
- (viii) Review historical audited and/or unaudited financial statements of MEPE, YESB and ESE to assess (a) financial performance, (b) transmission charges levels, (c) capital structure, and (d) sufficient generation of internal funds to ensure

- sustainability of ongoing operations (i.e., self-finance a reasonable percentage of capital expenditures and service existing debt).
- (ix) Prepare financial projections (income statement, balance sheet, statement of cash flows) of MEPE, YESB and ESE over the period of implementation and for the period necessary to achieve a steady state; taking into account the proposed investment, borrowings, forecasted growth and the IAs actual performance prior to the year of appraisal; assess the IAs future financial viability and sustainability by calculating appropriate ratios.
  - (x) Recommend appropriate financial performance measures/ratios for MEPE, YESB and ESE, and assess compliance with such measures/ratios in pro forma statements.
  - (xi) Prepare the appropriate RRP sections and appendices for (i)–(x) above.
- 5. Environmental Specialist** (4 person-months, international; 6 person-months, national)

11. The international environmental specialist, under the supervision and coordination of the team leader, will undertake the following tasks, including the preparation of relevant appendixes and sections of the RRP, in accordance with the relevant guidelines and policies for environmental assessment. The national environmental specialist will assist the international substation specialist in the detailed tasks below.

- (i) Conduct an initial environmental examination (IEE) for the transmission line substations and distribution network, taking into account the likely impacts associated with their locations, designs, and construction activities, as well as the long-term impacts during operation, including identification of environmental issues from activities directly induced by the project.
- (ii) Paying special attention to environmental issues on terrestrial and aquatic habitat alteration, electric and magnetic fields, hazardous materials, and occupational and community health and safety, using the World Bank Group's EHS Guidelines for Electric Power Transmission and Distribution as reference;
- (iii) Assist the borrower to conduct meaningful consultation with affected people and document consultation results in IEE.
- (iv) Confirm there are no potential significant environmental impacts associated with the project that require full environmental impact assessment (EIA).
- (v) Recommend appropriate environmental mitigation measures for identified significant impacts and monitoring plans to address these impacts; and assess the environmental benefits of the proposed activities and any capacity strengthening measures that may be needed for the implementation of environmental management and monitoring plans.
- (vi) Prepare an IEE report and its summary based on the environmental assessment requirements of *ADB's Safeguard Policy Statement* (2009), and any applicable procedures or guidelines for environmental assessment as required by the Government; and ensure that the costs for implementation of recommended environmental management and monitoring plans, and any capacity strengthening measures, are included in the proposed project's development costs.
- (vii) Prepare an environmental management plan (EMP) which will include: (a) details of environmental mitigation and monitoring program to be implemented; (b) clear definition of institutional arrangements and responsibilities for EMP implementation; (c) assessment of current institutional capacity to implement the

EMP and proposed capacity building/institutional strengthening activities; and (d) scope, budget, schedule, frequency, location, and responsibilities for implementation of environmental mitigation, monitoring, and capacity building and institutional strengthening activities.

- (viii) Prepare the terms of reference for the implementation consultant and independent monitoring agency and estimate their costs.
- (ix) Provide capacity building to MOEP, MEPE, YESE and ESE staff in dealing with environmental issues.

#### **6. Power System Economist (4 person-months, international)**

12. The international power system economist, under the supervision and coordination of the team leader, will undertake the following tasks, including preparation of relevant sections of the RRP:

- (i) assess the economic benefits of the project in accordance with the relevant ADB's Guidelines for Economic Analysis of the Projects (1997). The quantitative and qualitative economic and financial benefits will take into account but not limited to: (i) the with and without project for different load growth scenario; (ii) the avoidable investment by comparison with alternative solutions; (iii) fuel cost savings in Myanmar; and (iii) development of socio-economic activity in Myanmar due to access to more reliable electricity supply;
- (i) update existing cost estimates of unserved energy due to unreliability of the system, and develop several scenarios for the load growth forecast, paying particular attention to the potential impacts of external shocks on the economy;
- (iii) identify the risks and undertake appropriate risk and sensitivity analysis with respect to the economic internal rate of return in accordance with ADB's *Handbook for Integrating Risk in the Economic Analysis of Projects* (2002);
- (iv) identify stakeholders and conduct a distributional analysis of the net project benefits in accordance with ADB's *Handbook for Integrating Poverty Impact Assessment in the Economic Analysis of Projects* (2001). Calculate the poverty impact ratio (PIR) and the cost effectiveness of the project in reducing poverty, and undertake appropriate risk and sensitivity analysis with respect to the PIR;
- (v) calculate the strict economic cost of electricity consumed by consumer class and propose an electricity tariff that incorporates economics, financial and social objectives of the government;
- (vi) with other team members, prepare a project framework that clearly identifies the proposed project's impact, outcome, output and activities, targets or benchmarks, monitoring mechanisms, assumptions, and potential risks in accordance with ADB standards;
- (vii) specify indicators to monitor the project benefits; and establish procedures and provide cost estimates for benefit monitoring and evaluation in terms of ADB's Guidelines for Benefit Monitoring and Evaluation; and
- (viii) prepare a project framework, according to ADB standards, that clearly identifies the goals and objectives of the proposed project, required inputs, targets or benchmarks, monitoring mechanisms, potential risks, and assumptions.

