



1. Project Data

Project ID P115464	Project Name CV-Recovery&Reform of Electricity Sector	
Country Cabo Verde	Practice Area(Lead) Energy & Extractives	
L/C/TF Number(s) IBRD-81150	Closing Date (Original) 30-Sep-2016	Total Project Cost (USD) 51,633,307.16
Bank Approval Date 19-Jan-2012	Closing Date (Actual) 30-Mar-2018	
	IBRD/IDA (USD)	Grants (USD)
Original Commitment	53,500,000.00	0.00
Revised Commitment	53,443,428.63	0.00
Actual	51,633,307.16	0.00

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2. Project Objectives and Components

a. Objectives

According to the Loan Agreement dated February 3, 2012 (p.5) and the Project Appraisal Document (PAD, p.16) the project objective was:



"to increase electricity generation in the Islands of Sao Vicente and Santiago and to assist ELECTRA [*Empresa Publica de Electricidade e Agua* – state-owned national power and water utility company] to reduce electricity losses in the Island of Santiago*."

The PDO will be evaluated as consisting of two objectives as follows:

Objective 1: "to increase electricity generation in the Islands of Sao Vicente and Santiago"

Objective 2: "to assist ELECTRA to reduce electricity losses in the Island of Santiago."

The Implementation Completion and Results Report (ICR, p.14-15) first evaluates the achievement of the project objectives without undertaking a split evaluation. Later, the ICR (p.16) applies a split evaluation citing that "some outcome targets, as well as few baseline values, were modified during the project's second restructuring." Since the project's key associated outcome targets were revised at the second restructuring in September 2016, this review will undertake a split evaluation of the achievement of project objectives and outcome (Guidelines for Reviewing World Bank ICR Reports, p.48).

* In the PAD, "the Island of Santiago" was written as "Santiago Island."

b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

Did the Board approve the revised objectives/key associated outcome targets?

No

c. Will a split evaluation be undertaken?

Yes

d. Components

The project had four components, with separate allocations of \$5.0 million for contingencies and \$0.5 million for project preparation advance refinancing.

1. Priority Investments in Electricity and Water. (*Appraisal cost: US\$42.50; Actual cost: US\$46.05 million*) This component included the following project activities: (i) the extension of Palmarejo Power Plant



in Praia (Island of Santiago) through the installation of two 10 MW heavy-fuel-oil-fired (HFO-fired) generation units; (ii) the extension of Lazareto Power Plant in Mindelo (Island of Sao Vicente) through the installation of one 5.5 MW HFO-fired generation unit; and (iii) provision of additional water storage capacity in Palmarejo (Island of Santiago).

2. Support for ELECTRA's Loss Reduction Plan. (*Appraisal cost: US\$6.0 million; Actual cost: US\$2.36 million*) Under this component, metering equipment, metering technology and an automatic metering management system were to be provided to support ELECTRA in measuring electricity balances at different levels of the electricity supply chain, reducing electricity distribution losses and ensuring proper management and optimization of the remote metering capabilities.

3. Support to ELECTRA's Reform and Sector Governance. (*Appraisal cost: US\$1.50 million; Actual cost: US\$1.35 million*) This component included technical assistance activities to support electricity sector reform and reorganization of ELECTRA, and the monitoring of the Performance Management Contract that was entered into by the Government of Cape Verde and ELECTRA in October 2011 for the purpose of improving ELECTRA's performance.

4. Project Implementation, Communication, and Monitoring and Evaluation. (*Appraisal cost: US\$3.00 million; Actual cost: US\$3.39 million*) This component included technical assistance activities to support electricity sector reform and reorganization of ELECTRA, and the monitoring of the Performance Management Contract that was entered into by the Government of Cape Verde and ELECTRA in October 2011 to improve ELECTRA's performance.

Revised Components

The construction of the water storage under Component 1 was cancelled, and this activity was funded by the Government of Austria (ICR, p.12). Furthermore, a grant received from the European Investment Bank was used for the financing of project activities related to provision of metering equipment and metering technology under Component 2 (ICR, p.10; and Restructuring Paper dated May 20, 2015, p.3). The bank funds for these activities were reallocated to Component 1, which resulted in doubling the capacity of the HFO-fired generation unit in the Island of Sao Vicente from 5.5 MW to 11 MW.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates



Project Cost: The total baseline project cost was originally estimated at US\$53.0 million excluding US\$5.0 million for contingencies and US\$0.50 million for refinancing for project preparation advance. The project closed with a total cost of US\$53.56 million including US\$0.40 for the refinancing of project preparation advance.

