ADB

Report and Recommendation of the President to the Board of Directors

Project Number: 51327-001
September 2018

Proposed Loan and Administration of Loans
Da Nhim - Ham Thuan - Da Mi Hydro Power Joint Stock Company
Floating Solar Energy Project
(Viet Nam)

This is an abbreviated version of the document approved by ADB's Board of Directors that excludes information that is subject to exceptions to disclosure set forth in ADB's Public Communications Policy 2011.

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 31 August 2018)

Currency unit	–	dong (D)
D1.00	=	$0.000043
$1.00	=	D23,290.00

ABBREVIATIONS

ADB	–	Asian Development Bank
CFPS	–	Canadian Climate Fund for the Private Sector in Asia
DHD	–	Da Nhim - Ham Thuan - Da Mi Hydro Power Joint Stock Company
EPC	–	engineering, procurement, and construction
ESMP	–	environmental and social management plan
ESMS	–	environmental and social management system
EVN	–	Vietnam Electricity
FIT	–	feed-in tariff
Genco 1	–	Power Generation Corporation 1
GHG	–	greenhouse gas
IESE	–	initial environmental and social examination
IPP	–	independent power producer
LEAP	–	Leading Asia's Private Infrastructure Fund
PPA	–	power purchase agreement
PPP	–	public–private partnership
US	–	United States

WEIGHTS AND MEASURES

GW	–	gigawatt
kWh	–	kilowatt-hour
MW	–	megawatt
tCO_2e	–	ton of carbon dioxide equivalent

NOTE

In this report, "$" refers to United States dollars.

Vice-President	Diwakar Gupta, Private Sector and Cofinancing Operations
Director General	Michael Barrow, Private Sector Operations Department (PSOD)
Director	Jackie B. Surtani, Infrastructure Finance Division 2, PSOD
Team leader	Michael Gabisch, Investment Specialist, PSOD
Team members	Genevieve Abel, Principal Transaction Support Specialist (Integrity), PSOD Irish-Fe Aguilar, Social Development Officer (Safeguards), PSOD Pierre Bailet, Senior Counsel, Office of the General Counsel Ian Bryson, Senior Safeguards Specialist, PSOD Henri Devys, Young Professional, Office of Public–Private Partnership Manfred Kiefer, Senior Economist, PSOD Ninh Le Do, Investment Officer, Viet Nam Resident Mission, PSOD Melissa Manguiat, Senior Safeguards Officer, PSOD Rafael Montinola, Investment Specialist, PSOD Noel Peters, Principal Safeguards Specialist, PSOD Cheryll Tienzo, Project Analyst, PSOD

CONTENTS

PROJECT AT A GLANCE

1. Basic Data

Project Number: 51327-001

Project Name	Floating Solar Energy Project
Country	Viet Nam, Socialist Republic of
Borrower	Da Nhim - Ham Thuan - Da Mi Hydro Power Joint Stock Company
Department /Division	PSOD/PSIF2

2. Sector

	Sector	Subsector(s)	Financing ($ million)
✓	Energy	Renewable energy generation - solar	20.00
		Total	**20.00**

3. Strategic Agenda

Strategic Agenda	Subcomponents
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns

Climate Change Information

CO_2 reduction (tons per annum)	30,302
Climate Change impact on the Project	Low

ADB Financing

Mitigation ($ million)	20.00

Cofinancing

Mitigation ($ million)	22.00

4. Drivers of Change

Drivers of Change	Components
Private sector development (PSD)	Promotion of private sector investment

Gender Equity and Mainstreaming

Some gender elements (SGE)	✓

5. Poverty and SDG Targeting

Geographic Targeting	No
Household Targeting	No
SDG Targeting	Yes
SDG Goals	SDG7

Location Impact

Rural	High

6. Nonsovereign Operation Risk Rating

Obligor Name	Obligor Risk Rating	Facility Risk Rating
Da Nhim - Ham Thuan - Da Mi Hydro Power Joint Stock Company		

7. Safeguard Categorization

Environment: B **Involuntary Resettlement:** B **Indigenous Peoples:** C

8. Financing

Modality and Sources	Amount ($ million)
ADB	**20.00**
Nonsovereign LIBOR Based Loan (Regular Loan): Ordinary capital resources	20.00
Cofinancing	**22.00**
Canadian Climate Fund for the Private Sector in Asia II (CFPS II) (Full ADB Administration)	6.00
Canadian Climate Fund for the Private Sector in Asia under the Clean Energy Financing Partnership Facility (Full ADB Administration)	11.00
Leading Asia's Private Infrastructure Fund (LEAP) (Full ADB Administration)	5.00
Others [a]	**20.00**
Total	**62.00**

[a] Derived by deducting ADB financing and Cofinancing from Total Project Cost.

