ADB

Concept Paper

Project Number: 46391
November 2012

Proposed Loan
Viet Nam: Ha Noi and Ho Chi Minh City Power Transmission Development Sector Project

Asian Development Bank

CURRENCY EQUIVALENTS
(as of 4 October 2012)

Currency Unit	–	Dong (D)
D1.00	=	$0.00004790
$1.00	=	D20,878

ABBREVIATIONS

ADB	–	Asian Development Bank
AIF	–	Association of Southeast Asian Nations Infrastructure Fund
EVN	–	Viet Nam Electricity
HCMPC	–	Ho Chi Minh City Power Corporation
HNPC	–	Ha Noi Power Corporation
OCR	–	ordinary capital resources
PDMP	–	Power Development Master Plan
PPTA	–	project preparatory technical assistance
SPS	–	Safeguard Policy Statement

WEIGHTS AND MEASURES

GW	–	gigawatt
km	–	kilometer
kV	–	kilovolt
kWh	–	kilowatt-hour
MVA	–	megavolt-ampere
TWh	–	terawatt-hour

NOTE

In this report, "$" refers to US dollars.

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I. THE PROJECT

A. Rationale

1. The proposed sector project will strengthen the capacity and reliability of the power infrastructure in the two largest cities of the Socialist Republic of Viet Nam—Ha Noi and Ho Chi Minh City—through the rehabilitation and development of the 220 kilovolt (kV) and 110 kV high-voltage power transmission systems in the respective cities. It will also strengthen the institutional capacities of Ha Noi Power Corporation (HNPC) and Ho Chi Minh City Power Corporation (HCMPC) that are responsible for the supply of power in the respective cities. The Government of Viet Nam has requested for a sector loan from the Asian Development Bank's (ADB) ordinary capital resources (OCR) to assist with the financing of the sector project with joint cofinancing from the Association of Southeast Asian Nations Infrastructure Fund (AIF).

2. Viet Nam's economy grew steadily during the recent years at an average rate of 7% raising gross domestic product per capita up from $843 in 2007 to $1,409 in 2011, and reducing poverty incidence from 58.1% in 1993 to 12.6% in 2011. Economic growth was accompanied by an average annual electricity demand growth of 14% during 2004–2010, while per capita consumption increased from 156 kilowatt-hours (kWh) in 1995 to 985 kWh in 2010.

3. According to the *National Power Development Master Plan between 2010 and 2020* (PDMP VII), demand is expected to continue growing rapidly from 86 terawatt hours (TWh) in 2010 to 330 TWh[1] in 2020. To meet the growing demand, generation capacity is to be strengthened from 22 gigawatts (GW) in 2011 to 75 GW in 2020. Nearly 44,000 kilometers (km) of 500 kV and 75,000 km of 220 kV lines will also be constructed to effectively transmit the generated power[2] to load centers. Total investment for the power sector up to 2020 is estimated to be $48.8 billion, of which $11 billion is needed for grid augmentation.

4. The capital city of Ha Noi is home to 6.5 million people and Ho Chi Minh City has a population of 7.4 million. Together they account for about 16% of the total population, but the combined electricity sales in Ha Noi and Ho Chi Minh City (8.9 TWh and 15.4 TWh, respectively in 2010) account for nearly 30% of the total national consumption. Demand is projected to increase to 26.9 TWh and 42.9 TWh, respectively by 2020, and already today the respective power systems are experiencing frequent load shedding and blackouts due to overloading.

5. HNPC and HCMPC, both wholly owned by the state-owned Viet Nam Electricity (EVN), are two of the five Power Corporations created in 2010 as part of the long reform process which began in 1995. ADB has supported the reform since the beginning through six technical assistances[3] between 1995 and 2009. TA 3763-VIE, in particular, was the basis of the 2005 Electricity Law which provided the legal basis for the reform including the unbundling and

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[1] Projected consumption includes supplies satisfied by both domestically generated and imported electricity.

[2] Specific target length is not provided for the 110 kV transmission line development.

[3] ADB. 1995. *Technical Assistance to the Socialist Republic of Viet Nam for the Improvement of Financial Management of Power Companies*. Manila (TA 2345); ADB. 1995. *Technical Assistance to the Socialist Republic of Viet Nam for Training in Distribution Planning*. Manila (TA 2346), attached to ADB. 1995. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Socialist Republic of Viet Nam for the Power Distribution Rehabilitation Project*. Manila (Loan 1358); ADB. 1997. *Technical Assistance to the Socialist Republic of Viet Nam for Improvement of the Power Sector Regulatory Framework.* Manila (TA 2888); ADB. 1997. *Technical Assistance to the Socialist Republic of Viet Nam for Commercialization of Power Companies.* Manila (TA 2897); ADB. 2001. *Technical Assistance to the Socialist Republic of Viet Nam for Road Map for Power Sector Reform.* Manila (TA 3763); and ADB. 2006. *Technical Assistance to the Socialist Republic of Viet Nam for the Power Market Design.* Manila (TA 4768).

privatization of EVN, and the establishment of a competitive electricity market and an electricity regulatory authority. Through the process, ADB has been engaging with HNPC and HCMPC[4] through the provision of technical assistances and loans (footnotes 4 and 5).

6. The proposed sector project is a continuation of ADB's successful assistance to the development and restructuring of the power sector which is currently being implemented in accordance with the reform road map approved in 2006 for establishing an electricity market in three phases: (i) competitive generation market by 2014; (ii) competitive wholesale market by 2022; and (iii) competitive retail market beyond 2022. Sector loan modality is proposed for the project to contribute comprehensively to the reform process, particularly to strengthen the utility performances of HNPC and HCMPC through both physical and non-physical interventions. Such modality has also been recommended in project completion reports of two similar projects with multiple subprojects[5] to ensure flexibility against changes in scope and subprojects.

7. The energy sector is one of the priority sectors in ADB's *Country Partnership Strategy for Viet Nam (2012–2015)* which indicates that assistance will focus on reform and investments including the development of the transmission network. The proposed sector project is also consistent with the Energy Sector Assessment, Strategy and Road Map. Given the magnitude and complexity of the sector reform and financing requirements for infrastructure development, the proposed sector project was conceived through in-depth coordination with development partners to collectively support the sector reform and strengthen the power infrastructure simultaneously to satisfy the rapidly growing demand for electricity.