#### **7. Social Specialist (3 person-months, international; 4 person-months, national)**

13. The international social specialist, under the supervision and coordination of the team leader, will undertake the following tasks, including the preparation of relevant appendixes and

sections of the RRP. The consultant will analyze the development impact of the ensuing proposed project and its potential impact on poverty reduction in accordance with ADB's Handbook on Poverty and Social Analysis and Handbook for Integrating Poverty Impact in Economic Analysis of Projects. The national social specialist will assist the international substation specialist in the detailed tasks below.

- (i) Based on a review of existing studies, data, and development plans, prepare a socioeconomic and poverty profile of primary project beneficiaries in the target provinces; include gender and local ethnic minority's profile and their poverty status, and an analysis of deprivation and the causes of poverty and vulnerability in the area.
- (ii) Analyze access to electricity, affordability, consumption levels, and consumer satisfaction across socioeconomic groups, by gender such as women entrepreneurs, in target provinces; assess the determinants and elasticity of demand for power by socioeconomic groups; and conduct demand projections under different growth scenarios.
- (iii) Analyze provincial development plans, the interlinkage with increased power demand, and implications for sector change and employment generation for the poor.
- (iv) Suggest the possible gender-inclusive design features in line with the ADB's gender and energy toolkit.
- (v) Analyze sector growth impacts of the proposed project on the country level and its impacts on the poor; and review bottlenecks for poverty reduction and potential constraints for small- and medium-scale enterprise development by men and women in relationship the power sector.
- (vi) Based on input-output tables, assess the direct, indirect, and macro distributional impacts of the proposed project under different growth scenarios, with and without the proposed project; summarize the distributional impacts in a matrix; assess potential impact of increase and reliable electricity on various social services, small scale enterprises and women entrepreneurs engaged medium and small enterprises and drudgery of women's household work etc.
- (vii) Assess the existing implementation of core labor standards (CLS) and/or applicable national labor law and propose a proper monitoring design compliance with CLS.

**8. Resettlement Specialist** (4 person-months, international; 10 person-months, national)

14. The international resettlement specialist will undertake the following tasks, including the preparation of a resettlement plan and other relevant appendices and sections of the RRP. The national resettlement specialist will assist the international resettlement specialist in the detailed tasks below.

- (i) Identify and prepare socioeconomic profiles of the project-affected communities in the project areas in terms of household sizes, demographic trends, income sources and levels, occupations, socioeconomic conditions, social service infrastructure, and social organizations, in accordance with relevant ADB gender and local ethnic minority profiles; and carry out any further surveys as necessary.
- (ii) Undertake a full census and inventory of lost assets (homes, agricultural and other lands; or loss of access to current income-generating activities, including impacts caused by permanent or temporary acquisition) of affected people and a

- baseline socioeconomic survey of the affected population; determine the scope and magnitude of likely resettlement effects; and list likely losses of households, agricultural lands, business and income opportunities, as well as affected communal assets and public buildings.
- (iii) Prepare an entitlements matrix in consultation with affected people and the EA/IA listing all likely effects, both of permanent and of temporary land acquisition, and a study to determine the replacement costs of all categories of losses; and prepare an indicative budget for land acquisition and resettlement costs with specific sourcing and approval process.
  - (iv) Prepare a grievance mechanism and appeal procedures.
  - (v) Prepare a resettlement plan (RP) and fully disclose the RP to affected persons in a form and manner understood by them and disclosure on ADB's website.
  - (vi) Identify project budgets and implementation arrangements.

15. The consultants will prepare due diligence/inception, interim, draft final and final reports. Workshops among MOEP, ADB, and the consultants will be held after the submission of the inception, interim, and draft final reports. Other stakeholders will be invited to attend, as needed. The consultants will also prepare status reports for their specific scopes of work highlighting any issues that could become critical for the timely completion of the TA, and that require attention from MOEP and/or ADB. At the initial stage of TA implementation, a workshop for provincial and district compensation councils will be held to discuss the work to be undertaken by the consultants and ADB requirements related to resettlement. The consultants will arrange for other workshops and on-the-job training for MOEP, MEPE, YESB and ESE staff and provincial and district compensation committees, as necessary.

