

Terminal Evaluation Review form, GEF Evaluation Office, APR 2015

1. Project Data

Summary project data			
GEF project ID		4219	
GEF Agency project ID		HA-X1018 /HA-X1019	
GEF Replenishment Phase		GEF-4	
Lead GEF Agency (include all for joint projects)		Inter-American Development Bank (IBD) &World Bank	
Project name		Emergency Program For Solar Power Generation For Haiti	
Country/Countries		Haiti	
Region		Latin America and Caribbean	
Focal area		Climate Change	
Operational Program or Strategic Priorities/Objectives		CC-SP3 - Promoting Market Approaches for Renewable Energy	
Executing agencies involved		Solar Electric Fund (SELF)/ IT Power	
NGOs/CBOs involvement		Lead executing agency; Solar Electric Light Fund	
Private sector involvement		through consultations; The consulting firm "IT power" was charged with the responsibility of selecting suitable executing agencies	
CEO Endorsement (FSP) /Approval date (MSP)		03/16/2010 (PIR 2014, p.1)	
Effectiveness date / project start		03/16/2010 (PIR 2014, p.1)	
Expected date of project completion (at start)		03/16/2011 (PIR 2014, p.1)	
Actual date of project completion		05/01/2013 (PIR 2014, p.1)	
Project Financing			
		At Endorsement (US \$M)	At Completion (US \$M)
Project Preparation Grant	GEF funding		
	Co-financing		
GEF Project Grant		1.0	1.0 (PIR 2014, p.1)
Co-financing	IA own		
	Government		
	Other multi- /bi-laterals		
	Private sector		
	NGOs/CSOs		
Total GEF funding		1.0	1.0 (PIR 2014, p.1)
Total Co-financing		2.0	2.0 (PIR 2014, p.1)
Total project funding (GEF grant(s) + co-financing)		3.0 (GEF 4219 project review, p.1)	3.0 (PIR 2014, p.1, 1.5 million under the World Bank management 1.5 million under the IDB management)
Terminal evaluation/review information			
TE completion date		04/2014 (for component 1); 12/13/2011(for component 2) (World Bank GRM report, p.6)	
Author of TE		Sergio D. Baron (for component 1); Christophe de Gouvello (for component 2)	
TER completion date		01/06/2016	
TER prepared by		Chenhao Liu	
TER peer review by (if GEF EO review)		Molly Watts	

2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF EO Review
Project Outcomes	HS (TE for both component 1&2)	HS (TE for both component 1&2)	NR	HS
Sustainability of Outcomes		NR	NR	ML
M&E Design		NR	NR	MS
M&E Implementation		NR	NR	MS
Quality of Implementation		S (TE for component 2, TE for component 1 NR)	NR	S
Quality of Execution		HS (TE for component 2, TE for component 1 NR)	NR	HS
Quality of the Terminal Evaluation Report		NR	NR	MS

3. Project Objectives

3.1 Global Environmental Objectives of the project:

“This project will contribute to promote solar PV as a sustainable and autonomous form of alternative renewable energy, in times when diesel fuel is difficult to obtain, transport, and purchase in Haiti.” (TE, p.5) Also, as the project is under the GEF’s climate change strategic program 3, the project will also aim at promoting market approaches for renewable energy so as to reduce the CO2 emissions. (Project Document (PIF MSP), p.4)

3.2 Development Objectives of the project:

The original project included 2 components:

Component 1 was the provision of street lights for two refugee camps in the Port-au-Prince (PAP) area (first outcome) and provision of self-sustained Photovoltaic systems and solar refrigerators for twelve health centers in the south of the country (second outcome). This component was implemented by the Inter-American Development Bank (IDB).

Component 2 was the provision of hand-cranked lanterns, and it is implemented by the World Bank. (TE, p.7)

3.3 Were there any **changes** in the Global Environmental Objectives, Development Objectives, or other activities during implementation?

