

Validation Report
November 2019

Sri Lanka: Sustainable Power Sector Support Project

Reference Number: PVR-631
Project Number: 39415-013
Loan Numbers: 2733 and 2734



Raising development impact through evaluation

ABBREVIATIONS

ADB	–	Asian Development Bank
CEB	–	Ceylon Electricity Board
EIRR	–	economic internal rate of return
EMHPP	–	estate micro-hydropower plant
ESCO	–	energy service company
FIRR	–	financial internal rate of return
GAP	–	gender action plan
MOPE	–	Ministry of Power and Energy
MW	–	megawatt
PCR	–	project completion report
PUCSL	–	Public Utilities Commission of Sri Lanka
SLSEA	–	Sri Lanka Sustainable Energy Authority
TA	–	technical assistance
WACC	–	weighted average cost of capital

NOTE

In this report, “\$” refers to United States dollars.

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PROJECT BASIC DATA

Project Number	39415-013	PCR Circulation Date	24 September 2018	
Loan Numbers	2733 and 2734	PCR Validation Date	Nov 2019	
Project Name	Sustainable Power Sector Support Project			
Sector and subsector	Energy	Electricity transmission and distribution Energy efficiency and conservation Renewable energy generation – small hydropower		
Strategic agenda	Environmentally sustainable growth Inclusive economic growth Public–private partnership			
Safeguard categories	Environment		B	
	Involuntary resettlement		B	
	Indigenous peoples		C	
Country	Democratic Socialist Republic of Sri Lanka		Approved (\$ million)	Actual (\$ million)
ADB Financing (\$ million)	ADF: 10.00 (L2734)	Total Project Costs	162.03	133.34
	OCR: 110.00 (L2733)	Loan/Grant		
		L2733	110.00	85.76
		L2734	10.00	8.37
		Borrower	42.03	39.21
		Beneficiaries	0.00	0.00
	Others	0.00	0.00	
Cofinancier	–	Total Cofinancing	0.00	0.00
Approval Date L2733/2734	27 Jan 2011	Effectiveness Date L2733/2734	19 Sep 2011	17 Nov 2011
Signing Date L2733/2734	20 Jun 2011	Closing Date L2733 L2734	30 Oct 2014 30 Oct 2014	24 Jan 2018 3 Oct 2017
Project Officers	M. Khamudkhanov R. Wimalasena	Location ADB headquarters Sri Lanka Resident Mission	From Mar 2005 Jan 2014	To Dec 2013 Dec 2016
IED Review Director Team Leader	N. Subramaniam, IESP K Thukral, Principal Evaluation Specialist, IESP (as of October 2019)*			

ADB = Asian Development Bank, ADF = Asian Development Fund, IED = Independent Evaluation Department, IESP = Sector and Project Division, OCR = ordinary capital resources, PCR = project completion report.

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I. PROJECT DESCRIPTION

A. Rationale

1. During project preparation, Sri Lanka's power sector struggled to meet the growing demand for electricity at sufficiently low cost and with acceptable reliability. Thermal energy's share in the generation mix increased from 6% in 1995 to 61% in 2010 as demand growth was generally met by oil-fired thermal generation. Increased reliance on imported oil to generate power posed a serious threat to the country's energy security and the environment and increases generation cost. The weak transmission system could not meet the growing demand in the regions. Substantial investments were required to strengthen the transmission network and improve its reliability. About 15% of households—primarily those in rural areas—had no access

to electricity despite the government's intensive investment program to expand the rural distribution network. There was an urgent need for clean energy and indigenous renewable energy sources, reduced losses, and improved energy efficiency.¹

2. The Sustainable Power Sector Support Project (the project) aimed to strengthen the power system network and improve electricity reliability in four of Sri Lanka's nine provinces. Its three main components were (i) strengthening transmission system in Eastern, North Central, Southern and Uva provinces; (ii) expanding rural electrification and improving the distribution system in Eastern and Uva provinces; and (iii) improving energy efficiency and developing renewable energy (footnote 1). The project supported the 2006 national development policy framework that included infrastructure investments needed for accelerated economic growth and reduced regional disparities. The National Energy Policy and Strategies provided a road map for long-term investments. It also envisaged improving electricity access to rural regions, promoting energy efficiency and conservation, and enhancing the quality of supply.² The core problem was that the electricity system could not meet demand at sufficiently low cost and the supply quality was not acceptable—a consequence of transmission constraints, high failure rate in provincial distribution networks, and insufficient low-cost generation capacity. The project addressed some critical limitations of the transmission and distribution networks. It was aligned with the country partnership strategy of the Asian Development Bank (ADB)³ and it also expanded the assistance provided under the Clean Energy and Access Improvement Project.⁴

