



# CLEAN RURAL ELECTRIFICATION FOR AFRICAN COUNTRIES

UNDP/GEF Project (PIMS No: 6182)



## TERMINAL EVALUATION REPORT

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## **Acronyms and Abbreviations**

AfDB	African Development Bank
AMDA	Africa Mini-grid Developers Association
AMP	Africa Mini-grids Programme
ARE	Alliance for Rural Electrification
AWP	Annual Work Plan
BOAD	West African Development Bank
CEO	Chief Executive Officer
CO	Country Office
CREAC	Clean Rural Electrification for African Countries
CTF	Clean Technology Fund
CPD	Country Programme Document
CPW	Country Partner Workshop
DREI	De-risking Renewable Energy Investment
ECOWAS	Economic Community of West African States
ECREEE	ECOWAS Centre for Renewable Energy and Energy Efficiency
ESMAP	Energy Sector Management Assistance Program
ESS	Energy Storage Systems
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas
GMGMDP	Green Mini-Grid Market Development Programme
IRH	Istanbul Regional Hub
LCOE	Levelized Costs of Energy
MSP	Medium Size Project
NGO	Non-Governmental Organisation
PIR	Project Implementation Review
PB	Project Board
PCA	Project Cooperation Agreement
PFD	Programme Framework Document
PM	Project Manager
PMU	Project Management Unit
PPG	Project Preparation Grant
PSC	Project Steering Committee
QPR	Quarterly Project Report
RE	Renewable Energy
RESCO	Renewable Energy Service Company
RMI	Rocky Mountain Institute
SEFA	Sustainable Energy Fund for Africa
SEforALL	Sustainable Energy for All
SMEs	Small to Medium-Sized Enterprises
SPRD	Smart Power for Rural Development
SREP	Scaling-Up Renewable Energy Programme
SSA	Sub-Saharan Africa
TE	Terminal Evaluation
TOR	Terms of Reference
UNDAF	UN Development Assistance Framework
UNDP	United Nations Development Programme
UNEG	UN Evaluation Group

## Glossary of Evaluation-related Terms

Term	Definition
Baseline data	Data that describe the situation to be addressed by an intervention and serve as the starting point for measuring the performance of the intervention
Beneficiaries	The specific individuals or organizations for whose benefit an intervention is undertaken
Capacity development	The process by which individuals, organizations, institutions and societies develop their abilities individually and collectively to perform functions, solve problems and set and achieve objectives
Conclusion	A reasoned judgement based on a synthesis of empirical findings or factual statements corresponding to a specific circumstance
Effect	Intended or unintended change due directly or indirectly to an intervention
Effectiveness	The extent to which the development intervention's objectives were achieved, or are expected to be achieved
Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results
Finding	A factual statement about the programme or project based on empirical evidence gathered through monitoring and evaluation activities
Impact	Positive and negative, intended and non-intended, directly and indirectly, long term effects produced by a development intervention
Indicator	Quantitative or qualitative factors that provide a means to measure the changes caused by an intervention
Lessons learned	Generalizations based on evaluation experiences that abstract from the specific circumstances to broader situations
Logframe (logical framework approach)	Management tool used to facilitate the planning, implementation and evaluation of an intervention. It involves identifying strategic elements (activities, outputs, outcome, impact) and their causal relationships, indicators, and assumptions that may affect success or failure. Based on RBM (results-based management) principles
Outcome	The likely or achieved (short-term and/or medium-term) effects of an intervention's outputs
Output	The product, capital goods and/or service which results from an intervention; may also include a change resulting from the intervention which is relevant to the achievement of an outcome
Rating	An instrument for forming and validating a judgement on the relevance, performance and success of a programme or project through the use of a scale with numeric, alphabetic and/or descriptive codes
Recommendation	A proposal for action to be taken in a specific circumstance, including the parties responsible for that action
Relevance	The extent to which the objectives of an intervention are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donor's policies
Risk	Factor, normally outside the scope of an intervention, which may affect the achievement of an intervention's objectives
Sustainability	The continuation of benefits from an intervention, after the development assistance has been completed
Stakeholders	The specific individuals or organizations that have a role and interest in the objectives and implementation of a programme or project
Theory of Change	A set of assumptions, risks and external factors that describes how and why an intervention is intended to work.

## **Acknowledgement**

*The evaluator would like to express his appreciation to all interviewed project stakeholders for the assistance and information provided in the course of the evaluation. By sharing their opinions and highlighting the important facts they contributed to establishment of the necessary factual base crucial for the successful completion of the evaluation.*

## EXECUTIVE SUMMARY

### Project Information Table

<b>Project Title</b>	Clean Rural Electrification for African Countries		
<b>UNDP Project ID (PIMS #):</b>	6182	<b>PIF Approval Date:</b>	19 October 2017
<b>GEF Project ID (PMIS #):</b>	9931	<b>CEO Endorsement Date:</b>	15 March 2018
<b>ATLAS Business Unit, Award # Proj. ID:</b>	SVK10, Award #00111058; Project ID 00110204	<b>Project Document (ProDoc) Signature Date (date project began):</b>	16 November 2018
<b>Country(ies):</b>	Unspecified	<b>Date project manager hired:</b>	The Project Cooperation Agreement (PCA) was signed on 26 September 2018
<b>Region:</b>	Africa	<b>Inception Workshop date:</b>	27 November 2018
<b>Focal Area:</b>	GEF-6 Climate Change	<b>Midterm Review completion date:</b>	N.A.
<b>GEF Focal Area Strategic Objective:</b>	CCM 1, Program 1: Promote timely development, demonstration and financing of low carbon technologies and mitigation options	<b>Planned closing date:</b>	30 November 2019
<b>Trust Fund [indicate GEF TF, LDCE, SCCF, NPIF]:</b>	GEF TF	<b>If revised, proposed op. closing date:</b>	31 March 2020
<b>Executing Agency/Implementing Partner:</b>	Rocky Mountain Institute		
<b>Other execution partners:</b>	N/A		
<b>Project Financing</b>	<b><u>at CEO endorsement (US\$)</u></b>	<b><u>At Terminal Evaluation (US\$)</u></b>	
<b>GEF financing:</b>	950,000	788,996 <sup>1</sup>	
<b>Government</b>	N.A.	N.A.	
<b>Other partners</b>	550,000	670,853	
<b>Total co-financing</b>	550,000	670,853	
<b>PROJECT TOTAL COSTS</b>	1,500,000	1,459,849	

<sup>1</sup> Status as of 31 December 2019. The unspent balance is being used to cover the outstanding planned activities as well as supplemental activities in line with the CREAC project objective.

## **Project Description**

The objective of the project was to develop a distinctive approach and accelerate the deployment of rural electrification utilizing renewable mini-grids. It strived for addressing barriers to wider deployment of mini-grids, in particular the barriers related to mini-grids' commercial viability and scalability. To this end, it proposed a Mini-grid Summit as a platform for governments, the private sector and GEF agencies to refine the project's strategy aimed at developing a program for mini-grids that would enable SSA countries to identify and develop projects to be implemented under the GEF-7 cycle.

The project's global environmental objective was to create foundations for reduction of GHG emissions through the removal of policy and financial barriers that inhibit the adoption of renewable energy as part of the electrification process in rural Africa.

The project request was received by GEF on 25 September 2017. For elaboration of the project, a Project Preparation Grant (PPG) was approved on 19 October 2017. The project was approved by GEF for implementation as a Medium-sized Project (MSP) on 15 March 2018 and was signed by the implementing partners in fall 2018.

The GEF project grant approved for the project amounts to 950,000 US\$ complemented with 550,000 US\$ expected co-financing composed of cash contributions from the Rockefeller Foundation and the Virgin Unite as well as of in-kind contribution from RMI. The total amount of funding committed to the project at inception was thus 1,500,000 US\$.

The project was designed for implementation following UNDP's NGO Implementation Modality according to the Standard Project Cooperation Agreement between UNDP and the Rocky Mountain Institute.

## **Summary of project results**

The project team visited several SSA countries and engaged with the UNDP COs, national GEF OFPs, donor partners (AfDB, BOAD, Carbon Trust, the UN Foundation, the Mini-Grid Partnership, the World Bank) and obtained their feedback for development of the follow-up program.

In response to the GEF Secretariat's request to increase the number of participating countries, the project resulted in submission of a Program Framework Document consisting of concept notes for national Child Projects<sup>2</sup> in 11 countries (Angola, Burkina Faso, Comoros, Djibouti, Eswatini, Ethiopia, Madagascar, Malawi, Nigeria, Somalia, and Sudan) and a regional Child Project. Compared to the original plan in the Project Document that included only two countries, this was a substantial increase in the number of deliverables. The Program Framework Document package was submitted to the GEF Council meeting in December 2019 and resulted in adoption of the GEF-7 Africa Mini-grid Program.

The project organized the Country Partner Workshop (CPW) in Abidjan, Côte d'Ivoire in March 2019. The workshop convened senior Government officials from sub-Saharan Africa

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<sup>2</sup> "Child Project" refers to an individual project under a Program.



(SSA) countries, representatives of funding agencies and expert organizations. It provided an opportunity to present the Clean Rural Electrification for African Countries (CREAC) Program and exchange information and experience with the national counterparts and other key stakeholders in order to deepen their understanding of challenges, needs and priorities. As there are currently multiple ongoing interventions on mini-grids in sub-Saharan Africa, CPW also served as a platform for sharing of case studies and update on the work undertaken by various stakeholders. The discussion focussed on common priorities for continued development of successful mini-grid projects in SSA.

### **Sustainability and progress to impact**

The project laid solid foundation for adoption of the Africa Mini-grids Program composed of Child Projects in 11 countries and a supporting regional component. The initial GEF investment of 950,000 US\$ in the project resulted in concept notes for 11 mini-grid pilot projects worth of more than 20 million US\$ in GEF grants that could leverage about 280 million US\$ in co-financing by financial institutions, development agencies and private sector investors.

Pilot projects resulting from the completion of this initiative, if implemented, could bring affordable and reliable power to almost 1 million people in rural and peri-urban communities of the 11 SSA countries. The estimated environmental benefits include direct greenhouse gas emission reductions of about 320 thousand metric tons of CO<sub>2</sub>e and almost 20 million metric tons of CO<sub>2</sub>e indirect (consequential) emission reductions.

### **Summary of evaluation ratings**

The summary of evaluation ratings according to the required evaluation criteria is displayed in the Box 1 below.

#### **Box 1: Summary of TE ratings**

<b>Evaluation Criteria</b>	<b>Evaluator's Rating</b>
Monitoring and evaluation: design at entry	Moderately Satisfactory ( <b>MS</b> )
Monitoring and evaluation: implementation	Satisfactory (S)
<b>Overall quality of monitoring and evaluation</b>	<b>Satisfactory (S)</b>
Quality of UNDP Implementation	Satisfactory (S)
Quality of Execution – Implementing Partner	Satisfactory (S)
<b>Overall quality of implementation / execution</b>	<b>Satisfactory (S)</b>
<b>Relevance</b>	<b>Relevant (R)</b>
<b>Effectiveness</b>	<b>Satisfactory (S)</b>
Outcome 1	Highly Satisfactory (HS)
Outcome 2	Satisfactory (S)
<b>Efficiency</b>	<b>Highly Satisfactory (HS)</b>
<b>Overall Project Objective rating</b>	<b>Highly Satisfactory (HS)</b>
<b>Overall likelihood of sustainability</b>	<b>Moderately Likely (<b>ML</b>)</b>
Institutional framework and governance	Likely (L)
Financial	Likely (L)
Socio-political	Moderately Likely (ML)
Environmental	Likely (L)

## Summary of conclusions and recommendations

The Terminal Evaluation makes two types of recommendations. Recommendations on substantive matters are provided for consideration of the project partners in order to ensure the project results are fully consolidated with the key project stakeholders. These recommendations are suggested for implementation as soon as possible using the existing institutional capacities and frameworks that had been created by the current project.

The implementation experience from the CREAC Project allows that some conclusions could be generalized for all UNDP programming areas. Recommendations of the second type are provided for consideration of UNDP in order to improve programming and project preparation in general.

### Recommendations to follow-up and/or reinforce initial benefits from the project:

	<b>Recommendation</b>
1.	UNDP should accelerate the formulation of the 11 national Child Projects for meeting the planned internal review date in October 2020
2.	For preparation of the PPG requests under AMP, UNDP should find resources to support appointment of qualified national consultants to provide logistical and technical support to the PPG formulation process
3.	UNDP should consider creation of a suitable repository of information resources and experience collected from implementation of renewable mini-grid projects and ensure access to the repository to a wide circle of stakeholders.
4.	UNDP should consider systematic collection of information on local socio-economic development impacts of mini-grids in SSA and incorporate this analysis into design of future mini-grid projects. This work should also include collection of information on direct beneficiaries disaggregated by gender and other marginalized groups.
5.	During the PPG stage of the national Child Projects in SSA, UNDP COs should ensure inclusion of relevant national academic institutions in the stakeholder consultations in order to ensure their active and sustained participation in implementation of the future Child Projects.
6.	In the process of formulation of full-size projects for deployment of mini-grids in SSA, UNDP should pay due attention to securing commitment of public co-financing for capacity development and awareness of local communities in target geographical areas of the future full-size projects.

### Recommendations to improve programming and preparation of projects

	<b>Recommendation</b>
7.	For preparation of follow-up projects, UNDP and RMI should ensure proper definition of project performance indicators and consistent determination of their target values.
8.	UNDP/GEF should consider inclusion of rating of project design in the guidelines for project mid-term and terminal evaluations.
9.	For implementation of follow-up projects, UNDP should ensure continued monitoring of actually realized co-financing and availability of the co-financing information for Terminal Evaluations.

## INTRODUCTION

In line with the GEF Evaluation Policy, a Terminal Evaluation (TE) is undertaken at completion of the GEF-funded projects to assess their performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. It is conducted to provide a comprehensive and systematic account of the performance of a completed project by assessing its design, implementation, and achievement of objectives. TE is also expected to promote accountability and transparency, facilitate synthesis of lessons learned, and provide feedback to allow the GEF to identify issues that are recurrent across the GEF portfolio.

This document presents results of the Terminal Evaluation of the UNDP/GEF project “Clean Rural Electrification for African Countries”, further referenced as the CREAC Project. As a standard requirement for all projects financed by GEF, this terminal evaluation has been initiated by the GEF Agency, in this case UNDP Istanbul Regional Hub (IRH) on behalf of the Rocky Mountain Institute (RMI) that acted as the Implementing Partner for the project. The evaluation was conducted in accordance with the GEF Monitoring and Evaluation Policy<sup>3</sup>, the Guidelines for GEF Agencies in Conducting Terminal Evaluations<sup>4</sup>, and the UNDP Evaluation Guidelines<sup>5</sup>.

### Objective of the evaluation

The objective of the evaluation is to provide the project partners i.e. GEF and UNDP with an independent assessment of the project design, implementation and achievements in terms of comparison of planned and actually achieved outputs and outcomes. It will identify the causes and issues which contributed to the degree of achievement of the project targets specified at the project inception, and draw lessons that can guide the design and implementation of future interventions, in particular any successor project support to rural electrification, as well as contribute to overall improvement of UNDP programming.

The Terms of Reference for the Terminal Evaluation is provided as Annex 1 to this report.

### Scope and methodology

TE covers all activities undertaken in the framework of the project. The time scope of the evaluation is the implementation period of the project, namely from November 2018 to March 2020 and it will cover involvement of the 11 beneficiary countries that were gradually identified for participation in the follow-up projects, namely Angola, Burkina Faso, Comoros, Djibouti, eSwatini, Ethiopia, Madagascar, Malawi, Nigeria, Somalia and Sudan.