B. Impact, Outcome, and Outputs

8. The impact of the sector project is that electricity demand growths from industrial, commercial, and residential consumers are met in an economically and environmentally sustainable manner. The outcome is the enhanced capacity and reliability of the transmission networks in Ha Noi and Ho Chi Minh City.

9. The sector project's indicative outputs are (i) the strengthened institutional capacities of HNPC and HCMPC; and (ii) the development and rehabilitation of 220 kV and 110 kV transmission lines and substations of Ha Noi and Ho Chi Minh City. Although a list of subprojects have been proposed, each subproject's viability will be assessed and will be categorized as core or non-core subprojects during due diligence depending on the priority of development and subproject readiness.

C. Financing Plan

Table 1: Tentative Financing Plan

Source	**Amount** ($ million)	**Share of Total** (%)
Asian Development Bank OCR Loan	180.0	47.4
ASEAN Infrastructure Fund Loan[a]	100.0	26.3
Government	100.0	26.3
Total	**380.0**	**100.00**

ASEAN = Association of Southeast Asian Nations; OCR = ordinary capital resources.
[a] Administered by the Asian Development Bank.
Source: Asian Development Bank.

[4] ADB interventions were with Ha Noi Power Company and Ho Chi Minh Power Company which were later restructured as HNPC and HCMPC.

[5] ADB. 1995. *Loan to the Socialist Republic of Viet Nam for the Power Distribution Rehabilitation Project.* Manila (Loan 1358); ADB. 1997. *Loan to the Socialist Republic of Viet Nam for the Central and Southern Viet Nam Power Distribution Project.* Manila (Loan 1585).

D. Indicative Implementation Arrangements

10. The executing agencies will be HNPC and HCMPC. EVN will be the supervisory body as the holding-company with responsibility over its subsidiaries including HNPC and HCMPC. A consulting firm will be recruited to assist with project management including procurement, preparation of non-core subprojects and to ensure compliance with ADB's Safeguard Policy Statement (SPS; 2009). Procurement will be based on international competitive bidding and national competitive bidding. Advanced contracting will be used for the core subprojects.

II. TECHNICAL ASSISTANCE

11. Although HNPC and HCMPC have demonstrated their capacities to implement projects through development partner-financed projects, as their autonomy increases with advancing reform, it is deemed critical that their utility management capacities are developed urgently. A capacity development technical assistance of $2 million (funding source to be determined during due diligence) is envisaged to accompany the sector project to develop their utility management capacities including strategic corporate planning, investment planning, human resources management, financial management, accounting, internal control, customer services, monitoring and evaluation, and project implementation. The introduction of elements of smart grid technology will also be considered. Specific areas of intervention will be decided through coordination with the World Bank which also plans to provide capacity development assistance.

III. DUE DILIGENCE REQUIRED

12. The following aspects will be covered under the due diligence.

(i) **Technical.** Technologies to be used are standard, and the indicative subprojects are identified as priorities in PDMP VII. However, the adequacy of the transmission development plan and prioritization of the proposed subprojects will be reassessed. Demand forecast will also be reviewed.

(ii) **Economic and financial.** Economic and financial viability will be evaluated for the entire project as well as separately for HNPC and HCMPC. The financial position and forecast of the implementing agencies as well as for EVN as a whole will also be assessed.

(iii) **Governance.** HNPC and HCMPC's capacities for financial management, procurement, and operation and maintenance will be assessed.

(iv) **Poverty and social.** Poverty reduction and social impacts including those for women will be assessed.

(v) **Safeguards.** Indicative classifications are Category B for both environment and involuntary resettlement. Indigenous peoples are not expected to be impacted in the urban settings. It is important that appropriate training is conducted during due diligence to enhance HNPC and HCMPC's understanding on ADB's SPS.

13. Major risks and mitigation measures are as follows.

(i) **Procurement.** Procurement packages are typically sliced up into multiple small packages to promote participation from the domestic industry, but such practice undermines efficiency, competitiveness, and timely implementation. Due diligence will endeavor to consolidate packages into smaller numbers of larger values to mitigate against such risks. Also, workshops for prospective state-owned enterprises will be organized to raise awareness on conflict of interest and eligibility of bidders as per ADB's *Procurement Guidelines* as they are common issues delaying bid evaluation in power sector projects in Viet Nam.

(ii) **Safeguards.** The implementing agencies have recently prepared safeguard documents including safeguard frameworks under a similar World Bank project. Nonetheless, consultants will support the implementing agencies during due diligence to prepare relevant documents in accordance with the SPS to avoid project delays resulting from lengthy land acquisition and resettlement processes.

IV. PROCESSING PLAN

A. Risk Categorization

14. The project is classified as *low risk* as (i) the ADB loan amount does not exceed $200 million, (ii) ADB's previous experience in the power sector is sound, (iii) HNPC and HCMPC possess experience and capacity to implement projects financed by development partners, and (iv) safeguard categorizations do not include Category A.

B. Resource Requirements

15. Staff requirements for the due diligence include: mission leader (4.0 person-months [p-m]), finance specialist (1.5 p-m), economist (1.0 p-m), environmental specialist (1.5 p-m), involuntary resettlement specialist (2.0 p-m), and gender specialist (0.5 p-m). A project preparatory technical assistance (PPTA) of $544,000 financed by Technical Assistance Special Fund IV will be set up to recruit a team of individual consultants including: power utility expert/team leader (international: 2.5 p-m), electrical engineer/deputy team leader (national: 3.0 p-m), smart grid expert (international: 1.5 p-m); financial and economic analysis expert (international: 2.0 p-m), environmental safeguard experts (international: 2.0 p-m; national: 3.0 p-m), resettlement experts (international: 2.5 p-m; national: 4.0 p-m), and procurement experts (international: 2.0 p-m; national: 3.0 p-m).[6]

C. Processing Schedule

Table 2: Proposed Processing Schedule

Milestones	Expected Completion Date
PPTA inception mission	4–8 February 2013
Loan fact-finding mission	21 May–3 June 2013
Staff review meeting	9 July 2013
Loan negotiations	12–13 August 2013
Board circulation	6 September 2013
Board consideration	27 September 2013
Loan signing	October 2013
Loan effectiveness	February 2014

Source: Asian Development Bank estimates.

