



## 1. Project Data

Project ID P117225	Project Name BI-Energy Efficiency Project	
Country Burundi	Practice Area(Lead) Energy & Extractives	
L/C/TF Number(s) TF-12460	Closing Date (Original) 15-Dec-2015	Total Project Cost (USD) 24,720,000.00
Bank Approval Date 08-Mar-2012	Closing Date (Actual) 15-Dec-2015	
	IBRD/IDA (USD)	Grants (USD)
Original Commitment	0.00	1,818,182.00
Revised Commitment	0.00	1,811,966.77
Actual	0.00	1,811,966.77

Sector(s)  
Energy efficiency in Heat and Power(74%):Public administration- Energy and mining(26%)

Theme(s)  
Climate change(83%):Infrastructure services for private sector development(17%)

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## 2. Project Objectives and Components

### a. Objectives

This Global Environment Facility (GEF) project was designed to support the IDA-financed 2008-2012 Multi-sectoral Water and Electricity Infrastructure Project (MSWEIP). Specifically, the GEF project was approved to supplement the second of MSWEIP's four objectives which were to: (a) increase access to water supply services in peri-urban areas of Bujumbura; (b) increase the reliability and quality of electricity services; (c) increase the quality and reliability of water supply services, with primary focus on Bujumbura; and (d) strengthen *Régie de Production et de Distribution d'Eau et d'Electricité* (REGIDESO) financial sustainability.

The Global Environmental Objective (GEO) of the GEF project according to the Grant Agreement (GA, p.6) were:



“(i) to develop and adopt selected policy frameworks for energy efficiency and (ii) to selectively improve the energy efficiency of households and buildings in Bujumbura city.”

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

No

c. Components

The GEF components complemented the MSWEIP’s Component 1(e) Electricity, and are summarized below:

A: Distribution and Promotion of Compact Fluorescent Light (CFL): (Estimate at appraisal: \$ 0.9 million; actual cost: \$ 0.75 million or 83 percent of appraisal). This had three subcomponents.

- A1: Distribution of CFL to households, administrative and government clients (including ministries, city hall, schools, etc.), were to be additional to the MSWEIP’s CFL distribution.
- A2: Development and implementation of media communication and public awareness for energy efficient lights to continue the media and awareness raising campaign initiated under the parent project MSWEIP.
- A3: Technical and managerial capacity building, was to promote energy efficient products including raising awareness of government, private sector, and standardization institutes of energy efficient products, and support policy and regulatory reforms.

**B: Utility energy audit:** (Estimate at appraisal: \$ 0.15 million; actual cost: \$ 0.39 million, or 268 percent of appraisal)

This component was to support the implementation of activities resulting from the audit of energy consumption to be financed by the MSWEIP and development of an action plan with short, medium, and long-term objectives to prioritize energy efficiency investments.

**C: Promotion of Energy Efficiency Investments to large consumers:** (Estimate at appraisal: \$ 0.59 million; actual cost: \$0.33 million, or 57 percent of appraisal). There were two subcomponents.

- C1: Energy efficiency advice to large public institutions, commercial and industrial consumers, was to finance technical assistance (TA) to promote energy efficiency technology and build local capacity to provide energy efficiency advice to large public institutions, private sector companies and the National Standardization Institute.
- C2: Develop national guidelines for application of energy efficient technologies in new housing and commercial real-estate and provide TA to develop the guidelines.

**D: Support to project management, monitoring and evaluation** (Estimate at appraisal: \$ 0.18 million; actual cost: \$ 0.36 million, or 185 percent of appraisal).

This component’s support was for an Energy Efficiency Unit in a state-owned water and power utility *Régie de Production et de Distribution d’Eau et d’Electricité* (REGIDESO) under the supervision of the Ministry of Energy and Mines (MEM). It was also to support the Project Implementation Unit (PIU) and preparation of financial audits and periodic evaluations.

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

**Project Costs:**

EEP’s total project costs (project costs did not include physical and price contingencies) were estimated at appraisal to amount to \$ 1.82 million. Actual project costs were \$ 1.81 million or 99.7 percent of the estimated costs.

