



Report and Recommendation of the President to the Board of Directors

Project Number: 46265
September 2013

Proposed Administration of Grant
Socialist Republic of Viet Nam: Energy Efficiency for
Ho Chi Minh City Water Supply Project

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 11 September 2013)

Currency unit	–	dong (D)
D1.00	=	\$0.0000474
\$1.00	=	D21,089

ABBREVIATIONS

ACEF	–	Asian Clean Energy Fund
ADB	–	Asian Development Bank
CO ₂	–	carbon dioxide
HCMC	–	Ho Chi Minh City
MFF	–	multitranche financing facility
NRW	–	nonrevenue water
PFR	–	periodic financing request
PMU	–	project management unit
SAWACO	–	Saigon Water Corporation

NOTES

- (i) The fiscal year (FY) of the Government of Viet Nam ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.

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CONTENTS

	Page
PROJECT AT A GLANCE	
I. THE PROPOSAL	1
II. THE PROJECT	1
A. Rationale	1
B. Impact and Outcome	3
C. Outputs	3
D. Investment and Financing Plans	4
E. Implementation Arrangements	4
III. DUE DILIGENCE	6
A. Technical	6
B. Economic and Financial	6
C. Governance	6
D. Poverty and Social	6
E. Safeguards	7
F. Risks and Mitigating Measures	7
IV. ASSURANCES	8
V. RECOMMENDATION	8
APPENDIXES	
1. Design and Monitoring Framework	9
2. List of Linked Documents	10

PROJECT AT A GLANCE

1. Project Name: Energy Efficiency for Ho Chi Minh City Water Supply		2. Project Number: 46265-001																		
3. Country: Viet Nam, Socialist Republic of		4. Department/Division: Southeast Asia Department/Urban Development and Water Division																		
5. Sector Classification:																				
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9. Project Risk Categorization: Low																				
10. Safeguards Categorization:																				
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I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on proposed administration of a grant to the Socialist Republic of Viet Nam, to be provided by the Asian Clean Energy Fund (ACEF)¹ under the Clean Energy Financing Partnership Facility for the Energy Efficiency for Ho Chi Minh City Water Supply Project.

2. The project will help to improve energy efficiency and reduce the water and carbon footprint of the Saigon Water Corporation (SAWACO), which is in charge of the water supply in Ho Chi Minh City (HCMC). The project will lead to greenhouse gas abatement by reducing the amount of energy and water required to deliver a unit of water to end users. The project will finance consulting services and investment components for energy efficiency.

II. THE PROJECT

A. Rationale

3. Since the year 2000, Viet Nam has experienced economic growth averaging nearly 8%, which is evident in the rapid growth of its urban areas such as HCMC, which had a population of 7.1 million in 2010. This growth has led to inadequate capacity to manage and finance the expansion of infrastructure facilities and has put pressure on the environment. The Government of Viet Nam has set comprehensive and ambitious policies, which, among other things, aim to promote efficiency and conservation while expanding access to reliable water supply. The sector program of the Asian Development Bank (ADB) in the Viet Nam country strategy and program, 2007–2010 and the Viet Nam country partnership strategy, 2012–2015² are consistent with government policies for energy efficiency and infrastructure provision, especially in water and sanitation. The Viet Nam Water and Sanitation Sector Assessment Strategy and Roadmap recognizes the need for better protection and efficient use of water.³ In 2007, the government enacted (and supplemented in 2011) a strong legal framework for the supply of water, shifting water from a social good to a business commodity.⁴ The water subsector is expected to operate on full cost-recovery. The introduction of a service contract (i.e., a business plan), as required under the current legislation (footnote 4), but mostly not enforced, would improve efficiency in the water subsector. ADB's capacity development technical assistance⁵ is assisting water companies to develop business plans and service contracts to justify water tariff increase matching the documented improvement in the level of service.