V. KEY ISSUES

16. Support from Central Operations Services Office and Viet Nam Resident Mission will be sought to address common procurement issues in Viet Nam. Office of Cofinancing Operations and the Regional Cooperation and Operations Coordination Division of the Southeast Asia Department are requested to facilitate the cofinancing arrangement with AIF. The latter, in particular, is requested to provide guidance on the various exposure limits of AIF relevant to the proposed sector project in relation to the overall AIF portfolio.

[6] A project preparatory technical assistance will prepare the project. Details are provided in Appendix 4.

BASIC PROJECT INFORMATION

Aspects	Arrangements
Modality	Sector loan.
Financing	ADB OCR $180.0 million 47.4% AIF $100.0 million 26.3% Government $100.0 million 26.3% Total $380.0 million 100.0%
COBP/ RCOBP	The project is not included in COBP 2012-2014, but is to be included in COBP 2013-2015 which is under preparation.
Classification	Sector (subsectors): Energy (electricity transmission and distribution) Themes (subthemes): Economic growth (promoting macro-economic stability) Targeting classification: General intervention. Gender mainstreaming category: No gender elements. Location impact: Rural (low), urban (high), national (medium) Safeguards: Environment category B, involuntary resettlement category B, indigenous peoples category C.
Risk categorization	Low risk.
Partnership(s)	Cofinancing by ASEAN Infrastructure Fund loan.
Use of a PBA	PBA will not be used.
Parallel PIU	Parallel PIU will not be used.
Department and division	Southeast Asia Department, Energy Division
Mission leader and members	T. Kadono, Energy Specialist, SERD M. T. Au, Senior Project Officer (Energy), VRM, SERD D. T. Bui, Senior Energy Economist, SERD R. Butler, Safeguards Specialist (Resettlement), SERD T. H. Khuc, Procurement Officer, VRM B. Konysbayev, Senior Counsel, Office of the General Counsel M. Paterno, Finance Specialist, SERD G. Peralta, Safeguards Specialist (Environment), SERD A. Qari, Procurement Specialist, COSO
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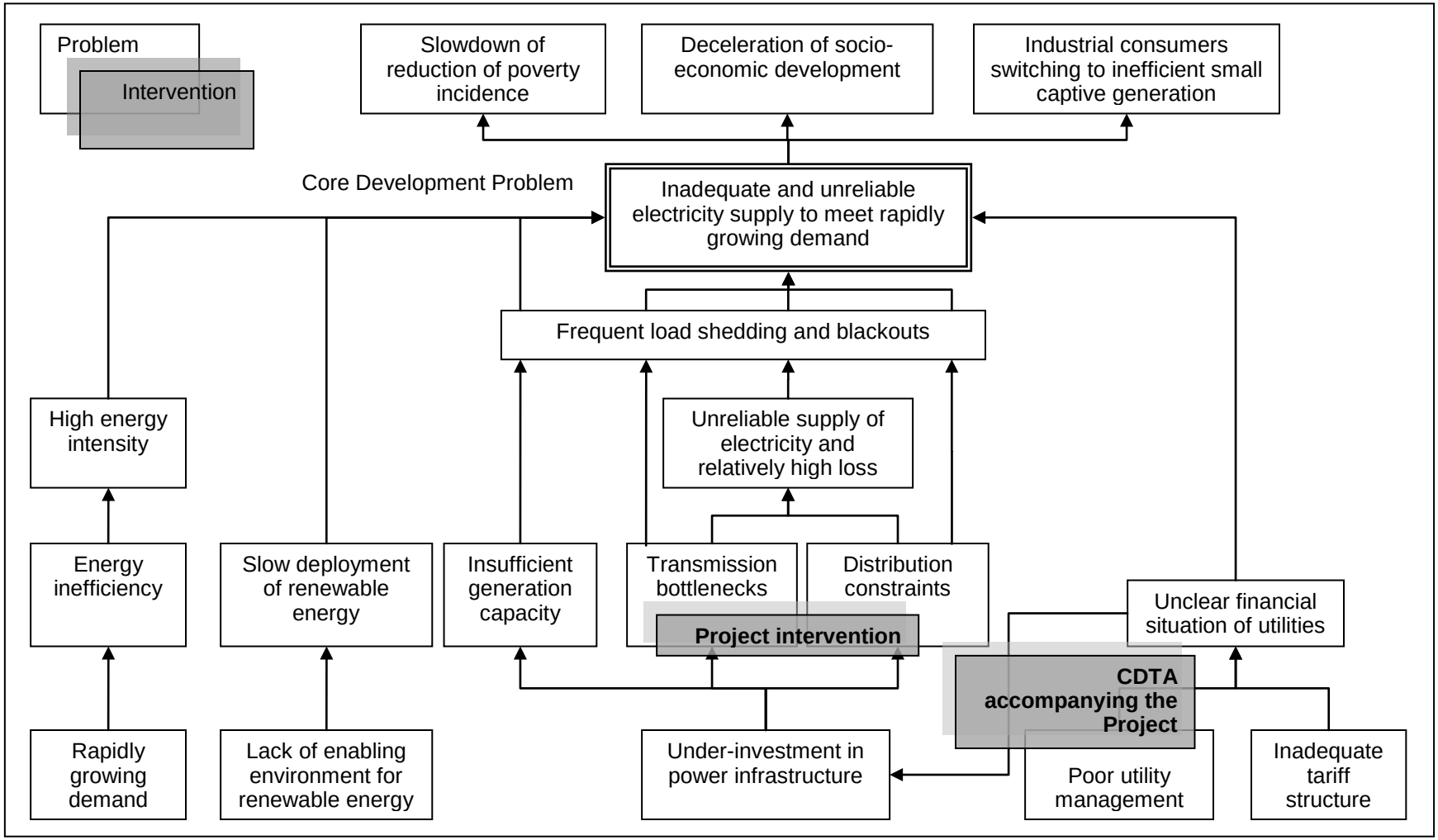
ADB = Asian Development Bank; ASEAN = Association of Southeast Asian Nations; COBP = country operations business plan; CWRD = Central and West Asia Department; OCR = ordinary capital resources; PBA = programmatic based approach; PIU = project implementation unit; RCOBP = regional country operations business plan; SERD = Southeast Asia Department; VRM = Viet Nam Resident Mission.