Financing: At appraisal, the International Bank for Reconstruction and Development (IBRD) funding was estimated at US\$53.50 million. At project closing, the IBRD financing stood at 51.63 million. The project team confirmed that the undisbursed amount was being processed for cancellation at project closure. There was no other donor contribution planned at appraisal; however, the Government of Austria financed the construction of the water storage for US\$0.60 million, and the European Investment Bank financed the procurement and installation of meters and metering technology for Euro 6.0 million.

Borrower contribution: The borrower contribution was estimated at US\$5.0 million, including US\$3.0 million for contingencies. At project closure, the borrower contribution stood at US\$1.8 million which covered the costs of the Project Implementation Unit.

Restructurings and Dates: There were three restructurings.

First Restructuring (May 20, 2015): As a result of a Euro 6.0 million grant received from the European Investment Bank to finance some project activities under Component 2, the IBRD funds for these activities were reallocated to finance the generation capacity expansion at Lazareto Power Plant in Sao Vicente Island from 5.5 MW to 11 MW.

Second Restructuring (September 8, 2016): Baseline values and targets for electricity generated, average interruption duration and the number of direct beneficiaries were revised based on updated data. The project closing date was extended by 12 months from September 30, 2016 to September 30, 2017 to cover delays caused "mainly due to ELECTRA's difficulties to lay out and implement a clear loss reduction strategy" (Restructuring Paper dated September 8, 2016, p.5), and to accommodate time for the implementation of a Revenue Protection Program (RPP) and sector restructuring study in accordance with the preferences of the new government, which took office in March 2016.

Third Restructuring (September 29, 2017): Loan proceeds were reallocated to finance ELECTRA restructuring studies, and the project closing date was extended by six months from September 30, 2017 to March 30, 2018 to allow the completion of the Revenue Protection Program and the restructuring studies, which were delayed due to slow progress in bidding process (Restructuring Paper dated September 29, 2017, p.3).



Disbursement Percentages

Following disbursement percentages will be used in deriving the weights to be applied in split evaluation.

PDO/Key Associated Outcome Targets	Disbursed Amount (\$ million)	Disbursement Percentage (%)
Original	49.93	93.22
Revised in September 2016	3.63	6.78
Total	53.56	100.00

3. Relevance of Objectives

Rationale

Alignment with strategy: When project closed in March 2018, the Country Partnership Framework FY2018-2021 was still in preparation. The project objectives were consistent and aligned with the latest World Bank Country Partnership Strategy (CPS) for Cape Verde for FY2015-2017. In the second pillar of the CPS (p.24), energy is listed as a sector that enables competitiveness and private sector development (p.23), and the expected outcomes of this project are listed as the indicators to measure improved electricity sector performance. The CPS (p.25) defines the involvement of the World Bank in the electricity sector reform through its support to the implementation of key elements of a comprehensive reform program, including a result-based management contract. The project mainly sought to address the short-term power shortage problem in Cape Verde for which 80 percent of the funds were allocated at appraisal. The second objective to reduce electricity losses was indirectly related to the sector reform and the restructuring of ELECTRA.

Country context: Project objectives to increase electricity generation and reduction of electricity losses are more output-oriented rather than outcome. Nevertheless, the first objective to increase electricity generation was appropriately pitched for development status in Cape Verde as described in the CPS. Although the electricity access rate reached 98 percent, the reliability and quality of the electricity supply was classified as very poor in the 2014 Global Competitiveness Report, despite some improvements in load shedding from investments in electricity generation through renewable energy resources (CPS, p.15). Insufficient



infrastructure, including electricity sector, and high cost of electricity are cited among the reasons preventing investments and the growth of private sector. The project implementation unit and ELECTRA have the capacity to implement project activities to achieve the project objective to increase electricity supply. On the other hand, the second objective to reduce electricity losses was an ambitious objective given the low commitment of ELECTRA and the Government of Cape Verde, whose focus was on the power supply emergency (ICR, p.19).