4. HCMC is Viet Nam's largest city and its most important commercial and industrial center. With current population growth of about 1.1% per year, HCMC will have about 10 million people by 2020. While Viet Nam's gross domestic product is growing at more than 8% annually, that of HCMC is growing substantially faster, at around 11% annually. This growth rate is seriously straining the city's infrastructure, including the water supply system. In addition, HCMC is one of the 10 cities in the world likely to experience the early impacts of climate change, in particular a projected sea-level rise of 33 centimeters by 2050.

¹ Established by the Government of Japan and administered by the Asian Development Bank.

² ADB. 2012. *Country Partnership Strategy: Viet Nam, 2012–2015*. Manila.

³ ADB. 2010. *Southeast Asia Department Working Paper: Viet Nam Water and Sanitation Sector Assessment, Strategy and Roadmap*. Manila.

⁴ Decree 117/2007/ND-CP Production, Supply and Consumption of Clean Water and Decree 124/2011/ND-CP, on amendments and supplements to Decree 117/2007/ND-CP.

⁵ ADB. 2013. *Capacity Development Technical Assistance to the Socialist Republic of Viet Nam for Improving the Performance of the Water Supply Project Sector*. Manila (TA 8357-VIE).

5. Set up in 1874, SAWACO is Viet Nam's oldest water company and is responsible for water supply in HCMC. It has operated since 2004 as a state-owned one-member limited company under the Commercial Law, 2005. Six distribution companies, incorporated as joint-stock companies and 51% owned by SAWACO, and two other companies, fully owned by SAWACO, are in charge of water distribution in HCMC.

6. The water supply system in HCMC has five major production plants with a total capacity of 1.34 million cubic meters per day, and 3,800 kilometers of distribution network, divided into six zones with 734,000 connections. The fundamental constraint on the water supply system is a shortfall in transmission capacity. Actual coverage is estimated at 82% but large areas of HCMC, especially in the south, still suffer from intermittent water supply because of low service pressure. SAWACO has a \$2.8 billion investment plan, the objectives of which are to achieve universal coverage, continuous water supply, and drinking water quality by 2025.

7. HCMC's nonrevenue water (NRW) is estimated at 40%. The World Bank supports a number of ongoing initiatives to reduce NRW in the city center zones 1 and 2, and the Government of the Netherlands supported an utility support program. ADB is also assisting SAWACO for NRW reduction in the two southern zones 5 and 6 through the Water Sector Investment Program Tranche 1.⁶ Private sector participation is being explored for capital investment in NRW and the operation and maintenance of the network in the northern zones 3 and 4 with ADB assistance.

8. ADB financed project preparatory technical assistance of \$1.5 million in 2008, with supplementary financing of \$0.3 million in 2010, for HCMC water supply.⁷ A loan of \$138 million for HCMC water supply was approved Tranche 1 (footnote 6) of a \$1 billion multitranche financing facility for the Water Sector Investment Program (MFF).⁸ The framework financing agreement of the MFF (footnote 8) was signed on 5 May 2011, the loan and project agreements were signed on 8 June 2011, and the Tranche 1 (footnote 6) became effective on 24 May 2012.

9. Tranche 1 (footnote 6) will benefit 2.5 million persons with improved service and 20,000 poor households with their own piped water connection for the first time. The loan closing was extended by two years to 30 June 2018, because of long project from start-up delays in signing the subsidiary loan agreement. In June 2013, four contracts were awarded to individual consultants: Two for climate change thematic studies on water conservancy and disaster management and two to prepare bidding documents for (i) information technology (\$28 million); and, (ii) 10 km transmission pipe (\$78 million) under engineering procurement construction (EPC) using ADB's pilot bidding document for EPC contract.

10. Tranche 1 (footnote 6) complies with the Framework Financing Agreement, including safeguards, undertakings and financial ratios. In addition, SAWACO has established a project management unit (PMU) with a full time PMU director and deputy director. Fifty percent of the PMU staff are women, well above the required 30% in the Gender Action Plan. Since 2011, selected PMU staff participated in ADB training workshops in Viet Nam on safeguards, disbursement and procurement.