There were no changes in GEOs and PDOs, but the TE of project component 1 (the IDB part) reported the following change in planned activities:

The original project’s TOR (see Annex 1) specified three sites to install the solar power system in health centers. However, none of these sites were used, instead, other sites were identified in a joint effort between the Government of Haiti (GoH), the IDB (the implementing agency for component 1) and SELF (executing agency for component 1), and The United Nations Environment Program (UNEP) and Columbia University (CU). (TE p.8)

The original project also specified the installation of solar refrigerators in all twelve health centers, however this did not occur as it was discovered that a program run by the Government of Haiti had already provided solar refrigerators to the centers. Instead priority was given to providing more power with solar PVs for all medical purposes. (TE p.8)

“The project team also expanded the scope of the project from Solar PV generator for power generation (the case of the health clinics) to Solar PV generators for public illumination, to illuminate the refugee camps in Port au Prince, as way to reduce crime and violence by night.” (TE, p.8)

4. GEF EO assessment of Outcomes and Sustainability

Please refer to the GEF Terminal Evaluation Review Guidelines for detail on the criteria for ratings.

Relevance can receive either a Satisfactory or Unsatisfactory rating. For Effectiveness and Cost efficiency, a six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess. Sustainability ratings are assessed on a four-point scale: Likely=no or negligible risk; Moderately Likely=low risk; Moderately Unlikely=substantial risks; Unlikely=high risk. In assessing a Sustainability rating please note if, and to what degree, sustainability of project outcomes is threatened by financial, sociopolitical, institutional/governance, or environmental factors.

Please justify ratings in the space below each box.

4.1 Relevance	Rating: Satisfactory
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The TE rated the project’s relevance as “Highly Satisfactory”. This TER will rate the project’s outcome relevance as “Satisfactory”.

“The general focus of the project was to provide electrical power to health centers and lighting for areas that were affected by the 2010 earthquake that hit Haiti.” (TE, p.40) Thus, this project shows a strategic relevance in a local context as it provides direct support to the country’s post-disaster relief and reconstruction. Also, this project belongs to the GEF focal area of climate change, and is in line with the GEF’s Climate Change Strategic Program 3- Promoting Market Approaches for Renewable Energy.

4.2 Effectiveness	Rating: Highly Satisfactory
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The TE which covers project component 1 (Implementing agency: Inter-American Development Bank), summarized the outcome achievement of project component 1 and rated its outcome effectiveness as “Highly Satisfactory”. The TE which covers project component 2 (Grant Reporting and Monitoring (GRM) Report by the World Bank) rated the outcome achievement of the project component 2 as “Highly Satisfactory”. This TER will rate the project’s overall outcome effectiveness as “Highly Satisfactory”, based on relevant information presented by IDB TE (TE,p.41), World Bank GRM report (World Bank GRM report, p.2), and GEF-IDB PIR 2014 (final PIR) (PIR 2014, p.3). The project has been highly successful in achieving its preset outcomes, according to the analysis below:

COMPONENT 1 - Installation Solar Powered Street Light at Transition Camps

Project component 1 has been fully achieved. It has two expected outcomes: The expected outcome 1 is provision of street lights for two refugee camps in the Port-au-Prince (PAP) area. This outcome was fully achieved. By the end of the project a total of 100 lamps in both camps were installed in the two refugee camps selected by the GoH (63 in Camp Caradeux and 37 in Camp Sean Penn in Port-au-Prince). The expected outcome 2 was provision of self-sustained Photovoltaic systems and for twelve health centers in the south of the country. This outcome was also fully achieved. By the end of the project, the newly installed self-sustained Photovoltaic systems in twelve (12) health centers in the South-West coast of Haiti (Chantal, Coteaux, Port-à-Piment, Roche-à-Bateau, etc.) were now running and providing electricity to the beneficiaries. As a consequence, quality and quantity of services provided by the health centers were greatly improved.

COMPONENT 2 – Solar and hand crank portable lanterns distributed

Project component 2 has been fully achieved. The expected outcome is distribution of 50,000 solar lanterns to people affected by the earthquake. By the end of the project, despite the very chaotic post disaster context, the project exceeded its target by 10%: 55,000 solar lanterns were distributed to the affected population located in refugee camps. (World Bank GRM report, p.2)

From the above analysis, it is clear that the project has fully achieved what it intended to achieve, with some certain part exceeded the preset goal. A rating of “Highly Satisfactory” for the project’s outcome effectiveness is justified.

4.3 Efficiency	Rating: Satisfactory
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Both the TE for component 1 and component 2 (TE and the World Bank GRM report) rated outcome efficiency of each project component as “Highly Satisfactory”. In a 6-point scale, This TER will rate the project’s outcome efficiency as “Satisfactory”. The project has been implemented in a cost-effective manner, but project component 1 was delayed.