The Evaluation used a combination of approaches to assess the achievements of the project from several perspectives and a mix of quantitative and qualitative methods of data collection

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<sup>3</sup> The GEF Monitoring and Evaluation Policy, Global Environmental Facility, November 2010

<sup>4</sup> Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-sized Projects, Global Environmental Facility, April 2017

<sup>5</sup> Evaluation Guidelines, UNDP, January 2019

and analysis. Desk reviews, interviews through skype calls, and follow up with key stakeholders were applied as necessary. The evaluation was conducted in three phases as follows:

*Preparatory phase:* The first step in the evaluation was a desk review of the most important documents covering project design and implementation progress that provided the basic information regarding the activities carried out to attain the desired outcomes and outputs and the actual achievements. The review was followed by preparation of questions and discussion points aiming at gathering information from chosen respondents about attitudes, preferences and factual information linked to the performance indicators in the evaluation matrix.

An evaluation matrix was constructed based on the evaluation scope presented in the ToR. The matrix is structured along the five GEF evaluation criteria for TEs and included principal evaluation questions. The matrix provided overall direction for the evaluation and was used as a basis for interviewing stakeholders and further review of the project implementation report and quarterly progress reports.

Apart from the evaluation questions on the relevance, efficiency, effectiveness, sustainability and progress to impacts, the evaluation matrix also included evaluation questions on cross-cutting issues relating to the promotion of values from a human development perspective, namely questions on gender equality and on social inclusion. The Evaluation Matrix is provided as Annex 2 to this report.

*Evaluation Interviews:* Interviews were conducted for consultations and individual/group discussions with the project stakeholders who have project responsibilities. This included the Rocky Mountain Institute, UNDP/GEF and sample of representatives of the UNDP Country Offices (COs) from the countries that have indicated their willingness to participate in follow-up projects.

The purpose of the interviews was to verify the information from the project implementation reports, collect missing data and learn about the opinions of stakeholders and project participants. Triangulation of results, i.e. comparing information from different sources, such as documentation and interviews, or interviews on the same subject with different stakeholders, were used to corroborate or check the reliability of the collected information.

The list of people interviewed is provided as Annex 3 to this report.

*Data Analysis:* After the data collection phase, data analysis was conducted as the third and final phase of the evaluation through review of documents that were made available to the evaluator by the project implementing partners as well as of other documents that the Evaluator obtained through web searches and contacts with relevant projects stakeholders and beneficiaries. This process involved organizing and classifying the information collected, tabulation, summarization and comparison of the results with other appropriate information to extract useful information that relates to the evaluation questions and fulfils the purposes of the evaluation. Contextual information was also gathered to assess the significance and relevance of the recorded performance and results.

The list of documents reviewed is provided as Annex 4 to this report.

### Structure of the evaluation report

The structure of the TE report follows the “Evaluation Report Outline” presented in the ToR for the TE assignment (provided as Annex 5 to this report).

The ‘Executive Summary’ of the TE report is presented in the beginning of the report. The body of the report starts with introduction and development context of the project and continues with a short project description. This is followed by the chapter that sets out the evaluation findings presented as factual statements based on analysis of the collected data. The findings are structured around the five essential evaluation criteria and include assessment of the project performance against the performance indicators and their target values set out in the project results framework (as provided in the Project Document). This part further includes assessment of the project management arrangements, financing and co-financing inputs, partnership strategies and the project monitoring and evaluation systems.

The final part of the report contains conclusions and recommendations substantiated by the collected evidence and linked to the evaluation findings. While the conclusions provide insights into identification of solutions to important issues pertinent to the project beneficiaries, UNDP and GEF, the recommendations are directed to the intended users in terms of actions to be taken and/or decisions to be made. This part of the report concludes with lessons that can be taken from the evaluation, including best (and worst) practices that can provide knowledge gained from the particular project circumstances (such as programmatic methods used, partnerships, financial leveraging, etc.) that are applicable to similar UNDP interventions.

### Limitations of the evaluation

This Terminal Evaluation tries to address all relevant aspects of the project in line with the standard evaluation criteria listed in TOR. Although the evaluator looked for interaction with the greatest possible number of actors, due to the relatively short time available for the evaluation it was not possible to enlarge the pool of interviewed stakeholders as this would require using more robust data collection method such as evaluation questionnaires that would substantially prolong the data collection phase.

## PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT

### Project context

Despite decades of development assistance, there are 1.1 billion people across the world who do not have access to reliable electricity, of whom 600 million are living in Sub Saharan Africa, many of whom are in rural areas. Some countries such as Chad, Burundi and South Sudan, have electrification rates of less than 10%. Power consumption per capita in sub-Saharan Africa (SSA) is just 180 kWh per year, compared to 6,500 kWh in Europe and 13,000 kWh in the United States.

The development impact is no less stark. Unreliable electricity is estimated to cost Africa 2–4% of GDP annually. And because population is rising more rapidly than new electricity connections, SSA is the only region in the world where the number of people lacking access to electricity is set to rise.

Electrification is so lacking in SSA because the traditional model of electrification, using large power plants and long-distance transmission lines, is not cost effective; rural areas are often too far away, leading to high infrastructural costs. This, combined with low income in these areas, often leads to grid access for rural areas being economically unsustainable for utilities and consumers. For example, connecting such populations in Rwanda, Uganda or Sierra Leone can cost between 300 and 800 US\$ per household for 20-50 kWh per month.

Notwithstanding the lack of grid electricity access, there is a latent demand for electricity in rural Africa that is slowly being met by small solar-based household lighting and mobile phone charging systems; these, however, do not provide sufficient power to support small to medium sized enterprises (SMEs) at costs that are economically viable.

Mini-grid systems ranging from a few to several hundreds of kilowatts are able to generate low cost power that could sustain SMEs while also meeting broader electricity access goals. Such systems can serve both commercial and domestic consumers, but their ability to serve the former, particularly in the context of activities such as grain milling and irrigation, is a distinguishing feature. Commercial consumers are critical for the long-term viability of the mini-grid systems because of the higher demand per connection despite the fact that the mini-grid systems can provide immediate new income for the community.

Hundreds of millions of dollars have already been invested in mini-grids as a solution for rural electricity access, with over a hundred pilot projects now in operation across Africa, India, and elsewhere. Despite these interventions, a proven, commercially viable, and therefore scalable business model has yet to emerge. While several projects had been able to prove that these small, isolated grids can deliver reliable power, and that electricity demand rises over time, even the best projects have not provided a sustainable return on invested capital. As a result, there are still critical questions about how to cut costs through standardized designs, how to create innovative upstream and downstream business models, how to stimulate demand, how to create a reliable pipeline of commercially viable and scalable projects, and how to develop supportive policies.

### Brief description of the project

The objective of the project was to develop a distinctive approach and accelerate the deployment of rural electrification utilizing renewable mini-grids. It strived for addressing barriers to wider deployment of mini-grids, in particular the barriers related to mini-grids' commercial viability and scalability. To this end, it proposed a Mini-grid Summit as a platform for governments, the private sector and GEF agencies to refine the project's strategy aimed at developing a program for mini-grids that would enable SSA countries to identify and develop projects to be implemented under the GEF-7 cycle.

The project's global environmental objective was to create foundations for reduction of GHG emissions through the removal of policy and financial barriers that inhibit the adoption of renewable energy as part of the electrification process in rural Africa.

The project request was received by GEF on 25 September 2017. For elaboration of the project, a Project Preparation Grant (PPG) was approved on 19 October 2017. The project was approved by GEF for implementation as a Medium-sized Project (MSP) on 15 March 2018 and was signed by the implementing partners in fall 2018.

The GEF project grant approved for the project amounts to 950,000 US\$ complemented with 550,000 US\$ expected co-financing composed of cash contributions from the Rockefeller Foundation and the Virgin Unite as well as of in-kind contribution from RMI. The total amount of funding committed to the project at inception was thus 1,500,000 US\$.

The project was designed for implementation following UNDP's NGO Implementation Modality according to the Standard Project Cooperation Agreement between UNDP and the Rocky Mountain Institute. The Rocky Mountain Institute as the Implementing Partner was responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, as well as for the effective use of project resources.

### Project baseline data

Despite decades of development assistance, there are 600 million people living in Sub-Saharan Africa, many of them in rural areas, without access to reliable electricity. Power consumption per capita in sub-Saharan Africa is just 180 kWh per year, compared to 6,500 kWh in Europe. Sub-Saharan Africa's electrification rate of 45% in 2018 remains very low compared with other parts of the world. Together with scarcity of other infrastructure services, lack of electricity results in high costs for basic energy services, a lower quality of life, poor medical care and education, and limited opportunities for economic development. The incidence of poverty in rural areas highlights the importance of investing in provision of basic infrastructure such as electricity, as part of the rural development agendas of the SSA countries.

Electrification is so lacking in SSA because the traditional model of electrification, using large power plants and long-distance transmission lines, is not cost effective; rural areas are often too far away, leading to high infrastructural costs. This, combined with low income in these areas, often leads to grid access for rural areas being economically unsustainable for utilities and consumers. Mini-grids—electrical generation and distribution systems of less than 10 megawatts—can play a significant role in provision of access to energy for rural areas in SSA.



Out of the 24 projects on rural electrification listed in the GEF project database, less than half focused on African countries financed under the GEF replenishment cycles 1-6. There are no GEF-7 projects identified to tackle rural electrification in SSA.

Despite some mini-grid deployment in Africa, widespread adoption is hindered by a number of factors:

#### Cost barriers:

Despite the decreasing cost of solar photovoltaic panels and batteries, mini-grids are still quite expensive, on a Levelized Cost of Energy (LCOE) basis. Typical LCOEs range from 0.50 US\$/kWh to as much as 3 US\$/kWh for RE-based systems and from 0.28 US\$/kWh - 0.35 US\$/kWh and 0.35 US\$/kWh - 0.5 US\$/kWh for solar plus Energy Storage Systems (ESS) and diesel-based hybrids, respectively. The capital cost can be up to 3500 US\$/kW of installed capacity, but this is highly dependent on the structure of the mini-grid i.e. the presence and proportion of ESS, diesel and renewable energy. The major mini-grid cost drivers include system hardware (especially solar panels, batteries, distribution, and metering), generator fuel, financing costs, and soft costs like project development and customer acquisition.

#### Supply and demand:

Mini-grids need demand stimulation programs to drive up use and generate income that will allow newly energized customers to afford this change in lifestyle. Mini-grid companies often focus primarily on supply and new customers are slow to connect and use a small amount of electricity leading to lost revenue and insufficient volume to spread fixed cost.

#### Regulatory frameworks:

Regulations do not support mini-grid development or solve critical future integration issues with the grid. Slow, unclear and unpredictable licensing and tariff processes create added risk.

Local variation barriers: Mini-grid business models must be adjusted for local conditions, at the regional, national, or even down to village level. Mini-grid companies also need to build local capacity for installing and maintaining the mini-grids.

#### Project theory of change

A project's theory of change provides a basis for evaluation of the project resources, activities and results. The terminal evaluation assessed the project's theory of change and how it was used during project implementation. This includes assessing how the project's outputs, outcomes, intended long-term environmental impacts of the project, causal pathways for the long-term impacts as well as implicit and explicit assumptions were applied in practice.

The CREAC Project seeks to address the aforementioned barriers, not least those regarding commercial viability and scalability. To this end, it proposes to organize a Mini-grid Summit as a platform for governments, the private sector and GEF agencies to refine the project's strategy aimed at developing a program for mini-grids that will enable SSA countries to identify and develop projects to be implemented under the GEF-7 programming cycle.

By demonstrating to both public and private actors that (1) the cost of mini-grids can be brought down, (2) the investment climate can be improved through regulatory reform, (3) sufficient



demand exists for sizable mini-grids, and (4) financial institutions are serious about committing funding, those key actors will mobilize the deployment of significant public and private-sector funding and accelerate the identification and development of these child projects.

### Project components

In the original Project Document, the project consisted of 2 Components (Outcomes) and 7 substantive Outputs that have to be addressed to remove barriers and ensure a successful implementation of the CREAC program.

**Table 1: Outcomes and Outputs of the CREAC Project**

<b>Component (Outcome) No. and Description</b>	<b>Output No. and Description</b>
<b>COMPONENT (OUTCOME) 1:</b> Developed summit pre—read materials that summarize preparatory analysis	1. Developed summit pre—read materials that summarize preparatory analysis 2. Government stakeholder engagement 3. Design scaling strategy and platform for commercially viable mini-grids as part of GEF-7 4. Design of mini-grid projects in at least two countries with country endorsement to prove out cost reduction roadmap, including policy and finance requirements 5. Proposal for GEF-7 call for proposals to resource pilot projects in participating countries
<b>COMPONENT (OUTCOME) 2:</b> Minigrid Summit	1. Summit on clean rural electrification in Africa 2. Roadmap developed presenting 20 recommendations around cost-reduction, regulatory reform, business model innovation concepts

### Expected results

The aim of Component 1 is threefold: i) develop analysis and engage participants prior to the summit: ii) translate outcomes of the summit into country-specific programs and project pipelines, and iii) develop clear strategic recommendations for a GEF-7 mini-grid program. It also directs on post-summit activities that focus on developing pilot projects and programs to test ideas and lay the groundwork for rapid growth after the completion of this project. The ultimate goal after these pilots is to hand off a profitable and scalable business model to the private sector that will attract funding by major concessional and commercial financiers.

Component 2 (the Summit itself) was designed to convene a consortium of partners and prepare a 10–15 million US\$ program for support under GEF-7 focused on deploying renewable microgrids/mini-grids in selected sub-Saharan African countries, expected to mobilize additional 100–200 million US\$ in co-financing from the financing institutions, donor partners and private sector.

### Main project stakeholders

At the project inception, seven key stakeholder groups were identified as shown in Table 2 below.

**Table 2: Key stakeholders of the CREAC Project**

<b>Category</b>	<b>Role</b>	<b>Stakeholders</b>
The GEF and GEF Agencies	To identify, develop and implement rural electrification projects under GEF-7	The GEF, UNDP, UNEP, AfDB, UNIDO, BOAD
Upstream Equipment and Software Supply Chain	Industry leaders to bring standardized solutions to market and access volume	ABB, GE, Schneider, Energie, Outback, Sparkmeter, Steam.co, Odyssey
Downstream project developers and operators	Implementation. Entrepreneurs who deliver the standard solution to markets they know and understand	PowerGen, Powerhive, MeshPower, Acra, others. Organizations like the Africa Minigrid Developers Association (AMDA)
Investors	Concessionary financing, impact investors, grants, philanthropy	AfDB, DFID, Acumen, Rockefeller Foundation, World Bank Group, All On, California Clean Energy Fund
Governments, Regulators, Utilities	Leaders willing to experiment, clear the way for pilots, and actively help find high potential sites	REA leaders and utilities in countries Incl.: Nigeria, Ethiopia, Uganda, Rwanda, and Sierra Leone
NGOs, Development Partners	Information and networking for local engagement and global scaling	SE4ALL, One Acre Fund, Tony Blair Initiative, CrossBoundary
Civil Society Community	Beneficiaries of increased supply and demand stimulation for local markets	SACCOs, Agriculture Coops

The stakeholders had been identified by RMI on the basis of RMI's prior work in SSA over the past five years on mini-grid market development and further involved in extensive on-the-ground conversations, in combination with field visits to operating and potential mini-grid sites across Africa. In the process of identification and selection of the stakeholders, RMI made an effort to balance experts and industry leaders from leading African markets and from the international community. Each stakeholder group represents a key part of the emerging mini-grid market in SSA and participation of each of the stakeholders is necessary for the growth of the market.

## FINDINGS

This section provides a descriptive assessment of the achieved results. In addition, several evaluation criteria are marked in line with the requirements for GEF Terminal Evaluations.

### Analysis of the project results framework

The original Project Document was drafted in fall 2017, subsequently approved by the GEF CEO in March 2018 and signed by the implementing partners in fall 2018. The project results matrix from the original Project Document is provided as Annex 5 to this report.