⁶ ADB. 2011. *Water Sector Investment Program Tranche 1*. Manila (L2754-VIE).

⁷ ADB. 2010. *Technical Assistance to the Socialist Republic of Viet Nam for Preparing Ho Chi Minh City Water Supply Project*. Manila (TA 7091-VIE).

⁸ ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to the Socialist Republic of Viet Nam for the Water Sector Investment Program*. Manila (MFF0054-VIE).

11. During the project preparation technical assistance of HCMC Water Supply Project, SAWACO conducted an energy audit of its operations. The audit report showed that investment of about \$5 million would result in energy savings of 25,000 megawatt-hours per year, translating to about \$1.3 million per year, and an annual carbon dioxide (CO₂) reduction of about 18,889 tons. The grant financing of \$2 million towards energy savings investment would directly result in about 10,000 megawatt-hours, or \$500,000 per year, of energy savings and about 7,500 tons of annual CO₂ reduction. The grant project directly contributes to the achievement of outcome of Tranche 1 (footnote 6) by improving efficiency of SAWACO through energy savings.

12. Following the results of the audit, SAWACO invested in some energy efficient components, identified in the energy audit as having a short payback period, especially to equip the treated water pumps with variable frequency drives. SAWACO requested ADB assistance for additional investments for overall improvement of the water pumping scheme, including reduction of technical water losses and grid electricity consumption, through a \$2 million grant from the ACEF under the Clean Energy Financing Partnership Facility.⁹ Under the project and following the baseline methodology for water pumping efficiency improvements, SAWACO will also apply for additional funding to the Clean Development Mechanism.¹⁰

13. ADB's sector program in the Viet Nam country partnership strategy, 2012–2015 is consistent with government policies for energy efficiency and infrastructure provision. There is a need for better protection and efficient use of water, as recognized in the ADB Water Operational Plan.¹¹ The grant, used as seed money to leverage additional capital expenditure in energy efficiency, will be recovered through savings in operating expenses. This type of investment will be streamlined and up-scaled with other water companies that seek financing under subsequent tranches of the MFF (footnote 8).

B. Impact and Outcome

14. The impact of the project is improved operational performance of SAWACO. The outcome is improved energy efficiency in SAWACO operations.

C. Outputs

15. The following are the outputs under the ACEF grant:

- (i) **Output 1: Capacity building of SAWACO.** Capacity development through consulting services will include monitoring and evaluation of the investment. It will also support information, communication, and education for capacity building and an awareness campaign in energy savings for SAWACO's 3,000 staff and its management.
- (ii) **Output 2: Investment in energy saving.** Physical investment for energy efficiency that includes (a) frequency converters for the three raw water pumps at Tan Hiep treatment plant, including control for the pumps to maintain a target pressure; (b) a mobile monitoring laboratory; and (c) quality calibration technology and central air-conditioning systems that use new technology to

⁹ The grant was approved on 17 June 2011 by the Government of Japan with validity until 15 November 2013.

¹⁰ Defined in article 12 of the Kyoto Protocol under the United Nations Framework Convention on Climate Change.

¹¹ ADB. 2011. *Water Operational Plan 2011–2020*. Manila.

reduce water and carbon footprints and greenhouse gas emissions at the Thu Duc water treatment plant.

D. Investment and Financing Plans

16. The project is estimated to cost \$3.8 million (Table 1). On behalf of SAWACO, ADB has requested a \$2 million grant from the ACEF under the Clean Energy Financing Partnership Facility. The grant will finance all the consulting services and part of the equipment for energy efficiency. The government will finance some equipment for energy efficiency, especially for the treated water pumps, and office space for the consultants, incremental cost of the project management unit, and taxes and duties. Distribution of the grant and SAWACO counterpart funds is detailed in Table 1.