The ICR did not explain the reasons for significant changes in funding allocations among the components between the estimated costs at appraisal and actual costs (please see section 2. c above). The last TTL explained that actual costs of demand-side management (DSM)



audit and utility energy audit of Component B were much higher than estimated. To cover this shortfall the scope of Component C (Promotion of Energy Efficiency Investments to large consumers) was reduced. There were also cost savings under Component A (Distribution and promotion of Compact Fluorescent Lights (CFLs)) because competitive bidding reduced CFL procurement costs as did CFL distribution in concentrated areas.

**Financing:**

The GEF Grant of US\$1.82 million was almost fully disbursed; a small remaining balance of \$ 6,215 was cancelled at project completion.

**Borrower Contribution:**

None was planned and none was given

**Dates:**

This GEF-financed Energy Efficiency Project (EEP) was approved on March 8, 2012 with a planned and actual closing dates of December 15, 2015.

### 3. Relevance of Objectives & Design

#### a. Relevance of Objectives

The objectives of EEP were relevant to the development priorities of the Government of Burundi (GOB) as set out in its second Poverty Reduction Strategy Paper (PRSP) (2011-2015). Although PRSP did not specifically mention energy efficiency, improvement of energy efficiency could contribute to the PRSP highlights on Burundi's electricity deficit and inadequate, unreliable electric power production (power cutoffs, voltage fluctuations) as major obstacles to the development of industry and services. The PRSP's pillar 2.7 "Improved access to higher quality economic infrastructures" addressed electricity. The GEO were also consistent with the GOB priorities of the energy sector as demonstrated by the endorsement by the Ministry of Energy and Mines (MEM) of the draft legislation on energy efficiency (p. 12, ICR).

EEP was also consistent with the strategic priorities of the 2013-2016 World Bank Country Assistance Strategy (CAS) for Burundi. CAS included EEP in CAS pillar 1 "Improving competitiveness by establishing an enabling environment for inclusive growth and poverty reduction", and highlighted "Through the MSWEIP, the Emergency Electricity Infrastructure Project, and the GEF EEP, the Bank helps to extend water services into selected peri-urban areas of Bujumbura, rehabilitate the primary electricity distribution network and improve institutional capacity to maintain the electricity systems and oversee investment in new electricity generation sources."

The GEF-6 Programming Directions for July 1, 2014 to June 30, 2018 included energy efficiency in the GEF-6 Climate Mitigation Strategy: global energy efficiency certification and standards program for "greening the supply chain," and mechanisms for appliance efficiency standards with global and regional coordination appropriately adapted to sensitivity to local conditions.

Although data at the project closure in December 2015 were not available at the time of this ICR review, according to the most recent information of the International Energy Agency, only 5 percent of the population in Burundi had access to electricity, compared with 33 percent in Sub-Saharan Africa and 78 percent in developing countries in 2013. The most recent United Nations Sustainable Energy for All Global Tracking Framework (GTF) 2015 showed that in Burundi, 94.9 percent of the total final energy consumption was from traditional solid biofuel use in 2012 and this 94.9 percent share was the highest in all countries in the world that were covered in the GTF. Thus, the objectives to develop policies and selectively improve energy efficiency from the project appraisal to the project closure are highly relevant.

Rating

High

#### b. Relevance of Design

Relevance of design was substantial. The project's design was largely consistent with the GEO and the results framework, forming a logical results chain that included the right activities to achieve the desired results. However, the 3.75 year time frame was too short for the ambitious institutional activities (policies, laws, regulations and building institutional capacity), especially given the small GEF Grant in the very difficult country socio-political setting. In addition, activities and/or an exit strategy to ensure sustainability of efficiency savings ex-post were missing in the project design.



It was expected that the first objective of GEO's "to develop and adopt selected policy frameworks for energy efficiency" would be achieved through development of selected energy efficiency guidelines, policies and regulations developed and adopted for application in Burundi (p., 11, PAD). However, the relevant outcome indicator "National guidelines, policies and regulations developed and adopted" lacked specificity and could not be easily tracked.