The results framework contained in the original Project Document was composed of two Outcomes. The aim of Outcome 1 was to develop a pipeline of fundable projects for GEF-7 in selected SSA countries while the purpose of Outcome 2 was to organize a gathering of key stakeholders in order to develop architecture of the follow-up projects. The achievement of the project results was to be measured by 1 indicator at the Objective level and 2 indicators each at the level of the two Outcomes.

While the two Outcomes are interlinked, there are some internal inconsistencies in this structure. The architecture of the follow-up pipeline projects resulting from Outcome 2 is fed into preparation of the project pipeline under Outcome 1. A more coherent approach would have been to place the design of architecture for the pipeline and actual pipeline development under the same Outcome.

Although the selected indicators are in general SMART<sup>6</sup>, the definition of the indicators and their target values for measurement of achievement of the Outcomes contains few internal inconsistencies as summarized in Table 3 below.

**Table 3:** Internal inconsistencies in the CREAC Project results framework

Project result	Indicator	Comments
	End of Project Target	
<b>Project Objective:</b> To develop a distinctive approach and accelerate the deployment of rural electrification utilizing renewable mini-grids	Number and proportion of households benefiting from clean, affordable and sustainable energy access in rural areas	The indicator is incorrectly formulated to measure achievement of the Objective. This is in fact impact indicator suitable for measurement of success of mini-grid deployment project
	A minimum of 5 rural electrification projects identified for funding under the GEF-7 cycle Scaling strategy presented to GEF-7 in June 2018 with follow on support for implementation through January 2019	The 1 <sup>st</sup> target is not relevant to the Objective and its target value is not consistent with the target value for Outcome 1 Indicator 2 The 2 <sup>nd</sup> target is relevant but not timely as it refers to time milestones before the signature of the ProDoc
<b>Outcome 1:</b> Design scaling mechanisms for mini-grids funded by GEF-7 replenishment	Indicator 2: Number of countries identified for pilots	The indicator is incorrectly formulated to measure the achievement of the Outcome
	2 finalist countries identified with expressions of interest in a mini-grid pilot program signed	Moreover, the indicator target value is not consistent with the target value for the Project Objective
<b>Outcome 2:</b> Mini-grid summit	Indicator 3: Number of mini-grid summit participants	The Outcome is formulated as a milestone rather than a project result
	40 participants attend summit	

<sup>6</sup> The SMART framework is a way to identify quality indicators. It stands for Specific, Measurable, Achievable, Relevant and Time-bound

Apart from the end-of-project targets, the project results matrix contains also mid-term target values for the performance indicators. For the relatively short preparatory project there is no definition of the mid-term point at which the achievement of the mid-term targets would be assessed. Therefore, the provision of the mid-term targets appears to be needless.

Another deficiency of the project results matrix is the fact that it shows only Outcomes and does not go down to the Output level. The above deficiencies were partially rectified at the start of the project implementation period and the Annual Work Plan (AWP) attached to the project Inception Report contains better formulation of the 2 Outcomes and is broken down to 7 Outputs. However, the results framework in AWP does not contain indicators and their target values that would allow to measure achievement of the Outputs. The AWP results matrix is in Table 4 below.

**Table 4:** Elements of the project results framework in AWP

<b>Result</b>	<b>Definition</b>
Outcome 1	Design the Summit and create pilot projects proposal for GEF-7
Output 1.1	Developed pre-read materials that summarize preparatory analysis
Output 1.2	Government stakeholder engagement
Output 1.3	Design scaling strategy and platform for commercially viable mini-grids as part of GEF-7
Output 1.4	Design of mini-grid projects in at least two countries with country endorsement to prove out cost reduction roadmap, including policy and finance requirements
Output 1.5	Proposal for GEF-7 call for proposals to resource pilot projects in participating countries
Outcome 2	Summit (Workshops)
Output 2.1	Summit (Workshops)
Output 2.2	Roadmap

In summary, the project results matrix in the original Project Document as well as in AWP contains inconsistencies that hindered the use of the results matrix as a tool for project monitoring and reporting on progress towards planned results.

It has to be noted that although design of a project and of the related results framework in particular are important factors determining prospect of successful achievement of results, the UNDP/GEF rating requirements for Mid-term Reviews and Terminal Evaluations currently do not require evaluators to provide rating on design of a project and of the related results framework.

### Risks and assumptions

Identification of risks enables the implementing partners to recognize and address challenges that may limit the ability of the project to achieve the planned performance outcomes.

Several assumptions and risks to achievement of the project's goals were identified during the design stage. Classification and description of the risks including risk ranking as well as corresponding risk mitigation measures taken from the Project Document are shown in Table 5 below.

**Table 5: Risks identified at the CREAC project inception**

No.	Risk	Type	Impact & Probability	Countermeasures / Management response
1	Lack of political will to move forward with proposed sub-Saharan Africa capacity building and mini-grid pilot program	Political	In a worst-case scenario, the lack of political will could completely compromise the project. Political will is an essential driver of the project and its complete absence would be high impact. P = 2 I = 5	The project will aim to catalyze political will during the Mini-grid Summit and galvanize donor grant and concessionary - for rural communities without access
2	Mini-grid Summit is not well attended or does not lead to actionable outcomes	Strategic	Although important, the summit's low attendance or lack of actionable outcomes is not a high impact risk to rural electrification; the GEF cycle is 4 years and the summit could be reorganized during the project's lifetime P = 2 I = 3	The Mini-grid Summit will be prepared and executed with a high degree of oversight and invitations will be disseminated widely. RMI has already been working with many of the leading mini-grid companies and several of the leading government agencies. These partners will be engaged early and often when designing activities and outcomes
3	Mini-grid Summit does not mobilize donor funding required to finance mini-grids to be identified and prepared under the proposed sub-Saharan African capacity building and mini-grid pilot program	Financial	Donor funding is essential to the project, as it is required for a significant proportion of de-risking and up-scaling activities to enable and sustain the Mini-grid market. Its absence could compromise the Project. P = 2 I = 4	Direct outreach before, during, and after the Mini-grid Summit will help galvanize support from bilateral agencies, donor groups, and impact investors to agree to provide grant and concessional financing for mini-grids identified and prepared under the proposed sub-Saharan African capacity building and mini-grid pilot program.  This risk will be further mitigated with support from The Rockefeller Foundation and Virgin Unite who have both committed to mobilizing donor partners to contribute both debt and investor grant and concessional financing for identified mini-grid pilot projects
4	Demand too low to support mini-grid business models	Operational	This is very unlikely, but high impact nevertheless. If demand is too low, then there would be an increased likelihood of co-financing not materialising. P = 1 I = 5	Ensure that mini-grid pilots be sited in locations where productive demand already exists or can be created through setting up other businesses that require power. Include strong demand-stimulation programs, such as loans for appliances. Bring to bear RMI's years of analysis of minigrid business models, along with the market experience, data, and intuition of leading development partners such as DFID, GIZ, the World Bank, and the African Development Bank
5	Demand outstrips mini-grid capacity	Operational	Mini-grids are designed to match worst case scenarios / maximum peak; The pricing mechanism is often the tool that will be used to drive down demand. As demand rises, typically the cost of electricity will rise, too. This is beneficial to investors as it typically leads to increased profits. This could, however, lead to revenue erosion, which may discourage future investments and slow down the market. P = 3 I = 3	Design and build each minigrid pilot so that it can be inexpensively expanded if demand grows to exceed capacity. Rely on the technical expertise of major upstream hardware developers like GE and ABB, the experience of minigrid developers on the ground handling modular capacity challenges, and the demand forecasting ability of the leading minigrid software companies such as HOMER and Odyssey Energy
6	Unfavorable government regulations and policies	Political	Policy derisking is an essential part of the DREI methodology, which has been proven to significantly improve the incremental cost of renewables. Policy derisking seeks to remove the underlying barriers that are at the root of risks. Unfavorable government regulations and policies will, therefore, lead to increased risks and a weaker economic/financial climate for mini-grids. P = 3 I = 5	Carefully identify and detail the components of a supportive minigrid regulatory framework, typified by those in Tanzania and Nigeria. Work closely with leading rural electrification agencies, such as the agencies of Nigeria and Uganda, to ensure the necessary regulator environment and ultimately attract both companies and investment. After sighting initial minigrid pilots in countries with favorable regulations and policies, work with other supportive countries to improve theirs by demonstrating success, closely communicating, and bringing them along as learning occurs. RMI's partnership with SE4ALL, the UN organization focused on the energy transition, should further help us to overcome government barriers

The risks No. 1-3 had already been identified at the PIF stage. They relate to lack of political will of SSA countries to participate at the Mini-grid Summit and insufficient mobilization of donor funding for follow-up projects under the proposed SSA capacity building and mini-grid pilot program. The proposed mitigation measures are based on early engagement of and

outreach to leading mini-grid companies, agencies of the participating governments, bilateral agencies, donor groups, and impact investors.

During the formulation of the CREAC Project Document, additional three risks were added (No. 4-6). They are associated with operation of mini-grids to be initiated under the follow-up projects, namely with level of demand for electricity and relevant national policy and regulatory frameworks. The proposed mitigation measures are contingent upon using the market experience of key development partners, the technical expertise of leading mini-grid developers and on the demand forecasting ability of prime mini-grid software companies.

The identification of risks appears to be partially inconsistent with the objective of the CREAC project that is accelerated development of rural electrification projects based on mini-grids. While the risks No. 1-3 are fully consistent with the CREAC project objective, the risks No. 4-6 relate to actual development and scaling of concrete mini-grids that will be subject of the follow-up projects. This is clearly seen also from the proposed mitigation measures for the last three risks that are well outside the scope of the CREAC project.

### Lessons from other relevant projects incorporated into project design

Preparation of the CREAC Project was based on experience from several interventions on rural mini-grid electrification as follows:

- a. The Rockefeller Foundation's Smart Power for Rural Development that aimed at accelerating development in India's least developed states;
- b. The Green Mini-Grid Market Development Program, part of the Sustainable Energy Fund for Africa (SEFA), that supported the scale-up of investments in commercially viable green mini-grid projects through improvements of the enabling environment;
- c. The World Bank's Global Facility on Mini-grids that focused on operational up-scaling via pre-investment activities and providing global knowledge development and learning through case studies and technical notes;
- d. The mini-grid pilot project program in Kenya operated by Seattle-based impact investor Vulcan that was designed to test commercial viability of ten mini-grids;
- e. The UNDP's 'Derisking Renewable Energy Investment' (DREI) framework for off-grid renewable energy, including solar PV/battery mini-grids. And its case studies for private sector mini-grids in India and Kenya;
- f. The private sector mini-grid companies like Husk Power, Sparkmeter, and PowerGen that have installed projects in countries like Kenya, Tanzania, and Uganda while attracting funding from equity investors;

### Planned stakeholder participation

The key stakeholder groups and their respective roles that were identified at the project preparatory stage are listed in Table 6 below.

**Table 6:** Project stakeholder groups and their responsibilities

Stakeholder Group	Participation Method	Responsibility
The GEF	N/A	To assess the eligibility and quality of projects identified for funding under GEF-7
GEF Agencies	Prior to summit, remote participation; at the summit, remote participation; post-summit,	To assist in identifying, developing and implementing rural electrification projects under GEF-7
Upstream Equipment and Software	Prior to summit, remote participation; at the summit, active participation post-summit, a combination	To contribute perspective on cost drivers, potential cost, market barriers, and potential solutions; to support pilot project pipeline
Downstream Project Developers and Operators	Prior to summit, remote participation at the summit, active participation post-summit, a combination	To contribute perspective from on the-ground experience on cost, barriers, and solutions; to support pilot project pipeline
Investors	Prior to summit, remote participation; at the summit, active participation; post-summit, a combination	To contribute financing perspective and what can be done to unlock capital for market growth; to support pilot project pipeline
Governments, Regulators, Utilities	Prior to summit, remote participation; post-summit, a combination of remote, bilateral, and multilateral engagement	To contribute political, regulatory perspective; to host pilot project pipeline
NGOs, Development Partners	Prior to summit, remote participation; at the summit, active participation; post-summit, a combination	To contribute perspective of long-term advocates and funders; to support pilot project pipeline
Civil Society Community	Prior to summit, remote participation; at the summit, active participation, participation; post-summit, a combination	To contribute perspective of consumer advocates and market knowledge; to support pilot project pipeline

The Project Document envisaged that these stakeholders would participate in the Summit and/or pilot project pipeline design in order to establish ownership of certain elements of the pilot project pipeline, e.g. in investment or implementation. Many of them had already a track record from involvement in the African mini-grid market. In the post-summit period, it was planned to continue bilateral discussions with the stakeholders in order to facilitate development of the follow-up projects.

Although no role was envisaged for GEF at the project inception, a representative of the GEF Secretariat actively participated in the mini-grid summit in Abidjan and presented the requirement to increase the number of target countries for the project. The available reports confirm that the expectations materialized for participation of UNDP as the GEF Implementing Agency, investors, representatives of the SSA governments and utilities. The participation of equipment and software providers and of mini-grid project developers and operators could be expected only at the development of the follow-up projects.

Although several stakeholder groups were identified for the CREAC project and invited for participation, academic institutions apparently had not been considered amongst the stakeholder groups relevant for this preparatory project and for the follow-up mini-grid projects. Institutions of higher education can play an important role in support of rural electrification programs through contribution towards solutions of technical issues related to pre-project feasibility studies and involvement in assessment of post-project socio-economic impacts.

In addition to the above, the Project Document envisaged also sharing of the Summit results through SSA regional organizations such as African Mini-grid Developers Association (AMDA) and the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE).

In reality, ECREEE participated in the mini-grid summit while AMDA was also invited but since it had been unable to attend, RMI kept them updated through the project. There was interaction with the Alliance for Rural Electrification (ARE) due to the organization of the Summit in the same week and in the same location as ARE's 5<sup>th</sup> Energy Access Investment Forum. However, ARE is a global organization while in the project reports there is no information about interactions with the regional SSA organizations.

### Replication approach

The project activities resulted in preparation of concept notes for 11 national Child Projects on renewable mini-grids and of the supporting regional Child Project that compose the GEF-7 Africa Mini-Grid Program (AMP). The replication approach is embedded in AMP in two separate directions. The AMP regional component was designed to support and facilitate knowledge management and information sharing between the national Child Projects, within the program's community of practice, as well as broader information sharing amongst the larger mini-grid community. Moreover, AMP will also support studies on lessons learned from the national Child Projects that will be further used to develop replication plans for scaling up mini-grid investments in each AMP participating country.

The CREAC approach is pertinent for other regions of the world as the activities included in AMP are replicable elsewhere in other developing countries where modern energy can improve livelihoods and contribute to increased income in rural areas.

### UNDP comparative advantage

UNDP is well equipped to assist the developing countries in addressing their needs and priorities due to its focus on poverty reduction, pro-poor economic policies and environmental sustainability. With its permanent presence in nearly 170 countries and long-term relationships between UNDP and the vast majority of nations, the Organization serves as a key bridge between the world-wide vision of development as a core UN pillar and its sustainable achievement in individual states and lives – offering the global partnership, support, collaboration, expertise, and often funding, required. Hence, the organization has tools to support countries in pursuing balanced, inclusive and sustainable growth patterns.

The essence of UNDP's comparative advantage for the GEF-funded projects is embedded in its global network of Country Offices, its experience in integrated policy development, human resources development, institutional strengthening, and non-governmental and community participation. In addition to UNDP proven track record on promoting, designing and implementing activities consistent with the GEF mandate and national sustainable development plans of the developing countries, UNDP also has extensive inter-country programming and implementation experience.

A key part of UNDP's general comparative advantage is the role of knowledge management broker, i.e. in accumulation of first-hand experience from implementation of projects in specific technical areas. As one of the implementing agencies for GEF, UNDP has been expanding its work on environmentally friendly solutions for achievement of the Sustainable Development Goals (SDGs).



UNDP has a long-standing experience in developing and implementing coherent packages of “hard” and “soft” interventions that make technology transfer successful when complemented by targeted strengthening of relevant human and institutional capacities.

