Report and Recommendation of the President to the Board of Directors

Project Number: 46391
August 2014

Proposed Loans
Socialist Republic of Viet Nam: Ha Noi and Ho Chi Minh City Power Grid Development Sector Project

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 5 August 2014)

Currency unit	–	dong (D)
D1.00	=	$0.0000472
$1.00	=	D21,205

ABBREVIATIONS

ADB	–	Asian Development Bank
AIF	–	ASEAN Infrastructure Fund
EIRR	–	economic internal rate of return
ERAV	–	Electricity Regulatory Authority of Vietnam
EVN	–	Vietnam Electricity
EVN HANOI	–	Hanoi Power Corporation
EVN HCMC	–	Ho Chi Minh City Power Corporation
IEE	–	initial environmental examination
LIBOR	–	London interbank offered rate
OCR	–	ordinary capital resources
PAM	–	project administration manual
PIC	–	project implementation consultant
PDP7	–	seventh power development plan
TA	–	technical assistance

WEIGHTS AND MEASURES

cct-km	–	circuit-kilometer
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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CONTENTS

PROJECT AT A GLANCE

1. Basic Data — **Project Number:** 46391-001

Project Name	Ha Noi and Ho Chi Minh City Power Grid Development Sector Project (formerly Ha Noi and Ho Chi Minh City Power Transmission Development Sector Project)	**Department /Division**	SERD/SEEN
Country	Viet Nam, Socialist Republic of	**Executing Agency**	Hanoi Power Corporation, Ho Chi Minh City Power Corporation
Borrower	Hanoi Power Corporation and Ho Chi Minh City Power Corporation		

2. Sector

	Subsector(s)	ADB Financing ($ million)
✓ **Energy**	Electricity transmission and distribution	172.70
	Total	**172.70**

3. Strategic Agenda

	Subcomponents
Inclusive economic growth (IEG)	Pillar 1: Economic opportunities, including jobs, created and expanded
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns

Climate Change Information

Mitigation ($ million)	172.70
CO_2 reduction (tons per annum)	460,000
Climate Change impact on the Project	Medium

4. Drivers of Change

	Components
Partnerships (PAR)	Official cofinancing Regional organizations

Gender Equity and Mainstreaming

No gender elements (NGE) ✓

5. Poverty Targeting

Project directly targets poverty	No

Location Impact

Rural	Low
Urban	High

6. Risk Categorization: Low

7. Safeguard Categorization **Environment:** B **Involuntary Resettlement:** B **Indigenous Peoples:** C

8. Financing

Modality and Sources	Amount ($ million)
ADB	**172.70**
Sovereign Sector loan: Ordinary capital resources	172.70
Cofinancing	**100.00**
ASEAN Infrastructure Fund	100.00
Counterpart	**121.57**
Government	121.57
Total	**394.27**

9. Effective Development Cooperation

Use of country procurement systems	No
Use of country public financial management systems	No

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed loan from the ordinary capital resources (OCR) of the Asian Development Bank (ADB) and (ii) a proposed loan funded through the participation of the ASEAN Infrastructure Fund (AIF), all to the Socialist Republic of Viet Nam for the Ha Noi and Ho Chi Minh City Power Grid Development Sector Project.[1]

2. The project will strengthen the capacities and reliability of the power infrastructure in the two largest cities of Viet Nam—Ha Noi and Ho Chi Minh City—through rehabilitation, expansion, and development of the 220 kilovolt (kV) and 110 kV electricity grids in the respective cities. The Government of Viet Nam has requested a sector loan from ADB's OCR and a sector loan funded through participation of the AIF to help finance the project.[2] The project is included in the country operations business plan, 2014–2016 for Viet Nam.[3]

II. THE PROJECT

A. Rationale

1. Socioeconomic Context and Sector Performance

3. Viet Nam's economy grew steadily at an average annual rate of 6.3% during 2005–2012, and gross domestic product per capita increased from $699 to $1,755 in the same period. Economic growth was accompanied by an average growth in electricity demand of 12.6% per annum during 2005–2012, while per capita consumption increased from 156 kilowatt-hours (kWh) in 1995 to 1,187 kWh in 2012. Viet Nam also achieved notable progress in household electrification—from 50% in 1995 to over 97% by 2012—while reducing the poverty rate from 15.5% in 2006 to 11.1% in 2012.