The activities to achieve the second objective of the GEO "to selectively improve the energy efficiency of households and buildings in Bujumbura city" were relevant. Installing CFLs targeted on large households in selected urban areas would reduce electricity demand growth and the supply deficit in Bujumbura city. Marketing, promotion and consumer awareness planning for energy efficient technologies and appliances would reduce demand. Building institutional and technical capacity of the REGIDESO PIU, key public and private stakeholders to implement energy efficiency measures would reduce the demand deficit. Utilizing targeted technical assistance (TA, e.g., media communication and public awareness, technical and management capacity building, energy audit, development of national guidelines, etc.) demonstration as part of advisory services were relevant and closely linked to the expected outcomes and the GEO.

The choice of lending instrument of GEF specific investment loan (SIL) was an appropriate instrument to promote the potential market transformation toward energy efficiency.

Rating  
Substantial

#### 4. Achievement of Objectives (Efficacy)

##### Objective 1

Objective  
Develop and adopt selected policy frameworks for energy efficiency

Rationale



**Outputs:**

The following documents were prepared and discussed with the relevant stakeholders:

- (i) an energy efficiency (EE) law that mandates an improvement in energy efficiency at the national level through the increased use of renewable energy for electricity generation; the rationalization on the use of energy; the use of more energy-efficient equipment and buildings; the reduction of energy consumption by the transport sector; the promotion of energy-efficiency products and measures; the implementation of periodic energy audits for the large consumers;
- (ii) the creation of an autonomous National Energy Efficiency Agency under authority of the Ministry of Energy and Mines responsible for the implementation of the Energy Efficiency Law;
- (iii) the establishment of an Energy Efficiency Fund financed, among others, by taxes on vehicles and a surcharge on the electricity bill for the industrial, commercial, and service sectors and by grants and credits from development partners; and
- (iv) regulations regarding the import and sale of equipment and appliances, and the establishment of labeling program for appliances.

**Outcomes:**

Due to time constraints and the political crisis that erupted in the country in 2015, the above outputs were not approved by the Cabinet before the Project closed. Once approved and under implementation, the laws, policies, and regulations are expected to considerably improve energy efficiency in the country through promotion of renewable energy for electricity generation, and adoption of efficient energy consumption through technological and regulatory means. While the Energy Efficiency Unit was established, its ability to function is hampered by lack of budget. Given that the desired outcome remained to be achieved at project closing and subsequently, its efficacy is rated modest.

Rating  
Modest

**Objective 2**

Objective

Selectively improve the energy efficiency of households and buildings in Bujumbura city

Rationale

**Outputs:**

- (i) Compact Fluorescent Lights (CFLs) were distributed and achieved the target of 400,000 from the baseline of 200,000. The CFLs had a rating power of 20 watts, a minimum 0.8 power factor and a lifetime duration of 10,000 hours which replaced 100, 60, and 40 watts incandescent lamps. The mercury content of distributed CFLs was limited to 5 mg per CFL in accordance to the European Commission Directive on Restriction of Hazardous Substances. They also had to follow ISO 9001-2000 standards or equivalent for its manufacturing and had a one-year manufacturers guarantee. The cost per CFL was US\$ 1.54. The free CFLs were distributed using door-to-door approach in exchange of all functioning incandescence lamps in the households between three and six CFLs per household.
- (ii) Marketing and promotion plans were developed but because local advisory services delivered from REGIDESO Energy Efficiency Unit for large and medium consumers were not delivered, the target of 15 from the baseline of zero was not achieved. The demonstration equipment needed to provide advisory services arrived to the country only in December 2015. Therefore, REGIDESO's Energy Efficiency Unit was not able to start this activity by the project closing.
- (iii) An Energy Utility Audit was completed but not using the GEF project Grant. Because of implementation delays it was financed under the parallel Bank-supported Burundi Emergency Energy Project (P122217) (p. ix, p.15, the ICR).
- (iv) Completion of design of selected investment packages to implement audit recommendations for medium and large consumers was achieved.