Table 1: Project Investment Plan
(\$'000)

Item	Amount
A. Asian Clean Energy Fund^a under the Clean Energy Financing Partnership Facility	
1. Consultants	450.0
2. Equipment for energy savings	1,500.0
3. Surveys	20.0
4. Workshops, training, seminars, conferences	30.0
Subtotal (A)	2,000.0
B. Government Financing (SAWACO)	
1. Office accommodation	50.0
2. Remuneration and per diem of counterpart staff	50.0
3. Equipment for energy savings (treated water pumps)	1,500.0
4. Taxes and duties	200.0
Subtotal (B)	1,800.0
Total (A+B)	3,800.0

SAWACO = Saigon Water Corporation.

^a Established by the Government of Japan and administered by the Asian Development Bank.

Note: In mid-2012 prices. Contingencies are included into each line item and computed at 5%.

Source: Asian Development Bank estimates.

17. The financing plan is in Table 2.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Clean Energy Fund	2.0	56%
Government	1.8	44%
Total	3.8	100%

Source: Asian Development Bank estimates.

E. Implementation Arrangements

18. The executing agency, the HCMC People's Committee, has already received delegation of the project management by the Prime Minister under Decree 131/2006/NND-CP. The project owner, SAWACO under the HCMC People's Committee, will implement the grant investment project through the project management unit (PMU) set up under Tranche 1 (footnote 6).

19. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual.¹²

Table 3: Implementation Arrangements

Table of Implementation Arrangements			
Aspects	Arrangements		
Implementation period	January 2014–December 2015		
Estimated completion date	30 December 2015		
Management			
(i) Oversight body	Not Applicable		
(ii) Executing agency	Ho Chi Minh City People’s Committee		
(iii) Key implementing agencies	Saigon Water Corporation, Ho Chi Minh City		
(iv) Implementation unit	PMU in SAWACO, 20 staff (under Ho Chi Minh City Water Supply Project)		
Procurement	International competitive bidding	1 contract	\$700,000
	National competitive bidding	2 contracts	\$800,000
Consulting services	CQS	27 person-months (5 international and 22 national)	\$190,000
	Individual	5 contracts for a total of 36 person-months (8 international and 28 national)	\$260,000
Retroactive financing and/or advance contracting	Not applicable		
Disbursement	The grant proceeds will be disbursed in accordance with ADB’s <i>Loan Disbursement Handbook</i> (2012, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank, CQS = consultant qualification selection, PMU = project management unit, SAWACO = Saigon Water Corporation.

Source: ADB project team.

20. All procurement of goods will be undertaken in accordance with ADB's Procurement Guidelines (2013, as amended from time to time). One goods contract for frequency converters for the raw water pumps will be procured through international competitive bidding procedures and two goods contracts (for the mobile laboratory and the air-conditioner) will be procured under national competitive bidding procedures. All consultants will be recruited according to ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). The Information Communication Education consultant will be recruited as a firm, using consultant qualification selection, since the contract is small (less than \$200,000) and implemented within a short period (12 months). Few firms have the dedicated expertise to assist SAWACO in promoting its energy efficiency policy and building awareness and capacity of SAWACO staff and management.

21. The PMU will prioritize disbursement to suppliers and consultants using direct payment procedures. A project imprest account will be set up upon grant effectiveness to facilitate project implementation and the flow of funds. The account will be exclusively used to finance ADB's share of eligible expenditures. It will be established and administered by the PMU under SAWACO.

¹² Project Administration Manual (accessible from the list of linked documents in Appendix 2).

22. The grant investment project will be implemented parallel to tranche 1 (footnote 6). All the fiduciary requirements from the tranche 1 will also apply to the grant investment project. The PMU will maintain separate records and accounts adequate to identify the goods and services financed from the proceeds of the grant, financing resources received, expenditures incurred for the grant, and use of local funds. Within 6 months of the close of each year, the PMU will submit audited annual grant accounts, which provide a detailed description of the source of funds and expenditures made, and submit SAWACO's audited annual consolidated financial statements to ADB. An auditor acceptable to ADB will audit the annual project accounts and SAWACO's consolidated financial statements. The auditor's terms of reference will be approved by ADB before commencement of work. The annual audit, financed under the tranche 1 (footnote 6) of the investment program (footnote 8), will include an audit opinion on the project imprest account and statement of expenditures of the project.