UNDP’s specific strengths include a proven ability to influence policy and develop national capacities through its focus on cross-sectoral approaches and collaboration with a wide range of national stakeholders. In this regard, UNDP has built a very good reputation with diverse stakeholders in its beneficiary countries. Such high esteem was found very conducive for facilitating access to and cooperation with the project partners and stakeholders in the implementation phase of this project.

UNDP identifies three ways through which government measures can improve an investment’s risk-return profile: through reducing risk, transferring risk or compensating for risk. UNDP’s comparative advantage in the field of sustainable energy lies with assisting developing countries through policy and programmatic interventions that remove the underlying barriers to investment risk. UNDP works with its partners to coordinate its support with necessary interventions in the other two areas i.e. transferring risk, which typically involves financial products supplied by development banks, and compensating for risk, which typically involves subsidies and financial incentives for sustainable energy.

UNDP’s Derisking Renewable Energy Investment (DREI) introduces an innovative, quantitative framework to assist policymakers in developing countries to cost-effectively promote and scale-up private sector investment in renewable energy. The DREI framework systematically identifies the barriers and associated risks which can hold back private sector investment in renewable energy. It then assists policymakers to put in place packages of targeted public interventions to address these risks. Each public intervention acts in one of three ways: either reducing, transferring or compensating for risk. The overall aim is to cost-effectively achieve a risk-return profile that catalyses private sector investment at scale for reliable, clean and affordable energy solutions in developing countries.

#### Linkages between project and other interventions within the sector

Through the partnerships with AfDB, the World Bank and the West African Development Bank (BOAD), the project is aligned with several interventions on mini-grids as follows:

Sustainable Energy Fund for Africa (SEFA), funded by the governments of Denmark, Norway and the United States, as well as the GEF, provides grants to facilitate the preparation of bankable projects including mini-grids, equity investments in the energy sector, and support to public sector institutions to improve the enabling environment for sustainable energy.

Green Mini-grid Market Development Program, funded by SEFA, was established with the objective to support the scale-up of investments in commercially-viable green mini-grid projects through a broad range of interventions to improve the enabling environment in SSA. The Program, implemented by the SEforALL, is organized in five business lines providing market intelligence, technical assistance to government and developers, regulatory support, quality assurance and access to finance and currently works in 12 countries.

Green Climate Fund (GCF): AfDB is the project owner of the GCF-funded Yeleen Rural Electrification Project in Burkina Faso, providing capital subsidies and an enabled environment to scale-up private sector investment in mini-grids.

The World Bank's Energy Sector Management Assistance Program (ESMAP): ESMAP's Global Facility on Mini-grids works to increase WB investments in mini-grids while generating knowledge on the factors affecting mini-grid scale-up. ESMAP has supported the World Bank's work with mini-grids in several SSA countries, including Benin, Ghana, Kenya, and Tanzania, and has significant upcoming projects in Nigeria and Ethiopia.

The West African Development Bank (BOAD) is supporting renewable energy mini-grids across West Africa through several projects, in particular the GCF-supported BOAD climate finance facility to scale up solar energy investments in francophone West Africa. The facility provides blended finance to solar energy, including mini-grids, along with grant funding to support both private and public sector capacity building.

### Management arrangements

Factual aspects relating to program management arrangements are discussed in this section. Effectiveness of management and implementation arrangements is analysed in section Effectiveness.

### GEF Agency

In line with the practice of implementation of GEF projects, UNDP provided supervision, oversight and quality assurance independently of the project management function.

The UNDP's Istanbul Regional Hub (IRH) ensured oversight to project implementation, ensuring that the project was implemented in line with the UNDP Program and Operations Policies and Procedures. Implementation support and additional oversight was provided by two Regional Technical Advisors, one for anglophone and the other for francophone countries, based in the UNDP Regional Office in Addis Ababa. The two RTAs worked in close cooperation with the project stakeholders. The input of the two RTAs was provided to establish and maintain effective coordination and coherence between the work of the RMI project team and the UNDP Country Offices (COs) in the project target countries.

### Implementing Partner

The Implementing Partner for this project was the Rocky Mountain Institute (RMI), an impartial not-for-profit organization with a 37-year history of creating market-led energy transformations globally. RMI has a track record for its work in mini-grids on reducing cost of service and supporting innovative business models. Its approach is based on experience working across seven countries in Africa with governments, utilities, and the private sector to better understand market-driven solutions to the continent's energy needs.

Selection of RMI as the Implementing Partner for the CREAC Project was in fact a continuation of cooperation established in the implementation of another GEF-funded regional project "*Ten Island Challenge: Derisking the Transition of the Caribbean from Fossil Fuels to Renewables*".

In line with the rules of the NGO implementation modality, UNDP signed a standard Project Cooperation Agreement with RMI. PCA signed on 20 September 2018 served as the basic legal agreement between the two project implementing partners. As this was a regional project with no beneficiary countries at the project inception, approval of the NGO implementation by the governments was not required.

A project team was established at RMI for day-to-day management and decision-making for the project. The RMI project team was led by the Project Manager (PM) responsible for the overall management of the project, including mobilisation of all project inputs and supervision over consultants and sub-contractors. The prime responsibility of the project team was to ensure that the project delivers the results specified in the Project Document, to the required standard of quality and within the specified constraints of time and cost.

### Project Board

The original Project Document envisaged creation of the Project Board (PB) to include the Executive (RMI), Senior Supplier (UNDP) as well as Senior Beneficiary roles. PB was expected to serve as the project's decision-making body, namely to meet according to necessity and review the project progress, approve project work plans and budget revisions as well as endorse the project deliverables. Other presupposed function of PB was to provide strategic guidance and oversight to the project implementation to ensure that it meets the requirements of the approved Project Document and achieves the planned Outcomes.

The available documentation and interviews with the key project stakeholders show that there was only one meeting of PB during the project implementation period, namely the Inception Workshop that is normally considered as the first PB meeting. Another PB meeting is scheduled to be held at towards the end of the project implementation period in March 2020.

Although the Project Document did not specify expected frequency of the PB meetings, it is common practice for a GEF project's governing body to meet at least annually. While the participants of the Inception Workshop (IW) discharged the Executive, Senior Supplier and Senior Beneficiary roles assigned to PB in the Project Document, this was not continued after the workshop throughout the project implementation, apparently due to the exceptional nature of this intervention and aim to minimize bureaucratic provisions for this preparatory assistance project.

### Adaptive management

GEF evaluations assess adaptive management in terms of ability to direct the project implementation through adapting to changing conditions outside of control of the project implementing teams. The adaptive approach involves exploring alternative ways to meet project objectives and implementing one or more of these alternatives.

The main case of adaptive management in the project implementation was the response to the request of the GEF Secretariat to postpone submission of the Program Framework Document (PFD) for the GEF-7 Africa Mini-grids Program (AMP). Since the 1<sup>st</sup> quarter of 2019, the project team with support of a GEF specialist consultant worked on elaboration of PFD and concept notes for child projects in Nigeria and Ethiopia for which the planned submission

deadline in time for consideration by the GEF Council meeting in June 2019. However, the GEF Secretariat requested to increase the number of target countries and postpone the submission until October 2019.

While the original project target was to develop concept notes for at least two child projects, the revised goal was to increase to at least 10 child project concept notes, depending on the number of countries willing to provide Letters of Endorsement (LoE) for participation in the GEF-7 AMP.

### Partnership arrangements

In the preparatory phase of the CREAC project, two partnerships were established for parallel financing of the project, namely with the Rockefeller Foundation and the Virgin Unite. The two partnerships were essential for conduct of the Mini-grid Charrette<sup>7</sup> in March 2018 in Lagos, Nigeria. This workshop was originally intended to be a consultation workshop for validation of the CREAC Project design with participation of SSA countries. Although it brought together 55 participants from across the globe representing foremost experts on the African mini-grid market, ranging from private sector mini-grid developers to major upstream hardware providers to key donor partners, UNDP as the GEF Implementing Agency for the CREAC Project was not represented and there were no representatives of SSA countries either, apart from Nigeria as the host country. Nevertheless, results of the workshop were incorporated into the RMI report *“Mini-grids in the Money”* that contains a number of recommendations referred to in Outcome 1 of the project and also shaped the design of the Mini-grids Summit held in Abidjan in March 2019.

Furthermore, the Project Document envisaged more partnerships to be established during the project implementation as listed in Table 7.

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<sup>7</sup> Charrette is a noun used in North American English for a public meeting or workshop devoted to a concerted effort to solve a problem or plan the design of something

**Table 7: Expected partnerships under the CREAC Project**

Partner	Role	Expected Results
GEF Agencies: UNDP, UNEP, AfDB, UNIDO, BOAD	GEF Agencies with experience in the region are essential partners for the identification, development and implementation of rural electrification projects	To liaise with governments with the purpose of shaping child projects, identifying co-financers as well as parallel funding for these projects. Essential for the implementation of projects.
Suppliers: ABB, GE, Schneider, Energie, Outback, Sparkmeter, Steam.co, Odyssey	Upstream Supply Chain. Industry leaders to bring standardized solutions to market and access volume	Need standardized equipment/service solutions to bring down cost; ability to integrate energy supply and storage to optimize minigrid performance—this is critical to provide confidence in the technology and to create a simplified solution that can be installed and maintained locally. Metric of success: willingness to invest in Africa, help finance pilots, provide other human capital and investment resources.
Developers: PowerGen Powerhive, MeshPower, Acra	Downstream implementers who deliver the standard solution to markets they know and understand	Need for local companies who understand market and can implement projects on the ground. Metric of success: number of projects developed, staff hired and trained, partnerships formed with other players in the minigrid supply chain
Funders: GEF, AfDB, AFD, EIB, DFID, Acumen, Rockefeller Foundation, World Bank Group, All On, California Clean Energy Fund	Concessionary financing, impact investors, grants, philanthropy	Need for concessionary finance to start scaling the market, leading eventually to a completely private sector-drive market. Metric of success: minigrid projects considered, support grants given, and ultimately, projects financed
Government: Governments, Regulators, Utilities	Leaders willing to experiment, clear the way for pilots, and actively help find high potential sites	Need to make the regulatory framework more minigrid friendly. Metric of success: policy reforms and regulations drafted and implemented

During the CREAC project implementation, a formal partnership was established with AfDB and BOAD for financial support of country-level interventions on establishment of mini-grids. The project also engaged with the Carbon Trust, the UN Foundation Mini Grid Partnership, the World Bank and others but the relations did not go beyond soliciting their feedback on design of a future mini-grid program for SSA.

### Project finance

The GEF grant for this project was approved at 950,000 US\$ and together with expected co-financing of 550,000 US\$ the total cost of the project at inception was 1,500,00 US\$. However, the project budget for the GEF grant was revised two times during the project approval and implementation. The GEF grant budget in the Project Document approved by the GEF CEO (dated 15 March 2018, uploaded in the publicly accessible GEF project database<sup>8</sup>), was revised for the Project Document that was submitted for signatures of UNDP and RMI (the respective signature dates were 20 September and 16 November 2018).

The GEF grant budget contained in the Project Document signed by the project implementing partners was taken as basis for elaboration of the Annual Work Plan (AWP) that was annexed to the Report from the CREAC Project Inception Workshop. The second revision was done mid-way through 2019. Tables 8 and 8a below display comparison of the budget revisions.

<sup>8</sup> <https://www.thegef.org/project/clean-rural-electrification-african-countries>

**Table 8:** Comparison of the GEF grant budget allocations in US\$ (as of 31 December 2019)

Component	Budget Category	GEF CEO Approval (US\$)	Annual Work Plan	
			Approved budget as per prodoc (US\$)	Revised (US\$)
Component 1	International Consultants	450,000	610,000.00	645,268.98
	Travel	180,000	20,000.00	74,731.02
<b>Total Component 1</b>		<b>630,000</b>	<b>630,000</b>	<b>720,000</b>
Component 2	International Consultants	100,000	100,000.00	95,016.93
	Workshops	100,000	63,637.00	1,872.02
	Travel	20,000	20,000.00	46,748.05
	Contractual Services	50,000	50,000	0
<b>Total Component 2</b>		<b>270,000</b>	<b>233,637</b>	<b>143,637</b>
Project Management	International Consultants	46,000	82,363.00	82,363.00
	Professional Services	4,000	4,000	4,000
<b>Total PM</b>		<b>50,000</b>	<b>86,363</b>	<b>86,363</b>
<b>GRAND TOTAL</b>		<b>950,000</b>	<b>950,000</b>	<b>950,000</b>

**Table 8a:** Summary comparison of the GEF grant allocations by budget lines

Budget Line	Original Project Document (US\$)	Annual Work Plan at Inception (US\$)	Annual Work Plan revised (US\$)
International Consultants	596,000	792,363	822,649
Travel	200,000	40,000	121,479
Workshops	100,000	63,637	1,872
Contractual Services	50,000	50,000	0
Professional Services	4,000	4,000	4,000
<b>TOTAL</b>	<b>950,000</b>	<b>950,000</b>	<b>950,000</b>

It follows from Tables 8 and 8a that the first budget revision substantially increased the budget allocation under Outcome 1 the budget line “International Consultants” at the expense of the budget line “Travel” that appears overestimated. However, given the fact that Outcome 1 required engagement with the government including scoping and follow-up missions to the target countries, the drastic reduction of the funds allocation for travel appears to be unwise. The essence of the 2<sup>nd</sup> budget revision was a re-shuffle of 90,000 US\$ from Component 2 to Component 1 that also included increase on the travel budget under Component 1.

Table 9 below displays the breakdown of expenditures by the quarters of the project implementation period.

**Table 9:** Expenditures by quarters of implementation in US\$ (as of 31 December 2019)

	4Q 2018	1Q 2019	2Q 2019	3Q 2019	4Q 2019	Total
GEF	266,166.32	211,899.25	116,000.53	111,879.92	83,049.76	788,995.78
%	33.73	26.86	14.70	14.18	10.53	100.00

The data in Table 9 show relatively even distribution of expenditures over the project implementation period.

Table 10 below provides comparison of the planned and actual expenditures by the project components.

**Table 10:** Comparison of planned and actual expenditures of GEF grant in US\$ (as of 31 December 2019)

Component	Approved Project Document	Annual Work Plan		Actual Expenditures
		Original	Revised	
Component 1	630,000	630,000	720,000	613,003
Component 2	233,637	233,637	143,637	145,114
Project Management	86,363	86,363	86,363	30,879
<b>Total</b>	<b>950,000</b>	<b>950,000</b>	<b>950,000</b>	<b>788,996</b>

It follows from Tables 8 and 9 that as of 31 December 2019 the level of disbursement reached 788,995.78 US\$, that is 83.05% of the allocated GEF grant. The unspent balance is being used to cover the outstanding planned activities, such as the financial audit and TE, as well as the following two supplemental activities related to the CREAC project objective.

Instead of a request for PPG for preparation of the regional Child Project for AMP, the unspent balance from the CREAC project is being used to support the work of a GEF specialist consultant and RMI on development of the Project Document and CEO Endorsement Template for the regional Child Project. Moreover, the unspent balance will also be used to cover the RMI work related to the PPG phase of the national Child Projects, namely RMI's analysis and recommendations for scaling mini-grids related to the individual national Child Projects. The additional activities were endorsed by UNDP as the Implementing Agency and approved by PB.

The CREAC Project was approved on expectation of co-financing from the Rockefeller Foundation and the Virgin Unite. Table 11 below compares the planned co-funding at the project inception with the actually realized co-funding at the completion of the project.

**Table 11:** Comparison of planned and actual financing by source (US\$)

	Type	Planned	Actual
<b>GEF</b>	<b>grant</b>	<b>950,000</b>	<b>788,996</b>
Rockefeller Foundation	grant	225,000	285,426.55
Virgin Unite	grant	225,000	285,426.55
RMI (in-kind)	in-kind	100,000	
Schneider Electric	grant	-	100,000
<b>Total co-financing</b>		<b>550,000</b>	<b>670,853.10</b>
<b>Total</b>		<b>1,500,000</b>	<b>1,459,849</b>

According to information provided by RMI, part of the co-financing that was confirmed at the GEF CEO Endorsement of the CREAC project was used to cover the Mini-grid Charette

organized in Lagos in March 2018. This was due to the delays in operationalization of the project. Other contributions from the two co-financing partners were leveraged for the RMI work on mini-grids in Nigeria and Ethiopia.