PROBLEM TREE



CDTA = capacity development technical assistance.
Source: Asian Development Bank.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact National electricity demand growths are met.	Electricity supply increases to 330 TWh in 2020.[a] (baseline: 86 TWh in 2010)	Annual reports of EVN.	**Assumptions** Generation and transmission investments nationally are executed according to the National Power Development Plan.
Outcome Enhanced capacity and reliability of the transmissions networks in Ha Noi and Ho Chi Minh City.	<u>HNPC</u> - SAIDI reduces to 294 minutes in 2016 (baseline: 299 minutes in 2011) - Combined technical and commercial loss reduces to 7.21% in 2016 (baseline: 7.69% in 2011). <u>HCMPC</u> - SAIDI reduces to 581 minutes in 2016 (baseline: 1682 minutes in 2011). - Combined technical and commercial loss reduces to 5.20% in 2016 (baseline: 5.82% in 2011). [indicators to be confirmed through due diligence.]	Annual report of HNPC. Annual report of HCMPC.	**Assumptions** Generation and transmission investments by HNPC and HCMPC which are self-financed or supported by development partners are implemented in a timely manner. Sufficient generation and transmission capacity is developed outside HNPC and HCMPC command areas to satisfy the projected demands.
Outputs 1. Strengthened institutional capacities of HNPC and HCMPC.	- Debt service coverage ratio maintained above 1.5. (baseline: 1.9 for both HNPC and HCMPC in 2010) - Self-financing ratio maintained above 25%. (baseline: 43% for HNPC and 181% for HCMPC, respectively, in 2010)	Audited financial statements of HNPC and HCMPC.	**Assumptions** Appropriate increase in retail tariff. Adequate level of bulk electricity tariff applied to HNPC and HCMPC. **Risks** High inflation and depreciation of the Vietnamese dong.

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	- Debt to equity ratio maintained below 70:30. (baseline: 47:53 for both HNPC and HCMPC in 2010) [indicators to be confirmed through due diligence.]		
2. Energized 220 kV and 110 kV transmission grid systems in Ha Noi and Ho Chi Minh City.	<u>HNPC (by 2016)</u> - 7 km of 220 kV lines and 45 km of 110 kV lines commissioned. - 450 MVA of substation capacity developed. - Three existing substations rehabilitated. - <u>HCMPC (by 2016)</u> - 100 km of mostly 110 kV lines commissioned. - 1,200 MVA of substation capacity developed. [indicators to be confirmed through due diligence.]	Project completion report by HNPC. Project completion report by HCMPC.	**Risks** Implementation delays caused by procurement issues including ineligibility and conflict of interest of state-owned enterprises. Cost escalation beyond estimation due to implementation delays.

Activities with Milestones

1	Individual consultants fielding	7 Dec 2012
2	Technical reports on core subprojects	15 Mar 2013
3	Report on current utility management practices and capacity development opportunities	15 Mar 2013
4	Safeguards documents preparation	30 Apr 2013
5	Workshops on procurement	mid-May 2013
6	Project start-up assistance	31 Dec 2013
7	Supervision consultant mobilization	1 Feb 2014
8	Floating of bidding documents for core subprojects	31 Mar 2014
9	CDTA consultant mobilization	1 Apr 2014
10	Feasibility studies for non-core subprojects	30 Jun 2014

Inputs

ADB: $180.0 million OCR

$0.5 million TASF-IV for PPTA

$2.0 million for CDTA accompanying the loan (funding source to be determined)

Item	**Amount** ($ million)
PPTA consultants	0.5
Works and equipment	178.0
Supervision consultants	2.0
CDTA consultants	2.0

11 Contract awards for core subprojects 31 Jul 2014 12 Progressive floating of bidding documents for non-core subprojects commence 31 Aug 2014 13 Commencement of capacity development programs Aug 2014 14 Progressive contract awards for non-core subprojects commence 30 Nov 2014 15 Completion of capacity development programs 31 Oct 2015 16 Commissioning of core subprojects 31 Dec 2015 17 Commissioning of non-core subprojects 30 June 2016	**Government: $100.0 million** **Item** — **Amount** ($ million) Works and equipment — 83.0 Safeguards — 15.0 Supervision consultants — 2.0 **ASEAN Infrastructure Fund Loan: $100.0 million** **Item** — **Amount** ($ million) Works and equipment — 100.0

ASEAN = Association of Southeast Asian Nations; CDTA = capacity development technical assistance; EVN = Viet Nam Electricity; HCMPC = Ho Chi Minh City Power Corporation; HNPC = Ha Noi Power Corporation; km = kilometers; kV = kilovolt; MVA = mega-volt-amperes; OCR = ordinary capital resources; PPTA = project preparatory technical assistance; SAIDI = system average interruption duration index; TASF = Technical Assistance Special Fund; TWh = terawatt-hours.

[a] Target stipulated in the *National Power Development Master Plan between 2010 and 2020* (PMDP VII).

[b] Demand forecast of HNPC.

[c] Demand forecast of HCMPC.

Source: Asian Development Bank estimates.

PROJECT PREPARATORY TECHNICAL ASSISTANCE

A. Justification

1. A project preparatory technical assistance (PPTA) is required to review and finalize the project documents prepared by the implementing agencies, Ha Noi Power Corporation (HNPC), and Ho Chi Minh City Power Corporation (HCMPC), including:

(i) reviewing the governing master plans or equivalent for the transmission and distribution system development;
(ii) reviewing the pre-feasibility studies and feasibility studies of the subprojects;
(iii) ensuring that the safeguards documents are prepared in accordance with ADB's Safeguard Policy Statement (SPS; 2009);
(iv) preparation of financial and economic analyses of the project and subprojects;
(v) preparation of bidding documents for priority subprojects;
(vi) procurement capacity assessment of the implementing agencies;
(vii) addressing common procurement issues in power sector projects in Viet Nam;
(viii) assessing utility management practices of the implementing agencies and recommending comprehensive capacity development program to build their institutional capacities with due consideration for support provided by development partners including JICA, KfW and the World Bank;
(ix) reviewing all existing plans and road maps for the introduction of smart grid to implementing agencies and proposing a smart grid component for the project including an appropriate capacity development program; and
(x) providing project start-up support after the completion of the Final Report.

2. As the World Bank is in the process of preparing a similar project—the Distribution Efficiency Project (WB-DEP)—for the five Power Corporations including HNPC and HCMPC, the consultants will use the relevant documents as the bases in order not to duplicate the efforts and to avoid imposing different requirements to the largest extent possible.