Previous sector experience: The project benefited from the lessons learned from the implementation of Energy and Water Sector Reform and Development Project (EWSRDP) which closed in December 2008. The EWSRDP had a very complex project development objective consisting of five sub-objectives. Electricity sector related sub-objectives were to improve the quality and extend the coverage of power system, to increase operational and end-use efficiency in the power sector, to lessen the barriers to the development of renewable energy resources, and to reduce the cost of power service. Compared to these very ambitious objectives, this project had more realistic objectives, mostly driven by the power supply emergency in the country.

Rating

High

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective

To increase electricity generation in the Islands of Sao Vicente and Santiago.

Rationale

Theory of Change

The project objectives were clearly defined, but they were closer to the output level, rather than outcome level. As the theory of change figure (ICR, p.7) shows, monitoring of the performance management contract, and technical assistance to design and implement key reforms of ELECTRA did not have direct causal link with the achievement of the project objectives; they were expected to contribute to the restructuring of ELECTRA in the long run. Furthermore, the construction of the water storage capacity was "to satisfy the increasing demand for potable water on the island of Santiago" (PAD, p.18); it was not directly linked to the achievement of the project objective, although increased water storage would allow ELECTRA to shift water



desalination activities to electricity demand off-peak hours resulting in improved electricity generation planning. On the other hand, a clear and direct causal link can be established between the construction of HFO-fired power plants in the Islands of Sao Vicente and Santiago and the project objective to increase electricity generation in these two islands. Furthermore, project activities (i) to improve ELECTRA's ability to measure energy balances; (ii) to reduce electricity distribution losses; and (iii) to ensure proper management and optimization of the remote metering capabilities through the provision and installation of metering equipment, were expected to contribute to the achievement of the project objective to reduce electricity losses.

Outputs

- Installed generation capacity in the Island of Sao Vicente increased by 11 MW against a target of 5.5 MW. As a result of this investment, total available generation capacity in the Island of Sao Vicente increased by 50 percent.
- Installed generation capacity in the Island of Santiago increased by 22.3 MW against a target of 20 MW. As a result of this investment, total available generation capacity in the Island of Santiago increased by 30 percent.

Outcomes

- Electricity generated in the Island of Sao Vicente increased to 79.09 GWh from a baseline of 66.01 GWh. The target set at appraisal was 97.0 GWh. Achievement of the target was 42.2 percent.
- Electricity generated in the Island of Santiago increased to 241.80 GWh from a baseline of 198.52 GWh. The target set at appraisal was 267.77 GWh. Achievement of the target was 62.5 percent.
- Average electricity interruption duration in Praia in the Island of Santiago decreased from a baseline of 69.67 hours to 20.23 hours against a target of 48.73 hours. This indicator is related to the reliability of electricity supply.

The project fell short of meeting the generation targets because of lower than estimated electricity demand. The electricity demand forecast study used at appraisal predicted that tourism resorts would be constructed in both islands, which did not materialize due to adverse effects of the global economic and financial crisis. On the other hand, although it is not included in the project objective, the reliability of electricity supply improved mostly due to investments carried by ELECTRA in the grid with other financing (ICR, p.10), and partly due to



the increased electricity generation. However, there is not sufficient data to determine how the project activities in electricity generation contributed to the increased reliability of electricity supply in Praia.

Rating

Substantial

OBJECTIVE 1 REVISION 1

Revised Objective

To increase electricity generation in the Islands of Sao Vicente and Santiago.

Although Objective 1 was not revised, a split evaluation will be undertaken due to revisions made to the key associated outcome targets.

Revised Rationale

For outputs please see Objective 1 above.

Outcomes

- Electricity generated in the Island of Sao Vicente increased to 79.09 GWh from a baseline of 66.01 GWh. The revised target was 67.8 GWh, which was very close to the baseline.
- Electricity generated in the Island of Santiago increased to 241.80 GWh from a baseline of 198.52 GWh. The revised target was 202.50 GWh. Similar to the previous outcome indicator, the revised target was very close to the baseline.
- Average electricity interruption duration in Praia in the Island of Santiago decreased from a baseline of 69.67 hours to 20.23 hours against a revised target of 36 hours. This indicator is related to the reliability of electricity supply.