Nevertheless, there was no monitoring of the actual co-financing due to the fact that this requirement was not included in the PCA signed between UNDP and RMI. Consequently, information about the actual realized co-financing was not readily available for TE.

### Monitoring and evaluation: design at entry and implementation

#### M&E design at project entry

The Monitoring & Evaluation (M&E) plan was developed in compliance with the UNDP Program and Operations Policies and Procedures (POPP) and described in the Project Document. The M&E plan consisted of several components, namely the Project Inception Workshop, meetings of the Project Board, Quarterly Progress Reports (QPR), the annual Project Implementation Review (PIR) as well as the Terminal Evaluation. The total indicative cost for the M&E plan was 52,000 US\$, that is 5.5% of the total GEF grant.

The M&E framework for this project followed the standard M&E template and therefore the evaluator found the M&E design in principle appropriate for monitoring the project results and tracking the progress toward achieving the objectives. Also, the financial allocation for the M&E activities is considered adequate. However, as discussed in the section “Analysis of the project results framework” above, several imperfections were found in the project results framework that hindered effective use of the latter as a tool for project monitoring and reporting on progress towards planned results.

Based on the above, the M&E at design is rated **Moderately Satisfactory (S)**.

#### M&E at implementation

The main subject of the discussion here is the implementation of the originally planned components of the M&E plan. For the assessment of functionality of the M&E framework, the evaluator reviewed some of the project documentation related to monitoring and reporting, including the Inception Workshop Report and the annual PIR.

Inception Workshop: The original Project Document assumed the project Inception Workshop (IW) to be held within the first two months after the signature of the Project Document by all relevant parties and the Inception Report (IR) to be prepared by the Project Manager no later than one month after IW.

The objectives of IW were as follows:

- a) Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project strategy and implementation;
- b) Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;
- c) Review the results framework and finalize the indicators, means of verification and monitoring plan;



- d) Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP in M&E;
- e) Update and review responsibilities for monitoring the various project plans and strategies, including the risk log; SESP, Environmental and Social Management Plan and other safeguard requirements; project grievance mechanisms; the gender strategy; the knowledge management strategy, and other relevant strategies;
- f) Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; and
- g) Plan and schedule Project Board meetings and finalize the annual work plan.

The Inception Workshop was conducted virtually and in person on 27 November 2018 at UNDP Headquarters in New York City with participation of senior officials representing UNDP and GEF as well as some project stakeholders (World Bank, DBSA, AfDB).

IW was held two weeks after the signature of the Project Document by RMI and covered several key issues including:

- Outlining the CREAC Project and its structure to external partners and key stakeholders who have shown interest (formally and informally) in the project;
- Outlining what can be accomplished programmatically in GEF-7;
- Discussing the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and discussion of the partner engagement strategy;
- Soliciting partner input on strengthening the project and coordinating within existing efforts in the region to ensure the project is complementary;
- An overview of reporting, monitoring and evaluation requirements;
- The proposed Mini-grid Summit to be organized in early 2019;
- Development of the Annual Work Plan;

The Inception Report was prepared three weeks after IW and included AWP in annex.

Project Reports and Project Implementation Review (APRs/PIRs): The most important instrument in the monitoring process were the Quarterly Progress Reports (QPRs) prepared by the RMI project team. There were five QPRs, one for the 4<sup>th</sup> quarter of 2018 and four QPRs for the year 2019. All QPRs were prepared as narratives to summarize progress achieved in conducting activities under the 7 project Outputs. The narrative summaries were complemented by the related expenditure reports.

The compulsory annual Project Implementation Report (PIR) was available during TE in a draft version. The report has a standard structure and contains narrative reporting on progress towards performance targets only at the Outcome level as defined in the results framework embedded in the original Project Document. At the time of TE only rating from the Project Manager was available.

The evaluator found the available reports compliant with the standard UNDP/GEF project cycle reporting tools and sufficiently detailed.

Terminal Evaluation: The Project Document stipulated TE to be conducted at least three months prior to the project completion date. The TE was commissioned in late January 2020 with a schedule for completion by mid-March 2020.

The Evaluator finds the implementation of the M&E suitable for the size of the CREAC Project and therefore rated **Satisfactory (S)**.

**The overall rating for Monitoring and Evaluation is also rated Satisfactory (S).**

#### Feedback from M&E activities used for adaptive management

The discussion under this section is based on observations whether the logical framework was used during implementation as a management and M&E tool and the extent to which follow-up actions, and/or adaptive management were taken in response to monitoring reports (APR/PIRs).

Review and analysis of QPRs proves that the project results framework was integrated into the quarterly progress reporting process at the Output level, however, no indicators and target values were provided for the Outputs.

There were no documented instances of feedback from M&E activities used for adaptive management since the only major case of adaptive management described in the relevant section above resulted from the request of the GEF Secretariat to increase the number of target countries and postpone the submission of PFDs for the Parent and Child projects.

#### UNDP and implementing partner implementation / execution

The project followed the management arrangements presented in the Project Document and stipulated in the UNDP POPP for the NGO Implementation Modality.

Review of available reports, conducted interviews, and the results achieved by the project suggest that UNDP fulfilled its responsibilities defined in the Project Document. This stands valid not only for the overall coordination and oversight at the regional level but also for the UNDP COs that provided on-the-ground support and necessary coordination for engagement with relevant governmental officials from the target countries and with local representatives of financial and donor agencies.

Also, the execution of the project by RMI was done in the way that ensured continued focus of the project on achieving its objectives and delivering the planned results while it assured transparency and full accountability for the results and for the use of GEF resources.

**Based on the above findings, the overall quality of UNDP and implementing partners implementation/execution is rated Satisfactory (S).**

## OVERALL RESULTS (ATTAINMENT OF OBJECTIVES)

The information presented in this section was sourced from the project implementation reports and verified with information collected through interviews with key informants. The list of people interviewed and the list of documents consulted are provided in respective Annexes 3 and 4.

### Relevance

The questions discussed under this section are to what extent is the project linked to the GEF programming strategy for climate change and UNDP strategic priorities.

The CREAC Project was funded under the GEF-6 replenishment actually as a preparatory grant for formulation of funding requests under the GEF-7 cycle. Therefore, TE makes assessment of relevance to the GEF-7 Programming Strategy and Focal Area Strategy.

The project is aligned with the GEF-7 programming under the Climate Change (CC) Focal Area. Building on the GEF-6 Focal Area Strategy and in alignment with UNFCCC COP guidance, the GEF-7 Climate Change Focal Area Strategy aims to support developing countries to make transformational shifts towards low emission and climate-resilient development pathways. To achieve this goal, the strategy continues to emphasize three fundamental objectives:

- Promote innovation and technology transfer for sustainable energy breakthroughs;
- Demonstrate mitigation options with systemic impacts; and
- Foster enabling conditions for mainstreaming mitigation concerns into sustainable development strategies.

The project is linked with the Objective 1 of the CC Focal Area “Promote innovation and technology transfer for sustainable energy breakthroughs” under which the GEF-7 resources are expected to play a key role in piloting emerging innovative solutions, including technologies, management practices, supportive policies and strategies, and financial tools which foster private sector engagement for technology and innovation.

De-centralized renewable power with energy storage is one of the entry points towards the achievement of the Objective 1 that, apart from the direct impact on reduction of GHG emissions, can also help create or expand markets for products and services, generating jobs and supporting economic growth.

The project is also aligned with UNDP corporate priorities in the area of sustainable energy as rural electrification forms an integral part of the UNDP strategy in this area for which UNDP articulated – for the first time –its vision, mission, approach, guiding principles, and focus<sup>9</sup>. It also highlights the critical role that sustainable energy plays in advancing major outcomes from

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<sup>9</sup> Sustainable Energy Strategy Note, 2017-2021: Delivering Sustainable Energy in a Changing Climate, UNDP, 2016

post-2015 global processes including the SDGs, the Paris Agreement, the Sendai Framework for Disaster Risk Reduction, and the New Urban Agenda.

The strategy builds on UNDP's strengths and over two decades of experience in promoting sustainable energy solutions around the world. It comprises three key action areas in line with SDG7 targets: increasing access to affordable, reliable and sustainable energy; increasing the global rate of improvements in energy efficiency; and increasing the share of renewable energy in the global energy mix.

The focus on sustainable energy was further elaborated in the UNDP Strategic Plan for 2018-2021 that contains a series of signature solutions that define the core work of UNDP. Signature solution 5: Close the energy gap, identifies access to clean and affordable energy as a critical enabler for sustainable development and urges to focus on increasing energy access, promoting renewable energy and enhancing energy efficiency in a manner that is inclusive and responsive to the needs of different sectors of the population.

The focus on rural electrification also falls within the UNDP's strategic offer for Africa that suggests to engage with African leaders and influencers in order to drive sustainable development across the continent.

Last but not least, the project is highly relevant in relation to the United Nations Sustainable Development Goals (SDGs). Energy has long been recognized as essential for humanity to develop and thrive, but the adoption of the new SDGs in 2015 marked a new level of political recognition of the importance of energy to development. The SDGs include, for the first time, a target to ensure access to affordable, reliable, sustainable and modern energy for all (SDG 7). However, electricity access is an important factor for the achievement of several other SDGs as it is outlined in Table 12.

**Table 12:** Relation of electricity access to UN SDGs

<b>Sustainable Development Goals</b>	<b>Linkage to electricity access</b>
SDG 7: Sustainable energy	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix 7.3 By 2030, double the global rate of improvement in energy efficiency
<i>Other SDGs:</i>	
SDG 1: No poverty	In economic sectors—agriculture, tourism, commerce, industry—electricity access creates income-generating opportunities, increases value added, and therefore revenues, in rural areas.
SDG 2: Zero hunger	Electricity access can improve the agri-food chain in SSA countries through improving efficiency of food production and enhancing food security.
SDG 3: Good health and well-being	Health care facilities in rural areas require reliable electricity access to function and power medical devices, store vaccines and provide other essential services.
SDG 4: Quality education	Ensuring electricity access can reinforce education goals and enable information and communication technologies important for modern education
SDG 6: Clean water and sanitation	Access to electricity allows for expanding water extraction, transport and treatment systems to rural populations
SDG 8: Decent work and economic growth	The deployment of decentralized access to electricity can support rural economies by removing the barrier to productive activities
SDG 9: Industry, innovation, & infrastructure	Electricity access telecommunications improve entry to markets and attainability of information
SDG 13: Climate action	Reliable electricity access can improve the resilience of rural households and communities to climate change with only negligible increase in global CO <sub>2</sub> emissions

Access to reliable electricity was identified as a prerequisite for the economic transformation of economies in Sub-Saharan Africa (SSA) in several regional initiatives such as the Agenda 2063 and the Africa Development Forum.

In 2015, African leaders adopted Agenda 2063 as a strategic framework for the socio-economic transformation of the continent for the next 50 years. It is both a vision and an action plan that builds on, and seeks to accelerate, the implementation of past and existing continental initiatives for growth and sustainable development. Agenda 2063 defines seven aspirations for Africa for 2063 and commits African countries to 17 actions, of which the action g) on infrastructure includes a sub-target on energy namely call for harnessing all African energy resources to ensure modern, efficient, reliable, cost effective, renewable and environmentally friendly energy to all African households, businesses, industries and institutions, through building the national and regional energy pools and grids, and energy projects.

Also, various reports presented to the Africa Development Forum urge that policy makers need to adopt a more comprehensive and long-term approach to electrification in the region—one centred on the productive use of electricity at affordable rates. Such an approach includes increased public and private investment in infrastructure, expanded access to credit for new businesses, improved access to markets, and additional skills development to translate the potential of expanded and reliable electricity access into substantial economic impact.

On top of the above, the project is highly relevant for all 11 participating countries that have formulated medium-to-long term energy strategies, policies and plans that cover rural electricity access as a means of poverty alleviation. Through participation in the follow-up Africa Mini-grids Program, these countries have expressed clear political commitment for supporting productive end uses of renewable energy mini-grids through innovative business models centred on cost reduction levers. Provision of concrete list of national planning and policy documents is beyond the scope of this TE.

**Based on the above, relevance of the project is rated Relevant (R) for the donor and the implementing agencies as well as for the SSA countries.**

### Effectiveness

The principal questions to be discussed in this section are whether and how the project outcomes as well as its objective have been achieved and whether the project results have been delivered with the least costly resources possible. The further text will also highlight positive and negative, foreseen and unforeseen changes and effects produced by the project intervention.

In the series of tables below, the project results and achievements have been summarized and compared against the target indicators listed in the project's logical framework. The initial information about the project results/achievements was extracted from the project's QPRs, the Mini-grid Summit report, and the PFDs prepared for submission to the GEF Secretariat and verified through interviews held through Skype with the RMI project team, UNDP RTA and relevant personnel from some of the UNDP COs. Additional information was obtained from the project-related documentation provided by the RMI project team.

Tables 13-15 list the indicator targets for the two project Outcomes and the project Objective, summarize the delivery status at TE and provide ratings for the achievements. Each table contains an overview of the actually achieved project results in bullet points followed by a short narrative with additional insight and details on how and why the results have or have not been achieved. At the end, the narrative also explains the basis for rating of the results' achievements. The text following each table summarizes some important facts related to the project results that could not be captured in the tables but were considered important for the justification of the rating of the project outcomes.

**Table 13: Deliverables for Outcome 1**

<b>Outcome 1: Design the Summit and Create Pilot Projects Proposal for GEF-7</b>				
<b>Output</b>	<b>Indicators</b>	<b>End of Project Targets</b>	<b>Delivery Status at TE</b>	<b>Rating</b>
<b>1.1.</b> Developed summit pre-read materials that summarize preparatory analysis	Number of summit pre-read materials	1 Summit pre-read document that summarizes preparatory analysis	Pre-read materials for the Mini-grid Summit (March 2019)	S
<b>1.2.</b> Government stakeholder engagement	Number of countries expressing interest	2 finalist countries identified with expressions of interest in a mini-grid pilot program signed	Mission to 7 SSA countries (September 2018) Mission to Cote d'Ivoire (February 2019) Partnership with AfDB (March 2019) LoEs signed by 11 countries supported by allocation of funding resources (October 2018 – November 2019)	HS
<b>1.3.</b> Design scaling strategy and platform for commercially viable mini-grids as part of GEF-7	Number of final recommendations provided for scaling mini-grids	10 final recommendations provided for scaling mini-grids through subsequent GEF-7 programs	Report "Mini-grids in the Money" (December 2018) with 14 recommendations	S
<b>1.4.</b> Design of mini-grid projects in at least two countries with country endorsement to prove out cost reduction roadmap, including policy and finance requirements	Availability of document outlining representative mini-grid projects in two countries	Document outlining representative mini-grid projects in two countries including policy and financial requirements	A concept note on Parent Project design (December 2018) Concept notes for Child Projects in Ethiopia and Nigeria (December 2018) Concept notes for Child Projects in Angola, Burkina Faso, Comoros, Dibouti, eSwatini, Madagascar, Malawi, Somalia, Sudan (March-September 2019)	HS
<b>1.5.</b> Proposal for GEF-7 call for proposals to resource pilot projects in participating countries	Submission of proposal for GEF-7	Proposal for GEF-7 submitted	PFD package submission to GEF (11 October 2019)	HS

**Output 1.1:** The RMI project team conducted preparatory analysis of the mini-grid market potential and commercial viability and produced pre-read materials for the Mini-grid Summit. The materials were presented at the event in March 2019 and made available to the participants.

**Output 1.2:** For initial selection of target countries, RMI elaborated a comprehensive country selection methodology as an objective approach for assessment of countries and their selection for the initial phase of the program. The methodology captured performance of the countries related to the objectives of the key partners in the project, namely GEF, UNDP, and RMI.