For the project component 1, some 1.5 million USD was disbursed based on the pre-project financial plan, and by the end of the project “the total allocation of component 1 of the project was \$1,350,000, with \$500,000 provided by GEF and the rest by IDB.” (TE, p.42) For the project component 2, the GRM report specified the level of pre-project disbursement of 500,000.00 USD and the actual expenditure is 491,388.26. (World Bank GRM report, p.1) Considering the highly satisfactory outcome achievements, both the project component 1 and 2 have been implemented in a cost-efficient manner to reach their expected outcomes.

The TE for the project component 1 has also highlighted some facts/practices relevant to the project’s outcome efficiency: For the installment of solar street lights in refugee camps, the price of \$2,990 is on

the upper range of the market, but as surveyed by this consultant, the quality and durability of the installed lamps are above average. For providing solar power for health centers, a total power of 38,705 Watt peak (Wp)¹ installed in all twelve health centers, \$378,250 was paid. At \$9.77 per watt, the cost of these systems is reasonable considering that top-notch components from manufacturers like Outback and REC were used. As reviewed when visiting the installations, their quality is impeccable and no failures on the systems were reported after a year of usage. (TE, p.42)The above evidence has re-confirmed the cost-effectiveness of the project.

The project's first component was delayed for 2 years, and the TE didn't explain this delay in detail. But as the project was completed beyond the timeline as scheduled, the delays become a part of non-positive evidence regarding the project's efficiency. Thus, even though the TEs have given "Highly Satisfactory" ratings for the project's cost-effectiveness, this TER's rating of "Satisfactory" for the project outcome efficiency is still justified.

4.4 Sustainability	Rating: Moderately Likely
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The TE for the project component 1 rated the project's risks of four sub-categories: Financial risks (Moderately Likely); Socio-political risks (Unlikely); Institutional Framework and Governance Risks (Unlikely); Environmental Risk (Moderate Likely). The World Bank GRM report (TE for the project component 2) rated the level of risk to the project as "Modest" because "it is extremely difficult in such post-disaster context to trace portable lanterns and to ensure that some distributed lamps were not mishandled or diverted / stolen from beneficiaries after distribution." (World Bank GRM report, p.3) But neither the TE for component 1 nor the World Bank GRM report for component 2 has rendered an explicit rating for the project's sustainability. This TER will rate the project's sustainability as "Moderately Likely" based on an individual assessment of the project's sustainability of four sub-categories as per below. The project has expectable long-term financial, social, political, and institutional support which could make the project's sustainability moderately likely, but currently there is no evidence of any immediate financial commitment for sustaining the project.

Financial Resource Sustainability- Moderately Likely

The project's financial resource sustainability is moderately likely. Although no immediate financial support was in place at the project's end to sustain the project, the long-term financial support in this area can be expected. "Long-term usage of the PV systems for health centers requires maintenance. Technician's operations and a 5-year battery change is mandatory, but the project only included a 2-year period of maintenance by SELF (Solar Electric Light Fund) technicians and one time battery replacement, this assures battery provision for 10 years or until year 2021 change. At \$105.400, the cost of a battery replacement is an important sum of money that must be secured by the Government of Haiti or some other entity. At current costs technicians for all health centers are US\$24,500 per year. As described by

¹ Watt peak (Wp) specifies the output power achieved by a solar module under solar radiation of 1,000 watts per square meter (TE p.10)

Mr. Thys (IBD field representative), the Government of Haiti relies heavily on foreign institutions to finance all types of infrastructure, so it is likely they will do this for the project. It would be advisable for the health centers to generate a financial mechanism to provide technical service after the 2-year period is finalized.” (TE, p.43) As for the future need for the maintenance or repair of distributed lanterns, there is currently no financial commitment to this area. Overall, the project’s long-term financial sustainability is optimistic, but there is no current evidence for any immediate financial commitment to sustaining this project. Thus, a rating of “Moderately Likely” for the project’s financial sustainability is justified.

Socio-political sustainability-Likely

The project’s social-political sustainability is likely. The driving force of the project’s sustainability comes from the country’s social and political front, whose support to the project was underpinned by the project’s concrete benefits to the local community. “The streetlight installation in camps shows a clear improvement in the safety of the population living in the camps; and at the same time a solid compromise of the community with these benefits. As examined, most streetlights in Camp Caradeux are still functioning and free of damage from vandalism.”(TE, p.43) “The PV systems for the health centers provided a change on the way health is served (for better) in some of the centers and an unseen social benefit in some others (the cellphone charging in Roche-a-Bateau). All health centers benefited with this program have surely saved lives because of the availability of electrical power 24/7.” (TE, p.43) As an important part of international actions on the country’s post-disaster relief, this project is able to garner strong social and political support in Haiti for its sustainability.