3. ADB provided a \$110 million loan from the ordinary capital resources (OCR) to finance the project and another \$10 million equivalent from ADB's Special Funds to improve the Eastern province's network in Ampara district and distribution capacity development. The prior internal armed conflict had damaged the electricity distribution system and prevented the implementation of rural electrification program in the Eastern Province where the electrification ratio was 67%, well below the national level of 85% in 2009. Asian Clean Energy Fund's \$1.9 million technical assistance (TA) grant supported the project.⁵

B. Expected Impacts, Outcomes, and Outputs

4. The project's envisaged impact was reliable, adequate, and affordable power supply for sustainable economic growth and poverty reduction. Its targeted outcome was improved coverage, efficiency, and reliability of (electricity) service delivery. Its four outputs were (i) strengthened transmission network, (ii) expanded and improved distribution network in the Eastern and Uva provinces, (iii) increased energy efficiency and additional renewable energy, and (iv) improved livelihood of local communities in Ampara district in the Eastern Province.

¹ ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Administration of Technical Assistance Grant to the Democratic Socialist Republic of Sri Lanka for the Sustainable Power Sector Support Project*. Manila; and ADB. 2018. *Completion Report: Sustainable Power Sector Support Project in Sri Lanka*. Manila.

² Democratic Socialist Republic of Sri Lanka. 2008. *National Energy Policies and Strategies of Sri Lanka*. Colombo.

³ ADB. 2008. *Country Partnership Strategy: Sri Lanka, 2009–2011*. Manila.

⁴ ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Loans, Grant, Administration of Grant and Technical Assistance Grant to the Democratic Socialist Republic of Sri Lanka for the Clean Energy and Access Improvement Project*. Manila.

⁵ Attached Technical Assistance (accessible from the list of linked documents in Appendix 2 of the report and recommendation of the President). The \$1.9 million associated TA 7778-SRI on the Implementation of Energy Efficiency Policy Initiatives was approved on 27 January 2011 and funded by Japan government's Asian Clean Energy Fund.

C. Provision of Inputs

5. ADB approved the project in January 2011 and it was effective in November 2011, a delay of 2 months from the scheduled date in September 2011. Loan effectiveness was delayed because the government took a longer time to approve the subsidiary financing agreement with Ceylon Electricity Board (CEB) and the project agreement with Sri Lanka Sustainable Energy Authority (SLSEA). Both loans from OCR and Special Funds were expected to be closed in October 2014, but the former financially closed in January 2018 (40 months delays) and the latter in October 2017 (36 months delay). According to the project completion report (PCR), the project's closing date, corresponding to the completion of loan-funded works, was extended twice with a delay of 20 months.⁶ The delay in implementing the new Galle components—132-kilovolt substation and 40-kilometer transmission line—was due to the contractor's poor performance and unforeseen site conditions,⁷ and CEB recovered liquidated damages due the contractor's delay. A 12-month extension was also necessary to implement the additional scope at two transmission substations in the North Central (Polonnaruwa) and Uva (Monaragala) provinces that was approved in November 2014 located.⁸

6. The project's estimated cost was \$162 million and the completed cost was \$133 million, including \$13.5 million for the scope change approved during project implementation and still reflected an underrun of 18%. The PCR, noted the cost underrun were due to the weak Sri Lanka rupee (SLR),⁹ very competitive offers from international competitive bidding,¹⁰ and high initial estimates.¹¹ The base project cost, excluding taxes and duties, was \$112 million at appraisal and \$102 million at completion; the foreign currency cost was \$5 million higher; and the local currency cost was \$15 million lower. It was noted that CEB had not provided the SLR-denominated duties and taxes so the amount mentioned in the PCR was an approximation of foregone taxes (project had tax-exempt status).¹² It was not explained why the financing charges at \$11.3 million was the same at approval and completion even though the local cost was 30% lower. The share of government financing was estimated as 26% at approval, which increased to 29% on completion—not a significant difference considering that approximate values of taxes and financing charges were used in the PCR.