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan of up to $20,000,000 to Da Nhim - Ham Thuan - Da Mi Hydro Power Joint Stock Company (DHD) for the Floating Solar Energy Project in Viet Nam. The report also describes (i) the proposed administration of a loan of up to $5,000,000 to be provided by the Leading Asia's Private Infrastructure Fund[1] (LEAP); (ii) the proposed administration of a loan of up to $11,000,000 to be provided by the Canadian Climate Fund for the Private Sector in Asia (CFPS) under the Clean Energy Financing Partnership Facility; and (iii) the proposed administration of a loan of up to $6,000,000 to be provided by the Canadian Climate Fund for the Private Sector in Asia II (CFPS II), and if the Board approves the proposed loan, I, acting under the authority delegated to me by the Board, approve the administration of the LEAP, CFPS, and CFPS II loans.

2. The project entails the Asian Development Bank (ADB) providing financing to DHD to install 47.5 megawatts (MW) of floating solar photovoltaic power generation panels, on the man-made reservoir of its existing 175 MW Da Mi hydropower plant. The ADB financing will meet DHD's requirements for longer-tenor, United States (US) dollar-denominated financing, which local lenders are unable to provide. The financing will catalyze the first large-scale floating solar photovoltaic in the country. ADB's participation in the project will ensure compliance with rigorous environmental and social safeguard standards.

II. THE PROJECT

A. Project Identification and Description

3. **Project identification.** Electricity demand in Viet Nam has grown rapidly, averaging 12.0% per year in 2005–2015, and is projected to grow at more than 8.0% through 2030. Access to electricity, which was below 10% in 1986, grew to 98% in 2014. During this time, over 20 million households and industrial and commercial customers have been connected to the grid. The biggest energy challenge is to provide those customers with reliable electricity and to meet future demand. Per capita electricity consumption remains relatively low and is one-third of consumption of the People's Republic of China. Viet Nam's 42 gigawatts (GW) of installed capacity in 2016 was dominated by hydropower, coal, and natural gas. Even though Viet Nam has abundant potential for renewable energy production,[2] the installed capacity was about 7 MW for solar and 135 MW for wind, accounting for less than 0.4% of total installed capacity by the end of 2016.[3]

4. Viet Nam has historically been a net energy exporter because of its large coal, oil, and natural gas reserves, but since 2015, it has been importing coal because domestic coal supplies have been insufficient to meet the higher domestic power demand.[4] The southern half of the country has begun to have power shortages during the dry season. Strong projected electricity demand growth, declining coal reserves, and limited potential to develop further large-scale hydro have led the government to update the National Power Development Plan, 2011–2020.[5] The revised plan seeks to increase the share of non-hydro renewable energy from nearly zero to 5,000

---

[1] Financing partner: Japan International Cooperation Agency.
[2] ADB. 2011. *Technical Assistance to the Socialist Republic of Viet Nam for Support for the National Target Program on Climate Change with a Focus on Energy and Transport*. Manila.
[3] Vietnam Electricity. 2017. *Vietnam Electricity Annual Report 2016*. Ha Noi.
[4] Viet Nam imported 10.5 million tons of coal in the first 9 months of 2016, 140% higher than the same period of 2015.
[5] Government of Viet Nam. 2016. Decision on the Approval of Revisions to the National Power Development Plan from 2011 to 2020 with Visions Extended to 2030. No. 428/QĐ-TTg. Ha Noi (18 March). The Plan for 2021–2030 (PDP VIII) is currently being prepared. In addition to capacity, demand side management will be emphasized.

MW by 2020, and reduce the use of imported coal to produce electricity. In addition to using indigenous energy resources, solar photovoltaic power projects have short construction periods. Increased deployment of solar power technology will support Viet Nam's urgent need to increase generation capacity and promote low emissions energy sources.