III. DUE DILIGENCE

23. Project preparation was completed in September 2010, including an energy audit of SAWACO, that led to the request for grant funding. The request for the ACEF to fund the energy efficiency grant was thoroughly reviewed both by ADB and the donor, the Government of Japan.

A. Technical

24. The proposed investment will be for energy saving equipment that will reduce greenhouse gas emissions and the carbon and water footprints of SAWACO. This will result in (i) direct savings of \$500,000 per year on electricity cost and 7,500 tons CO₂ reduction, and (ii) indirect savings of \$1.3 million per year and 18,889 tons CO₂ reduction.

B. Economic and Financial

25. The investment has a payback period of less than 5 years. Incremental cost calculations are included in supplementary appendix. Economic and financial analysis were also completed under the tranche 1 (footnote 6) and disclosed on the ADB website.

C. Governance

26. The grant will be implemented parallel to the tranche 1 (footnote 6) by the same PMU implementing Tranche 1 (footnote 6). All the fiduciary requirements from this project will also apply to the grant.

27. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and SAWACO. The specific policy requirements and supplementary measures are described in the project administration manual.

D. Poverty and Social

28. The energy savings will reduce pressure to increase tariffs. The Information Communication Education component aims for 50% of the trainees to be women. The project is classified as having some gender benefits.

29. HCMC's overall poverty rate of 12% disguises poverty rates of more than 50% in some wards and districts. The urban poor are both long-term residents and migrant households. Surveys show a low incidence of waterborne disease. Satisfaction with SAWACO's service is

good overall, despite some dissatisfaction because of poor water quality. Among households connected to piped water, 84% have individual connections, 12% shared connections with their own meter, and 4% shared connections with a shared meter. Many households buy water from tankers and pay almost twice the official water tariff of D4,000–D10,000 per cubic meter. Although policy dictates free connections, the tertiary distribution network is obviously lacking and will be extended under the program by the component that rehabilitates and replaces pipes.

E. Safeguards

30. The project is classified C for environment (positive impact), involuntary resettlement, and indigenous peoples.

31. Due diligence confirmed that the project will not entail any land acquisition and resettlement impacts, since the equipment will be installed within the boundary of the water production plant and that there are no indigenous peoples living in the project area in HCMC.

32. The project has a positive impact on the environment. Viet Nam is a signatory to the Montreal Protocol, therefore not only will the executing agency make sure it follows the government's laws and regulations on environmental impact assessments and ADB's Safeguard Policy Statement (2009) but it will also abide by laws that implement the government's obligations under international law. Specifically, on the project's proposed investment for air-conditioning systems, and as provided for in para. 33 of Safeguard Requirements 1 of the Safeguard Policy Statement, such systems to be installed should not use chemicals classified as ozone-depleting substances and which are scheduled for phase-out under the Montreal Protocol¹³ on Substances that Deplete the Ozone Layer, such as chlorofluorocarbons; halons; 1,1,1-trichloroethane (methyl chloroform); carbon tetrachloride; hydro chlorofluorocarbons; hydro bromofluorocarbons; and methyl bromide. This includes the Prohibited Investment Activity List, as item (ii) of the list highlights the ban on the use of ozone-depleting substances being phased out under the Montreal Protocol. If there is any discrepancy between the government's laws and regulations and those of ADB, the ADB policy will apply. The procurement of the chemical for installation of the air-conditioning unit will be reported in the project progress report and in the project completion report.