3. It may be noted that the financial management capacity assessment of the implementing agencies will be executed by an ADB staff consultant recruited outside the scope of the PPTA.

B. Major Outputs and Activities

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

Table A4.1: Summary of Major Outputs and Activities

Major Activities	Major Outputs	Expected Completion Date
Initial review of pre-feasibility studies, feasibility studies and load flow analyses; as well as review of WB-DEP documents.	Inception Report including preliminary list of subprojects.	1 Feb 2013
Confirmation of technical design.	Technical report including technical design, bill of quantities, cost estimate, procurement plan, and implementation schedule.	15 March 2013
Review institutional structure and utility management practices of HNPC and HCMPC and review of WB-DEP	Report on institutional structure and utility management practices and opportunities for institutional capacity development under the	15 March 2013

Major Activities	Major Outputs	Expected Completion Date
interventions.	proposed project.	
Review smart grid road map, related studies, and intervention under WB-DEP.	Report summarizing existing studies and options for smart grid components under the proposed project.	15 March 2013
Preparation of institutional capacity development program.	Capacity development program with costing.	30 April 2013
Preparation of preliminary design of smart grid component.	Preliminary design report.	30 April 2013
Execution of financial and economic analyses.	Financial and economic analyses model and results; and subproject selection criteria.	30 April 2013
Preparation of safeguard documents.	IEEs, RPs, EARF, and RF.	30 April 2013
Preparation of the draft final report.	Draft RRP and linked-documents.	6 May 2013
Workshop on ADB Procurement Guidelines.	Workshop materials and assessment of potential bidder's eligibility and potential conflict of interest.	May 2013
Preparation of the final report.	Revised draft RRP and linked-documents.	18 June 2013
Updating of RRP (as necessary).	Updated draft RRP and linked-documents.	August 2013
Project start-up support	Bidding documents	December 2013

Source: Asian Development Bank estimates.

C. Cost Estimate and Proposed Financing Arrangement

5. The PPTA is estimated to cost $544,000 equivalent, of which $500,000 equivalent will be financed on a grant basis by ADB's Technical Assistance Special Fund. The government will provide counterpart support in the form of counterpart staff, provision of office space and other in-kind contributions. The detailed cost estimate is presented in Table A4.2.

Table A4.2: Cost Estimates and Financing Plan

($'000)

Item				Total Cost
Asian Development Bank[a]				
1.	Consultants			
	a.	Remuneration and per diem		
		i.	International consultants (12.5 person-months)	289.0
		ii.	National consultants (13.0 person-months)	83.0
	b.	International and local travel[b]		55.0
	c.	Reports and communications		12.0
2.	Workshops [c]			2.0
3.	Miscellaneous administration and support costs			1.0
4.	Contingencies			58.0
	Total			**500.0**

[a] Financed by the Technical Assistance Special Fund - IV.
[b] Includes budget for vehicle lease for 6 months to be used by the consultants.
[c] Workshop on *ADB Procurement Guidelines* held once each in Hanoi and Ho Chi Minh City.

Note: The government will provide counterpart support in the form of counterpart staff, office space and other in-kind contributions. The value of government contribution is estimated to account for 8% of the total TA cost.
Source: Asian Development Bank estimates.

D. Consulting Services

6. Ten individual consultants[1] (six international and four national) will be recruited to execute the task listed above. Selection will be based on individual consultant selection procedure. The PPTA will adequately address the following aspects relating to the ensuing loan project: (i) detailed EA capacity assessment, and suggested remedial action plan to build executing agency capacity to minimize procurement and financial management risks; (ii) indicative procurement plan with suggested level of priority; and (iii) indicative implementation schedule with proposed sequencing of consultant recruitment and bidding. The reporting structure is illustrated below.