2. Institutional Arrangements

4. The Ministry of Industry and Trade has policy and supervisory responsibilities for the energy sector, both as the line ministry and as the ministry with oversight responsibility for the state-owned energy enterprises. Vietnam Electricity (EVN), the main power utility in Viet Nam, is organized as a holding company with a series of wholly owned subsidiaries including the three power generation corporations;[4] the National Power Transmission Corporation, which is responsible for the 500 kV and 220 kV transmission system; and the five power corporations[5] that are responsible for the distribution and retail of electricity at voltage levels below 110 kV, and for developing and operating 220 kV assets in their respective licensed areas. Hanoi Power Corporation (EVN HANOI) and Ho Chi Minh City Power Corporation (EVN HCMC), in particular, are the entities in charge of the largest load centers. Ha Noi is home to 6.5 million people and Ho Chi Minh City has a population of 7.4 million, and together they account for 16% of the total population.

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[1] The design and monitoring framework is in Appendix 1.
[2] ADB provided project preparatory technical assistance: ADB. 2011. *Technical Assistance to the Socialist Republic of Viet Nam for Preparing the Ha Noi and Ho Chi Minh City Power Transmission Development Sector Project*. Manila (TA 8205-VIE).
[3] ADB. 2013. *Country Operations Business Plan: Viet Nam, 2014–2016.* Manila.
[4] Power Generation Corporation 1, Power Generation Corporation 2, and Power Generation Corporation 3.
[5] Hanoi Power Corporation, Ho Chi Minh City Power Corporation, Northern Power Corporation, Central Power Corporation, and Southern Power Corporation.

3. Sector Challenges and Opportunities

5. **Technical.** Expanding the power system's capacity sustainably to meet the rapidly growing electricity demand is a key priority of the government. According to the seventh power development plan (PDP7),[6] demand is expected to grow from 120 terawatt-hours (TWh) in 2012 to 330 TWh in 2020, and potentially to 700 TWh by 2030. Thus, generation capacity is to be strengthened from 26.5 gigawatts (GW) in 2012 to 70.5 GW in 2020, and over 8,000 kilometers of 500 kV lines and 15,000 kilometers of 220 kV lines will be constructed to transmit the generated power to the load centers.[7] The total investment needs for the power sector up to 2020 are estimated to be $48.8 billion, of which $16.3 billion is for grid expansion.

6. In the distribution subsector, the combined peak load in Ha Noi and Ho Chi Minh City amounted to more than 6.1 GW in 2012, or 23% of the total domestic load, and is expected to nearly double to 11.2 GW by 2020. The investment needs during 2015–2020 are $1.1 billion each for EVN HANOI and EVN HCMC.[8]

7. **Financial.** The foremost challenge of the power utilities is to mobilize the vast financing for the above investment requirements while maintaining their financial sustainability. Although there are investments made by non-EVN state-owned enterprises and domestic and foreign private investors for power generation, a large share of the investments are made by EVN through financing from commercial banks and development partners. External borrowings during 2014–2015 are projected to average about $130 million per year for EVN HANOI, and $80 million per year for EVN HCMC.

8. The retail tariff schedules are set by the government uniformly across the whole country. While the average retail tariff has increased by 79% in nominal terms during 2007–2013, it has decreased by 15% in real terms. Moreover, the current average retail tariff of about D1,500/kWh (¢7.14/kWh) is much lower than the long-run marginal cost estimated to be in the range of ¢8–¢9/kWh. Adequate and gradual tariff increases are required to ensure the long-term financial sustainability of the power sector.

4. Power Sector Reform and Modernization

9. Viet Nam's sector reform program began in 1995, and ADB has supported it with six technical assistance (TA) projects between 1995 and 2009.[9] The 2004 Electricity Law provided the legal basis for the ongoing reforms, which are being implemented in line with the road map for establishing an electricity market in three phases: (i) phase 1—competitive generation market until 2014; (ii) phase 2—pilot competitive wholesale market from 2015, and full

[6] Government of Viet Nam. 2011. *Prime Minister Decision 1208/QD-TTg on Approval of National Power Development Plan between 2011 and 2020, with Orientation towards 2030.* Ha Noi.

[7] The PDP7 does not set a target length for the 110 kV transmission line development.

[8] The two principal documents guiding EVN HANOI's investments are Decision 4351/QD-BCT (29 August 2011) and EVN HANOI report 3643/BC-EVN HANOI (29 August 2013). The two principal documents guiding EVN HCMC's investments are Decision 6468/QD-BCT (9 December 2010) and Decision 850/TTg-KTN (22 June 2012).

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

implementation from 2017; and (iii) phase 3—competitive retail market from 2021.[10] Phase 1 was launched in July 2012 with the legal unbundling of the three power generation corporations (footnote 4). The Electricity Regulatory Authority of Viet Nam (ERAV) is now preparing phase 2 with the support of development partners, while ADB will dispatch resident advisors to assist ERAV through an existing TA.[11] Additional TA projects to prepare ERAV and the market participants, including the power corporations, are also being discussed and coordinated with the development partners.