F. Risks and Mitigating Measures

33. The major risk is delay in project implementation. SAWACO is already implementing World Bank and ADB-financed projects. The PMU staff has been trained in ADB procurement and disbursement guidelines. SAWACO has already initiated some investments in energy efficiency with its own funds. Other risks include (i) lack of enforcement of Government policies, resulting in unsustainable operations for SAWACO, mitigated through the implementation of capacity development technical assistance (footnote 5); and (ii) political interference preventing successful implementation and financial sustainability, especially on provision of counterpart funding and water tariff increase. HCMC Peoples' Committee has provided strong support for SAWACO under Tranche 1 (footnote 6), including water tariff increases over 70% between 2009 and 2013. Ministry of Finance issued a joint-circular on calculating water tariff. There are no major risk and mitigation measures to be implemented as part of this project. A risk assessment and risk management plan is included.¹⁴

¹³ http://ozone.unep.org/Publications/MP_Handbook/MP-Handbook-2012.pdf

¹⁴ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

IV. ASSURANCES

34. The government and SAWACO have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards (including government's undertaking under the Montreal Protocol on Substances that Deplete the Ozone Layer), gender, procurement, consulting services, and disbursement, as described in detail in the project administration manual and grant documents.

35. The government and SAWACO agreed with ADB on certain covenants for the project, which are set forth in the grant agreement and project agreement.

V. RECOMMENDATION

36. I am satisfied that the proposed grant would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the administration by ADB of the grant not exceeding the equivalent of \$2,000,000 to the Socialist Republic of Viet Nam for the Energy Efficiency for Ho Chi Minh City Water Supply Project, to be provided by the Asian Clean Energy Fund under the Clean Energy Financing Partnership Facility.

Takehiko Nakao
President

25 September 2013

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
Impact Improved operational performance of SAWACO	Improved service delivery by increasing the service pressure and reducing NRW for existing 480,000 households in HCMC by 2020	PCR for Water Sector Investment Program Tranche 1	Assumption Project implemented as designed Risk Government's policies not enforced
Outcome Energy efficiency in SAWACO operations improved	Improve energy efficiency by savings on electricity of \$1.3 million per year (or 25,000 megawatt) and CO ₂ reduction of 18,889 tons per year by 2015 Target NRW of 32% by 2015 (40%: 2010)	PCR Asian Clean Energy Fund grant Energy audit PCR for Water Sector Investment Program Tranche 1	Assumption Counterpart financing available Risk Political interference prevents successful implementation and financial sustainability
Outputs 1. Capacity building of SAWACO in energy efficiency 2. Investment in energy savings	By end of 2015: Implement energy efficiency policy within SAWACO At least 50% of those trained should be SAWACO women staff Implement IEC in SAWACO Frequency converters, mobile monitoring equipment, and central air-conditioning procured and installed	Annual project report for Water Sector Investment Program Tranche 1 PCR Asian Clean Energy Fund grant PCR Asian Clean Energy Fund grant	Assumption Management empowered to change and accountable to implement energy efficiency policies in SAWACO Risk Timely completion of works and maintenance of quality standards
Activities with Milestones 1. Consulting services (2014) 1.1. IEC for capacity building and awareness campaign in energy savings for the 3,000 staff of the water company and its management 1.2. Monitoring and evaluation under the Asian Clean Energy Fund grant 2. Investment in energy efficiency (2015) 2.1. Procure and install frequency converters for the three raw water pumps at Tan Hiep production plant 2.2. Procure and install mobile monitoring equipment based on water pressure and quality calibration technology 2.3. Procure and replace central air-conditioning at Thu Duc Water production plant			Inputs Asian Clean Energy Fund under the Clean Energy Financing Partnership Facility: \$2.0 million Government: \$1.8 million

ADB = Asian Development Bank; CO₂ = carbon dioxide; HCMC = Ho Chi Minh City; IEC = information, education and communication; NRW = nonrevenue water; PCR = project completion report; SAWACO = Saigon Water Corporation. Source: ADB estimates.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=46265-001-2>

1. Grant Agreement
2. Project Agreement
3. Sector Assessment (Summary): Water Supply and Other Municipal Infrastructure Services
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Economic and Financial Analysis
8. Country Economic Indicators
9. Summary Poverty Reduction and Social Strategy
10. Risk Assessment and Risk Management Plan

Supplementary Documents

11. HCM City Water Supply Project Energy Efficiency Audit
12. Incremental Cost Calculation