5. The private sector is expected to provide most future investment in Viet Nam's generation capacity, given the balance sheet constraints of the state utility (EVN), the exposure of domestic banks to state-owned enterprises, and limits to concessional borrowing. In March 2016, the government published the National Power Development Plan, 2011–2020, setting a target of 850 MW of solar and 800 MW for wind energy by 2020. In April 2017, the Prime Minister issued Decision No. 11/2017/QD-TTg to accelerate the development of private sector solar projects.[6] This decision includes a provision for a 20-year feed-in tariff (FIT) of $0.0935 per kilowatt-hour (kWh) for solar photovoltaic projects. Developers wishing to avail of the FIT need to reach commercial operation by 30 June 2019 and use the standard domestic power purchase agreement (PPA) issued by the Ministry of Industry and Trade. While many international project developers are interested in Viet Nam because the $0.0935 per kWh tariff is attractive, the terms of the domestic PPA and the lack of local finance options may make it difficult for Viet Nam to achieve its renewable energy development targets.[7]

[CONFIDENTIAL INFORMATION DELETED]

6. **Project design.** The borrower, DHD, plans to install 47.5 MW of floating solar photovoltaic power generation panels, on the reservoir of its existing 175 MW Da Mi hydropower plant. This will significantly increase Viet Nam's solar generation capacity by almost sevenfold from 7MW to 54.5MW. Additional facilities include a floating central inverter, a grounded substation, and a new 3.5-kilometer 110-kilovolt transmission line to connect with the national grid.

[CONFIDENTIAL INFORMATION DELETED]

7. DHD will enter into a 20-year PPA with the national utility, EVN, to sell power generated by the solar facility to the grid using the solar power FIT regime. This project will be one of first utility-scale, solar power projects in Viet Nam; and one of the first large-scale floating solar projects outside the People's Republic of China.

8. **Borrower.** Following the 2013 restructuring of EVN, DHD became a subsidiary of the newly created Power Generation Corporation 1 (Genco 1), one of three regional generation companies of EVN. Genco 1 is a limited liability company of EVN that is legally independent with its own audited accounts, management, and board. Genco 1 is being privatized. Once completed, it will become a joint stock company owned by EVN and other investors.

9. DHD is legally independent and separate from Genco 1 and EVN. It owns and operates four hydropower plants: Da Mi (175 MW), Ham Thuan (300 MW), Da Nhim (160 MW), and Song Pha (7.5 MW). DHD's total generation capacity is 642.5 MW, about 1.7% of Viet Nam's generation capacity.[8]

---

[6] Government of Viet Nam. 2017. Decision on the Support Mechanisms for the Development of Solar Power Projects in Vietnam. No: 11 /2017/QD-TTg. Ha Noi (11 April).

[7] Baker McKenzie. 2017. Matrix of Review of Decision No. 11/2017/QD-TTG of the Prime Minister dated 11 April 2017

[8] At the end 2016, the total generation capacity of Viet Nam was 42.1 GW, of which EVN's capacity was 25.9 GW (61.4%), PetroVietnam 4.4 GW (10.5%), Vinacomin 1.8 GW (4.2%), and independent power producers (IPPs) and build-operate-transfers 10.0 GW (23.9%). EVN, PetroVietnam, and Vinacomin are state-owned enterprises.

[CONFIDENTIAL INFORMATION DELETED]

10. Integrity due diligence was conducted.[9] No tax due diligence was required, as the project is entirely owned and structured through Vietnamese companies. ADB's review of DHD does not give ADB cause to believe that such entity has been established, or is being used for cross-border tax evasion, money laundering, or terrorism financing in the jurisdictions involved in the project. An international auditor, KPMG, has audited DHD's accounts since 2016.

B. Development Impact, Outcome, and Outputs

11. **Impact.** The National Power Development Plan, 2011–2020 aims to prioritize the development of renewable energy sources for power production.[10] The project is aligned with increasing the contribution of solar energy to Viet Nam's power supply. The project also supports the government's commitment to reducing the emission intensity per unit of gross domestic product.[11]

12. **Outcome.** The project will have the following outcome: increased supply of clean power to the domestic grid. It will generate about 63,138 megawatt-hours of electricity per year and reduce about 30,302 tons of carbon dioxide equivalent (tCO_2e) emissions per year.[12]

13. **Outputs.** The outputs of the project will be the development of a 47.5 MW floating photovoltaic plant and its associated facilities. Construction and operation of the plant will also generate employment for the local community, including economic opportunities for women, and stimulate the local and national economy.