## E. Implementation Arrangements

16. The MOEP will be the executing agency and implementing agencies are MEPE, ESE and YESB. A separate project management unit will be organized within Department of Electric Power, MOEP, to supervise project implementation. Within each implementing agency, a project implementation unit will be created to handle project implementation. The government's in-kind contribution will be the provision of counterpart staff and salaries, office space, and other logistical support. The government will provide all available reports, existing acts and regulations, and other pertinent data. It will also facilitate interagency coordination and applicable permits, as necessary. The TA proceeds will be disbursed in accordance with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time).

17. The proposed TA processing and implementation schedule is listed in Table A4.4.

**Table A4.4: Technical Assistance Processing and Implementation Schedule**

<b>Major Milestones</b>	<b>Expected Completion Date</b>
Fact-finding/reconnaissance mission	October/November 2012
PPTA approval	March 2013
TA implementation period	April 2013 to June 2014
Recruitment of consultants	April 2013
Submission of draft feasibility study	December 2013
Submission of final feasibility study	March 2014

TA = technical assistance

Source: Asian Development Bank staff estimates.

## INITIAL POVERTY AND SOCIAL ANALYSIS

Country:	Myanmar	Project Title:	Preparing the Power Transmission and Distribution Improvement Project
Lending/Financing Modality:	Project Loan	Department/Division:	SERD/SEEN

<b>I. POVERTY IMPACT AND SOCIAL DIMENSIONS</b>
<p><b>A. Links to the National Poverty Reduction Strategy and Country Partnership Strategy</b></p> <p>The ADB approved the Interim Country Partnership Strategy (ICPS) for re-engagement of Myanmar after more than 25 years with no operation. It highlights ADB support for energy infrastructure</p> <p>The government has stressed as a high priority the need to rehabilitate and expand the transmission and distribution networks to improve electricity access and reduce high system loss for inclusive and sustainable economic development.</p>
<p><b>B. Targeting Classification:</b></p> <p><input checked="" type="checkbox"/> General Intervention <input type="checkbox"/> Individual or Household (TI-H) <input type="checkbox"/> Geographic (TI-G) <input type="checkbox"/> Non-Income MDGs (TI-M1, M2, etc.)</p> <p>The Project will assist Myanmar in supporting improved access, and creating reliable supply of electricity, to urban and rural areas through the rehabilitation and expansion of transmission and distribution networks. The project is classified as general intervention as the improvements will be achieved through indirect actions to address poverty and social issues. .</p>
<p><b>C. Poverty and Social Analysis</b></p> <p>1. Key issues and potential beneficiaries.</p> <p>The proposed project is an effort to improve the supply of reliable electricity from indigenous sources in the country. The population will benefit from improved access to electricity to support their economic activities. By generating local employment and livelihood opportunities, the project will also benefit local communities. During due diligence, the PPTA team will identify concerns and needs specific to various community stakeholders (including poor and socially excluded) to further improve project design features.</p> <p>2. Impact channels and expected systemic changes.</p> <p>Lack of transmission and distribution infrastructure has been the biggest constraint in accessing electricity. By increasing the supply of electricity, the project will provide increased opportunities for large industries and small and medium enterprises to expand their own services, improved living conditions for individuals and households, and improved conditions for community-level facilities (e.g. clinics, schools) in the area.</p> <p>3. Focus of (and resources allocated in) the PPTA or due diligence.</p> <p>Under the PPTA, social experts will be engaged to assess potential impacts on poverty alleviation and to conduct a social analysis of potential beneficiaries.</p> <p>4. Specific analysis for policy-based lending.</p>
<b>II. GENDER AND DEVELOPMENT</b>
<p>1. What are the key gender issues in the sector/subsector that are likely to be relevant to this project or program?</p> <p>The social impact analysis to be undertaken under the PPTA will assess access to energy by beneficiaries disaggregated by gender. This will help in describing the status of women in the local communities and in devising potential measures to improve women's access to electricity. The project will provide access for women to participate and obtain benefits during the project implementation phase including participating in the consultation meetings, access to project-related jobs, and participation in livelihood improvement programs under the resettlement plan. The resettlement plans will ensure that there will be no disproportionate negative impacts on women.</p> <p>Research on women, energy and environment has clearly identified the part played by energy as a critical input to rural women's capacity to meet their families' basic needs through subsistence and income-earning activities. For</p>

example, women's use of biomass fuels in cooking is well-known and documented. What is less well recognized is the role of energy in women's small-scale income-earning activities in the informal sector, many of which are energy-intensive. Women's microenterprises are an important contributor to household income, are often heat-intensive (food processing), labour-intensive and/or light-intensive (home based cottage industries with work in evenings). Thus, once the project is completed, the availability of more reliable supply of electricity is expected to have positive impacts on women both in terms of alleviating women's burden in the household and by opening up increased avenues for women to operate small businesses and rural enterprises.