Institutional Sustainability- Likely

The project’s institutional sustainability is likely. “This project provided light and power to communities and health centers in need. The Government of Haiti participated in the selection of the sites, but this was mainly handled by IDB, GEF and the IA.” (TE, p.44) The follow-up maintenance of the infrastructures installed through this project will be the responsibility of the Government of Haiti, but as the country was still undergoing a post-disaster reconstruction process with significant assistance of international aid, the multilateral development cooperation mechanism established for this project’s operation will be still in place after project closure which will facilitate the project’s sustainability. Thus, the TE for project component 1 gave the rating that “there is Likely (L) no risk in the institutional and governance aspects of the project.” (TE, p.44)

Environmental Sustainability- Unable to Assess

The TE for project component 1 summarized the project’s potential environmental hazards, especially the poor management of the lead waste from the batteries of the installed PV system. (TE, p.45) However, this is not related to the environmental sustainability of the project’s impact. The project’s environmental impact is slight, in the form of reduction of CO2 emissions due to 38.7KW of installed power by the project, which is negligible in terms of having a measurable benefit to environment (TE, p.45). Thus, with current evidence presented by the relevant project documents this TER is unable to assess the project’s environmental sustainability.

5. Processes and factors affecting attainment of project outcomes

5.1 Co-financing. To what extent was the reported co-financing essential to the achievement of GEF objectives? If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

By the end of the project, the total co-financing of the project was US\$ 2,000,000, with US\$1,000,000 under IDB management and US\$1,000,000 under the World Bank management. Considering the high achievement of project outcome, it is undoubtable that the co-financing has made a significant contribution to the project outcomes. But relevant project documents didn't specify the detailed mechanism through which co-financing was connected to project outcomes.

5.2 Project extensions and/or delays. If there were delays in project implementation and completion, then what were the reasons for it? Did the delay affect the project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The project component 2 was completed on time. The project component 1, however, has undergone a two-year extension to 05/01/2013, and the TE didn't specify the reasons. The PIR 2013 for the project component 1 reported that "Some delays were experienced during the first phase of the solar power component, however the main constraints for the installation of solar power equipment in different locations have been overcome and its development is done" (PIR 2013, p.2) These delays and extensions had no impacts on the project outcome based on the current evidence presented by relevant project documents.

5.3 Country ownership. Assess the extent to which country ownership has affected project outcomes and sustainability? Describe the ways in which it affected outcomes and sustainability, highlighting the causal links:

Given the project's concrete benefits to the local community in a post-disaster setting, the project has received a strong support from the relevant project stakeholders at the country-level. For example, the GoH (Government of Haiti) was involved in the project site selection and was running a parallel project of providing health centers in Haiti with hybrid propane/electric refrigerators and solar refrigerators at the time of project implementation. (TE, p.8) Also, the installed solar equipment, by the end of the project, have been free from vandalism (TE, p.27, 37, 43). However, more details in this area are still preferred in order to draw a clearer picture of the country-level support to the project.

6. Assessment of project's Monitoring and Evaluation system

Ratings are assessed on a six point scale: Highly Satisfactory=no shortcomings in this M&E component; Satisfactory=minor shortcomings in this M&E component; Moderately Satisfactory=moderate shortcomings in this M&E component; Moderately Unsatisfactory=significant shortcomings in this M&E component; Unsatisfactory=major shortcomings in this M&E component; Highly Unsatisfactory=there were no project M&E systems.

Please justify ratings in the space below each box.

6.1 M&E Design at entry	Rating: Moderately Satisfactory
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The TEs for both the project component 1 and component 2 did not rate the project's M&E design at entry. This TER will rate the project's M&E design at the entry as "Moderately Satisfactory". The project has a comprehensive and well-rounded framework, but relevant project documents didn't provide any details regarding the implementation arrangement for the M&E activities.