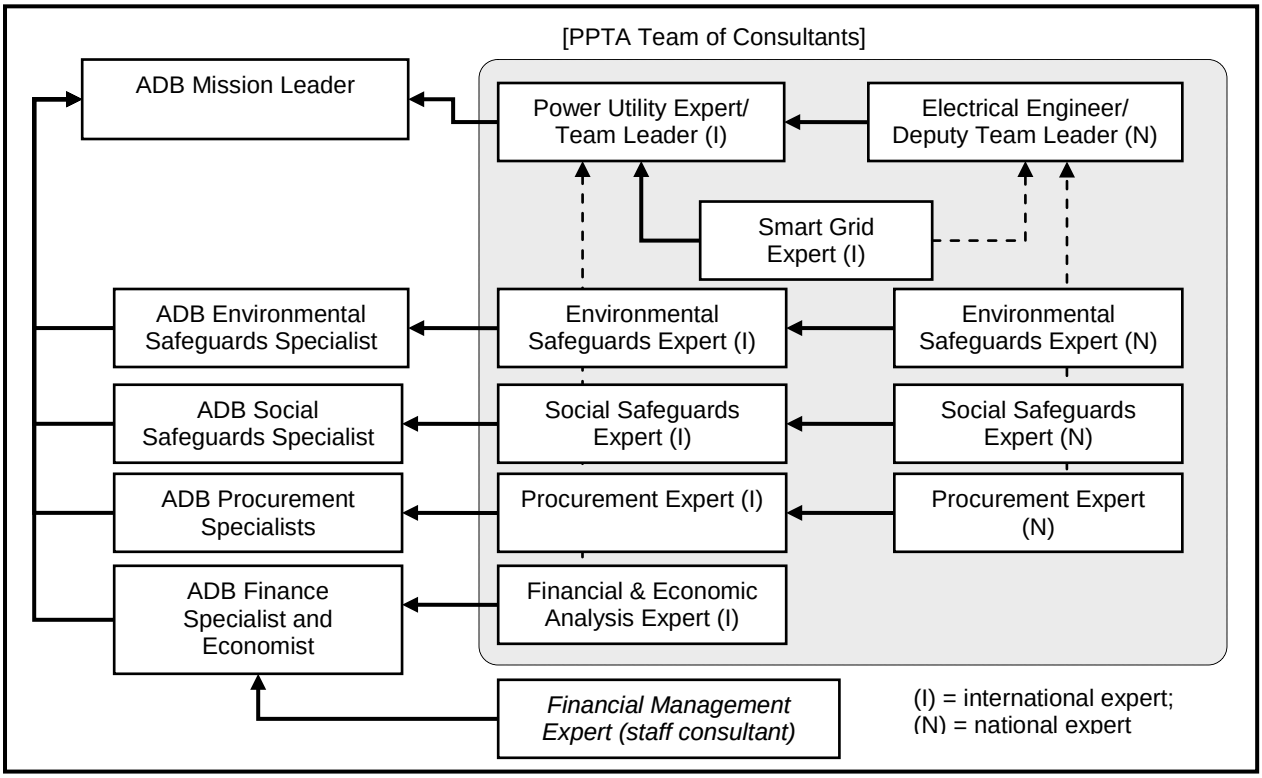


Table A4.3: Summary of Consulting Services Requirement

Positions	Person-Months Required
International	
Power utility expert/team leader	2.5
Smart grid expert	1.5
Financial and economic analysis expert	2.0
Environmental safeguards expert	2.0
Social safeguards expert	2.5
Procurement expert	2.0
National	
Electrical engineer	3.0
Environmental safeguards expert 1	3.0
Social safeguards expert 1	4.0
Procurement expert	3.0

Source: Asian Development Bank estimates.

[1] Individual consultants will be used due to budgetary and time constraints, and also because the subproject feasibility studies and safeguard documents are prepared by the executing agencies.

7. Qualifications and outline terms of references for the PPTA consultants are provided below.

8. **Power Utility Expert/Team Leader** (international: 2.5 p-m). The expert should preferably have at least a master's degree in business administration, finance or engineering, with extensive experience in managing a power utility and advising utility management globally. The expert will assess the implementing agencies overall utility management practices including strategic corporate planning, investment planning, human resources management, financial management, accounting, internal control, customer services, monitoring and evaluation, and project implementation. The expert will formulate medium-term institutional capacity development programs, and after reviewing the institutional capacity development interventions planned under WB-DEP and others, devise priority institutional capacity development programs for the implementing agencies to be executed together with the proposed sector project without duplicating with other initiatives. The expert's major output is the report on institutional structure, utility management practices, opportunities for capacity development, and a detailed capacity development program to be implemented together with the proposed sector project.

9. As the team leader, the expert is responsible for coordinating the team of experts and is responsible for consolidating and ensuring high quality of the PPTA deliverables.

10. **Electrical Engineer/Deputy Team Leader** (national: 3.0 person-months). The expert should preferably have at least a master's degree in electrical engineering, have an excellent command of English, and have experience with ADB PPTAs in the energy sector. The expert will review the master plans governing the transmission and distribution system development of the implementing agencies and ensure that the proposed core subprojects and non-core subprojects are appropriate from the perspective of system development prioritization and sequencing.

11. The expert will also review the pre-feasibility studies and the feasibility studies for the core subprojects prepared by the implementing agencies and complete them to meet international standards. The task also includes translation of relevant materials into English. The expert will also prepare consolidated bills of quantities, cost estimates, procurement plans, and implementation schedules for the core subprojects as well as separately for the two implementing agencies. Subproject selection criteria will also be prepared by the expert in terms of technical viability. The expert's major output are the technical sections of the Inception Report and the technical report including technical design, bill of quantities, cost estimate, procurement plan and implementation schedule.

12. As the Deputy Team Leader, the expert will work with the Team Leader to coordinate the team of experts and is responsible for consolidating and ensuring high quality of the PPTA deliverables.

13. Once the final report is completed, the expert is expected to assist HNPC and HCMPC to finalize the bidding documents for the core subprojects and to assist with the bidding procedure.

14. **Smart Grid Expert** (international: 1.5 p-m). The expert should preferably have at least a master's degree in electrical engineering or information and communication technology, with extensive experience in the planning, design and operation of smart grids. The expert will review the smart grid road map prepared by the Electricity Regulatory Authority of Viet Nam, as

well as the smart grid components under WB-DEP. The expert will also review other smart grid pre-feasibility and feasibility studies to assess the appropriateness of the proposed designs to meet the particular objective of making the system "smarter", and the readiness to implement such a project.

15. The opportunity for introducing smart grids does not have to be at 110 kV and 220 kV, but also at the medium- or low-voltage levels. After obtaining approval from the implementing agencies, EVN and ADB for the type of smart grid intervention to be included in the proposed project, the expert will design the component including technical design and specifications, bill of quantities, and cost estimates. The expert will also deliver basic training to the implementing agencies to enhance their understanding on smart grids. The expert's major outputs are the reports on the status and option for smart grid development in Viet Nam, opportunities for the proposed sector project, and a preliminary design report of the smart grid component to be included in the proposed sector project.

16. **Financial and Economic Analysis Expert** (international: 2.0 p-m). The expert should preferably have at least a master's degree in finance, economics and/or business administration, and have extensive experience with ADB PPTAs, particularly, in the power sector. Under the guidance of ADB's finance specialist and economist, the expert will prepare financing plans and execute financial and economic analysis for each of the core subprojects as well as for the two implementing agencies in accordance with ADB's *Financial Management and Analysis of Projects* (2005). Subproject selection criteria will also be prepared by the expert in terms of financial and economic viabilities. It may be noted that the proposed project intends to have cofinancing from the Association of Southeast Asian Nations Infrastructure Fund (AIF) administered by ADB, and potentially other cofinanciers.

17. For the tasks described above, the expert is encouraged to refer to the financial and economic analysis recently executed for WB-DEP, and use it as a basis for the proposed project's analysis. The financial management assessments of the implementing agencies will be conducted separately by an ADB staff consultant. The expert's major outputs are the linked-documents on financial analysis and economic analysis, as well as the Excel spreadsheet model. It may be noted that the model shall be prepared in a simple, straight-forward and organized manner, while ensuring flexibility in easily changing variables, since the same model will be used by the PCs to prepare the non-core subprojects.

18. **Environmental Safeguards Experts** (international; 2.0 p-m; national: 3.0 p-m). The international expert should preferably have at least a master's degree in environmental science or similar, and have extensive experience with ADB PPTAs, particularly, in the power sector. Under the guidance of ADB's environmental safeguards specialist, the international expert will guide the national expert to review the initial environmental examination (IEE) reports and the environmental assessment and review framework (EARF) prepared by the implementing agencies and finalize them in accordance with ADB's SPS.

19. The national expert should preferably have a degree in environmental science, have excellent command of English, and should be familiar with preparation of IEEs and EARF under ADB PPTAs. The national expert will work with the international expert to prepare IEEs and the EARF.