7. CEB supervised, monitored, and reported the project implementation. Consulting services were used to (i) prepare, monitor, and report the environmental and social management plans, (ii) design the Galle Fort lighting, (iii) prepare the detailed design and bidding documents for Moragolla hydropower project, (iv) recruit an energy service company (ESCO) to rehabilitate and repower the estate micro-hydropower plants (EMHPPs) owned by the tea and rubber estates and other private sector entities, and (v) implement appliances efficiency measures.¹³ CEB used

⁶ The reason for the delay of 10 and 14 months in financially closing the loans (over and above the 6 months normally expected for submission of all claims) was not elaborated in the PCR.

⁷ These were adverse weather, increased rock excavation, and the use of alternate counterpoise earthing system.

⁸ Information about loan savings and approval of additional scope was provided in various aide memoire of review missions. The additional scope for the transmission substation in the Central Province (Kiribathkumbura) was approved on 21 August 2013 and it did not need an extension of the loan closing date.

⁹ The change was from SLR112/\$ to SLR147/\$, which translated to a reduction of \$10 million in \$ terms.

¹⁰ The contingency provision of \$12 million remained unutilized.

¹¹ For example, the consulting services contract to prepare the Moragolla hydropower project was estimated at \$5.8 million, but the actual cost was \$3.2 million.

¹² ADB. 2018. *Completion Report: Sustainable Power Sector Support Project in Sri Lanka*. Manila. Appendix 2.

¹³ The consulting services for the implementation of gender action plan (GAP) was provided by a regional TA. ADB. 2011. *Grant Assistance Report: Proposed Administration of Grant to the Democratic Socialist Republic of Sri Lanka for Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal and Sri Lanka*. Manila.

about 28 person-months at \$88,453 for Galle Fort lighting model.¹⁴ The input estimated to prepare the Moragolla hydropower project was 163 person-months of international consultants and 160 person-months of domestic consultants (footnote 11). SLSEA engaged four individual domestic consultants for \$66,800 for the appliance energy efficiency–related tasks. The domestic consultant effort for ESCO was 14 person-months at \$60,000.

8. The project was classified as category B for environment and resettlement, and category C for indigenous peoples.¹⁵ The associated TA supported government’s energy efficiency initiatives complemented the project’s energy efficiency and renewable energy component (footnote 5). The Ministry of Power and Energy (MOPE) was the executing agency and SLSEA was the implementing agency for the TA. It was rated satisfactory.¹⁶ The specific outputs were established testing laboratories for lighting and refrigeration appliances;¹⁷ field trial-based design guidelines and recommendations for domestic lighting, strategy, and implementation plan for efficient lighting; trained energy auditors; and a published energy audit manual. An international consulting firm provided 17 person-months input of international consultants and 53 person-months of national consultants.

D. Implementation Arrangements

9. MOPE was the project’s executing agency. CEB was the implementing agency for strengthening transmission systems, expanding rural electrification and improving distribution system, installing capacitor banks, and preparing the Moragolla hydropower project. It established three project implementation units (PIUs) to supervise and monitor turnkey contracts. It had adequate project implementation capacity so there was no need for consulting services. Likewise, SLSEA was the implementing agency for the remaining energy efficiency improvement and renewable energy development components, such as, rehabilitating and repowering EMHPPs, and establishing appliance testing laboratory. It also established a PIU to contract individual domestic consultants for energy efficiency and engage an ESCO to repower EMHPPs.

10. The associated TA supported the project’s energy efficiency improvement component, and it was relevant, effective and efficient in achieving its outputs and outcomes. The laboratory for lighting and refrigeration appliances was operational. Design guidelines and product recommendations were prepared based on field trials. Training was imparted to energy auditors, related manuals were prepared, and energy efficiency measuring instruments were procured. Related knowledge products were prepared and submitted to SLSEA. At approval, the TA impact was estimated as an annual saving of 460 gigawatt-hours and, consequently, a reduction of 354,000 tons in carbon dioxide (CO₂) emission. Data for estimating the actual savings would be available from future household energy consumption surveys.

¹⁴ ADB (South Asia Department). 2016. Review Mission to Sri Lanka: Sustainable Power Support Sector Project. Back-to-office report. 2 November (internal). The information related to consulting services was taken from the report of the loan review mission and the disclosed procurement plan (November 2017). The PCR did not provide a breakup of the actual consulting services.