**Outcomes:**

It was assumed that the benefits of installing CFLs were equally split between meeting unmet demand and reduced electricity generation from fossil energy sources.

- (i) Energy savings (MWh) from the use of CFL distributed to households, administrative and government clients was substantially achieved.



Savings of 65,984 MWh, or 73 percent of the target of 90,000 MWh over the baseline of 10,000 MWh, were achieved. The slight shortfall on the target was due to the initial implementation challenges and security issues in the country that delayed the distribution of CFLs. The outcome was based on a survey of 100 households in Bujumbura that received the free CFLs. It was estimated that the 400,000 CFLs distributed under the Project displaced 6 MW of peak capacity and reduce consumption by 14 GWh per year, or 56 GWh total for the estimated five-year lifetime of the CFLs.

(ii) It was estimated that CO<sub>2</sub> emissions avoided/reduced in Bujumbura city was 71,138 tonnes, or 51 percent of the incremental target of 140,000 tonnes over the baseline of 30,000 tonnes.

(iii) The number of direct beneficiaries, 493,200 was 135 percent of the target of 366,000 beneficiaries from the baseline of 312,000 beneficiaries. It was assumed the appraisal target that 50 percent of these beneficiaries to be female, which was achieved at the project close.

**Attribution:** Many of the outcomes of the GEF benefited from two other overlapping Bank-financed projects. Energy savings, greenhouse gas emissions reductions, and beneficiaries from the first CFL distribution was financed by the MSWEIP (p.13, the ICR) and the GEF Grant built on these achievements. Specifically, qualitative evidence and survey results of the GEF project showed that households tended to use CFL and implement energy efficiency and conservation measures, especially when combined with the pre-payment meters installed under the MSWEIP (p.12, p.18, the ICR). In addition, the Bank-supported Burundi Emergency Energy Project (P122217) was implemented at the same time (September 30, 2010- January 31, 2014) and also installed prepaid meters in the same project areas. As noted earlier, the Emergency Energy Project also financed the Energy Utility Audit to ensure it was completed before the GEF project closed.

Rating  
Substantial

## 5. Efficiency

### Economic Efficiency

While no ex-ante economic analysis of this project was found in PAD, the ICR reported an ex-post economic analysis of two sub-components representing 36 percent of project costs.

The ICR ex-post economic analysis estimated a net present value (NPV) derived from the following investments: the purchase, promotion, and distribution of 200,000 CFL and the following benefits: (i) generation savings resulting from the decrease in energy consumption; and (ii) decrease in suppressed demand as more capacity was made available. The analysis resulted in a net present value (NPV) of \$ 2.7 million at 6 percent discount rate. Using the same benefits, the economic internal rate of return of (EIRR) was 157 percent assuming an average CFL lifetime of 5 years.

However, the ICR economic analysis was not clear for the following reasons. No CFL disposal costs were included in the analysis. Also, although 15 percent of CFL would be broken per year, no replacement costs of lamps (CFL or incandescent lamps) were included in the analysis. This ICR analysis did not include the benefits of reduced electricity payment of the existing consumers that traded their incandescent lamps for CFL. The ICR Annex (p.26-27) and supplemental documents indicate that in the counterfactual scenario, potential consumers with suppressed demand had utility loss (dissatisfaction, damage or costs) for their lack of electricity consumption. The ICR appeared to have assumed this utility loss to be equal to the electricity tariff, measured as willingness to pay. However, consumers would often pay for alternative goods or services up to the amount of their willingness to pay (e.g., if they wanted electricity for lighting, they would have paid for kerosene and kerosene lamps, etc.) or pay up to the cost of damage or loss to mitigate the damage or loss. In the actual scenario, the consumers who were able to consume electricity would have higher utility than those in the counterfactual scenario due to the lower quality or less desirability of alternative.