C. Alignment with ADB Strategy and Operations

14. **Consistency with ADB strategy and country strategy**. ADB's Strategy 2030 outlined seven operational priorities to address the development challenges in Asia and the Pacific.[13] The project supports two of those priorities: (i) addressing remaining poverty and reducing inequality, and (ii) tackling climate change, building climate and disaster resilience, and enhancing environment sustainability.

15. The energy sector has been a priority sector in ADB's Viet Nam country program. Since 1994, ADB has provided 16 sovereign loans for a total $2.6 billion, two nonsovereign loans for a total of $150 million, and 43 technical assistance projects and grants for a total $37.6 million to the energy sector. ADB's country partnership strategy for Viet Nam, 2016–2020 aims to foster inclusive and environmentally sustainable growth. The project is aligned with two of the three pillars of the strategy: (i) increasing the inclusiveness of infrastructure and service delivery and (ii) improving environmental sustainability and climate change response. Under the strategy, ADB

---

[9] ADB. 2003. *Enhancing the Asian Development Bank's Role in Combating Money Laundering and the Financing of Terrorism*. Manila. Further information is provided in the Integrity and Tax Due Diligence Disclosure (accessible from the list of linked documents in Appendix 2).

[10] The expected share of solar power to total installed capacity will be 0.5% in 2020, 1.6% in 2025, and 3.3% in 2030.

[11] Government of Viet Nam. 2015. *Intended Nationally Determined Contribution of Viet Nam.* http://www4.unfccc.int/ndcregistry/PublishedDocuments/Viet%20Nam%20First/VIETNAM%27S%20INDC.pdf. The government commits to reduce the emission intensity per unit of gross domestic product by 20%, by 2030.

[12] Based on a grid emission factor of 0.48 tCO_2e per megawatt-hour for Viet Nam. ADB. 2017. *Guidelines for Estimating Greenhouse Gas Emissions of Asian Development Bank Projects*. Manila.

[13] ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific.* Manila.

will increase the focus on renewable energy, including through public–private partnership (PPP), to promote sustainable growth.[14]

16. **Consistency with sector strategy and relevant ADB operations**. The project aligns with ADB's energy policy, which encourages interventions designed to shift reliance on fossil fuel sources for energy to renewable forms of energy to slow down the growth of greenhouse gas (GHG) emissions and help countries achieve energy self-sufficiency.[15] The project will increase Viet Nam's use of renewable energy and reduce reliance on fossil fuels such as coal thereby mitigating GHGs. It is also aligned with Viet Nam's commitments to the United Nations Framework Convention on Climate Change, and will contribute to ADB's target of providing $80.0 billion in climate finance by 2030.[16]

17. **Lessons from previous operations.** This is the first large-scale, private sector, floating solar project for Viet Nam and ADB. The project carefully considered experience from previous ground-mounted solar projects. ADB has extensive experience in renewable energy projects throughout Asia, and has incorporated lessons learned from previous renewable energy projects into the deal structure.[17] The project builds on results and lessons from the close cooperation between ADB sovereign operations and the Government of Viet Nam for energy sector reform.[18]

18. ADB has provided substantial support to the PPP enabling environment in Viet Nam, although its investment in PPP projects has been limited.[19] The last major PPP project ADB invested in was in 2002. The key issues that have impeded investments include (i) transparency in regulations and implementation, (ii) risk allocation between the public and private sectors, (iii) land use rights, (iv) cost-recovery tariffs, and (v) availability of long-term debt. While a new PPP decree was issued in April 2015 to encourage private sector investments, private sector participation in infrastructure is still nascent.