At the second restructuring in September 2016, the HFO-fired power plants had already been operational for more than one year. Therefore, ELECTRA had actual electricity generation figures, which were slightly above the baseline figures. This led to a revision of the electricity generation targets to account for lower demand than the estimate made at appraisal. Against these revised targets, the project was successful in increasing electricity generation in two islands.



Revised Rating

High

OBJECTIVE 2

Objective

To assist ELECTRA to reduce electricity losses in the Island of Santiago.

A split evaluation will not be undertaken for this objective since there was no progress in achieving the key associated outcome before and after its revision in September 2016.

Rationale

Outputs

- Network metered at the feeder level achieved its target of 100 percent. Before the project, the network was not metered at the feeder level. European Investment Bank (EIB) provided funds for these activities.
- The number of residential meters installed was 16,100 against a target of 16,000, which was financed by the EIB.
- Electricity sector financial and performance monitoring could not be established.

Outcomes

- Electricity system losses per year in the Island of Santiago increased to 36.3 percent from a baseline of 34.4 percent. Original and revised targets were 18.2 percent and 30.9 percent, respectively.
- ELECTRA wide electricity losses stood at 27.3 percent, which was slightly higher than the baseline of 27.1 percent. Original and revised targets were 16.3 percent and 24.2 percent, respectively.
- The electricity collection rate in the Island of Santiago increased from a baseline of 78.3 percent to 92.94 percent. The original target was 96.27 percent, and the revised target was 79.7 percent.

ELECTRA's ownership of loss reduction plan was weak in the first years of project because the focus was on the power supply emergency. Absence of data and instrumentation contributed to implementation delays. Furthermore, ELECTRA did not have any incentive to reduce losses since "the tariff calculation accounted for



23 percent of losses, which were paid by customers, drastically reducing the financial losses" of the utility (ICR, p.19). Towards the end of the project, ELECTRA procured and installed meters with financing from the EIB and took measures with the support of the World Bank, such as the preparation of a revenue protection program and a loss reduction action plan, and the establishment of an anti-fraud unit in Santiago. Despite these efforts, the project could not achieve the objective of reducing electricity losses in the Island of Santiago at the time of project closure.

Rating
Negligible

Rationale

The theory of change partially supported the achievement of the project objectives. The objective to increase electricity generation was substantially achieved before the revision of key outcome targets, and highly after the revision. There was negligible progress towards the achievement of the second objective to assist ELECTRA to reduce electricity losses in the Island of Santiago. Overall, the achievement of project objectives is rated Modest. In calculating the Outcome rating in Section 6 below, project achievements before and after the revision of the key outcome targets will be rated separately, and disbursement percentages at the time of revision will be applied.

Overall Efficacy Rating
Modest

Primary reason
Low achievement

5. Efficiency

Economic Analysis

Separate economic analyses were conducted for generation investments in the islands of Sao Vicente and Santiago, which constituted 77 percent of the estimated project cost at appraisal. Based on the economic analyses and considering the electricity supply emergency in Cape Verde, construction of HFO-fired diesel power plants was ascertained to be the least cost option for supplying unmet demand in these two islands. Other alternatives considered were gasoil- and more expensive HFO-fired generators, a coal plant, a gas fired combined cycle plant, which would require a new liquefied natural gas receiving terminal, and a wind power plant (PAD, p.100).



Underlying assumptions used in cost-benefit analyses at appraisal were sound and typical for such investments. Costs were listed as initial capital expenditure and operation and maintenance (O&M) costs, including cost of fuel against the benefit from incremental energy supplied to consumers. Average willingness to pay (WTP) for the electricity was calculated by taking into account the current low voltage residential tariff and the cost per kWh of self-generation. At project closing, cost-benefit analysis was repeated for the generation investments which constituted 86 percent of actual project cost. The main differences in the assumptions were (i) lower net generation amounts due to lower than estimated demand and continued energy losses, especially in the Island of Santiago; (ii) increase in fuel cost from US\$530 per ton to US\$773; and (iii) decrease in WTP from US\$0.45 per kWh to US\$0.32. The discount rate used in calculating net present value (NPV) was 10 percent for a period of 20 years at both appraisal and project closing.