10. The government aims to reduce its energy intensity and increase the reliability of power supply through system modernization and removal of constraints in the power grid. Viet Nam's elasticity ratio of electricity consumption growth to gross domestic product growth has averaged around 2.0. The PDP7 calls for reducing it to 1.5 by 2015, and to 1.0 by 2020. EVN has steadily reduced system losses from 12.2% in 2003 to 9.2% in 2012. At the distribution level, EVN HANOI aims to reduce system losses from 7.1% in 2012 to 6.0% by 2020, while EVN HCMC plans a reduction from 5.6% in 2012 to 5.0% in 2020. To further improve system reliability, both power corporations aim to reduce their respective system average interruption duration index by 30%–40% by 2015.[12] Their index numbers are very high compared with the standards of utilities in developed countries because antiquated equipment and inadequate capacity of the networks cause overloading and short circuits.

5. ADB's Sector Experience

11. The energy sector is one of the priority sectors in ADB's country partnership strategy for Viet Nam, 2012–2015,[13] which indicates that assistance will focus on sector reforms and investments in the development of the transmission network and energy efficiency. The project is consistent with the draft Energy Sector Assessment, Strategy, and Road Map. Since 1994, ADB has provided financing of $2.32 billion to Viet Nam's energy sector investments and has provided support through various TA projects, including those that helped initiate power sector reforms. A key lesson is that project implementation can incur delays if (i) project readiness is low at the start of the project, (ii) procurement packages are made excessively small to encourage participation of local bidders, (iii) adequate support is not provided to prepare bidding documents and bid evaluation reports, and (iv) support is not provided to monitor safeguard measures. The project mitigates these risks through a higher degree of readiness of core subprojects—bidding documents being prepared under advance contracting, and provision of project implementation consultants (PICs) for procurement matters and for safeguard monitoring and implementation. While the number of procurement packages tends to be larger for sector projects that involve multiple subprojects, packages for this project were, whenever possible, either consolidated into larger contracts or grouped into lots under single procurement packages.

6. Rationale for Sector Loan Modality

12. The power sector is being developed consistently and in line with the PDP7, and the

[10] Government of Viet Nam. 2006. *Prime Minister Decision 26/2006/QD-TTg on Approving the Road Map and Conditions for Formation and Development of Different Levels of the Electricity Market in Viet Nam.* Ha Noi; Government of Viet Nam. 2013*. Prime Minister Decision 63/2013/QD-TTg on Road Map, Conditions and Power Sector Organization Structure for Vietnam Power Market Stages Formation and Development*. Ha Noi.

[11] ADB. 2009. *Technical Assistance to the Socialist Republic of Viet Nam for Capacity Building in Renewable Energy Development.* Manila (TA 7262-VIE).

[12] The system average interruption duration index is one of the reliability indicators commonly used by the power industry to measure system reliability. It is calculated as the average annual outage duration per customer served.

[13] ADB. 2012. *Country Partnership Strategy: Viet Nam, 2012–2015.* Manila.

relevant policies in the energy sector are assessed to be appropriately contributing to meeting the growing demand for energy needed for socio-economic development. The successful implementation by EVN HANOI and EVN HCMC of sector lending projects funded by development partners demonstrates the executing agencies' capacity to implement the development plan. The modality has been recommended in project completion reports of two similar ADB-financed projects with multiple subprojects to allow flexibility toward changes in project scope and subprojects during implementation.[14] The sector loan approach will also assist EVN in improving its sector policies and strengthening the institutional capacity of its subsidiaries. The World Bank's ongoing Distribution Efficiency Project helps strengthen financial management and investment planning capacity of the power corporations, while an additional TA by ADB is envisaged to build the capacity of the power corporations to participate in the competitive wholesale market.[15]

7. Development Partner Coordination

13. Given the magnitude and complexity of reforms and the financing requirements in the power sector, the project has been developed through in-depth coordination with development partners. This allows to collectively support sector reform and power infrastructure development in response to the rapidly growing demand for electricity. ADB's operations in the energy sector leverage cofinancing and encourage joint initiatives with other development partners.[16]

B. Impact and Outcome

14. The project's impact will be that growth in national electricity demand is met in a sustainable manner, and the outcome will be improved reliability and efficiency of electricity supply in Ha Noi and Ho Chi Minh City.