¹⁵ In accordance with ADB. 2009. *Safeguard Policy Statement*. Manila.

¹⁶ ADB. 2018. *Completion Report: Sustainable Power Sector Support Project in Sri Lanka*. Manila. The completion report on the associated TA is in Appendix 10 of the project completion report. Actual TA funds utilization was \$1.5 million out of the approved amount of \$1.9 million.

¹⁷ Equipment for the testing laboratory was procured from proceeds of the loan as well as the TA. The PCR did not clarify the reason for using \$0.1 million of the loan funds for energy efficient testing laboratory (Appendix 2), although there was about \$0.4 million unutilized TA grant fund (Appendix 10).

11. There were 26 covenants—the Special Funds loan agreement had 22 covenants, and the project agreement covering both loans had 4 covenants.¹⁸ These covenants were related to implementation arrangement, regulations for EMHPPs, safeguards (including gender action plan [GAP]), governance and anticorruption, counterpart support, and reporting. Of the 26 covenants, 24 were complied with and 2 were partially complied with. One partially complied with covenant required the government to issue labeling regulations for appliances by December 2011. However, only the regulation for compact fluorescent lamps was issued in 2009, regulations for fluorescent lamps and ballasts were issued after 2011, and those for refrigerators and air conditioners were being prepared.¹⁹ The other covenant that was partially complied with covenant was related to the timely submission of annual audited financial reports and project accounts. The reports for CEB were delayed mostly because of the prolonged parliamentary process for ratification, and SLSEA did not prepare separate financial statements as these were integrated with government accounts.

II. EVALUATION OF PERFORMANCE AND RATINGS

A. Relevance of Design and Formulation

12. The PCR rated the project relevant. It indicated that at approval and completion, the project design was consistent with the government's development policy (para. 2) of increased electricity access in remote rural areas. The project also supported the results framework of ADB's country partnership strategy for the power sector (para. 2) by providing improved electricity services and efficient use of energy resources.²⁰ There was a logical link between the inputs, outputs, and outcome. The same logic was applied when the project scope was increased. This validation considers the GAP to be an innovative addition for a power sector project. There were also components that targeted ADB's two strategic agenda—environmentally sustainable growth and private sector participation—and had significant demonstration effect. These were repowering EMHPPs for increased renewable energy supply and measures for demand-side management (establishing standards for lighting and widely used domestic appliances). The ESCO facilitated the interaction among the three main stakeholders—private sector entities that owned EMHPPs, local banks that provided debt for required capital expenditure, and CEB that purchased the electricity generated. Only one pilot EMHPP could be repowered although the target was to repower 19 plants with a 1.3-megawatt (MW) aggregate capacity.²¹ The challenge of repowering EMHPP was not adequately addressed in the project design at approval and later during implementation. This design weakness was limited to a very small portion of the project cost (\$1.5 million out of \$132.6 million) linked to two key project features, namely, the targeted renewable energy subsector and the strategic agenda of private sector participation. This validation assesses the project relevant.

¹⁸ The PCR (Appendix 6) listed these 26 covenants. However, Article II of the Project Agreement (titled "Particular Covenants") had 14 sections, some with multiple covenants. The PCR listed only the pertinent covenants. A covenant linked to CEB's financial performance was not included in the project agreement, however, subsequent loans for the power sector had such covenants.

¹⁹ Presidential Task Force on Demand Side Management. www.energy.gov.lk/ODSM/Standards-and-Regulations.html (accessed 7 May 2019).

²⁰ Footnote 3 and ADB. 2017. *Country Partnership Strategy: Sri Lanka, 2018–2021—Transition to Upper Middle-Income Country Status*. Manila.

²¹ According to the PCR, the tea estates were unwilling to proceed with the repowering because of declining international tea price that lowered their cash flow. This validation considers this it to be a business cycle issue, which did not negatively impact on the long-term viability of exploiting the proven renewable energy resource of EMHPP.

B. Effectiveness in Achieving Project Outcomes and Outputs

13. The PCR rated the project effective. Of the five outcome indicators, three were achieved, one was partially achieved, and one was not achieved. The following outcome targets were achieved: (i) CEB's technical and commercial losses reduced to 9.6% in 2016 as compared to the target of 12%; (ii) electrification ratio increased to 98% in the Eastern Province in 2016 against the target of 80%; and (iii) overall technical and commercial losses were about 9.6% in 2016 since the CEB no longer reports distribution losses directly, while the distribution losses target was 10%. The target for energy efficiency labeling was partially implemented because it failed to meet the 2011 target date. However, labeling influences the stock of appliances in use and appliance purchase decisions over a very long term and so this validation considers the target to be substantially achieved. Only one EMHPP was repowered so the achievement against this indicator was negligible.