2. Does the proposed project or program have the potential to make a contribution to the promotion of gender equity and/or empowerment of women by providing women's access to and use of opportunities, services, resources, assets, and participation in decision making?

Yes  No

3. Could the proposed project have an adverse impact on women and/or girls or widen gender inequality?

Yes  No Please explain

4. Indicate the intended gender mainstreaming category:

GEN (gender equity theme)  EGM (effective gender mainstreaming)

SGE (some gender elements)  NGE (no gender elements)

### III. PARTICIPATION AND EMPOWERMENT

1. Who are the main stakeholders of the project, including beneficiaries and negatively affected people? Identify how they will participate in the project design.

Local communities, affected people (AP), civil society organization, local leaders, and government at national and local levels.

2. How can the project contribute (in a systemic way) to engaging and empowering stakeholders and beneficiaries, particularly, the poor, vulnerable and excluded groups? What issues in the project design require participation of the poor and excluded?

It is envisioned that during the PPTA stage, the consultation and participation process will involve a stakeholder analysis followed by subsequent consultations with various groups. It is planned to conduct consultations at the household and community level, national level government officials, development partners, nongovernmental organizations, and commune- and village- level officials and beneficiaries. A series of focus group discussions will be undertaken as part of the socio-economic analysis.

3. What are the key, active, and relevant civil society organizations in the project area? What is the level of civil society organization participation in the project design?

Information generation and sharing  Consultation (H)  Collaboration (H)  Partnership

4. Are there issues during project design for which participation of the poor and excluded is important? What are they and how shall they be addressed?  Yes  No

The project involves the rehabilitation and expansion of transmission and distribution lines.

### IV. SOCIAL SAFEGUARDS

**A. Involuntary Resettlement Category**  A  B  C  FI

1. Does the project have the potential to involve involuntary land acquisition resulting in physical and economic displacement?  Yes  No

The expansion component will require some land acquisition which will have an impact on people. Detailed impacts will be assessed during the PPTA and resettlement plans will be prepared in consultation with the affected people and other stakeholders.

2. What action plan is required to address involuntary resettlement as part of the PPTA or due diligence process?

Resettlement plan  Resettlement framework  Social impact matrix

Environmental and social management system arrangement  None

**B. Indigenous Peoples Category**  A  B  C  FI

1. Does the proposed project have the potential to directly or indirectly affect the dignity, human rights, livelihood systems, or culture of indigenous peoples?  Yes  No

2. Does it affect the territories or natural and cultural resources indigenous peoples own, use, occupy, or claim, as their ancestral domain?  Yes  No There are no indigenous peoples nearby the project areas.



3. Will the project require broad community support of affected indigenous communities?  Yes  No

4. What action plan is required to address risks to indigenous peoples as part of the PPTA or due diligence process?

Indigenous peoples plan    Indigenous peoples planning framework    Social Impact matrix

Environmental and social management system arrangement    None

**V. OTHER SOCIAL ISSUES AND RISKS**

1. What other social issues and risks should be considered in the project design?

Creating decent jobs and employment (L)    Adhering to core labor standards (L)    Labor retrenchment

Spread of communicable diseases, including HIV/AIDS (L)    Increase in human trafficking    Affordability

Increase in unplanned migration    Increase in vulnerability to natural disasters    Creating political instability

Creating internal social conflicts    Others, please specify \_\_\_\_\_

2. How are these additional social issues and risks going to be addressed in the project design?

The requirement to comply with core labor standards will be included in the loan covenants/work contracts. Contingent on the findings of social assessment, the requirement for preference for local labor will be included in work contract. Provisions on awareness building on HIV/AIDS and STIs will be included in the contracts.

**VI. PPTA OR DUE DILIGENCE RESOURCE REQUIREMENT**

1. Do the terms of reference for the PPTA (or other due diligence) contain key information needed to be gathered during PPTA or due diligence process to better analyze (i) poverty and social impact; (ii) gender impact, (iii) participation dimensions; (iv) social safeguards; and (vi) other social risks. Are the relevant specialists identified?

Yes    No

3. What resources (e.g., consultants, survey budget, and workshop) are allocated for conducting poverty, social and/or gender analysis, and participation plan during the PPTA or due diligence? Consultants