C. Outputs

15. The project's outputs, categorized into four distinct groups to enable more focused monitoring of project performance, are the development and/or rehabilitation of (i) four core substation and transmission line subprojects in Ha Noi, (ii) four core substation and transmission line subprojects in Ho Chi Minh City, (iii) up to 20 noncore substation and transmission line subprojects in Ha Noi, and (iv) up to nine noncore substation and transmission line subprojects in Ho Chi Minh City.

16. Eight core subprojects which are representative of the types of subprojects to be financed through the project have been identified and appraised under the project preparatory TA to serve as models for the executing agencies to base their appraisal of the remaining noncore subprojects. Bidding documents for several packages are under preparation by both EVN HANOI and EVN HCMC through advance contracting. The bidding document for one package containing three lots has already been issued.

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[14] ADB. 1995. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Socialist Republic of Viet Nam for the Power Distribution Rehabilitation Project.* Manila (Loan 1358-VIE); and ADB. 1997. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Socialist Republic of Viet Nam for the Central and Southern Viet Nam Power Distribution Project.* Manila (Loan 1585-VIE).

[15] World Bank. 2012. *Project Appraisal Document on the Distribution Efficiency Project.* Washington, DC.

[16] Development Coordination (accessible from the list of linked documents in Appendix 2).

D. Investment and Financing Plans

17. The project is estimated to cost $394.27 million (Table 1). The government has requested a loan of $172.70 million from ADB's OCR, and a loan of $100.00 million funded through the participation of AIF.[17] The OCR loan will have a 20-year term, including a grace period of 5 years, straight-line repayment method, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.15% per year, and such other terms and conditions set forth in the draft loan and project agreements. Based on this, the average loan maturity is 12.75 years and there is no maturity premium payable to ADB. The AIF-funded loan will have the same tenure as the ADB loan, and an interest rate determined in accordance with its LIBOR-based lending facility, and it will finance the same subprojects and components as the OCR loan on a pro-rata basis.[18] The government will relend the proceeds of the OCR and AIF-funded loans to EVN HANOI and EVN HCMC pursuant to subsidiary loan agreements with terms and conditions acceptable to ADB.

Table 1: Project Investment Plan
($ million)

Item		Amount[a]
A.	**Base Cost**[b]	
	1. Hanoi Power Corporation	
	a. Civil works	60.70
	b. Equipment	39.64
	c. Consulting services	0.32
	d. Project management	2.65
	e. Land acquisition and resettlement	7.07
	f. Taxes and duties	15.28
	Subtotal (A1)	**125.66**
	2. Ho Chi Minh City Power Corporation	
	a. Civil works	56.49
	b. Equipment	93.75
	c. Consulting cervices	0.18
	d. Project management	2.14
	e. Land acquisition and resettlement	7.17
	f. Taxes and duties	24.03
	Subtotal (A2)	**183.76**
	Subtotal (A)	**309.42**
B.	**Contingencies**[c]	**61.78**
C.	**Financing Charges During Implementation**[d]	**23.07**
	Total (A+B+C)	**394.27**

[a] The amounts are indicative since the noncore subprojects will be appraised during implementation. Includes taxes and duties estimated indicatively at $39.32 million to be financed by the executing agencies through cash contributions.
[b] In mid-2014 prices.
[c] Physical contingencies computed at 10% for civil works and equipment. Price contingencies computed at 1.5% on foreign exchange costs and 6.3% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.
[d] Includes interest and commitment charges for the ordinary capital resources (OCR) of the Asian Development Bank (ADB) and ASEAN Infrastructure Fund (AIF)-funded loans. Interest during construction has been computed at the 5-year US dollar fixed swap rate plus a spread of 0.50% for ADB's OCR loan and a spread of 1.40% for the AIF-funded loan. Commitment charges for the ADB and AIF-funded loans are 0.15% per year to be charged on the undisbursed loan amount.
Source: Asian Development Bank estimates.

[17] Transportation and insurance costs may be financed under the loans.
[18] Interest and other charges during construction for all loans are capitalized.

Table 2: Financing Plan

Source	Amount ($ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (loan)	172.70	43.80
ASEAN Infrastructure Fund[a] (loan)	100.00	25.36
EVN HANOI	44.07	11.18
EVN HCMC	77.50	19.66
Total	**394.27**	**100.00**

EVN HANOI = Hanoi Power Corporation, EVN HCMC = Ho Chi Minh City Power Corporation.
[a] ASEAN Infrastructure Fund shareholders are the governments of Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam. Administered by the Asian Development Bank.
Source: Asian Development Bank estimates.