14. This validation notes that all major outputs were achieved. Of the 14 output targets, 10 were achieved, 1 substantially achieved, and 3 partially achieved. The substantially achieved output pertained to rural households connected to electricity. Those partially achieved output targets were the additional MW from the micro hydropower plant added to the grid, women participants on energy auditors' training, on safe and efficient use of energy.

15. The project was correctly classified as category B for environment and for involuntary resettlement, and category C for indigenous peoples. The implementation of safeguard-related plans was satisfactory. It was in material compliance with ADB requirements and the host country laws and regulations. The initial environmental examination did not identify any significant environmental impact and the public views supported the project as it improved their livelihoods (providing electricity for water pumping, illumination, among others). The overall performance related to safeguards was evaluated as satisfactory based on a review of safeguards documentation. CEB had confirmed that affected persons had been duly compensated and no grievance was reported. Only one household lost a small portion of land and the project did not result in permanent physical or economic displacement; most impacts were associated with temporary loss of crops.²² The environmental management plans were established, environmental impacts and mitigation measures were adequately addressed, and environmental monitoring programs were developed and instituted. Public consultations were held with the project-affected communities and stakeholders.

16. The project was also classified as effective gender mainstreaming and a GAP was formulated that (i) assessed gender inclusiveness at the level of energy policy, programs, and organizations; (ii) improved rural women's access to electricity and delivery of services in the Eastern Province; and (iii) incorporated a GAP performance and monitoring system. The PCR elaborated on the GAP showing that it was successfully implemented; the awareness-raising sessions resulted in reducing high-energy consuming appliances, the training helped women improve the quality of products and empowered them, and women acquired significant decision-making role in purchasing household appliances. Given that most of the outcome and output indicators were achieved, this validation rates the project effective.

²² ADB (Independent Evaluation Department). 2019. Project Safeguard Assessment: Sustainable Power Sector Support Project in Sri Lanka. 25 March (internal).

C. Efficiency of Resource Use

17. The PCR rated the project efficient based on the recalculated economic internal rate of return (EIRR) of 18.1%. It was lower compared to the estimate of 23.2% at approval. There was a reduction in project cost (18%) and increase in benefits because of the additional transformer capacity (30%), although the benefits accrued from 2016 with a 20-month delay.²³ The same EIRR model was used with updated project cost and electricity sales. A key difference was the revision of the value of unserved energy from SLR502.30 per kilowatt-hour at approval to SLR95.90 per kilowatt-hour based on the Public Utility Commission of Sri Lanka's (PUCSL) published estimate. The costs of capacitor banks and specialized vehicle were included, but no benefits were attributed; it was a conservative approach as the resulting voltage improvement increased power flow and lowered losses in transmission system. Costs and benefits of the energy efficiency and renewable energy component were ignored as the share of project cost was low at 5%, and it did not include the required investment in appliances and EMHPPs. The EIRR model was very elaborate as it separately calculated the costs and benefits for the two transmission components and three distribution components. The methodology was in line with the normal practice, and this validation considers it robust and conservative. Given the delay in project completion, this validation rates the project is efficient.

D. Preliminary Assessment of Sustainability

18. The PCR rated the project likely sustainable. The financial internal rate of return (FIRR) was recalculated as 6.3% and the weighted average cost of capital (WACC) as 3.3%, compared to an FIRR of 10.3% and WACC of 0.6% at approval.²⁴ PUCSL approved the methodology to determine tariff in 2011 after the project's approval. It capped CEB's revenue from electricity sales.²⁵ The return on invested capital reflected the new tariff regulation—a return on equity of 8.5% (post tax), interest rate of 2%, and a debt–equity ratio of 70% starting 2021. The use of approved methodology lowered the FIRR. The recalculated WACC was based on a nominal cost of debt.²⁶ CEB's historical financial performance had been weak, but the introduction of the cost-based tariff regime in 2011 has started improving results. CEB has the technical and managerial capacity to suitably maintain the transmission and distribution systems. The ongoing decentralization program has made it more responsive to customers. Energy efficiency standards has generally increased the support for the project. The demand for electricity, and CEB's revenue, will increase for many years. This validation notes that there is little risk that the FIRR will be below the WACC, but that a realistic approach to determine revenue stream can result in a lower value than 6.3% mentioned in the PCR. Based on these, this validation rates the project likely sustainable.