Therefore, this ICR review recalculated by adding the CFL consumers' benefits from their reduced electricity payment in the actual scenario and assuming the potential consumers with suppressed demand would have paid up to the electricity tariff for the alternative to electricity consumption under the counterfactual scenario. Using the new World Bank policy of 5 percent discount rate, the NPV was \$ 4.4 million and the EIRR was 233 percent. As discussed above, since the replacement cost of broken CFL and the disposal costs of CFL were not available, the resulting NPV and EIRR would be overestimated. Sensitivity analyses showed the project's robustness; a switching value for a mortality rate of CFL per year was 73 percent (compared to the ICR's assumption of 15 percent) and a switching value of generation cost was negative \$117 per megawatt-hour (MWh).

However, as discussed in section 4 above, all electricity saving may not have been fully attributed to this project and thus the net benefit could



be overestimated.

Neither an ex-ante nor an ex-post financial analysis was found in PAD and the ICR.

**Organizational and Administrative Efficiency**

Most of the project activities were completed in the planned 3.75 years. While there were no time overruns, many activities could have been more efficiently implemented (e.g., early stages of the Project Implementation Unit and Bank supervision) and were either left undone, were pending at project closure (e.g., approvals of laws, implementation of advisory services, etc.; ICR’s paragraphs 24, 27, 28-30, 32, pages 6-8, and Annex 2, paragraph 7, page 25), or had to be financed by a parallel Bank project. Project management costs, despite a reduction in outputs, was almost twice the cost estimated at appraisal and was 20 percent of total project costs.

Overall, notwithstanding the high ERRs that covered only a third of the project’s costs, efficiency is rated Modest.

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	✓	157.00	36.00 <input type="checkbox"/> Not Applicable

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

**6. Outcome**

The relevance of the GEO is rated high. The relevance of design is rated substantial. Efficacy in achieving objectives 1 is rated modest. Efficacy in achieving objective 2 is rated substantial notwithstanding attribution issues. The efficiency of this project is modest; while the technology improvements had high rates of return, organizational and administrative efficiency had a number of shortcomings and some outputs were delayed, thus delaying benefits, while others had to receive additional external financing. Thus, there were moderate shortcomings in the operation’s achievement of its objectives and in its efficiency, and the overall outcome is rated moderately satisfactory.

a. Outcome Rating  
 Moderately Satisfactory

**7. Rationale for Risk to Development Outcome Rating**

The risk to the sustainability of the development outcomes is substantial.

1 Technical risk is low because energy efficiency improvement measures promoted under the project were not complex and the same technologies applied elsewhere including comparable countries were robust.



- 2 Financial risk is high due to lack of budget for the Energy Efficiency Unit to continue its operation, the relatively high upfront costs of energy efficiency equipment and measures, and lack of economies-of-scale in the current local markets. The consumers who received CFLs for free may not have incentive to pay for new CFLs and revert to the cheaper and inefficient incandescent lamps. It is possible that CFLs may not be freely available in the market. If these risks materializes, the vicious cycle of energy poverty may continue, negatively affecting social welfare.
- 3 Political risk (e.g. volatility of political situation) is high as the country was in a political crisis at the project closure. If recurring political crisis materialize, the consequences would be the worsening of the security situation that would hamper REGIDESO's efforts to sustain the implementation of energy-efficiency measures.
- 4 Economic risk (both at country and global level) is high due to the country's fragile socio-economic situation. If this risk materializes, the promotion of energy efficiency activities could be stalled.
- 5 Government ownership/commitment (e.g. continuation of supportive policies and any budgetary provisions) has substantial risks as demonstrated by the lack of budget to continue the operation of Energy Efficiency Unit and pending approval of the energy efficiency law.
- 6 Other stakeholder ownership risk (e.g. from private sector/civil society) is uncertain and would require continuing awareness and education.
- 7 Institutional support risk (e.g. from project entities; and/or related to legal/legislative framework) is high as discussed similar to the Government ownership/commitment risk above.
- 8 Institutional risks in terms of promotion of energy-efficiency activities were uncertain but the lack of capacity meant the risk could be high.
- 9 Social risk in terms of the strength of stakeholder support and/or mitigation of any negative social impacts is low due to the nature of household benefits but depends on continuation of successful public awareness campaigns to promote energy efficiency and conservation behaviors.
- 10 Environmental risks are moderate. The reduction of energy consumption has to be counterbalanced against the lack of proper recycling and disposal of mercury contained in CFLs and other outdated equipment that were replaced with the energy-efficient ones. This mitigation measure has not yet been successfully implemented due to the small-scale of the country and the discussions of the regional disposal and recycling program that are still ongoing.