20. The experts should obtain and review the IEEs and EARF-equivalent documents recently prepared for the WB-DEP, and use them as a basis for the proposed project's safeguard document preparation. The experts will also deliver introductory courses to the

implementing agencies on ADB's SPS. The experts' outputs are the IEEs for the core subprojects and the EARF.

21. **Social Safeguards Experts** (international: 2.5 p-m; national: 4.0 p-m). The international expert should preferably have at least a master's degree in sociology, anthropology or similar, and have extensive experience with ADB PPTAs, particularly, in the energy sector. Under the guidance of ADB's resettlement specialist, the international expert will guide the national expert to review the resettlement plans (RPs) and resettlement framework (RF) prepared by the implementing agencies and finalize them in accordance with ADB's SPS. The experts will also conduct social and poverty analyses based on primary and secondary information and prepare the summary poverty reduction and social strategy. The social and poverty analysis will include gender-disaggregated data and any gender issues that can be potentially be addressed reasonably through the project shall be identified.

22. The national expert should preferably have a degree in sociology, anthropology or similar, have excellent command of English, and should be familiar with preparation of RPs under ADB PPTAs. The national expert will work with the international expert to prepare RPs and the RF.

23. The experts should obtain and review the RP and RF-equivalent documents recently prepared for the WB-DEP, and use them as a basis for the proposed project's safeguard document preparation. The experts will also deliver introductory courses to the implementing agencies on ADB's SPS. The experts' outputs are the RPs for the core subprojects and the RF.

24. **Procurement Experts** (international: 2.0 p-m; national: 3.0 p-m). The international expert should preferably have at least a master's degree in electrical/mechanical/civil engineering, contract management, procurement or similar, and should be familiar with ADB's Procurement Guidelines (2010, as amended from time to time), and the use of ADB's standard bidding documents. Under the guidance of ADB's procurement expert, the international expert will assist the Electrical Engineer in the preparation of the bills of quantities, cost estimates, procurement plans and implementations schedules. The international expert will draft bidding documents for the priority contract packages for advanced procurement actions. It may be noted that the procurement plan prepared for the WB-DEP contains numerous small packages. The international expert shall ensure that the packages under this project are consolidated into smaller numbers of larger contracts including the adoption of the engineering, procurement and construction (EPC) contracts.

25. The expert will also perform procurement capacity assessment of the implementing agencies based on the assessment conducted by WB-DEP. However, it is important to note that the WB's assessment does not include the work load related to this project. The updated assessment should assess the implementing agencies' capacities based on the total work load.

26. The international expert will organize workshops to raise the awareness of the implementing agencies and potential bidders on ADB's Procurement Guidelines especially on those sections pertaining to eligibility and conflict of interest of state-owned enterprises. The international expert is to work closely with the ADB staff in Viet Nam Resident Mission to understand the issues and to consolidate recent experiences. The international expert will also review charters and other relevant documents of potential bidders, upon request, to assess their eligibility and potential conflict of interest.

27. The national expert should preferably have a degree in electrical/mechanical/civil engineering, contract management, procurement of similar, and have an excellent command of English. The national expert should be familiar with ADB's Procurement Guidelines, the national procurement laws and regulations, as well as the issues pertaining to procurement in Viet Nam especially in relation to state-owned enterprises. The national expert will work with the international expert for the above-mentioned tasks.

28. The experts' major outputs are the procurement plan, procurement capacity assessment report, workshop materials, and the assessment report on the potential bidder's eligibility and potential conflict of interest.

29. Once the final report is completed, the experts are expected to assist HNPC and HCMPC to finalize the bidding documents for the core subprojects and to assist with the bidding procedure.

E. Implementation Arrangements

30. The PPTA will be implemented during November 2012 to December 2013. HNPC and HCMPC are the implementing agencies. Viet Nam Electricity (EVN) is the executing agency. HNPC and HCMPC will provide counterpart support in the form of counterpart staff, provision of office space, communication facilities for consultants, and other in-kind contributions.

31. Disbursements under the PPTA will be done in accordance with the ADB's *Technical Assistance Disbursement Handbook* (May 2010, as amended from time to time).

32. The proposed PPTA processing and implementation schedule is listed in Table A4.4.

Table A4.4: Technical Assistance Processing and Implementation Schedule

Major Milestones	Expected Completion Date
Concept paper meeting	19 September 2012
Individual consultants fielding	7 December 2012
Inception report submission	1 February 2013
Draft final report submission	6 May 2013
Final report submission	18 June 2013
Updating of RRP (as necessary)	August 2013
Project start-up support	December 2013
Financial closure	2 April 2014

INITIAL POVERTY AND SOCIAL ANALYSIS

Country:	Socialist Republic of Viet Nam	Project Title:	Ha Noi and Ho Chi Minh City Power Transmission Development Sector Project
Lending/Financing Modality:	Sector loan	Department/ Division:	Southeast Asia Department/ Energy Division

I. POVERTY ISSUES

A. Links to the National Poverty Reduction Strategy and Country Partnership Strategy

Viet Nam's rapid economic development has been accompanied by steadily growing demand for electricity from both industrial and residential consumption. Consumption has grown by an average of 14% annually, substantially surpassing the average economic growth rate of 7% per year during 2004–2010. Demand for electricity is expected to continue growing by an average of 14% per year during 2011–2015. Ensuring efficient and reliable electricity supply is an important prerequisite for economic growth, expanding employment and income-generating opportunities, and reducing poverty. Per capita income reached $1,168 in 2010, and the poverty rate fell to 14.2%. The government implements measures to ensure that economic growth can be sustained at 7.5%–8.0% per year and per capita income can be increased to $2,100 by 2015.

In its Socioeconomic Development Plan (SEDP), 2011–2015, the government recognizes the importance of expanding power sector infrastructure to meet growing demand and thus sustain socioeconomic growth through continuous industrialization. The Country Partnership Strategy, 2012–2015, will support the government's SEDP.[1] The Viet Nam Energy Sector Assessment and Road Map[2] recognizes the strategic importance for ADB of continuing support to the power sector and strengthening the transmission system, thus ensuring a secure and efficient power supply. One of the strategic pillars of ADB's support to Viet Nam's power sector includes financing new infrastructure, particularly in the transmission subsector.