²³ The implementation delay was due to the additional time linked to the scope change.

²⁴ This validation finds the methodology to recalculate FIRR to be subjective. Instead of using PUCSL's tariff methodology to derive CEB's revenue stream, a more realistic approach is to use the actual tariff for various consumer categories and corresponding energy consumption data after project completion. Future tariffs can be based on PUCSL's tariff methodology (with suitable assumptions) and energy consumption linked to government's growth forecasts.

²⁵ The allowed revenue was equal to the sum of depreciation, return on invested capital (actual cost of debt and return on equity), operation and maintenance (2% of fixed assets), and taxes. However, the return on equity was set to zero for the 5-year period starting 2016.

²⁶ Excel file provided with project documents indicated that the cost of debt was assumed to be 10%, or about the same as that mentioned in CEB's annual report (CEB. 2016. *2015 Annual Report of Ceylon Electricity Board, Towards Sustainable, Affordable and Greener Energy*. Colombo).

III. OTHER PERFORMANCE ASSESSMENTS

A. Preliminary Assessment of Development Impact

19. The PCR rated the development impact of the project highly satisfactory. The electricity supply in the project areas had become more reliable, the generation reserve had increased, and there was abundant transmission capacity. The distribution component helped increase the electrification ratio to 99.3% in 2016. The implementation of the GAP had significant positive social impact according to the survey results presented in the PCR.²⁷ The project contributed towards ADB's results framework targets on the addition of transmission and distribution lines, and electricity connections to households.²⁸ The design and monitoring framework identified four impact indicators and the targets were exceeded, (i) electrification ratio of 98%—it increased to 99.3% in 2016, (ii) average cost of power reduced by 25%—it reduced in real terms by 40% in 2016, (iii) 500 MW of renewable energy capacity added—the actual addition was 518 MW in 2016, and (iv) CEB's cash flow to cover cost—the earnings before interest and tax was positive from 2013 to 2015. This validation rates the project highly satisfactory.

B. Performance of the Borrower and Executing Agency

20. The PCR rated the performances of the borrower (government) and the executing agency (MOPE) satisfactory. Counterpart funds were provided in a timely manner. There were some initial delays in loan effectiveness and contract award stemming from the late approval of the subsidiary financing agreement with CEB (para. 5). The relationship with ADB improved significantly during project implementation. CEB as one of the implementing agencies implemented the project without the need for implementation consultants. CEB engineers also monitored the progress and managed the turnkey contracts. CEB's performance was satisfactory. The 3- to 4-year delay in the loan closing was not elaborated in the PCR (footnote 6). SLSEA as the other implementing agency was unable to bring together the stakeholders to repower EMHPPs, mainly because of the lack of resources needed to address the challenges involved in securing investment from private sector owners and lenders. SLSEA performance was less than satisfactory, although the allocation of loan funds for this component constituted only a small part of the project cost. On the whole, this validation rates the borrower and executing agency performance satisfactory.

C. Performance of the Asian Development Bank

21. The PCR rated the ADB's performance satisfactory. ADB fielded nine review missions and staff visited all project sites. There was positive feedback from the government and the implementing agencies. The close interaction maintained by ADB project officers and timely approvals were appreciated. SLSEA expressed difficulties in meeting the ADB requirements for selecting the low-valued ESCO contractor but was positive about ADB's performance. This validation rates ADB performance satisfactory.

²⁷ There was also a request to drop at least one target because it is outside the scope of the project (PCR, para. 32).

²⁸ The PCR included the addition of renewable energy capacity and expected energy savings from the measures introduced by the associated TA. However, this validation only attributes the output achievements to the results framework, namely, only the investments under the project scope.

IV. OVERALL ASSESSMENT, LESSONS, AND RECOMMENDATIONS

A. Overall Assessment and Ratings

22. Overall, the PCR rated the project successful. It was rated relevant, effective, efficient, and likely sustainable. The project was implemented as envisaged and, except for the EMHPP component, the key expected outputs were achieved. The visit to project sites revealed that the equipment was of high quality, well-maintained, and functioning without interruption. This validation considers the project successful.