D. Project Cost and Financing Plan

[CONFIDENTIAL INFORMATION DELETED]

E. Implementation Arrangements

19. Table 3 summarizes the implementation arrangements.[20]

Table 3: Summary of Implementation Arrangements

Aspects	Arrangements
Regulatory framework	The project is being implemented under Prime Minister Decision No. 11/2017/QD-TTg, which (i) establishes the framework for the formation, assessment, and approval of solar power development master plans, (ii)

[14] ADB. 2016. *Country Partnership Strategy: Viet Nam, 2016–2020—Fostering More Inclusive and Environmentally Sustainable Growth*. Manila.
[15] ADB. 2009. *Energy Policy*. Manila.
[16] Government of Viet Nam. 2015. *Intended Nationally Determined Contribution*. Ha Noi.
[17] Lessons from previous renewable energy transactions were applied in structuring the deal. These include the overall financial structure, the review of the PPA and technical due diligence reports, and the covenant package.
[18] ADB. 2015. *Technical Assistance to the Socialist Republic of Viet Nam for Power Sector Reform Program.* Manila.
[19] ADB. 2012. *Report and Recommendations of the President to the Board of Directors: Proposed Loan to the Socialist Republic of Viet Nam for the Public–Private Partnership Support Project*. Manila; ADB. 2012. *Technical Assistance for Developing Government Support and Risk Management Systems for Public–Private Partnerships in Southeast Asia*. Manila.
[20] Details of Implementation Arrangements (accessible from the list of linked documents in Appendix 2).

Aspects	Arrangements
	creates a standardized power purchase agreement template for on-grid solar power projects, and (iii) creates technical standards on solar power, and provides guidelines on the procedures for the connection and metering installment of renewable projects.
Management	DHD, as the sole project sponsor, has experience in the construction, operation, and maintenance of hydropower plants since 1964. Since this is DHD's first solar project, it has hired EVN PECC 1, a power engineering consulting firm to assist in overseeing the design, construction, and implementation of the project.
Implementation period	[CONFIDENTIAL INFORMATION DELETED]
Construction arrangements	[CONFIDENTIAL INFORMATION DELETED]
Operations arrangements	
Revenue structure	DHD will sell electricity generated from the project to EVN under a 20-year power purchase agreement as part of the renewable FIT of $0.0935 per kilowatt-hour equivalent. The FIT is paid in dong, but indexed to the United States dollar. ADB can also rely on DHD's 722 megawatts of hydropower as a financial backstop.
Operation and maintenance	[CONFIDENTIAL INFORMATION DELETED]
Performance monitoring	The project sponsor will report to ADB on key performance indicators, including output and outcome indicators. The borrower will also submit (i) semiannual unaudited and annual audited financial statements, (ii) environmental and social monitoring reports, and (iii) development effectiveness reports.

ADB = Asian Development Bank, DHD = Da Nhim - Ham Thuan - Da Mi Hydro Power Joint Stock Company, EVN = Vietnam Electricity, FIT = feed-in tariff.
Source: Asian Development Bank.

F. Projected Financial and Economic Performance

[CONFIDENTIAL INFORMATION DELETED]

III. THE PROPOSED ADB ASSISTANCE

A. The Assistance

20. ADB assistance will have four components: (i) a direct loan of up to $20 million, (ii) a parallel loan of up to $5 million from LEAP, (iii) a concessional loan from the CFPS of up to $11 million, and (iv) a concessional loan from the CFPS II of up to $6 million. The direct loan will be provided from ADB's ordinary capital resources. All loans will have a tenor of up to 15 years, including a 1-year grace period on principal repayment. During the life of the corporate loans, DHD will be bound by financial and operational covenants stipulated in the loan agreement.

B. Value Added by ADB Assistance

21. ADB adds value by mobilizing a financing package that makes the 47.5 MW floating solar project commercially viable. International lenders are not comfortable with the current domestic PPA terms and local banks lack experience in financing renewable energy projects. Local banks are also unable to lend in US dollars or provide the longer tenor debt that such infrastructure projects require. The project is one of Viet Nam's first independent power producer (IPP) renewable energy infrastructure and floating solar technology is new to the country. ADB's support for such IPPs and innovative technology will potentially catalyze other investors to do

similar investments, and commercial financiers to lower their risk perception of the industry. This project will also be instrumental in helping EVN learn how to dispatch intermittent renewable power at scale. ADB's participation in the project will also ensure compliance with ADB's rigorous environmental and social safeguard standards and will improve the promotion of gender equity.

22. The participation of concessional loans from the CFPS and CFPS II was necessary to improve the financial viability of the project because of the additional costs and risks associated with developing the first floating solar power project in the country and the region. The concessional financing was designed to fill a funding gap, to move financial ratios and returns part-way towards private sector norms, and to demonstrate a viable financing model for other private sector developers to encourage scale-up and replication. The concessional financing was structured and approved by CFPS I and CFPS II in concert with ADB's fund management team and is aligned with Development Finance Institution agreed principles on the use of blended concessional financing for the private sector.