At appraisal, the internal rate of return (IRR) and the NPV calculated for 5.5 MW generation investment in the Island of Sao Vicente were 42.0 percent and US\$26.94 million, respectively. At project closure, the IRR was 29 percent and the NPV was US\$28.1 million. Since the capacity constructed was 11 MW, which is twice the capacity initially planned, the capital expenditure was higher than the estimate at appraisal. Larger installed capacity would yield higher revenue streams; therefore, the NPV calculated at project closing was slightly above the NPV at appraisal, while the IRR was markedly lower due to increase in fuel cost and decrease in the WTP.

For the generation investment in the Island of Santiago, the IRR was 56.0 percent and the NPV was US\$107.4 million percent at appraisal. At project closing, the IRR and the NPV were 39.3 percent and US\$59.8 percent, respectively.

Financial Analysis

In financial analysis, two assumptions were different than those in economic analysis: (i) fuel prices included taxes; and (ii) benefits were taken as a function of low-level tariffs without any consideration of avoided costs. The financial analysis at project closing resulted in a financial internal rate of return (FIRR) of 29.0 percent (at appraisal 28.0 percent) and an NPV of US\$28.1 million (at appraisal US\$14.0 million) for generation investment in the Island of Sao Vicente. The increase in the FIRR and the NPV are due to doubling of the investment scope and the higher tariff used in financial analysis compared to the tariff used in economic analysis. At project closing, the FIRR and the NPV for the generation investment in the Island of Santiago were 25.8 percent and US\$29.7 million, respectively, compared to 38.0 percent and US\$61.0 million at appraisal. Lower net generation due to low demand and losses, and higher fuel cost are the main reasons for the drop in the latter figures.

Operational and Administrative Efficiency



The implementation of generation investment activities, which constituted 86 percent of the actual project cost, was smooth. These were completed in mid-2015, more than one year before the original project closing date, without any cost overruns, but longer than "about 30 months following effectiveness" as stipulated in the PAD (p.55). On the other hand, the implementation of loss reduction plan was very slow due to the limited ownership by ELECTRA. Faced with a power supply emergency, ELECTRA prioritized the generation investments and there was no progress in loss reduction plan during the first three years of the project. Although the implementation of loss reduction plan started in 2014, due to the technical specifications problem encountered in the procurement of meters, it was delayed for one more year. As a result of the efforts of the project team through direct engagement with the project implementing unit and ELECTRA, a new loss reduction plan was prepared, and the implementation gained momentum. Yet, despite these efforts and the extension of the project closing date by 18 months, there was no tangible result in loss reduction when the project closed.

The project's efficiency was also adversely affected by the change in government in 2015, after which the monitoring of the performance contract between the government and ELECTRA, which was financed by the project, was cancelled. Similarly, the study on geographical restructuring of ELECTRA was delayed due to operational difficulties in closing audited accounts and the request of the new government to redesign the study. These also reflect the problems in project design. As discussed under Theory of Change in the section on Efficacy above, monitoring of the performance management contract and technical assistance to restructure ELECTRA did not directly contribute to the achievement of the project objectives.

Overall, despite the completion of the generation investments without any cost overruns and their commissioning before the original project closing date, the efficiency of the project is rated Modest because of much lower IRRs at project closing, and the inefficiencies in the implementation of loss reduction plan and other project activities, which led to project closing date extensions; and operational difficulties in closing audited accounts.

Efficiency Rating

Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal		0	0 <input type="checkbox"/> Not Applicable
ICR Estimate		0	0 <input type="checkbox"/> Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.



6. Outcome

The Relevance of Objectives is rated High. The achievement of project objectives is rated Modest before the revision of key performance outcome targets and Substantial after the revision. The Efficiency of the project is rated Modest. Hence, the Outcome ratings before and after the revision of key performance outcome targets are Moderately Unsatisfactory and Moderately Satisfactory, respectively. To derive the Overall Outcome Rating, the disbursement percentages are used to calculate the weight of each Outcome rating. Per ICRR Guidelines, the Outcome of the project is rated as Moderately Unsatisfactory. The calculation is given below.