In mitigation, the Bank-supported Jiji and Mulembwe Hydro Generation Project (P133610) under implementation was planned to continue to support and sustain the achieved outcomes of the GEF EEP.

- a. Risk to Development Outcome Rating  
Substantial

## 8. Assessment of Bank Performance

### a. Quality-at-Entry

The Bank's strategic relevance and approach were sound, which responded to the electricity supply deficit of the country at the time of the project appraisal. The project was also in line with the country's development priorities, the Bank's strategy and goals in support of those development priorities, as well as GEF priorities. Policy and institutional analyses were sound but the appraisal was over-ambitious in addressing the gaps with this relatively small grant project, especially its expectation that all the required policies, laws and regulations to be completed and adopted in the project's time-frame.

Implementation arrangements were poorly designed and overestimated the capacity of the PIU, which resulted in delays in project implementation. Monitoring and evaluation (M&E) arrangements were sound and were designed to be part of the MSWEIP, focusing on synergies with the MSWEIP project's results framework, indicators, and monitoring methodologies. However, these M&E arrangements were not very realistic or aligned with the implementation capacity of the PIU, which resulted in implementation delays of M&E especially after the MSWEIP's closure.

Technically, this project was simple and financial and economic aspects and poverty, gender and social development aspects were not specifically analyzed. This project was reportedly in compliance with all safeguard requirements at approval even though no Environmental and Social Management Plan was prepared for the safe disposal of the CFLs.

Political and market risks that were not identified during appraisal actually materialized.

Quality-at-Entry Rating  
Moderately Unsatisfactory

### b. Quality of supervision

Focus on Development Impact during the first two years of the project implementation was hampered due to (i) frequent changes in task team leaders (four TTLs in total) the last TTL came on board only in 2014 and (ii) other priority projects in the energy sector in Burundi including the



preparation of the Jiji and Mulembwe Hydro Generation Project. During the last year of the project implementation, the Bank's supervision became proactive and intensive, establishing detailed targets and timetables for project implementation even when during 2015 Bank missions to the country were restricted due to the political crisis. Even so, supervision of Fiduciary and Safeguard Aspects was modest and the CFL disposal and recycling concerns were not resolved.

Candor and quality of performance reporting was modest. Rating of implementation progress during June 2012-2013 looks a little optimistic. Also, despite the weakness of M&E and delay in hiring of the M&E consultant until early 2015 (the final year of the project), M&E had been initially rated satisfactory and then, only latterly, to moderately satisfactory.

The Bank made efforts to ensure adequate transition arrangements for operation of project-supported activities after EEP closed through the Bank-supported Jiji and Mulembwe Hydro Generation Project (P133610) still under implementation. It was anticipated that this hydro-generation project could be a vehicle to follow-up with GOB on the adoption of the energy efficiency national guidelines, policies and regulations. However, Cabinet approval and adoption was still pending as of August 10, 2016 (according to the last TTL).

Quality of Supervision Rating

Moderately Unsatisfactory

Overall Bank Performance Rating

Moderately Unsatisfactory

## 9. Assessment of Borrower Performance

### a. Government Performance

The Government performance was assessed based on the performance by central government stakeholders of EEP, mainly the Ministry of Energy and Mines (MEM) and the Council of Ministers responsible for the approval of key laws and regulations. MEM provided an enabling environment with their support to energy-efficiency measures proposed by EEP, including the establishment of the Energy Efficiency Unit at REGIDESO and the energy efficiency policies and regulations developed under EEP. However, the Cabinet had not yet approved those laws even after receiving endorsement by the Ministry by the project close. Given the MEM's support to EEP but the Cabinet's delays in approving law, the Government performance is rated Moderately Satisfactory.