The methodology used two groups of indicators to select priority countries. The first group of indicators served to assess the potential for economic development, in particular scaling of mini-grids, and served for identification of countries with large enough markets able to attract concessional and commercial finance, replicate business models and scale mini-grids. Indicators in the second group served for assessment of how each of the countries performed against partner goals and ranks the remaining countries to select the top performing five countries.

Based on the above methodology and criteria for country selection, the project team initiated discussions with 11 candidate countries. In order to deepen engagement with national stakeholders in the target countries, the project team visited 7 countries (Ghana, eSwatini, Uganda, Ethiopia, Cote d'Ivoire, Nigeria and Zambia) in September 2018. The purpose of the visits was to engage with governmental stakeholders and obtain their buy-in for the CREAC program and obtain Letters of Endorsement (LoEs). The team visited and connected with UNDP COs and other on-the-ground partners, namely national energy sector agencies and GEF

Operational Focal Points (OFPs). The mission yielded two signed LoEs, namely from Ethiopia (12 October 2018) and Nigeria (15 October 2018).

During a preparatory mission for the Mini-grid Summit in February 2019, the team met with the UNDP CO, the GEF OFPs and key government/utility officials of Cote d'Ivoire but found only moderate interest for participation in the CREAC program. On the margins of the Mini-grid Summit and other events in March 2019, the team met with national government representatives and stakeholders from Burkina Faso, eSwatini, Malawi, Nigeria, and Gambia.

Further interactions with the target countries included visit of Madagascar in August and Cote d'Ivoire and Togo in September 2019. In the latter two countries, RMI gathered input for the project design from donor partners and national counterparts and solicited co-financing by AfDB and the West African Development Bank (Banque ouest -africaine de développement - BOAD).

It has to be noted that the final list of 11 Child Project concept notes in the PFD submission to GEF Council includes 4 countries (Angola, Comoros, Djibouti, and Eswatini) initially deprioritized based on application of the first group of selection criteria. Nevertheless, further engagement with these countries proved their interest that was later confirmed by signed LoEs and pledging of GEF STAR allocations (with exception of Angola).

**Output 1.3:** Based on the assessment of market potential for mini-grid development in SSA, the team refined recommendations for bringing mini-grid market growth to scale. This work resulted in a report summarizing recommendations for scaling the mini-grid market titled *"Mini-grids in the Money"* that was published in December 2018. The report contains 14 recommendations that reflect experience gathered during the previous work in Nigeria and Ethiopia and served as a fundament of a draft design of the follow-up GEF program that was presented to participants of the Mini-grid Summit.

**Output 1.4:** A concept note was developed on design of the Parent Program as well as concept notes for Child Projects in Nigeria and Ethiopia. Key elements of this work included assessing the policy landscape, identifying risks, and designing project components to address these risks in each country. The team also conducted financial analysis on specific and indicative sites in the two countries with the aim to test the commercial viability of potential mini-grid projects. Moreover, the project team developed a concept note that proposed integration of the Child Project for Ghana with a wider program for developing decentralized energy systems.

After the Summit, the project team continued the effort on the country-level gap analyses for additional countries. These gap analyses, which included interviews with donor partners, the private sector and national counterparts provided a starting point to develop Child Project concept notes with details of policy and finance requirements for future mini-grid projects.

This work resulted in concept notes for five new Child Projects and development of other four potential projects led by AfDB and one project led by BOAD. In total, the project secured commitment of 11 countries through signed LoEs. Nine countries ensured reservation of their GEF-7 STAR funding allocations for participation in the program. As Madagascar and Angola had already consumed their respective GEF-7 STAR allocations for the Climate Change Mitigation focal area, they provided funding commitment from other sources (UNDP TRAC



resources and AfDB Sustainable Energy Fund for Africa (SEFA) for Madagascar and AfDB SEFA resources for Angola).

**Output 1.5:** For assistance with preparation of the Program Framework Document (PFD) including the regional project and Child Project Concept Notes, the team hired a GEF specialist consultant. Based on the analysis undertaken for Outputs 1.3 and 1.4, PFD and Child Project concept notes for Ethiopia and Nigeria were prepared in February 2019 for submission to the 56<sup>th</sup> GEF Council meeting. In March 2019, the GEF Secretariat requested to target 10 beneficiary countries instead of the original 2 countries and postpone the submission for consideration by the 57<sup>th</sup> GEF Council meeting in December.

PFD was finally submitted to GEF on 11 October 2019 and included the Regional Project Concept Note and 11 Concept Notes for national Child Projects.

**Summary assessment of Outcome 1:** The project team visited total 11 countries and engaged with the UNDP COs. National OFPs, donor partners (AfDB, BOAD, Carbon Trust, the UN Foundation, the Mini-Grid Partnership, the World Bank) and obtained their feedback regarding participation in the CREAC program. Interactions with other countries were conducted remotely.

In response to the GEF Secretariat's request to increase the number of participating countries, the project team prepared and submitted concept notes for the Child Projects for Angola, Burkina Faso, Comoros, Djibouti, Eswatini, Ethiopia, Madagascar, Malawi, Nigeria, Somalia, and Sudan. Compared to the original plan in the Project Document that included only two countries, this was a substantial increase in the workload and the number of deliverables. The PFD package was discussed at the meeting of the GEF Council in December 2019 and resulted in adoption of the GEF-7 Africa Mini-grid Program.

The fact that the initial visit in September 2018 was conducted prior to signature of PCA by the two implementing partners proves that a lot of analytical work must have been conducted by RMI staff in the months prior to the official start of the CREAC project.

It also has to be noted that in addition to the increased number of countries for the submission to GEF Council, the PFD drafting team had to cope also with changes in the structure of PFD to better account for new reporting requirements and alterations in the program's implementation modality that were introduced during the drafting process on request of UNDP.

Based on the above, **the achievement of Outcome 1 is rated Highly Satisfactory (HS).**

**Table 14:** Deliverables for Outcome 2

<b>Outcome 2: Mini-grid summit</b>				
<b>Result</b>	<b>Indicator</b>	<b>End of Project Targets</b>	<b>Delivery Status at TE</b>	<b>Rating</b>
<b>2.1.</b> Summit on clean rural electrification in Africa	Number of Mini-grid Summit participants	40 participants at the Mini-grid Summit	Country Partner Workshop in Abidjan, Cote d'Ivoire (11 March 2019) with 41 participants	S
<b>2.2.</b> Roadmap developed presenting 20 recommendations around cost-reduction, regulatory reform, business model innovation concepts developed during the summit	Number of cost-reduction, regulatory reform, business model innovation concepts developed during the summit	20 recommendations	19 recommendations for the design of national Child Projects 9 recommendations for the design of regional activities	S

**Output 2.1:** The Mini-grid Summit (later referred to as the ‘Country Partner Workshop’-CPW), was convened in Abidjan, Cote d'Ivoire on Monday, 11 March 2019 at AfDB Headquarters. It was organized back-to-back with other events in Abidjan in the same week, namely the meeting of stakeholders to the Mini-Grid Partnership on 12 March and the 5th Energy Access Investment Forum convened by the Alliance for Rural Electrification (ARE) on 13-14 March.

The objectives of CPW were as follows:

- Present the high-level design and structure of the CREAC program to country partners who had either formally committed to the program or demonstrated interest in participating in the program;
- Solicit country partner and participants’ input on specific activities under the program components and identify key challenges and risk mitigation measures to ensure successful implementation;

The Country Partner Workshop consisted of plenary sessions with presentations by RMI, UNDP, GEF, AfDB, the country and donor partners as well as other stakeholders on their experience with their respective mini-grid interventions. Afterwards, the participants engaged in breakout discussions to identify challenges and propose solutions to scale mini-grid market development.

The workshop brought together donor agencies, representatives of SSA countries and expert organizations as summarized in Table 14a.

**Table 14a:** Participation at CPW in Abidjan, Cote d'Ivoire, 11 March 2019

<b>Participants</b>	<b>Number</b>
Donor agencies (AfDB, GEF, UNDP, Carbon Trust, Shell Foundation, UN Foundation)	17
Country representatives (Government officials and UNDP COs)	11
Expert organizations (ECREEE, RMI, ECA, Acumen)	13
<b>Total participants</b>	<b>41</b>

Participants of the workshop provided a positive feedback on the proposed general architecture of the CREAC program consisting of the regional and national components, and suggestions for specific activities in the national projects, based on their respective experiences in the countries. Specifically, it was recommended that definition of the program components should be based on a consultative bottom-up, baseline/gap analysis in each participating country and aggregate the activities of the national project to determine focus of the regional project. The

participants also called for continuation of consultations with partners to ensure the additionality and complementary nature of the CREAC program.

**Output 2.2:** The Country Partner Workshop produced outline of the national Child Projects that consisted of 3 Components, namely Policies and Regulation, Pilot Implementation and Innovative Financing. Furthermore, 3 Pillars were identified for supporting regional activities, namely Technical Assistance, Knowledge Tools and Awareness Raising.

The CPW reports contains total 19 regulatory reform, cost-reduction, and business model innovation recommendations for the Child Projects and 9 recommendations for the regional activities. The recommendations were further refined through subsequent discussions with the UNDP COs, development partners and national counterparts and constituted a foundation for development of the PFD package that was submitted to the 57<sup>th</sup> GEF Council meeting (see Output 1.5 above).

**Overall Assessment of Outcome 2:** The Country Partner Workshop convened senior Government officers from five SSA countries, representatives of five funding agencies and five expert organizations. It provided an opportunity to present the CREAC Program and exchange information and experience with the national counterparts and other key stakeholders in order to deepen their understanding of challenges, needs and priorities. As there are currently multiple ongoing interventions on mini-grids in sub-Saharan Africa, CPW also served as a platform for sharing of case studies and update on the work undertaken by various stakeholders. The discussion focussed on common priorities for continued development of successful mini-grid projects in SSA.

Based on the above, **the achievement of Outcome 2 is rated Satisfactory (S).**

### Achievement of the Project Objective

The overall objective of the project was to develop a distinctive approach and accelerate the deployment of rural electrification utilizing renewable mini-grids in sub-Saharan Africa.

Status of achievement of the Project Objective is summarized in Table 15 below.

**Table 15:** Status of achievement of the project objective

<b>PROJECT OBJECTIVE: To develop a distinctive approach and accelerate the deployment of rural electrification utilizing renewable mini-grids in the sub-Saharan Africa</b>			
<b>Indicator</b>	<b>End of Project Targets</b>	<b>Delivery Status at TE</b>	<b>Rating</b>
Number and proportion of households benefiting from clean, affordable and sustainable energy access	A minimum of 5 rural electrification projects identified for funding under the GEF-7 cycle	1 regional project and 11 national Child Projects submitted for GEF-7 funding	HS

As discussed in the section Analysis of the project results framework, the indicator proposed to measure achievement of the project objective was incorrectly formulated. However, the target value is relevant.

As already discussed above, the CREAC Project resulted in adoption of GEF-7 Africa Mini-grids Program (AMP) by the 57<sup>th</sup> GEF Council. The primary form of participation of individual countries in AMP will be through the national Child Projects. The Program will initially support

11 countries, namely Angola, Burkina Faso, Comoros, Djibouti, Ethiopia, Eswatini, Madagascar, Malawi, Nigeria, Somalia and Sudan. Funding for national child projects will come from GEF STAR and UNDP TRAC allocations, as well as AfDB SEFA and other co-financing sources.

The selected 11 countries represent a diverse cross-section of African countries: both large and small markets; countries having rich experience with mini-grids and relative newcomers, Anglophone and Francophone countries; small island developing states; and countries in post-crisis contexts. The variety of selection will create a rich and diverse mix of contexts, perspectives and experiences from implementation of AMP.

In addition to the national Child Projects, the other way of participation will be able to engage with the AMP regional component. However, this support will be subject to availability of regional child project resources and may involve a degree of cost-sharing.

The approval of AMP undoubtedly represents a major action to streamline and accelerate development of mini-grids in SSA. Inclusion of 11 national Child Projects is more than double the end-of-project target set for the CREAC Project.

Based on the above, **the achievement of the Project Objective is rated Highly Satisfactory (HS).**

### Efficiency

The main issues examined in relation to efficiency were the length of the project implementation period and to what extent the results have been achieved with the least costly GEF and other resources possible.

The project was approved for a period of 12 months with the target to identify minimum 5 rural electrification projects for funding under the GEF-7 replenishment cycle. Initially, the RMI project team worked with two countries (Ethiopia and Nigeria) that had expressed strong interest in the pilot mini-grids program through signed Letters of Endorsement. The scoping mission in September 2018 identified 5 additional countries, however, the countries expressed medium to low interest in the pilot program mainly due to uncertainty about availability of GEF funding allocation and doubts about added value of potential interventions resulting from this project compared to already existing initiatives on mini-grids.

In March 2019, the GEF Secretariat requested the CREAC program to increase the project target and identify minimum 10 rural electrification projects. The immediate consequence of this request was to postpone submission of PFD for review at the GEF Council meeting. Since the original intention was to submit PFD for review at the June 2019 GEF Council meeting, the submission was postponed for review at the following GEF Council meeting in December 2019. In order to make related administrative adjustments, the project requested a 6-month no-cost extension through 31 March 2020. As a result of the extension, the total length of the project implementation period was 15 months.

The original project workplan envisaged the submission of PFD less than 6 months after the official start (in February or March 2019) to be considered for June meeting of the GEF Council. Although grounds for some Outputs were laid prior to the official start of the project, this plan

was overly optimistic and the implementation experience proved that it was unrealistic to expect that the project could undertake engagement with target countries through scoping missions, organize the Summit, reach agreement with stakeholders on outline of the pilot projects, engage with funding institutions and design the Child Projects within a period of 6 months. Therefore, the decision to provide no-cost extension was well justified.

Programmatically, the RMI team responded with identification of additional 6 countries and conducted a bottom-up country-level gap analysis for development of 11 national Child Projects. Besides the increased number of identified national projects, this also made a stronger case for additionality of the regional mini-grid program. However, securing commitment to the pilot program from additional countries proved to be challenging for funding reasons as several countries informed that they had already consumed their GEF-7 STAR (System for Transparent Allocation of Resources) allocations and had to consider other modes of funding for participation in the program. Nevertheless, the final submission of PFD with total 11 Child Projects for funding under GEF-7 means that the project exceeded the original target value for national rural electrification projects by a large margin.

No-cost extension of a GEF project means that no additional GEF resources are provided for extended implementation of the project. However, longer implementation period usually means higher cost incurred for project management that has to be offset either by reshuffling between the project budget lines or by additional funding from co-financing partners. In this particular case, no additional co-financing was provided. Following approval of the no-cost project extension, a budget revision was performed that is summarized in Table 16 below.

**Table 16:** Summary of the CREAC Project budget revision

<b>Component</b>	<b>AWP original (US\$)</b>	<b>AWP revised (US\$)</b>
Component 1	630,000	720,000
Component 2	233,637	143,637
Project Management	86,363	86,363
<b>Total</b>	<b>950,000</b>	<b>950,000</b>

It can be seen from Table 16, that the budget allocation for Component 1 was increased by 90,000 US\$. This reflected the need to engage with more countries and develop more national Child Projects (Outputs 1.2 and 1.4, respectively). The increase was compensated by decrease under Component 2 due to lower than expected expenditures for organization of the Country Partner Workshop (Output 2.1) as the African Development Bank offered to host the event on their premises at no cost to the project and it was a one-day event, rather than a multi-day event as initially planned.

From Table 16 it further follows that the budget revision did not make any adjustment to the project management costs allocated at the project inception. The actual expenditures for project management were well below the original budget allocation. Ultimately, the PFD submission with more than twice as many Child Projects than originally planned was achieved within the originally approved project budget with no increase in the administrative part of the budget. Despite the longer implementation period, this substantially enhanced efficiency of the project implementation.