	Before the revision of key performance outcomes	After the revision of key performance outcomes
Relevance of Objectives	High	
Objective 1:	Substantial	High
Objective 2:	Negligible	Negligible
Efficacy	Modest	Substantial
Efficiency	Modest	
Outcome Rating	Moderately Unsatisfactory	Moderately Satisfactory
Outcome Rating Value	3	4
Amount Disbursed (US\$ million)	49.93	3.63
Disbursement (%)	93.22%	6.78%
Weight Value	2.80	0.27
Total weights	3.07 (rounds down to 3)	
Overall Outcome Rating	Moderately Unsatisfactory	

- a. **Outcome Rating**
Moderately Unsatisfactory



7. Risk to Development Outcome

The financial viability and the uncertainty about the privatization of ELECTRA pose a risk for the sustainability of development outcome achieved in increased electricity generation. The financial viability of the utility is still weak, and this could result in poor operation and maintenance of the project-financed generation units. Furthermore, although the government has already announced its intention to privatize ELECTRA in 2020, it is not clear how the privatization process will move forward. Even if it moves forward, it is not clear how successful the privatization will be, given high electricity losses, especially, in the Island of Santiago. ELECTRA was privatized in 2000, but due to disagreements over tariff adjustments, increasing distribution losses, and difficulty in collecting bills, especially from municipalities, the utility was transferred back to the government in 2006.

If ELECTRA does not commit itself to the implementation of loss reduction plan, the project objective to reduce electricity losses might never be achieved. The project did not achieve any outcome regarding the reduction of electricity losses. When project closed in March 2018, the loss reduction plan had been redesigned, procurement activities had been mostly completed, and ELECTRA had established a unit to monitor electricity fraud. However, there is no assurance that ELECTRA will implement this plan. If there is no progress in reducing electricity losses, this might also adversely affect the financial viability of ELECTRA and increase the uncertainty about the privatization process.

8. Assessment of Bank Performance

a. Quality-at-Entry

The objectives were clearly stated and strategically relevant, but they were more output-oriented rather than outcome. Technical design of the generation investments was sound. Economic analysis was robust and detailed, and covered 80 percent of the project cost estimated at appraisal. Implementation arrangements, fiduciary aspects and M&E arrangements were in place and they benefited from the experience gained in the previously implemented Energy and Water Sector Reform and Development Project, P040990.

However, the theory of change had moderate shortcomings; some project activities, such as the monitoring of the performance contract and the technical assistance to restructure ELECTRA, were not related to the achievement of the project objectives, but to the long-term objective to reform the electricity sector. Project preparation took 31 months from Concept Note to Board approval. The project was designed to address the increasing power supply crisis; therefore, this resulted in a "well-defined



investment component and a more open scope of the reform and utility improvement activities" (ICR, p.18). Lack of government's and ELECTRA's ownership of the loss reduction plan was not foreseen as a potential risk, although "the importance of promoting ownership of activities and reforms" was included among lessons learned in the PAD (p.22). The risk of low electricity demand was not considered at appraisal.

Quality-at-Entry Rating Moderately Satisfactory

b. Quality of supervision

Supervision of fiduciary and safeguard aspects of the project was adequate. Implementation Status and Results Reports (ISRs) and restructuring papers were candid about the shortcomings in implementation and achievement of objectives, especially regarding the second objective to reduce electricity losses in the Island of Santiago. However, despite no progress in the project activities related to second objective during the first three years of the project (ICR, p.19) and slow progress thereafter, the development outcome (DO) and the implementation progress (IP) ratings were both rated satisfactory until early 2016.

There were eight supervision missions in six years. Given that there was no field presence in Cape Verde, the frequency of supervision missions was low. This might be a result of the high institutional capacity of the project implementation unit (PIU), which required less guidance from the project team in implementing investment activities; however, there was no progress in project activities related to loss reduction plan in the first three years of project implementation. The implementation of loss reduction activities was adversely affected by ELECTRA's lack of ownership, which was outside the control of the project team. The Bank's leverage on these activities was also reduced when Euro 6.0 million of funds became available from the European Investment Bank (ICR, p.20) to finance the loss reduction activities. However, the project team did not consider proposing a Level 1 restructuring to revise the project development objective by deleting the second objective (ICR, p.25). On the other hand, after the election of the new government, the project team directly engaged with the project implementation unit (PIU) and ELECTRA for the strengthening of the loss reduction strategy (ICR, p.20). As a result, the project financed a consultant to assist ELECTRA to prepare a revenue protection program and a loss reduction plan. Although the implementation of loss reduction plan gained momentum thanks to project team's initiatives, no outcome was achieved at project closing in reducing electricity losses in the Island of Santiago. Lastly, the project team was quick to reallocate funds to support additional generation capacity increase in the Island of Sao Vicente when the EIB committed funds to finance loss reduction activities.