Overall Ratings

Validation Criteria	PCR	IED Review	Reason for Disagreement and/or Comments
Relevance	Relevant	Relevant	
Effectiveness	Effective	Effective	
Efficiency	Efficient	Efficient	
Sustainability	Likely sustainable	Likely sustainable	
Overall Assessment	Successful	Successful	
Preliminary Assessment of Impact	Highly satisfactory	Highly satisfactory	
Borrower and EA	Satisfactory	Satisfactory	
Performance of ADB	Satisfactory	Satisfactory	
Quality of PCR		Satisfactory	Para. 28.

ADB = Asian Development Bank, EA = executing agency, IED = Independent Evaluation Department, PCR = project completion report.

Source: ADB Independent Evaluation Department.

B. Lessons

23. The PCR noted a **project-level lesson** indicating that the delay in procurement could have been avoided by strengthening CEB's capacity and authorizing it to approve bidding documents, evaluate bids, and award contracts. Appointing a single contact point in CEB would improve coordination with ADB and project administration. The PCR noted that the challenging task of bringing together multiple stakeholders and following up for required approvals to repower EMHPPs should not be assigned to a new and under-resourced entity like SLSEA. This evaluation agrees with these lessons.

24. There is a **sector-level lesson** related to the design of the EMHPP component—that considering the lack of commercial skills in SLSEA to facilitate private sector investment—better results were possible with the allocation of more international experts and person-months of consulting services. The successful demonstration of the EMHPP rehabilitation and repowering component could have led the rehabilitation and repowering of other EMHPPs with the accompanying benefit of reduced CO₂ emissions.

25. Another **sector-level lesson** relates to the project's positive social impact, particularly with the innovative inclusion of a GAP. Power sector projects that have components for strengthening electricity distribution systems and adding new electricity connections had direct impact at the household level. This project showed that successful GAP implementation had measurable changes in women's status so the formulation of a GAP may be mainstreamed for similar projects with distribution system components.

C. Recommendations for Follow-Up

26. The PCR recommended that ADB should continue monitoring CEB's financial performance as well as technical performance on the transmission and distribution components implemented under the project. Also, subsequent ADB loans should impose progressively stringent financial performance and financial management covenants on CEB. Regarding the implementing agencies that are relatively new and have limited institutional experience, such as SLSEA, the PCR recommended that ADB should give more attention to assessing their capacity, as large teams of consultants do not necessarily compensate for inadequate institutional capacity. ADB should also follow up on SLSEA's progress in labeling the energy efficiency of household appliances. More generally, the PCR also recommended that ADB should pay attention to understanding how procurement packaging and expected contract values can expedite requisite approvals for executing and implementing agencies. The PCR indicated that a project performance evaluation report be prepared after the PCR has been finalized. This validation supports the recommendations, except for the preparation of a project performance evaluation report.

V. OTHER CONSIDERATIONS AND FOLLOW-UP

A. Monitoring and Reporting

27. CEB was responsible for monitoring and submitting reports related to all the investment components of the project. According to the PCR, the periodic reports for implementation progress and safeguards reports were submitted on time. However, submission of annual financial reports were delayed. The monitoring of GAP activities and related reporting was carried out under a separate regional TA (footnote 13). Completion reports were submitted for all CEB-implemented project components.

B. Comments on Project Completion Report Quality

28. The PCR provided a comprehensive description and objective assessment of the project outcome, outputs, and achievement of targets. The environmental and social safeguards aspects were succinctly summarized. It described the methodology used to recalculate EIRR and FIRR, and provided a supporting Excel file for review. The PCR quality is rated satisfactory.

C. Data Sources for Validation

29. Data sources for the validation included the report and recommendation of the President, the PCR, loan review mission reports, project safeguards assessment, and some external reports that have been cited.

D. Recommendation for Independent Evaluation Department Follow-Up

30. The project components were completed successfully except for the repowering of EMHPPs. The project implemented discrete number of transmission lines and substations, and small investments were made at a very large number of distribution lines and substations. A cost-benefit analysis was presented in the PCR. The risk of sustainability was being mitigated through continued reporting of CEB's operations and PUCSL tariff approvals under other ongoing projects. Given these, this validation finds insufficient justification for preparing a project performance evaluation report.