It also has to be noted that the project results were achieved with savings as a sizeable amount of the GEF grant remains unspent at project closure (as discussed in the section Project finance). This allowed to use the unspent balance to support the work on development of the follow-up regional Child Project instead of requesting the normal PPG from GEF. This factor also supports the finding of efficient performance of the project.

Based on the above, the efficiency in terms of the project timeline and use of resources is rated **Highly Satisfactory (HS)**.

### Country ownership

The first two signed LoEs resulted from the previous RMI work in Ethiopia and Nigeria while other visited countries showed only moderate interest in the project that was also reflected in the participation in the Country Partner Workshop that included government and UNDP CO representatives from only five countries. After CPW, communication with the countries was conducted around the Child Project outline developed at the workshop and the discussions became more structured and outlined concrete targets. The intensified engagement in combination with the conduct of country-level gap analyses contributed to increased interest by the candidate countries towards more active participation.

At the end of the project, a notably stronger country ownership is documented by the actual commitment of GEF STAR allocations for the CCM area by nine of the candidate countries and mobilization of other direct financing (UNDP TRAC and AfDB SEFA) by the remaining two. While the GEF STAR allocation to the national Child Projects is a measure of ownership of this project's results and commitment to the follow-up AMP by the government stakeholders, the total indicative co-financing at the level of 280 million US\$ for the 11 Child Projects signals potential high interest in AMP of key development finance institutions and some private sector investors.

### Mainstreaming

The focus of this section is to discuss to what extent was the project mainstreaming UNDP priorities such as poverty alleviation, improved governance, and women's empowerment, i.e. whether it is possible to identify and define positive or negative effects of the project on local populations, whether gender issues had been taken into account in project design and implementation and in what way has the project contributed to greater consideration of gender aspects.

Participation of women and men in the development and transfer of new technologies differs, mainly due to the fact that fewer women than men pursue training in science, technology and engineering that provide the necessary skills that contribute to innovation and technology development. As a result, women's knowledge tends to be disregarded in the development and deployment of technologies and solutions based on renewable energy sources.

Due to the preparatory nature of the CREAC Project, the Project Document did not include any specific actions related to gender or other marginalized groups. However, it is recognized that gender equality, empowerment of women and their access to sustainable energy have a significant positive impact on sustainable economic growth and inclusive social development,

which are key drivers of poverty alleviation and social progress. As women are primary domestic energy users, availability of modern energy sources will reduce exposure of women and girls to indoor air pollution. Furthermore, it will enhance their quality of life since, instead of collection of firewood for households, they will have more time to engage in other productive activities.

Gender focus was incorporated into the design of AMP at both the regional and national levels. At the regional level, gender equality and women's empowerment will be considered as part of technical assistance to the private sector and to the governments. Collection of data and dissemination of lessons learned will also look at the impact of rural electrification through mini-grids on gender. At the national level, gender will be considered during the project preparation and implementation phases. For example, the deployment of technical assistance, and the recommendations of best practices for mini-grid policies and regulations will all consider the role of gender. Mini-grids can also provide public lighting at night, both increasing economic activities and improving safety for women.

Due to different roles, perceptions and opportunities for men and women in contributing to and benefiting from development of mini-grids in rural and peri-urban areas, it will be important to ensure that issues related to gender and other vulnerable groups are taken into full consideration during the PPG phase of the full size national projects under the Africa Mini-grids Program.

Support for productive use through the financing and deployment of mini-grids helps to ensure enhanced livelihoods for youth and other marginalized groups. Operation of mini-grids will increase hours of study for students, which improve educational outcomes and further affect environmental and resilience outcomes.

### Sustainability

Sustainability of a project is judged by the commitment of the project stakeholders to extend the results beyond the project completion date. Terminal Evaluation identifies key risks to sustainability and explains how these risks may affect continuation of the project benefits after the project closes. The assessment covers institutional/governance risks, financial, socio-political, and environmental risks.

Obviously, the sustainability of the CREAC Project results is primarily embedded in the design of national Child Project concept notes. However, the results will be fully sustained only once full-size national Child Projects are prepared, approved for funding and implemented.

Institutional framework and governance: Lack of political will, absence of rural electrification plans, suboptimal design of policy frameworks for mini-grids and rural electrification agencies/institutions, combined with insufficient data on energy demand and lowest cost technology options are the main institutional and governance risks to accelerated upscaling of mini-grids for rural electrification. Obviously, these risks are indirectly proportional to the level of accumulated experience with operation of mini-grids at the level of the beneficiary countries.

The risks would be negligible in countries with vast experience with renewable mini-grids such as Nigeria but could be significantly high in national setups that have to develop the institutional and regulatory frameworks. The AMP regional component was designed to minimize this risk

through support and facilitation of knowledge and information sharing between national Child Projects, as well as of broader information sharing amongst the larger mini-grid community.

Based on the above, the institutional framework and governance sustainability is rated: **Likely (L)**.

Financial sustainability: The main risk to financial sustainability of the project results relate to limited availability of long-term domestic loans, absence of well-capitalized investors and lack of financial incentives for deployment of renewable mini-grid systems. Local business developers may not have the necessary expertise and capabilities formulation of financially viable projects and for successful operation of mini-grids. Moreover, the developers may not be able to secure low-cost financing from investors due to lack of creditworthiness, hindered access to new commercial credit lines or insufficient cash flows to meet investors' return.

The main instrument for mitigation of risks to financial sustainability is securing of co-financing commitments from a variety of sources such as development banks, bilateral development agencies and private sector investors that serve as necessary condition for approval of GEF funding of the Child Projects.

Based on the above, rating of financial sustainability: **Likely (L)**

Socio-political sustainability: There are several socio-political factors that could endanger sustainability of the project results. Creating a conducive environment to scaling of mini-grids requires appropriate national measures that will depend on political will to change the relevant political, regulatory and pricing frameworks. Political intervention will also be needed to organise the markets and accelerate structural reforms and deregulate the vertical monopoly of national utilities in many SSA countries.

There are some political issues related to deployment of renewable mini-grids. On one side, there is a risk of potential conflict between the long-term nature of rural electrification based on renewable mini-grids and short-term political objectives of the governments of SSA countries. On the opposite side, high interest from politicians at all levels in renewable mini-grids could help them to capture political credits for preparation of projects in their areas of control. This may be a factor in the decision of the central governments on policies for subsidy mechanisms.

Socio-political sustainability could also be endangered by lack of awareness and resistance to renewable energy and mini-grids in communities. Lack of educated, skilled and qualified personnel in beneficiary communities could be a risk for operation and maintenance of mini-grids and state-of-art rural electrification technologies. The supply of hardware and technology could be at risk from practices of informal competitors selling counterfeit products and/or unlicensed services and thus create unfair competition for companies and businesses delivering equipment that is appropriately priced and effective, suited to the SSA climatic and environmental conditions (heat, dust, humidity), as well as robust and repairable by local mechanics.

Further socio-political risks include uncertainties related to political instability, potential conflicts, poor economic performance of the beneficiary countries, insufficient crime and law



enforcement, as well as problems with land tenure in selected location of mini-grids investments. These risks are beyond control of the follow-up projects.

Based on the above, the socio-political sustainability is rated **Moderately Likely (L)**.

Environmental sustainability: The CREAC project and the follow-up AMP generate positive environmental effects through promotion of mini-grids based on renewable energy sources. Expected environmental benefits include direct and indirect reduction of CO<sub>2</sub> emissions and improvements of local air quality due to shift from use of non-renewable energy sources. However, there is a risk that inappropriate disposal of spent batteries from mini-grids based on solar PV systems will result in environmental pollution and consequential health and safety issues. This risk could be minimized by development of appropriate policies and planning on disposal of hardware at the end of mini-grids' life cycle.

Based on the above, the environmental sustainability is rated **Likely (L)**.

Based on aggregation of the above partial ratings, the overall rating for sustainability is **Moderately Likely (L)**.

### Impact

Preparatory activities such as the CREAC Project cannot realise on the ground impacts. The ultimate goal of the work supported by this project was to create scalable mini-grid business models that will stimulate concessional and ultimately private capital investment in mini-grids. The project removed a wide range of institutional, cultural and informational barriers to the adoption of renewable energy and this is likely to lead to some key impacts.

The CREAC Project laid solid foundation for adoption of the Africa Mini-grids Program composed of Child Projects in 11 countries and a supporting regional component. The initial GEF investment of 950,000 US\$ in the project resulted in concept notes for 11 mini-grid pilot projects worth of more than 20 million US\$ in GEF grants that could leverage about 280 million US\$ in co-financing by financial institutions, development agencies and private sector investors.

The project catalyzed significant donor interest in renewable mini-grids and rural electrification in SSA and laid the foundation for a strong investment program in the 11 SSA countries. At the regional level, investments mobilized were identified through engagement with donor partners and foundations active in the mini-grid sector in Africa. For the national Child Projects, the indicative investments were primarily identified through ongoing discussions with national counterparts facilitated by the UNDP Country Offices in the project countries. The co-financing sources and amounts listed in the Child Projects will be confirmed during preparation of full size projects.

Pilot projects resulting from the completion of this initiative, if implemented, could bring affordable and reliable power to almost 1 million people in rural and peri-urban communities of the 11 SSA countries. The estimated environmental benefits include direct greenhouse gas emission reductions of about 320 thousand metric tons of CO<sub>2e</sub> and almost 20 million metric tons of CO<sub>2e</sub> indirect (consequential) emission reductions.

With the approval of the Program Framework Document for AMP by the GEF Council in December 2019, the CREAC Project has achieved its primary objective. The remaining three months of the extended implementation period until the project operational completion at the end of March 2020 are devoted to supporting the Project Preparation Grant (PPG) phase for the regional Child Project of AMP.

The Program Framework Document for AMP approved by the GEF Council contains Program Commitment Deadline (PCD) of 19 June 2021. According to the cancellation policy that had been approved by the GEF Council as part of the GEF-7 project cycle, PCD is the latest date by which the Child Projects receive GEF CEO Endorsement/Approval, otherwise they will be cancelled together with the remaining program funds. In order to comply with the above rule, UNDP have set a planned date for internal review of the requests for the Child Projects in October 2020.

For the formulation of the 11 national Child Projects, UNDP appointed a regional coordinator to standardize and harmonize the PPG phase for all Child Projects under AMP. At the time of TE completion in March 2020, recruitment of a team of international consultants for formulation of standard PPG Requests for the national Child Projects was on-going. Given the above planned submission date, this gives the UNDP team a tight timeframe for formulation and submission of the Child Projects.

### Overall project ratings

The summary of ratings of the selected evaluation criteria is in the Table 17 below.

**Table 17: Overall Project Rating**

<b>Evaluation Criteria</b>	<b>Evaluator's Rating</b>
Monitoring and evaluation: design at entry	Moderately Satisfactory ( <b>MS</b> )
Monitoring and evaluation: implementation	Satisfactory (S)
<b>Overall quality of monitoring and evaluation</b>	<b>Satisfactory (S)</b>
Quality of UNDP Implementation	Satisfactory (S)
Quality of Execution – Implementing Partner	Satisfactory (S)
<b>Overall quality of implementation / execution</b>	<b>Satisfactory (S)</b>
<b>Relevance</b>	<b>Relevant (R)</b>
<b>Effectiveness</b>	<b>Satisfactory (S)</b>
Outcome 1	Highly Satisfactory (HS)
Outcome 2	Satisfactory (S)
<b>Efficiency</b>	<b>Highly Satisfactory (HS)</b>
<b>Overall Project Objective rating</b>	<b>Highly Satisfactory (HS)</b>
<b>Overall likelihood of sustainability</b>	<b>Moderately Likely (<b>ML</b>)</b>
Institutional framework and governance	Likely (L)
Financial	Likely (L)
Socio-political	Moderately Likely (ML)
Environmental	Likely (L)

## CONCLUSIONS AND RECOMMENDATIONS

Based on the facts collected and analysed in the previous section, this section elaborates conclusions that make judgments supported by the findings. Each conclusion is linked with a recommendation as a corrective action proposed to be taken by relevant project stakeholders to address the deficiencies identified in the findings and conclusions.

This Terminal Evaluation makes two types of recommendations. Recommendations on substantive matters are provided for consideration of the project implementing partners in order to ensure the project results are sustained under the Africa Mini-grids Program. These recommendations are suggested for implementation in the PPG stage of the national Child Projects.

The experience from implementation of the CREAC Project allows that some conclusions could be generalized for all UNDP/GEF programming areas. Recommendations of the second type are provided for consideration of UNDP/GEF in order to improve programming and project preparation in general.

### Recommendations to follow-up and/or reinforce initial benefits from the project

Finding 1: The 11 concept notes for the national Child Projects submitted under AMP represent a diverse cross-section of African countries. For the formulation of the 11 national Child Projects, UNDP is facing a tight timeframe for formulation and submission of the full-size projects for GEF-7 funding.

Conclusion 1: The national Child Projects, if implemented, can create a rich and diverse mix of contexts, perspectives and experiences that would be useful for future deployment of mini-grids in SSA. The time needed for formulation of the full-size projects could vary from country to country. However, it is of critical importance that the formulation process is completed in all countries by the planned submission deadline that will ensure smooth implementation of the entire AMP as a coherent package.

*Recommendation 1: UNDP should accelerate the formulation of the 11 national Child Projects for meeting the planned internal review deadline in October 2020.*

Finding 2: UNDP appointed a regional coordinator to standardize and harmonize the preparatory work for the Child Projects under the AMP envelope. A team of international consultants will be recruited for formulation of standard PPG Requests for the national Child Projects.

Conclusion 2: The PPG phase involves development of necessary background information, identification of relevant partners among key national and international stakeholders and soliciting their co-financing contributions, as well as preparation of a Project Document for full size national Child projects. This process could benefit from assistance of qualified national consultants to provide support for collection of data and information on all matters related to the PPG formulation. Involvement of the national consultants throughout the full-size project

formulation will build sustainable national capacities in the AMP beneficiary countries that will be critical in the longer-term for implementation of scaling and replication of renewable mini-grids.

*Recommendation 2: For preparation of the PPG requests under AMP, UNDP should find resources to support appointment of qualified national consultants to provide logistical and technical support to the PPG formulation process.*

Finding 3: UNDP has a sizeable portfolio of GEF-funded projects supporting renewable energy mini-grids (solar-PV battery; mini-hydro; biomass). These projects produce useful information materials such as videos, technical reports and public awareness materials that assist governments and their implementing partners with designing and implementing policies and regulations, and with piloting mini-grid investment and financing models.

Conclusion 3: Future initiatives on renewable mini-grids within as well as beyond AMP would benefit from easy access to information resources and lessons learned from the GEF-funded UNDP-implemented projects on renewable mini-grids.

*Recommendation 3: UNDP should consider creation of a suitable repository of information resources and experience collected from implementation of renewable mini-grid projects and ensure access to the repository to a wide circle of stakeholders.*

Finding 4: UNDP and other development agencies and financial institutions have a track record of implemented mini-grid projects in Africa that provide sufficient documentation on scaling and replication of mini-grid projects. However, evidence on realized socio-economic impacts of the mini-grid interventions is scarce.

Conclusion 4: Viability and sustainability of a rural electrification project in the SSA region will be improved by integrating livelihood generation options and productive energy demand into mini-grid project proposals. Assessment and analysis of socio-economic impacts of already deployed and operated mini-grids will provide robust arguments for better justification of future renewable mini-grid projects to potential investors and for effective leveraging of sizeable investments into the renewable mini-grid sector in SSA.

*Recommendation 4: UNDP should consider systematic collection of information on local socio-economic development impacts of mini-grids in SSA and incorporate this analysis into design of future mini-grid projects. This work should also include collection of information on direct beneficiaries disaggregated by gender and other marginalized groups.*

Finding 5: Although several stakeholder groups were identified for the CREAC project and invited for participation, academic institutions apparently had not been considered amongst the stakeholder groups relevant for this project.