Quality of Supervision Rating Moderately Satisfactory



Overall Bank Performance Rating

Moderately Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The project objectives were clearly specified, but they were closer to output level rather than outcome level. The theory of change partially supported the achievement of the project objectives. As discussed in the Efficacy section, some project activities were not relevant to the achievement of the project objectives, while a direct causal link can be established between generation investment activities and increase in generation, and installation of meters and reduction of electricity losses. Three of the four project development objective (PDO) level indicators encompassed all outcomes of the PDO statement. Intermediate result indicators adequately captured the contribution of project activities and outputs toward achieving outcomes, but some indicators, such as additional water storage capacity, average interruption duration, reduction in the variable costs of electricity, and sector financial and performance monitoring were not relevant to the achievement of project outcomes. All indicators were specific, measurable, and time-bound. M&E Design and arrangements were adequately embedded institutionally; ELECTRA was to collect data for electricity generation and distribution, and revenues. Definitions and calculation methodologies of energy losses and electricity collection ratio were explained in detail in the project appraisal document (p.39-40).

b. M&E Implementation

ELECTRA measured the indicators and the project implementation unit (PIU) submitted them as quarterly progress reports to the World Bank. Data collection was reliable and data quality was adequate. However, the project team did not receive timely and reliable M&E reports from ELECTRA in 2017, the last year of project implementation. This was corrected at project closing, and data were available to evaluate project's achievements. At the time of second restructuring in September 2016, electricity generation targets were revised down due to lower than expected demand for electricity, and losses target was revised up because there was no tangible progress in the implementation of loss reduction plan. Availability of updated data due to improved information technologies (IT) system prompted revisions in the target values of intermediate indicators. The indicator for water storage was deleted since this activity was financed under a separate project financed by another donor. Since ELECTRA has proper IT systems to monitor electricity generation and flow of revenues, sustainability of M&E functions and processes is high.

c. M&E Utilization



There were moderate shortcomings in the utilization of M&E findings in redirecting strategy, especially, to achieve the project objective to reduce electricity losses in the Island of Santiago. Although there was no progress in loss reduction activities in the first three years of project implementation, this did not result in a strategic redirection. Only in September 2016, couple of weeks before the original closing data, target values of indicators for loss reduction were adjusted upwards in line with the M&E findings. In general, M&E findings were used to adjust target values, rather than strategic redirection. On the other hand, M&E data were adequately used to provide evidence of the achievement of outcomes related to generation investments. M&E findings were adequately communicated to stakeholders, which "helped facilitate discussions around restructurings and other key decisions" (ICR, p.22). At project closing, M&E findings were expected to influence the budget support operation of the World Bank which was to include triggers related to loss reduction and improved performance of ELECTRA (ICR, p.14).

M&E Quality Rating

Substantial

10. Other Issues

a. Safeguards

The project was classified as Category B under OP/BP 4.01 (Environmental Assessment). Initially a Resettlement Plan was prepared and disclosed. However, technical missions subsequently confirmed that there would be no land acquisition or resettlement; therefore, the project did not trigger OP/BP 4.12 (Involuntary Resettlement) or any other safeguard policy.