The project document laid out a project results framework on which the M&E activities will be based. Project outcomes of different components are designed to be measured by a set of SMART indicators. For example, the project outcome component 1 "Solar Application for power generation (to be management and monitored by IDB)", is measured by "1. No. of solar power generators and refrigerators installed and operative; 2. No. of buildings/service providers using solar power generators/refrigerators to provide emergency services; 3. No. of MWh produced by solar powered generators and refrigerators; 4. No. operators trained to use and maintain solar generators." (PIF MSP (Project Document), p.9)

However, the project document didn't specify any implementation arrangements for M&E, such as key personnel involved, roles and responsibility of relevant stakeholders, mechanism for periodic reporting, Mid-Term Review and Terminal Evaluation. The information listed above should have been provided by the relevant project documents in order to constitute a well-rounded M&E plan.

Overall, this TER's rating of "Moderately Satisfactory" regarding the project's M&E design is justified.

6.2 M&E Implementation	Rating: Moderately Satisfactory
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The TEs for both the project component 1 and component 2 didn't provide ratings for the project's M&E implementation. This TER will rate the project's M&E implementation as "Moderately Satisfactory", considering the both success and moderate shortcomings of the M&E implementation process.

For project component 1, PIRs following a standard GEF format were issued covering the entire project period (FY 2011-FY2014) in which outcome achievements, implementation process, and the project risks were assessed and rated. The PIRs also summarized lessons learned, and reported the status of project finance in each period assessed. However, as also mentioned by the PIRs, due to lack of baseline data, the PIRs failed to track the project's progress by comparing the project achievement with the baseline, but only showing its distance toward targets. (PIR 2014, p.3) Besides, the TE for project component 1 has only provided limited and fragmented information regarding the project implementation/execution, with no mention of M&E, and unnecessarily used long chapters to document the project outcome. For the project component 2, the World Bank GRM report has reported the project's progress, project risks, lessons learned, and has also provided ratings for the project's key areas assessed, all of which are consistent with the reporting standard/format of the World Bank. In addition, for both project component 1 and component 2, there has been no evidence from relevant project documents that the M&E implementation

was organized and executed based on a well-rounded plan set up beforehand, rather as an unorganized and ad-hoc process, even though being successful in gathering necessary information.

Overall, a rating of “Moderately Satisfactory” for the project’s M&E implementation is justified.

7. Assessment of project implementation and execution

Quality of Implementation includes the quality of project design, as well as the quality of supervision and assistance provided by implementing agency(s) to execution agencies throughout project implementation. Quality of Execution covers the effectiveness of the executing agency(s) in performing its roles and responsibilities. In both instances, the focus is upon factors that are largely within the control of the respective implementing and executing agency(s). A six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess.

Please justify ratings in the space below each box.

7.1 Quality of Project Implementation	Rating: Satisfactory
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The project has two implementing agencies: the Inter-American Development Bank (IDB) for project component 1; and the World Bank for the project component 2. Relevant project documents didn’t provide enough details regarding their performance as the implementing agencies, but from the fragmented evidence they’ve presented, the highly satisfied project execution process, and project outcome, it is reasonable to predict a satisfied performance of the project’s implementing agency. Thus, this TER will rate the quality of project implementation as “Satisfactory” based on the information presented below:

The TE for the project component 1 didn’t provide enough details regarding the IDB’s support and backstopping to this project, but it reported that the IDB has made financial contributions for purchasing solar equipment (TE, p.5) and IDB has designated staff in the project management team to supervise the entire execution process. The IDB has also involved in the selection of health centers to install Solar system, and facilitated the customer clearance for the imported solar equipment (PIR 2011, p.2-3) By the end of the project, the IDB prepared an audio-visual documentary to present the project’s achievements. (PIR 2014, p.2)

The World Bank GRM report for the project component 2 rated the World Bank’s performance as “Satisfactory”, based on the following comments: “ (The World Bank’s performance has been) Highly satisfactory regarding the implementation of a rapid and very innovative response in an extremely difficult environment; Moderately Unsatisfactory regarding the high transaction costs associated to internal bureaucracy.” (World Bank GRM report, p.5)

Overall, one can draw the conclusion that, although relevant project documents have only provided fragmented evidence regarding the quality of project implementation, this fragmented evidence plus the

highly satisfactory rating of project outcome and execution could well support this TER's "Satisfactory" rating for the quality of project implementation.