B. Targeting Classification

☒General Intervention ☐Individual or Household (TI-H) ☐Geographic (TI-G) ☐Non-Income MDGs (TI-M1, M2, etc.)

The project benefits the general population of Ha Noi and Ho Chi Minh City through the provision of higher quality and more stable supply electricity.

C. Poverty Analysis

1. If the project is classified as TI-H, or if it is policy-based, what type of poverty impact analysis is needed? n/a

2. What resources are allocated in the PPTA/due diligence?

Social safeguards experts (one international position of 1.3 person-months and two national positions of 3.0 person-months each) will be recruited under the PPTA to execute, among other tasks, poverty and social analysis.

3. If GI, is there any opportunity for pro-poor design (e.g., social inclusion subcomponents, cross subsidy, pro-poor governance, and pro-poor growth)?

No, because the project is the rehabilitation and the development of high-voltage transmission lines and substations at voltage levels of 110 kilovolts (kV) and 220 kV.

[1] ADB. 2012. Country Partnership Strategy, 2012–2015: Viet Nam. Manila.
[2] ADB. 2011. Viet Nam Sector Assessment, Strategy, and Road Map, 2012–2015: Energy. Manila.

II. SOCIAL DEVELOPMENT ISSUES

A. Initial Social Analysis

Based on existing information:

1. Who are the potential primary beneficiaries of the project? How do the poor and the socially excluded benefit from the project?

The primary beneficiaries of the project are the residential and industrial customers of Ha Noi and Ho Chi Minh City. Since the national electrification ratio at the household level is 97%, the poor and the socially excluded are expected to benefit equally from the provision of a higher quality and more stable supply of electricity.

2. What are the potential needs of beneficiaries in relation to the proposed project?

The potential needs of the beneficiaries are the supply of stable and high quality electricity at affordable tariff. According to a survey conducted under the "Urban Poverty Assessment in Ha Noi and Ho Chi Minh City" of September 2010 funded by the United Nations Development Programme, 27.4% and 7.2% of the population in Ha Noi and Ho Chi Minh City, respectively, responded that poor supply of electricity was a problem in their daily lives.

3. What are the potential constraints in accessing the proposed benefits and services, and how will the project address them?

Electrification ratio at the household level is 97% nationally, and is believed to be higher in urban Ha Noi and Ho Chi Minh City where the project targets. The tariff is currently about US¢6.5 per kilowatt-hours (kWh) which is lower than in most neighboring countries. Therefore, there are no potential constraints in accessing the proposed benefits.

B. Consultation and Participation

1. Indicate the potential initial stakeholders.

Stakeholders include Viet Nam Electricity (EVN), Ha Noi Power Corporation (HNPC), Ho Chi Minh City Power Corporation (HCMPC), project affected persons, and electricity consumers of Ha Noi and Ho Chi Minh City.

2. What type of consultation and participation (C&P) is required during the PPTA or project processing (e.g., workshops, community mobilization, involvement of nongovernment organizations and community-based organizations, etc.)?

Consultation will be conducted under the PPTA.

3. What level of participation is envisaged for project design?

☒ Information sharing ☒ Consultation ☐ Collaborative decision making ☐ Empowerment

4. Will a C&P plan be prepared during the project design for project implementation? ☐ Yes ☒ No Please explain.

The project is the rehabilitation and development of high-voltage transmission lines and substations at voltage levels of 110 kV and 220 kV in urban settings where consultations with affected persons are necessary, but the extent of participatory project design is unlikely. The project also requires very few unskilled labor.

C. Gender and Development — Proposed Gender Mainstreaming Category: No Gender Elements

1. What are the key gender issues in the sector/subsector that are likely to be relevant to this project/program?

Key gender issues in the electricity sector include productive use of electricity by women, and health benefits to women by replacing indoor combustion of kerosene and candles for lighting. However, the project involves the strengthening of the high-voltage transmission system which does not have direct contribution to such gender issues.

2. Does the proposed project/program have the potential to promote gender equality and/or women's empowerment by improving women's access to and use of opportunities, services, resources, assets, and participation in decision making?

☐ Yes ☒ No The project is at the high-voltage level which do not have direct contribution to improving access to electricity.

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

☐ Yes ☒ No Both men and women have equal access to electricity.

III. SOCIAL SAFEGUARD ISSUES AND OTHER SOCIAL RISKS			
Issue	**Nature of Social Issue**	**Significant/Limited/ No Impact/Not Known**	**Plan or Other Action Required**
Involuntary Resettlement	Land acquisition and potential involuntary resettlement for the erection of transmission towers and/or poles, and for the development of new substations.	Limited. Transmission poles with smaller footprints will be used. Also, underground cables will be used in high-density areas. The indicatively selected new substations plan to use public land.	☒ Resettlement Plan ☒ Resettlement Framework
Indigenous Peoples	Indigenous peoples are not expected in the project areas in Ha Noi and Ho Chi Minh City.	No impact.	☒ None
Labor ☒ Employment Opportunities ☒ Core Labor Standards	Limited employment opportunities since high-voltage transmission system development does not require significant non-skilled labor.	No impact. Core labor standards, prevention of child labor, priority recruitment of affected persons, and equal pay for men and women for the same work will be incorporated in the contracts.	☒ Other Action: Provisions included in the contracts.
Affordability	Tariff affordability.	Project only deals with high-voltage transmission and does not cover tariff issues.	☒ Action ☐ No Action ☐ Uncertain
Other Risks and/or Vulnerabilities ☒ HIV/AIDS ☒ Human Trafficking ☐ Others (conflict, political instability, etc.), please specify	HIV/AIDS and other sexually transmitted infections.	Limited as the work force required is not significant. Nonetheless, provisions on awareness building on HIV/AIDS and STIs as well as prevention of human trafficking will be included in the contracts.	☒ Other Action: Provisions included in the contracts.

IV. PPTA/DUE DILIGENCE RESOURCE REQUIREMENT

1. Do the TOR for the PPTA (or other due diligence) include poverty, social and gender analysis and the relevant specialist/s?
   ☒ Yes ☐ No

2. Are resources (consultants, survey budget, and workshop) allocated for conducting poverty, social and/or gender analysis, and C&P during the PPTA/due diligence? ☒ Yes ☐ No
Social safeguards experts (one international position of 2.5 person-months and two national positions of 3.0 person-months each) will be recruited under the PPTA to execute, among other tasks, poverty and social analysis including gender analysis.