C. Risks

[CONFIDENTIAL INFORMATION DELETED]

IV. POLICY COMPLIANCE

A. Safeguards and Social Dimensions

23. ADB has categorized the investment in compliance with ADB's Safeguard Policy Statement (SPS, 2009) as follows: environment (category B), involuntary resettlement (category B), and indigenous peoples (category C).

24. ADB has undertaken due diligence and reviewed the potential environmental and social impacts of the project and the measures to avoid, minimize, mitigate, and compensate for adverse impacts in the safeguard reports and plans. The environmental and social measures and the institutional capacity and commitment of DHD to manage the project's social and environmental impacts are deemed adequate. The ADB investment will be provided at the corporate level but will primarily support the floating solar project, so ADB's SPS requirements for general corporate finance apply to this project. Qualified and experienced external experts conducted an audit of DHD's environmental, health and safety, and social policies, procedures, and operations. The audit assessed DHD's (i) compliance with local regulations and current environmental, health and safety, and social policies and procedures, and (ii) past and current performance against the objectives, principles, and requirements of ADB's SPS. The audit recommended corrective actions at corporate and subproject level (i.e., floating solar) to comply with ADB's SPS and other social requirements. The corrective action plan includes developing an environmental and social management system (ESMS) procedure to streamline DHD's procedures throughout the project cycle, and enhancing its community health and safety plan, which will be appended to the ESMS. It also requires detailed assessments to be undertaken of project biodiversity and social impacts, and enhancement of the project-specific environmental and social management plan (ESMP).

25. All additional studies have been undertaken before transaction approval and are incorporated in a supplementary initial environmental and social examination (IESE) report with an enhanced ESMP. The enhanced ESMS procedures are a condition of first disbursement. The institutional capacity of DHD is adequate to meet statutory environmental and social requirements. However, additional training has to be undertaken to build the company's environmental and social management capacity to meet ADB requirements.

26. The project footprint is not located within national or internationally recognized protected areas and has been confirmed as modified habitat through the biodiversity assessment. The potential environmental impacts during construction include dust generation, air emissions, noise, waste, water pollution from civil works, reservoir sediment disturbance from deployment of anchor and shore blocks, and occupational and community health and safety for workers and fishing households residing near the project area. However, these impacts are expected to be short-term and localized. The EPC contractor will be required to adopt the construction phase ESMP of the IESE as part of its contractual obligations.

[CONFIDENTIAL INFORMATION DELETED]

27. DHD will comply with national labor laws and, pursuant to ADB's Social Protection Strategy (2001), will take measures to comply with internationally recognized core labor standards.[21] DHD will report regularly to ADB on (i) compliance with such laws and (ii) the measures taken. Information disclosure and consultation with affected people will be conducted in accordance with ADB requirements.[22]

28. Significant efforts were made to include some gender features in the project thereby enhancing benefits for women. DHD commits to implement measures such as external stakeholder engagement and respectful workplace training, and has agreed to the actions set forth in the Gender Action Plan[23] following ADB's Policy on Gender and Development (2003).[24] This document will form part of the legal documentation and DHD will submit periodic reports on the implementation of such gender measures to ADB. DHD promotes equal opportunity in employment and operates in accordance with Viet Nam's Law on Gender Equality.

B. Anticorruption Policy

29. DHD was advised of ADB's policy of implementing best international practice relating to combating corruption, money laundering, and the financing of terrorism. ADB will ensure that the investment documentation includes appropriate provisions prohibiting corruption, money laundering, and the financing of terrorism; and remedies for ADB in the event of noncompliance.

C. Investment Limitations

[CONFIDENTIAL INFORMATION DELETED]

D. Assurances

30. Consistent with the Agreement Establishing the Asian Development Bank (the Charter), ADB will proceed with the assistance upon establishing that the Government of Viet Nam has no objection to the proposed assistance to Da Nhim - Ham Thuan - Da Mi Hydro Power Joint Stock Company.[25] ADB will enter into suitable finance documentation, in form and substance satisfactory to ADB, following approval of the proposed assistance by ADB Board of Directors.