7.2 Quality of Project Execution	Rating: Highly Satisfactory
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The TE for the project component 1 didn't provide any ratings or details regarding the execution process of project component 1. The World Bank GRM report for the project component 2 rated the execution of project component 2 as "Highly Satisfactory". This TER will rate the overall project execution as "Highly Satisfactory" based on a track record of success in project execution based on evidence presented by relevant project documents.

The executing agency of project component 1 is SELF (Solar Electric Fund), an NGO charged with the responsibility of procurement management, installing, and operating the solar equipment. According to the PIR 2011 (for project component 1), through a competitive bidding process, the SELF selected the best solar equipment suppliers, and trained the technicians for installing and maintaining the system (PIR 2011, p.3-4. In a 6-point scale (1-6), the PIR 2011 rated the project's execution as "Satisfactory". According to the PIR 2012 (for project component 1), by the end of Fiscal year 2012, installation Solar Powered Street Light at Transition Camps was completed and the installation "was carried out in accordance with the standards established for these types of systems." (PIR 2012, p.2). PV Generation systems were installed at the South-West coast of Haiti with equipment in line with relevant technical requirements and "are now running and providing electricity to the beneficiaries. " (PIR 2012, p.3) The installed PV system has provided the health centers with 24-hour daily access to renewable energy and has helped improve their quality of service accordingly. (PIR 2012, p.3) The PIR 2012 rated the project execution process as "Highly Satisfactory". The execution of project component 1 was concluded by the end of FY 2012, followed by a monitoring process, and the project was formally closed on 05/01/2013. The PIR 2013 and the PIR 2014 (Final) summarized the outcome achievements of project component 1 and both have rated the execution process of project component 1 as "Highly Satisfactory".

The project component 2, which focused on the provision of hand-cranked lanterns, was executed under the supervision of the World Bank and completed by mid-2011. The World Bank's GRM report rated the project execution process as "Highly Satisfactory", and provided the following details regarding the success of the execution process: "Despite the very chaotic post disaster context, the project exceeded its target by 10%, distributing 55,000 solar lanterns to the affected population located in refugee camps."(GRM p.2) "The project team set up by the World Bank, who executed this grant together with the IDA co-financing, was able to purchase 55,000 lanterns and to issue a series of contracts and build partnerships to distribute them to the targeted population in record time. In particular the project was able to get the purchased lanterns transported from China and India to the Dominican Republic, get customs issues handled by contracted logisticians, get them transported from DR to Haiti and storage (UNOPS), hire local consultants and partner with the local utility (EdH) and 5 local and international NGOs to organize the distribution, to supervise 270 distributions in refugee camps with trained EdH staff participation and to ensure that the 55,000 lanterns have effectively been distributed to the final targeted

beneficiaries. In addition, an ex-post survey of beneficiary was undertaken and completed. On that basis, the number of beneficiaries is estimated to be between 250,000 and 300,000 people. A knowledge sharing event was organized in Washington on May 3, 2011.” (World Bank GRM report, p.2)

Overall, considering the success of execution in both project component 1 and 2, a rating of “Highly Satisfactory” for the quality of project execution is justified.

8. Assessment of Project Impacts

Note - In instances where information on any impact related topic is not provided in the terminal evaluations, the reviewer should indicate in the relevant sections below that this is indeed the case and identify the information gaps. When providing information on topics related to impact, please cite the page number of the terminal evaluation from where the information is sourced.

8.1 Environmental Change. Describe the changes in environmental stress and environmental status that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The project’s most significant benefits to the environment is the reduction of CO2 emissions due to 38.7KW of installed power, but it is too low to make a measurable benefit to the environment. (TE, p.44) Also, the lead-acid batteries on which the solar systems relies to operate may have a negative environmental impact once they are run out in the future due to the poor management of lead wastes in the country (TE, p.44)

8.2 Socioeconomic change. Describe any changes in human well-being (income, education, health, community relationships, etc.) that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

Relevant project documents reported the following socio-economic change led by this project:

For the project component 1:

The installation of 100 lamps in the two refugee camps, significantly improved the precarious humanitarian situation at Camp Caradeux and the status of lack of any infrastructure for power generation, which made the installation of solar streetlights a life changing event that improved many young Haitians safety and tranquility. (PIR 2014, p.3)

The quality and quantity of services provided by the health centers was greatly improved by the installation of the solar power systems. (PIR 2014, p.3)

For the project component 2:

“Based on the ex-post survey performed (2,000 questionnaires), around 300,000 people benefited from the project. Main benefits related to the lighting services provided by the solar lanterns distributed are: quality of light and savings compared to alternatives (when candles were available only), safety for fragile people, in particular elders, injured, women (prevention of sexual assaults), small children, and dying people (who cannot communicate at night without light).” (World Bank GRM report, p.5)

8.3 Capacity and governance changes. Describe notable changes in capacities and governance that can lead to large-scale action (both mass and legislative) bringing about positive environmental change.