E. Implementation Arrangements

18. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual (PAM).[19]

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	June 2014–June 2020 (including advance contracting)		
Estimated completion date	31 December 2020		
Management			
(i) Oversight bodies	Ministry of Industry and Trade and Vietnam Electricity		
(ii) Executing agencies	EVN HANOI and EVN HCMC		
(iii) Implementation units	Power project management boards of EVN HANOI and EVN HCMC		
Procurement (core subprojects)	ICB	14 contracts	$67.3 million
	NCB	9 contracts	$3.2 million
Consulting services	ICS	58.0 person-months	$500,000
Retroactive financing and advance contracting	Advance contracting and retroactive financing are requested for all eligible expenditures incurred under the project before the signing of the loan and financing agreements (but not earlier than 12 months before the date of the loan agreements) subject to a maximum amount equivalent to 20% of the amounts of the respective loans. The government, EVN HANOI, and EVN HCMC have been advised that approval of retroactive financing does not commit ADB to finance the project.		
Disbursement	The proceeds of the loans will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2012, as amended from time to time) and detailed arrangements agreed upon between the government and ADB. Disbursements of OCR and AIF-funded loans will be prorated. Each executing agency will open one imprest account for the OCR loan proceeds and another for the AIF-funded loan proceeds.		

ADB = Asian Development Bank, AIF = ASEAN Infrastructure Fund, EVN HANOI = Hanoi Power Corporation, EVN HCMC = Ho Chi Minh City Power Corporation, ICB = international competitive bidding, ICS = individual consultant selection, NCB = national competitive bidding, OCR = ordinary capital resources.
Source: Asian Development Bank.

19. Feasibility studies and detailed designs of the noncore subprojects will be prepared by the executing agencies with the support of local consulting firms, which they will recruit and finance. As they have sufficient technical capacities, the PICs, recruited through individual

[19] Project Administration Manual (accessible from the list of linked documents in Appendix 2).

consultant selection and financed by the OCR and AIF-funded loans, will assist in (i) preparing noncore subprojects' safeguard documents, (ii) undertaking financial and economic analyses, (iii) preparing bidding documents and bid evaluation reports, (iv) reviewing the subproject documents, and (v) providing relevant training to strengthen the project management capacities of the executing agencies.

20. Noncore subprojects will be selected through the Subproject Eligibility Criteria and Selection Procedure.[20]

III. DUE DILIGENCE

A. Technical

21. The eight core subprojects are either included in the PDP7 or the relevant development plans of the executing agencies, and a thorough review of their feasibility studies confirms that they are technically viable. They involve rehabilitation of dilapidated substation equipment, development of new substation transformer capacities in the power grid system, and expansion of the 110 kV and 220 kV transmission lines. The core subprojects and the indicative noncore subprojects use established transmission line and substation technologies with which the executing agencies are familiar.

22. The project will enable more electricity to be supplied in Ha Noi and Ho Chi Minh City, improve system reliability, and decrease system losses by reducing overloading. The project will contribute to reducing greenhouse gas emissions by 460,000 tonnes of carbon dioxide equivalent per year through replacing suppressed demand which may otherwise be supplied by diesel-powered self-generation, and through system loss reduction.[21]

B. Economic and Financial

23. A financial analysis has been carried out individually for the core subprojects in accordance with ADB's Financial Management and Analysis of Projects.[22] All financial costs and benefits are expressed in constant 2013 prices. Cost streams used to determine the financial internal rate of return—capital investment, and operation and maintenance—reflect the cost of delivering the estimated benefits. The financial internal rates of return of 12.2%–37.0% compare favorably with the weighted average cost of capital of 4.9%.[23]

24. The economic viability takes into account streams of costs and benefits resulting from the project. The economic internal rates of return (EIRRs) of the core subprojects, calculated individually in accordance with ADB's Guidelines for the Economic Analysis of Projects,[24] range from 12.2% to 35.9%, which compares favorably with the 12% opportunity cost of capital. The subproject selection procedure includes a criterion that, for a noncore subproject to be eligible, it should have an EIRR equal to or greater than 12%, or an EIRR of not less than 10% if it is a subproject with significant unquantifiable benefits.[25]

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[20] Subproject Eligibility Criteria and Selection Procedure (accessible from the list of linked documents in Appendix 2).
[21] Applied emissions factors are 624.4 tonnes of carbon dioxide per GWh for the grid and 764.0 tonnes of carbon dioxide per GWh for diesel-generation. Calculation details are described in the Contribution to the ADB Results Framework (accessible from the list of linked documents in Appendix 2).
[22] ADB. 2005. *Financial Management and Analysis of Projects.* Manila.
[23] Financial Analysis (accessible from the list of linked documents in Appendix 2).
[24] ADB. 1997. *Guidelines for the Economic Analysis of Projects.* Manila.
[25] Economic Analysis (accessible from the list of linked documents in Appendix 2).