Government Performance Rating

Moderately Satisfactory

### b. Implementing Agency Performance

Agency (PIU) commitment to achieving development objectives (GEO) was inadequate during the first year of the project implementation due to time and staff constraints as well as delays in M&E that only started once the M&E specialist was recruited during 2015.

Adequacy of beneficiary/stakeholder consultations and involvement was modest. The PIU implemented beneficiary surveys on CFLs and involved stakeholders by holding a series of workshops to raise awareness of government agencies, private sector players, and standardization institutes on energy-efficient products and appliances, and to gather support for policy and regulatory reforms. However, timely resolution of implementation issues by the PIU only improved once the consultants were on board. Adequacy of monitoring and evaluation arrangements, including the utilization of M&E data in decision-making and resource allocation was modest as the PIU relied on the consultants - especially after the parent IDA project was closed.

Fiduciary issues were adequately handled by the PIU as reflected in the satisfactory or moderately satisfactory ratings throughout the project.

Despite the PIU's efforts and achievements of completing most of the activities, due to the weak performance at the early stages of implementation and delays, the rating for the implementing agency is moderately satisfactory.

Implementing Agency Performance Rating

Moderately Satisfactory

Overall Borrower Performance Rating

Moderately Satisfactory



## 10. M&E Design, Implementation, & Utilization

### a. M&E Design

The outcome indicators were elaborated in the PAD but were not fully attributable to the project. The M&E design neither used comparators to understand attribution along the logical results chain nor provided the means to identify the extent of the project achievements that were contributed by the parent IDA project and the Emergency Energy Project, which financed overlapping project activities. Most of the indicators were measurable in terms of numbers, timing, and location. The PIU was responsible for data collection. The proposed data collection methods and analysis were appropriate for the purpose. The baselines of indicators were set in PAD. Only the general electricity utility's indicator data of the M&E design (electricity generated, number of households with electricity supply connections) were well-embedded institutionally.

### b. M&E Implementation

The hiring of the M&E consultant was delayed until early 2015, which was the year the project closed. In November 2014 it was reported that the PIU had a staff responsible for the monitoring and evaluation but the mechanism would need to be strengthened as the M&E system did not fully function effectively and efficiently. The monitoring of EEP improved once the M&E consultant came on board in early 2015. There was no evaluation of the data reliability and quality, methodology, independence of analysts, and quality control.

### c. M&E Utilization

The M&E did not focus on assessing whether the theory of change within the project causality logic was sound and led to any reframing of strategy. Collected data on a number of distributed CFLs were used to calculate the energy savings and emission reductions, which helped the Energy Efficiency Unit at REGIDESO to demonstrate with tangible results the benefits of energy efficiency activities supported by EEP. The M&E system also served to help REGIDESO estimate the energy demand.

M&E Quality Rating  
Modest

## 11. Other Issues

### a. Safeguards

#### Environmental Safeguards

The potential environmental impacts of the project were assessed and the project was given a Category 'B' rating under OP/BP 4.01 Environmental Assessment. An Environmental and Social Management Framework (ESMF) was developed by REGIDESO, disclosed under the parent project, MSWEIP, and applied to EEP. Given the nature of activities undertaken by EEP, no potential large-scale, significant, and/or irreversible environmental and social impacts were expected. The PAD noted that Environmental and Social Management Plans would be prepared as and when necessary during implementation. Plans for waste management, including safe disposal of incandescent light bulbs and old CFLs were supposedly being prepared at the time (PAD p. 21, p. 39). As required, REGIDESO has stored all replaced incandescent bulbs in secured containers for later disposal. However, by the time of the ICR preparation, no Environmental and Social Management Plan had been prepared for the safe disposal of the CFLs as it was not required by the ESMF. The TTL further clarified that the CFL disposal program could not be developed because the disposal of small number of CFLs distributed in Burundi would require cooperation with other countries in the region (e.g., Ethiopia, Zambia, Kenya, etc.) to ensure economies-of-scale.