“Capacities” include awareness, knowledge, skills, infrastructure, and environmental monitoring systems, among others. “Governance” refers to decision-making processes, structures and systems, including access to and use of information, and thus would include laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc. Indicate how project activities contributed to/ hindered these changes, as well as how contextual factors have influenced these changes.

a) Capacities

The installation of a total of 100 lamps in both camps selected by the Government of Haiti (63 in Camp Caradeux and 37 in Camp Sean Penn in Port-au-Prince); solar equipment for power generation installed for the twelve (12) health centers in the South-West coast of Haiti (Chantal, Coteaux, Port-à-Piment, Roche-à-Bateau, etc.) are now running and providing electricity to the beneficiaries; 55,000 solar lanterns were distributed to the affected population located in refugee camps.

b) Governance

The project didn't have any parts intended to initiative any change in governance.

8.4 Unintended impacts. Describe any impacts not targeted by the project, whether positive or negative, affecting either ecological or social aspects. Indicate the factors that contributed to these unintended impacts occurring.

The TE reported the following unexpected outcomes:

1. At the Chantal health dispensary, with permanent power supply provided by the installed solar equipment due to project, the staffs built an electronic database to better track and treat complex diseases as TB. (TE,p.22)
2. At the Port-a-Piment hospital, with permanent power the staffs can charge cellphones and operate the otoscope. That was not possible before the solar power. (TE,p.33)
3. At the Roche-a-Bateau health dispensary, people from the town of Roche-a-Bateau use the dispensary's energy to charge their cellphone and keep in contact in case of medical emergency. (TE,p.37)
4. The lead waste produced by the batteries the installed PV system will become a major environmental concern in the near future considering the prevalence of informal battery recycling in the post-disaster context of Haiti.

8.5 Adoption of GEF initiatives at scale. Identify any initiatives (e.g. technologies, approaches, financing instruments, implementing bodies, legal frameworks, information systems) that have been mainstreamed, replicated and/or scaled up by government and other stakeholders by project end. Include the extent to which this broader adoption has taken place, e.g. if plans and resources have been established but no actual adoption has taken place, or if market change and large-scale environmental benefits have begun to occur. Indicate how project activities and other contextual factors contributed to these taking place. If broader adoption has not taken place as expected, indicate which factors (both project-related and contextual) have hindered this from happening.

The project outcomes, namely the solar PV systems installed and lanterns were still in use and functional by the end of the project, but no further scale-ups or replications were reported by relevant project documents.

9. Lessons and recommendations

9.1 Briefly describe the key lessons, good practices, or approaches mentioned in the terminal evaluation report that could have application for other GEF projects.

For the project component 1, The TE summarized the following lessons learned:”

- Solar streetlights are a normal feature of the urban Haiti landscape in 2014. What is also normal is that those streetlights are vandalized, and the solar panels and batteries stolen. In the case of Camp Caradeux, 0 (zero) lamps were vandalized. The rugged, anti-vandalism equipment utilized and the control and containment performed by the self-administrated community, demonstrated to be very helpful to protect the premises.
- Not all health centers exhibit the same level of dynamism when it comes to the use of electrical energy. Some centers rapidly used all the capacity installed for new and better services, where others simply kept doing business-as-usual. In the future an adaptation period would be a great addition. During this period, the usage and innovation could be measured, and in that way a better balancing on the use of the funds could be done.
- This project included extensive work with the community. Beneficiaries participated in trainings and information sessions that highlighted all the important aspects about capacities, limitations and maintenance of the installed equipment. The response to this community work can be appreciated in exceptional usage and maintenance of the systems. This kind of action is fundamental in projects where distributed technical infrastructure is deployed, and should be replicated in future endeavors of this kind.” (TE,p.46)

For the project component 2, the TE (World Bank GRM report) summarized the following lessons learned and recommendations: “

1) General:

- Building upon pre-existing partnership and personal trust built before the disaster is key for a rapid and efficient response

- Demonstrating immediate willingness to partner with the local utility and keep them in the loop: this is key to ensure the ownership of the operation and bring back the local utility on activity. Then, the operation becomes an opportunity for improving future relationship between the utility and its customers
- Do not forget local utility staff families: there are also victims! this is key to ensure staff willingness to work in a difficult environment

2) Criteria for selecting sites

- Focus on group of person living in tents
- Existence of a committee in charge of the refugee camp to ensure an orderly and tracked distribution
- Distribution only in fenced area for security / safety reasons

3) Lessons learnt from M&E:

- Main satisfaction is on savings (about US\$1/day for buying candles saved) and safety for fragile people
- Only 3% of beneficiaries found it difficult to use the lanterns (systematic training)
- Overall light intensity of portable lanterns and duration were judged satisfactory
- M&E is very challenging in such a volatile environment: high mobility in refugee camps, biased response in hope getting additional lamps, difficulty to track beneficiaries 5 months later, etc.)

4) Post-disaster context created an opportunity to jump start a local market and businesses for autonomous solar equipment

- Solar lanterns: 3 new companies created in the aftermath of the project (construction and maintenance)
- International manufacturers were encouraged to and actually developed local partnerships for permanent presence
- At the end of the project, close to a sustainable market, but some barriers remained: high tax levels on imported solar products (up to 30%); lack of confidence from local financial players to finance local SMEs.

5) Administrative Processes

- Be prepared to jump on the High-visibility / High speed Train that mobilizes upper management and internal decision maker to avoid parallel Low-level #Omnibus# processing (Despite GEF speed in processing the MSP, too late to catch the High-visibility/ High speed PPA WB internal processing, then very high transaction costs since the project had to follow #low-level -Omnibus# processing).
- Include ALL type of expenses in scope of activities: goods, services, consultants
- Include retroactive-financing provision, even if quick processing is expected under OP8.0
- GEF: essential to leverage the US\$1 million co-financing from PPA, but heavy internal transaction costs, in particular waivers were required for Bank execution
- The Preparation Project Advance of the IDA emergency project has been essential to implement the activity on time” (World Bank GRE report, p.4-5)

9.2 Briefly describe the recommendations given in the terminal evaluation.

The TE for project component 1 provided the following recommendations:

“As recommendation, the issue of safe battery recycling is the most evident. Throughout this document the necessity to avoid lead contamination was exposed. It is also known that informal battery recycling is dangerous and polluting. To enhance this project, and future ones, a recycling program must be included.

One possible solution might be to include recycling services with the purchase of the battery banks, relying on the battery provider to properly handle the procedure.”(TE, p.45)

10. Quality of the Terminal Evaluation Report

A six point rating scale is used for each sub-criteria and overall rating of the terminal evaluation report (Highly Satisfactory to Highly Unsatisfactory)

Criteria	GEF EO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	The TEs (for both component 1 and 2; the TE for component 2 is the World Bank GRM report) specified in detail the project's achievements as compared to the preset targets	Satisfactory
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The TE for component 1 reported the information it should report in line with GEF standards, but it failed to assess areas such as project implementation/execution or M&E. The TE for the component 2 is adequate and in line with the World Bank's reporting standard	Moderately Satisfactory
To what extent does the report properly assess project sustainability and/or project exit strategy?	The TE for component 1 analyzed the project's risks in a same approach (four sub-category approach) as it should have analyzed the project's sustainability; the TE for component 2 only assessed the project's risks. None of the TEs mentioned the project's exit strategy	Moderately Unsatisfactory
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	The "Lessons learned" sections in the TEs for both project components are adequate	Satisfactory
Does the report include the actual project costs (total and per activity) and actual co-financing used?	The TEs for both project components specified the actual project costs (total and per activity); the TE for component 1 reported the level of co-financing of the entire project but it didn't specify the actual level of co-financing used	Moderately Satisfactory
Assess the quality of the report's evaluation of project M&E systems:	None of the two TEs assessed the project's M&E systems	Highly Unsatisfactory
Overall TE Rating:		Moderately Satisfactory

11. Note any additional sources of information used in the preparation of the terminal evaluation report (excluding PIRs, TEs, and PADs).

In the preparation of this TER, no additional documents were referred to as the source of information apart from PIRs, TE, and PD.