25. A review of the executing agencies' financial performances and projections found that their projected finances are reasonable but depend largely on the levels of the retail tariff (set by the government) and transfer tariff (set by EVN) at which the executing agencies purchase the electricity. To ensure long-term financial sustainability of the executing agencies, the government shall continue to implement effective tariff reforms and adjust tariffs based on a transparent methodology. ADB is also collaborating with the World Bank on its TA to improve the financial positions of EVN and its subsidiaries.[26]

C. Governance

26. Assessments on project implementation capacities, procurement capacities, and financial management concluded that the executing agencies have sufficient implementation experience and resources; appropriate procurement practices; and adequate financial accounting, reporting, and audit systems to manage the project accounts and the imprest accounts. It may be noted that the Financial Action Task Force has recently confirmed that Viet Nam has significantly improved its performance in combating money laundering and the financing of terrorism.[27] ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government, EVN HANOI, and EVN HCMC. The specific policy requirements and supplementary measures are described in the PAM (footnote 19).

D. Poverty and Social

27. Since the household electrification rate in Viet Nam exceeds 97%, reliable supply of electricity as a result of the project will benefit the population regardless of income and gender, especially since the project targets urban and peri-urban areas. The retail tariff is being adjusted periodically, although the average retail tariff is still low at about D1,500/kWh (¢7.14/kWh).[28] For poorer consumers with monthly consumption of below 50 kWh, the lifeline tariff is only D993/kWh (¢4.73/kWh). In addition, households categorized as poor by the Ministry of Labour–Invalids and Social Affairs receive a direct subsidy of D30,000 ($1.42) per month for energy-related expenditures. While the retail tariff should gradually increase to ensure the sector's financial sustainability, the government is committed to retaining these social safety measures.

E. Safeguards

28. **Environment.** The potential environmental impacts of the core subprojects were confirmed to be short-term disturbances during construction that can be mitigated and managed, and are not irreversible. Therefore, the core subprojects have been classified as category B for environment, and initial environmental examination (IEE) reports with environmental management plans have been prepared in accordance with ADB's Safeguard Policy Statement (2009)[29] and are disclosed on ADB's website.[30] The environmental assessment and review framework was also prepared to guide the preparation of IEEs for the noncore subprojects. The subproject selection procedure includes a criterion that category A subprojects are not eligible. The executing agencies have experience in environmental

[26] World Bank. 2013. *Technical Assistance on Strategic Options for the Financial Recovery of EVN and its Subsidiaries*. Ha Noi.
[27] Financial Action Task Force. 2013. *Public statement–18 October 2013.* Paris.
[28] In recent years, average retail tariff was increased twice in 2012 and twice in 2013, each time by 5%.
[29] The eight core subprojects have been grouped into four IEEs and four resettlement plans based on the similarities of the subprojects' characteristics and impacts.
[30] ADB. Ha Noi and Ho Chi Minh City Power Grid Development Sector Project. http://www.adb.org/projects/46391-001/documents

management through projects funded by development partners, and the PICs will provide further support and training.

29. **Involuntary resettlement.** The involuntary resettlement impacts of the core subprojects were confirmed to involve temporary and permanent land acquisition for the development and rehabilitation of transmission lines and substations, but they are not severe and do not involve physical displacement. The persons affected by the core subprojects were consulted about the project and its impacts and mitigation measures. The core subprojects have been classified as category B for involuntary resettlement, and resettlement plans have been prepared pursuant to ADB's Safeguard Policy Statement (footnote 29) and are disclosed on ADB's website (footnote 30). A resettlement framework was also prepared to guide the preparation of resettlement plans for the noncore subprojects. The subproject selection procedure includes a criterion that category A subprojects are not eligible. The executing agencies have experience in the implementation of resettlement plans through projects funded by development partners, and the PICs will provide further support and training to ensure appropriate consultations, detailed measurement surveys, disclosure, and payment of compensation.

30. **Indigenous people.** The project will not affect indigenous people since it targets urban and peri-urban areas, and is thus classified as category C.