Environmental Assessment OP/BP 4.01: At appraisal, the construction of the water storage, which was later cancelled, and the HFO-fired power plants, was expected to have limited and site-specific environmental impact. The Government of Cape Verde prepared Environmental and Social Impact Assessments for each investment, including Environmental and Social Management Plans. All these documents were disclosed in Cape Verde and at the World Bank's InfoShop during appraisal. ELECTRA coordinated the implementation of environmental and safeguards policy and appointed a specialist with qualifications and experience satisfactory to the Bank—thus complying with a legal covenant. The project implementation unit (PIU), responsible for the overall compliance of the project with national and World Bank safeguard policies, closely monitored the implementation of the safeguard policy. There was no environmental issue or incident reported during project implementation. The project was found in compliance with OP/BP 4.01.

b. Fiduciary Compliance



Financial Management

The financial management arrangements of the project benefited from the experience of the project implementation unit (PIU) in implementing the previously closed Energy and Water Sector Reform and Development Project. The PIU had qualified and experienced staff in charge of financial management. The PIU provided timely and reliable financial information. External audits were not qualified. All Bank funds were fully accounted for by the time of project evaluation. The ICR does not report the extent of compliance with the financial covenant of interest coverage ratio stipulated in the loan agreement; however, according to the Implementation Status and Results Reports, the project was in compliance with this covenant.

Procurement

The PIU was responsible for procurement activities. ELECTRA participated in the preparation of technical specifications and the evaluation of bids for the construction of HFO-fired power plants. All procurement of goods, works and services financed by the project had followed the Bank procurement guidelines. There were no delays in the procurement activities for the generation investments. On the other hand, there was no procurement for the meters, related to loss reduction objective, during the first three years of project implementation because of lack of ownership of these activities by the government and ELECTRA. When loss reduction activities began, the tender process was delayed one more year due to the rewriting of the technical specifications for meters.

c. Unintended impacts (Positive or Negative)

None.

d. Other

None.

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Satisfactory	Moderately Unsatisfactory	According to guidelines, if Efficacy is rated Modest, Outcome rating cannot be higher than Moderately Unsatisfactory.



The ICR (p.16) reads “Moderate” for Efficacy before restructuring, but the Outcome rating is rated Moderately Satisfactory. When this is corrected to Moderately Unsatisfactory, and disbursement percentages are applied, the calculation yields an Outcome rating of Moderately Unsatisfactory. The difference in the rating of Efficiency does not have an impact on the calculation of overall outcome rating.

Bank Performance	Moderately Satisfactory	Moderately Satisfactory
Quality of M&E	Substantial	Substantial
Quality of ICR	---	Substantial

12. Lessons

The first lesson is taken from the ICR with some adaptation of language. The second lesson is derived from discussions with the project team.

Government commitment and ownership are critical to achieving sector reforms and utility restructurings. At the time of appraisal, Cape Verde was faced with an electricity supply emergency. The government’s and ELECTRA’s focus was on the construction of the HFO-fired power plants. Therefore, the loss reduction plan and other project activities to reform the electricity sector could not be implemented as planned due to lack of government’s and ELECTRA’s ownership. During the first three years of project implementation, there was no progress in loss reduction plan. After the government change in 2016, "general lack of responsiveness of the energy sector authorities on implementation issues has slowed down project implementation" (ISR dated April 6, 2017, p.2). Despite some momentum gained towards the end of project implementation, there was no outcome achieved in loss reduction or sector reform when project closed.

High institutional capacity of the project implementation unit (PIU) and the sector utility is a prerequisite for successful and smooth implementation of infrastructure development activities. The PIU had experience in World Bank projects. The members of staff were knowledgeable about relevant World Bank guidelines. There was no issue in the procurement of HFO-fired power plant investments. ELECTRA appointed an environmental and social specialist



satisfactory to the World Bank, and successfully implemented safeguards policies. The HFO-fired generators were commissioned more than one year before the original project closing date.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR was concise and candid in presenting the project's shortcomings in design and implementation. The narrative was internally consistent. The discussion on theory of change was detailed and supported by a well-designed graph. The ICR provided adequate evidence to support arguments. Economic and financial analysis was clearly presented. The discussion on safeguards and fiduciary aspects of the project was satisfactory.

However, the ICR's focus was mostly on the achievement of outputs, rather than what occurred as a consequence of the project. This was mostly affected by the project objectives being closer to the output level. The section on M&E could have benefited from a detailed discussion. The section on lessons was weak. The ICR did not report on the project's compliance with financial covenant stipulated in the loan agreement. In applying split evaluation, the ICR did not weigh separate outcome ratings in proportion to the share of actual loan disbursements made in the periods before and after the revision of the key associated outcomes.

a. Quality of ICR Rating Substantial