---

[21] ADB. 2003. *Social Protection.* Manila (adopted in 2001).
[22] Summary Poverty Reduction and Social Strategy (accessible from the list of linked documents in Appendix 2).
[23] Gender Action Plan (accessible from the list of linked documents in Appendix 2).
[24] ADB. 2003. *Policy on Gender and Development.* Manila
[25] ADB. 1966. *Agreement Establishing the Asian Development Bank.* Manila.

V. RECOMMENDATION

31. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of up to $20,000,000 from ADB's ordinary capital resources to Da Nhim - Ham Thuan - Da Mi Hydro Power Joint Stock Company for the Floating Solar Energy Project in Viet Nam, with such terms and conditions as are substantially in accordance with those set forth in this report, and as may be reported to the Board.

Takehiko Nakao
President

12 September 2018

DESIGN AND MONITORING FRAMEWORK

Impacts the Project is Aligned with

Contribution of solar energy to Viet Nam power supply increased (National Master Plan for Power Development for the 2011–2010 Period with the Vision to 2030)[a]

Emission intensity per unit of gross domestic product decreased (Intended Nationally Determined Contribution of Viet Nam)[b]

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
Outcome Supply of clean power to the domestic grid increased	By 2023: a. Electricity generated and delivered to offtaker increased to 63,138 MWh per year (2017 baseline: 0 MWh) b. Annual amount of emissions reductions achieved 30,302 tCO_2e (2017 baseline: 0 tCO_2e) c. Number of jobs provided during operation amount to at least 10 (2017 baseline: 0) d. Annual domestic purchase of goods and services amounts to more than $25 million during operation (2017 baseline: $0)	a–d. DHD's annual development effectiveness monitoring report	Changes in regulatory environment or power purchasing agreement Climate and weather risk
Outputs 1. Floating photovoltaic plant and associated facilities installed 2. Local employment generated and economic opportunities for women improved	By 2023: 1a. Total installed electricity generation photovoltaic capacity of project increased to 47.5 MW (2017 baseline: 0 MW) 1b. Total installed transmission lines increased by 3.5 km (2017 baseline: 0 km) 2a. Number of jobs provided during construction phase amount to at least 40 (2017 baseline: 0) 2b. All people directly affected by project construction and operation are engaged in meaningful consultation and are invited to seminars on gender equality, providing training on	1–3. DHD's annual development effectiveness monitoring report	Construction delays caused by force majeure events Cost overruns

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
	integrating gender into the development process for local leaders and communities. (2017 baseline: not implemented) 2c. Training program to raise awareness for a respectful workplace, health and safety, and communicable disease prevention for employees and contractors conducted in 2019. (2017 baseline: not implemented)		
3. Growth of local economy supported	3a. Total payments to government provided during construction and early operation at least $200,000 annually (2017 baseline: $0) 3b. Total domestic purchases during construction and early operation at least $25 million (2017 baseline: $0)		

Key Activities with Milestones

Outputs 1–3.

1. ADB executes loan agreement with DHD by September 2018.
2. Complete construction of photovoltaic plant and associated facilities by May 2019.
3. Commission power plant by June 2019.
4. Implement gender action plan and submit progress reports annually.

Inputs

ADB: $20 million
Leading Asia's Private Infrastructure Fund (Parallel Debt Subprogram): $5 million
Canadian Climate Fund for the Private Sector in Asia under the Clean Energy Financing Partnership Facility: $11 million
Canadian Climate Fund for the Private Sector in Asia II: $6 million
DHD Equity: $20 million

Assumptions for Partner Financing

Not applicable

ADB = Asian Development Bank, DHD = Da Nhim - Ham Thuan - Da Mi Hydro Power Joint Stock Company, km = kilometer, MW = megawatt, MWh = megawatt-hour, tCO_2e = ton of carbon dioxide equivalent.

[a] Decision No. 428/QD-TTG. Approval of the Revised National Power Development Master Plan for the 2011–2020 Period with the Vision to 2030.

[b] Government of Viet Nam. 2015. *Intended Nationally Determined Contribution of Viet Nam.* http://www4.unfccc.int/ndcregistry/PublishedDocuments/Viet%20Nam%20First/VIETNAM%27S%20INDC.pdf.

Source: Asian Development Bank.