F. Risks and Mitigating Measures

31. The overall risk is assessed to be low. The integrated benefits and impacts are expected to outweigh the costs. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.[31]

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Contracts are numerous and small.	Contracts have been consolidated into fewer and larger packages for the core subprojects, and the executing agencies have agreed to take a similar approach to the noncore subprojects.
Implementation is delayed due to delays in noncore subproject preparation, land acquisition, or procurement, or due to poor performance of the contractors.	Project implementation consultants will support the executing agencies in subproject preparation and implementation. Utilization of loan proceeds will be assessed during the midterm review, when initial loan allocation will be reviewed, to the extent possible, based on performance-related criteria such as loan utilization rate, and quality and timeliness of subproject preparation.
Transfer tariffs (bulk supply tariffs) for the executing agencies and the retail tariff are not set at adequate levels.	Project assurance requires the government to continue to reform its tariff-setting mechanism, so that retail and transfer tariffs (to the executing agencies) are transparent and in line with international best practice, and are set at a level that ensures long-term financial sustainability of the executing agencies. The Asian Development Bank will continue the policy dialogue with the government and maintain close coordination with development partners.

Source: Asian Development Bank.

IV. ASSURANCES AND CONDITIONS

32. The government, EVN HANOI, and EVN HCMC have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents.

[31] Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

33. The government, EVN HANOI, and EVN HCMC have agreed with ADB on certain covenants for the project, which are set forth in the loan agreements and project agreement.

34. The OCR loan and the AIF-funded loan are subject to cross-effectiveness. As a condition for disbursement of the loan proceeds, subsidiary loan agreements, in a form and substance satisfactory to ADB, will be duly executed and delivered on behalf of the government and EVN HANOI, and the government and EVN HCMC.

V. RECOMMENDATION

35. I am satisfied that the proposed loans would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

(i) the loan of $172,700,000 to the Socialist Republic of Viet Nam for the Ha Noi and Ho Chi Minh City Power Grid Development Sector Project, from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 20 years, including a grace period of 5 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board; and

(ii) the loan of $100,000,000 to the Socialist Republic of Viet Nam for the Ha Noi and Ho Chi Minh City Power Grid Development Sector Project, to be funded through the participation of the ASEAN Infrastructure Fund, on terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board.

Takehiko Nakao
President

22 August 2014

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Growth in national electricity demand is met in a sustainable manner	By 2030: Electricity supply increases to 700 TWh (2012 baseline: 120.3 TWh) By 2025: Electricity intensity as measured by the elasticity ratio of electricity consumption growth to gross domestic product growth is reduced to 1.0 (2010 baseline: 2.0).	Annual reports of Vietnam Electricity Power development plans approved by the Prime Minister[a]	**Assumptions** Macroeconomic performance remains stable Electricity demand continues to rise **Risks** Transfer tariffs (bulk supply tariffs) for the executing agencies and the retail tariff are not set at adequate levels System improvement delays caused by limited financing capacity of power utilities and lack of private sector interest
Outcome Improved reliability and efficiency of electricity supply in Ha Noi and HCMC	By 2020: 460,000 tCO_2-equiv/year reduced (2005 baseline: 205,000,000 tCO_2-equiv/year)[b] EVN HANOI: By 2020: Combined technical and commercial loss reduced to 6.0% (2012 baseline: 7.1%) By 2020: System average interruption duration index reduced to 1,960 minutes (2012 baseline: 6,383 minutes) EVN HCMC: By 2020: Combined technical and commercial loss reduced to 5.0% (2012 baseline: 5.6%) By 2020: System average interruption duration index reduced to 997 minutes (2012 baseline: 2,988 minutes)	Annual reports of EVN HANOI and EVN HCMC ADB project completion report	**Assumption** System development investments by EVN HANOI and EVN HCMC implemented as per plan

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Outputs			**Assumption**
1. Four core substation and transmission line subprojects in Ha Noi developed and/or rehabilitated	By 2016: 50 MVA of 110 kV substations and 10 cct-km of 110 kV transmission lines developed or rehabilitated in Ha Noi	Annual reports of EVN HANOI and EVN HCMC ADB review missions	Government counterpart financing is timely **Risk** Implementation delays due to slow construction of associated transmission line subprojects in Ha Noi and/or HCMC not financed by ADB
2. Four core substation and transmission line subprojects in HCMC developed and/or rehabilitated	By 2016: 250 MVA of 110 kV substations, 500 MVA of 220 kV substations, 17 cct-km of 110 kV transmission lines, and 13 cct-km of 220 kV transmission lines developed or rehabilitated in HCMC	Project completion report by EVN HANOI and EVN HCMC Quarterly progress reports by EVN HANOI and EVN HCMC	
3. Up to 20 noncore substation and transmission line subprojects in Ha Noi developed and/or rehabilitated	By 2019: 700 MVA of 110 kV substations, 195 cct-km of 110 kV transmission lines, and 7 cct-km of 220 kV transmission lines developed or rehabilitated in Ha Noi		
4. Up to nine noncore substation and transmission line subprojects in HCMC developed and/or rehabilitated	By 2019: 750 MVA of 110 kV substations, 500 MVA of 220 kV substations, 100 cct-km of 110 kV transmission lines, and 90 cct-km of 220 kV transmission lines developed or rehabilitated in HCMC		