The ICR states that (page 10) potential impacts of the mercury in the CFL should be addressed and it was recommended that the Bank should continue working with the government in identifying mechanisms for the safe disposal of CFLs, including under the ongoing Jiji and Mulembwe Hydropower Project and/or a potential follow-up GEF operation. The ICR did not report whether the sub-projects generated environmental impacts during implementation. The ICR also did not report the findings of any monitoring reports or other types of impact assessment. EEP was reportedly in compliance with all safeguard requirements and was rated satisfactory throughout the project implementation (ICR page 10).



Social Safeguards

EEP triggered no social safeguard policies. As discussed in environmental safeguards above, the MSWEIP’s ESMF applied to EEP. The ICR did not report whether the sub-projects generated social impacts during implementation. The ICR also did not report the findings of any monitoring reports or other types of impact assessment.

b. Fiduciary Compliance

Financial Management

Financial management of EEP was rated satisfactory throughout project implementation. The PIU’s financial management staff maintained proper books of accounts and supporting documents in respect of all expenditures. The auditors’ opinions on the annual financial statements were submitted on time and were unqualified. Interim un-audited financial reports were also submitted mostly on time and the quality of the reports was satisfactory (ICR p. 10). Almost all EEP’s GEF Grant (99.7 percent) was accounted for by the project closure. The ICR did not report issues of corruption or misuse of funds associated with the project.

Procurement

Procurement was rated either moderately satisfactory or satisfactory throughout project implementation. EEP implementation fully followed the Bank’s applicable procurement guidelines for works, goods, and services. The PIU was staffed with a procurement specialist proficient in Bank’s procedures. Delay in hiring consultants caused significant implementation delays but the ICR did not report specific cases of Bank intervention to resolve procurement difficulties, provide procurement advice, or in giving non-objections.

c. Unintended impacts (Positive or Negative)

Not applicable.

d. Other

Not applicable.

**12. Ratings**

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Unsatisfactory	Moderately Satisfactory	The ICR’s ratings are high for relevance of objectives and substantial for relevance of design. The efficacy of one objective is rated modest and the other is substantial. Efficiency was rated modest. While IEG agrees with the ICR’s ratings for relevance of objectives and design, the efficacy of the first (institutional) objective is rated modest and that of the second substantial. IEG differs in rating efficiency, despite the ICR’s high efficiency rating of physical



			investments, as modest because of administrative and organizational shortcomings that accounted for about two-thirds of project cost.
Risk to Development Outcome	Substantial	Substantial	---
Bank Performance	Moderately Unsatisfactory	Moderately Unsatisfactory	---
Borrower Performance	Moderately Satisfactory	Moderately Satisfactory	---
Quality of ICR		Modest	---

**Note**

When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.

The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

### 13. Lessons

The ICRR provides seven lessons from which IEG has summarized following:

- 1. Energy efficiency projects have to be sufficiently large and build effective institutions to have a national impact.** This project that set out to achieve development and adoption of national guidelines, policies and regulations in less than four years, in addition to technological upgrading, had little budget clout or support from a sector-wide approach.
- 2. Continuous awareness-raising and incentives are essential to sustain consumers' use of energy-efficient technology.** EEP surveys revealed that continuous awareness campaigns are required to ensure that the households that received the free CFLs would voluntarily purchase additional or replacement CFLs.
- 3. A combination of pre-paid meters and CFLs can have more impact in reducing consumption and increasing awareness of the benefits of the CFL than distribution of CFL alone.**

### 14. Assessment Recommended?

No

### 15. Comments on Quality of ICR

The ICRR is sometimes too concise and does not provide a sufficiently robust analysis of implementation issues. There is no explanation of fund reallocations, no reasons given for highly variable Bank performance and little information on institutional achievements. While the physical outputs are clear this is not the case for institutions, and the outcome rating is not internally consistent with the evidence or OPCS ICRR guidelines. The economic analysis lacked clarity. Relevant lessons were drawn from the implementation experience.

- a. Quality of ICR Rating  
Modest