Activities with Milestones

1. **Four core substation and transmission line subprojects in Ha Noi are developed and/or rehabilitated**
   - 1.1 Prepare core subprojects' bidding documents by December 2014
   - 1.2 Complete bidding, evaluation, and approvals by September 2015
   - 1.3 Complete installation works by December 2016
2. **Four core substation and transmission line subprojects in HCMC are developed and/or rehabilitated**
   - 2.1 Prepare core subprojects' bidding documents by December 2014
   - 2.2 Complete bidding, evaluation, and approvals by September 2015
   - 2.3 Complete installation works by December 2016
3. **Up to 20 noncore substation and transmission line subprojects in Ha Noi are developed and/or rehabilitated**
   - 3.1 Prepare feasibility studies by March 2015
   - 3.2 Prepare detailed design by September 2015

Inputs

Item	Amount ($ million)
ADB (OCR)	**$172.70**
Civil works	56.21
Equipment	72.26
Consultants	0.32
Contingencies	29.30
Financing charges	14.61
AIF loan	**$100.00**
Civil works	32.55
Equipment	41.84
Consultants	0.18
Contingencies	16.97
Financing charges	8.46

Activities with Milestones	Inputs	
3.3 Issue bidding documents by June 2016	**EVN HANOI and EVN HCMC**	
3.4 Complete bidding, evaluation, and approvals by March 2017		**$121.57**
3.5 Manufacture and deliver goods by March 2018	Civil works	28.43
3.6 Complete installation works by June 2019	Equipment	19.29
4. Up to nine noncore substation and transmission line subprojects in HCMC are developed and/or rehabilitated	Project management	4.79
	Land acquisition and resettlement	14.24
	Taxes and duties	39.32
	Contingencies	15.50
4.1 Prepare feasibility studies by June 2015		
4.2 Prepare detailed design by March 2016		
4.3 Issue bidding documents by September 2016		
4.4 Complete bidding, evaluation, and approvals by June 2017		
4.5 Manufacture and deliver goods by June 2018		
4.6 Complete installation works by June 2019		

ADB = Asian Development Bank, AIF = ASEAN Infrastructure Fund, cct-km = circuit-kilometer, EVN HANOI = Hanoi Power Corporation, EVN HCMC = Ho Chi Minh City Power Corporation, GHG = greenhouse gas, GWh = gigawatt-hour, HCMC = Ho Chi Minh City, kV = kilovolt, MVA = megavolt-ampere, OCR = ordinary capital resources, tCO_2-equiv = tonnes of carbon dioxide equivalent, TWh = terawatt-hour.

[a] The current version is: Government of Viet Nam. 2011. *Prime Minister Decision 1208/QD-TTg on Approval of National Power Development Plan between 2010 and 2020, with Orientation towards 2030.* Ha Noi.

[b] The most recently approved national greenhouse gas emissions inventory is from 2005. The figure does not include emissions from land use, land use change, and forestry. Department of Meteorology, Hydrology and Climate Change and Japan International Cooperation Agency. 2013. *National GHG Inventory Report*. Ha Noi.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS
http://adb.org/Documents/RRPs/?id=46391-001-3

1. Loan Agreement
2. Loan Agreement: (funded through participation of ASEAN Infrastructure Fund)
3. Project Agreement
4. Sector Assessment (Summary): Energy
5. Project Administration Manual
6. Contribution to the ADB Results Framework
7. Development Coordination
8. Financial Analysis
9. Economic Analysis
10. Country Economic Indicators
11. Summary Poverty Reduction and Social Strategy
12. Initial Environmental Examination: Subproject 1
13. Initial Environmental Examination: Subproject 2
14. Initial Environmental Examination: Subproject 3
15. Initial Environmental Examination: Subproject 4
16. Environmental Assessment and Review Framework
17. Resettlement Plan: Subproject 1
18. Resettlement Plan: Subproject 2
19. Resettlement Plan: Subproject 3
20. Resettlement Plan: Subproject 4
21. Resettlement Framework
22. Risk Assessment and Risk Management Plan

Supplementary Documents

23. Subproject Eligibility Criteria and Selection Procedure
24. Poverty and Social Assessment
25. Financial Management Assessment
26. Financial Review of Hanoi Power Corporation and Ho Chi Minh City Power Corporation
27. Procurement Capacity Assessment