Conclusion 5: Institutions of higher education can play an important role in support of rural electrification programs through contribution towards solutions of technical issues related to pre-project feasibility studies and involvement in assessment of post-project socio-economic impacts. For example, universities can use the mini-grid projects to advance research on rural energy, performance of renewable energy technologies and feasibility of related financial or

business models. Students of educational institutions can also be involved in surveys for assessment of benefits from mini-grid interventions.

*Recommendation 5: During the PPG stage of the national Child Projects in SSA, UNDP COs should ensure inclusion of relevant national academic institutions in the stakeholder consultations in order to ensure their active and sustained participation in implementation of the future Child Projects.*

Finding 6: Development of the concept notes for the national Child Projects appeared to have attracted interest for co-financing by international financing institutions and private investors that can be important for equity loans, consumer credit and micro-finance. There has been only modest national public funding amongst the indicative sources of co-financing.

Conclusion 6: Public funding, both international and domestic, is an important source of finance in the initial stage of electrification projects as a significant proportion of the public funding can go to capacity development (such as research and development, planning, policies and regulations) and community awareness. Public finance can reduce these risks and provide funding in areas of low attraction for the private sector. This is particularly important for low income energy markets with risk of low returns for the private investments.

*Recommendation 6: In the process of formulation of full-size projects for deployment of mini-grids in SSA, UNDP should pay due attention to securing commitment of public co-financing for capacity development and awareness of local communities in target geographical areas of the future full-size projects.*

#### Recommendations to improve programming and preparation of projects

Finding 7: The project results matrix in the original Project Document contained inconsistencies that hindered the reporting on project progress and use of the results matrix as a tool for monitoring the project progress.

Conclusion 7: A careful definition of performance indicators and determination of their target values are necessary requirements for a meticulous and smooth monitoring of progress towards achievement of results and effective evaluation thereof.

*Recommendation 7: UNDP should ensure proper definition of project performance indicators and consistent determination of their target values.*

Finding 8: UNDP/GEF rating requirements for Mid-term Reviews and Terminal Evaluations currently do not require evaluators to provide rating on design and related results framework of a project under evaluation.

Conclusion 8: Design of a project and particularly of the project results framework are important factors determining prospect of successful achievement of results. Absence of evaluation rating of quality of a project at entry precludes taking full advantage of evaluation results and lessons learned for design of future projects.

*Recommendation 8: UNDP/GEF should consider inclusion of rating of project design in the guidelines for project mid-term and terminal evaluations.*

Finding 9: There was no monitoring of the actual co-financing for the project since this requirement was not included in the PCA signed between UNDP and RMI. Consequently, information about the actual realized co-financing was not readily available for TE.

Conclusion 9: The information about actually realized co-financing for a GEF project has to be collected by the project Executing Agency or Implementing Partner. It is not possible that this information is collected by evaluation consultants due to relatively short time frame of the TE assignments.

*Recommendation 9: UNDP should ensure continued monitoring of actually realized co-financing and availability of the co-financing information for Terminal Evaluations.*

### Lessons learned and good practices related to relevance, performance and success

The engagement of the CREAC project with the relevant agencies of the governments in the target countries was done primarily through the UNDP Country Offices. At the beginning of the project, the project team conducted a detailed analysis of performance of UNDP country offices in establishing strong relationships with the national governments that the project later used as an effective means of obtaining expressions of interest from the governments of the target countries. This approach is considered a good practice as it builds trust of the beneficiary governments through the established relations with the UNDP COs. As the latter are the first point of contact between the governments and the UN agencies, extensive involvement of UNDP COs also contributes to capacity building of the CO staff and creates sense of ownership of future interventions in the given technical area.

The project initially faced challenges in securing commitment of the target countries to apportion GEF STAR allocations to the national Child Projects. Although the GEF Operational Focal Point designated by a country is authorized to ultimately endorse proposals for GEF-funded projects, OFP's main role is to make sure that the proposals are consistent with their country's priorities and commitments under global environmental conventions and to facilitate broad based in-country consultations on projects proposed for GEF funding. The good practice used by the project was to engage first with the sectoral governmental agencies (e.g. Ministries of Energy, rural electrification agencies, regulators, national utilities) and only after ensuring their buy-in for the program to approach the GEF OFPs in order to get LoEs for the national mini-grid projects.

For a structured design of the pilot program for GEF-7, the Country Program Workshop outlined a general architecture consisting of a regional project and a cohort of national projects each based on three components. The approach chosen for advancing the pilot program design was to elaborate detailed definitions of activities for the three components under the national projects through consultative bottom-up baseline/gap analyses in each country. The identified targeted activities, when aggregated across all the participating national projects, generated an overall map of focus for the regional project. The architecture design was validated through continued consultations with all partners to ensure the additionality and complementary nature of the pilot program.

The continued consultative process with various stakeholders over the course of the project helped to create general overall awareness on renewable mini-grids in countries with little experience in the subject and deepen the existing knowledge of the subject in more advanced countries. This approach also helped to collect robust data on market assessments for renewable mini-grids.

The implementation modality selected for this project included overall project management by UNDP IRH based in Istanbul, technical backstopping by the UNDP Regional Office located in Addis Ababa and day-to-day execution by RMI based in Colorado, the U.S. This arrangement contained inherent challenges related to the geographical distance of the implementing partners. Although at the end of the day the project did achieve its objective, it gives food for thought as to adequacy of this practice for implementation of future projects and programs, particularly at a higher level of complexity.

As mentioned in the Introduction, due to the limited time available for the data collection phase of TE it was not possible to go beyond interviews with the UNDP COs and obtain feedback from the representatives of the Governments of the target countries. Interactions with the Governmental officials have to be thoroughly prepared upfront in order to explain the purposed of TE and use more robust data collection methods such as evaluation questionnaires. Increased time requisites for collection of feedback from more peripheral stakeholders should be considered in planning of evaluation of future similar projects.



## Annex 1: Evaluation Terms of Reference

### INTRODUCTION

In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP-supported, GEF-financed projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference (TOR) set out the expectations for a Terminal Evaluation (TE) of the GEF-6 medium-sized project on *Clean Rural Electrification for African Countries* (PIMS 6182).

The essentials of the project to be evaluated are as follows:

### PROJECT SUMMARY TABLE

Project Title:		<i>Clean Rural Electrification for African Countries</i>		
GEF Project ID:	9931		<i>at endorsement (Million US\$)</i>	<i>at completion (Million US\$)</i>
UNDP Project ID:	PIMS 6182 Project # 00110204	GEF financing:	950,000	
Country:	Regional	IA/EA own:		
Region:	Africa	Government:		
Focal Area:	Climate Change	Other:	550,000	
FA Objectives, (OP/SP):	CCM-1 Program 1	Total co-financing:	550,000	
Executing Agency:	Rocky Mountain Institute	Total Project Cost:	1,500,000	
Other Partners involved:	UNDP	ProDoc Signature (date project began):		16 November 2018
		(Operational) Closing Date:	Proposed: 16 November 2019	Actual: 31 March 2020

### OBJECTIVE AND SCOPE

The project was designed to develop a distinctive approach and accelerate the deployment of rural electrification utilizing renewable mini-grids. The overall objective will be achieved by co-developing a cost-reduction roadmap with minigrid value chain stakeholders (equipment suppliers, developers, funders, governments) and then developing a proposal for a series of pilots to prove out and refine the cost-reduction road map for countries selected during



implementation. The project is targeting all countries in SSA with a need for electrification in rural areas, but as it progresses through its implementation and more information is obtained, culminating in a shortlist of countries' proposals for child projects at the project end. The project is meant to:

- Identify barriers to minigrid cost reduction and investment in minigrids
- Propose potential solutions to those barriers
- Refine the strategy to address those barriers through a minigrid summit and engagement with national counterparts, donor partners, and private sector stakeholders
- Based on the above, develop a program proposal for GEF-supported minigrid pilots to prove out the impact of cost reductions, clear and consistent regulations, and the benefit of a collective minigrid market vision in scaling mini-grids

The GEF grant covers what is essentially an initial project preparation phase before large scale program (regional project and national child project) implementation.

The TE will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects.

The objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

## **EVALUATION APPROACH AND METHOD**

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An overall approach and method<sup>10</sup> for conducting project terminal evaluations of UNDP-supported, GEF-financed projects has developed over time. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact**, as defined and explained in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR ([Annex C](#)). The evaluator is expected to amend, complete and submit this matrix as part of an evaluation inception report, and shall include it as an annex to the final report.

The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The evaluator is expected to conduct phone/Skype interviews with stakeholders, the following organizations and individuals at a minimum: **UNDP, and Rocky Mountain Institute** and CO/government representatives from selected participating countries of

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<sup>10</sup> For additional information on methods, see the [Handbook on Planning, Monitoring and Evaluating for Development Results](#), Chapter 7, pg. 163

the GEF-7 Africa Mini-grids Program. The exact list of countries, individuals and institutions, including contacts, will be specified by UNDP at the beginning of the contract.

The evaluator will review all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, progress reports, GEF core indicators, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents that the project team will provide to the evaluator for review is included in [Annex B](#) of this Terms of Reference.

## EVALUATION CRITERIA & RATINGS

An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework (see [Annex A](#)), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of: **relevance, effectiveness, efficiency, sustainability and impact**. Ratings must be provided on the following performance criteria. The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in [Annex D](#).

Evaluation Ratings:			
1. Monitoring and Evaluation	rating	2. IA& EA Execution	rating
M&E design at entry		Quality of UNDP Implementation	
M&E Plan Implementation		Quality of Execution - Executing Agency	
Overall quality of M&E		Overall quality of Implementation / Execution	
3. Assessment of Outcomes	rating	4. Sustainability	rating
Relevance		Financial resources:	
Effectiveness		Socio-political:	
Efficiency		Institutional framework and governance:	
Overall Project Outcome Rating		Environmental:	
		Overall likelihood of sustainability:	

## PROJECT FINANCE / COFINANCE

Co-financing (type/source)	UNDP own financing (mill. US\$)		Government (mill. US\$)		Partner Agency (mill. US\$)		Total (mill. US\$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants								
Loans/Concessions								
• In-kind support								
• Other								
Totals								

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual

expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the UNDP Istanbul Regional Hub (IRH) and Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

## MAINSTREAMING

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UNDP-supported, GEF-financed projects are key components in UNDP country programming, as well as regional and global programmes. The evaluation will assess the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

## IMPACT

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The evaluator will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.<sup>11</sup>

## CONCLUSIONS, RECOMMENDATIONS & LESSONS

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The evaluation report must include a chapter providing a set of **conclusions, recommendations and lessons**.

## IMPLEMENTATION ARRANGEMENTS

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The principal responsibility for managing this evaluation resides with the UNDP Istanbul Regional Hub (IRH). IRH will contract the evaluator. The Project Team will be responsible for liaising with the Evaluator team to set up stakeholder interviews, coordinate with the Government etc.

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<sup>11</sup> A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROtI) method developed by the GEF Evaluation Office: [ROtI Handbook 2009](#)

## EVALUATION DELIVERABLES

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The evaluation consultant is expected to deliver the following:

Deliverable	Content	Timing	Responsibilities
<b>Inception Report</b>	Evaluator provides clarifications on timing and method	No later than 2 weeks before the evaluation interviews	Evaluator submits to project management, UNDP-GEF and UNDP IRH
<b>Presentation</b>	Initial Findings	End of evaluation interviews	Evaluator to arrange a Skype call with project management, UNDP-GEF and UNDP IRH
<b>Draft Final Report</b>	Full report, (per annexed template) with annexes	Within 3 weeks following the evaluation interviews	Sent to and reviewed by project management, UNDP-GEF and UNDP IRH
<b>Final Report*</b>	Revised report	Within 1 week of receiving UNDP comments on draft	Sent to UNDP IRH for uploading to UNDP ERC.

\*When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the final evaluation report.

## TEAM COMPOSITION

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The evaluation team will be composed of *1 international evaluator*. The consultant shall have prior experience in evaluating similar projects. Experience with GEF financed projects is an advantage. The evaluator selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The Team members must present the following qualifications:

- A Master's degree in environmental sciences, climate change mitigation, energy, engineering or other closely related field; a PhD will be considered as an advantage.
- Minimum *10* years of relevant professional experience.
- Experience with UNDP corporate monitoring and evaluation policies and procedures.
- Previous experience with results-based M&E methodologies.
- Experience in climate change mitigation, renewable energy or closely related field.
- Experience with engaging various stakeholders.
- Prior experience in sub-Saharan Africa with off-grid electrification, is an asset.
- Excellent writing, editing, and oral communication skills in English, knowledge of French is an asset

## EVALUATOR ETHICS

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Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct (Annex E) upon acceptance of the assignment. UNDP evaluations are conducted in accordance with the principles outlined in the [UNEG 'Ethical Guidelines for Evaluations'](#)

## PAYMENT MODALITIES AND SPECIFICATIONS

%	Milestone
10%	Following submission of an evaluation design matrix, and a data collection plan and tools and approval of work plan (Inception Report), by January 31, 2020
40%	Following submission and approval of the 1ST draft terminal evaluation report, by February 28, 2020
50%	Following submission and approval (UNDP-IRH and UNDP RTA) of the final terminal evaluation report, by March 10, 2020

## APPLICATION PROCESS

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Individual consultants are invited to submit applications together with their CV/P11 for this position. The application should contain a current and complete CV/P11 in English with indication of the e-mail and phone contact. Technically qualified candidates will be requested to submit a price offer indicating the total cost of the assignment (including breakdown of costs).

UNDP applies a fair and transparent selection process that will take into account the qualifications of the applicants as well as their financial proposals. Qualified women and members of social minorities are encouraged to apply.

## Annex 2: Evaluation Matrix

Evaluative Criteria Questions	Indicators	Sources
Relevance: How does the project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local, regional and national levels?		
<ul style="list-style-type: none"> <li>How relevant is the project to GEF?</li> <li>How relevant is the project to UNDP?</li> <li>How relevant is the project to the wider mini-grid and rural electrification community?</li> </ul>	<ul style="list-style-type: none"> <li>Evidence of stakeholder perceptions of the relevance of the project (GEF, UNDP, donors, private sector)</li> <li>Evidence of demand for the project support over time</li> <li>Evidence that the project support translates into pipeline development</li> </ul>	<ul style="list-style-type: none"> <li>Project Document</li> <li>GEF 6 Focal Area Strategies</li> <li>GEF 7 Focal Area Strategies</li> </ul>
<ul style="list-style-type: none"> <li>Is the project relevant to the regional environmental and development objectives?</li> </ul>	<ul style="list-style-type: none"> <li>Explicit links within the project to regional development policies and action plans</li> </ul>	<ul style="list-style-type: none"> <li>Project Document</li> </ul>
<ul style="list-style-type: none"> <li>Is the project's Theory of Change relevant to addressing the development challenge(s) identified?</li> </ul>	<ul style="list-style-type: none"> <li>The Theory of Change clearly indicates how project interventions and projected results will contribute to the reduction of the three major barriers to low carbon development (Policy, institutional/ technical capacity and financial)</li> </ul>	<ul style="list-style-type: none"> <li>Project Document</li> <li>PIF</li> </ul>
<ul style="list-style-type: none"> <li>Does the project directly and adequately address the needs of beneficiaries at local and regional levels?</li> </ul>	<ul style="list-style-type: none"> <li>The project clearly identifies beneficiary groups and defines how their capabilities will be enhanced by the project</li> </ul>	<ul style="list-style-type: none"> <li>Project Document</li> <li>PIF</li> </ul>
<ul style="list-style-type: none"> <li>Is the project's results framework relevant to the development challenges have the planned results been achieved?</li> </ul>	<ul style="list-style-type: none"> <li>The project results framework adequately measures outcomes</li> <li>The project indicators are SMART</li> <li>Indicator baselines are clearly defined</li> </ul>	<ul style="list-style-type: none"> <li>Project Document</li> <li>PIF</li> </ul>
<ul style="list-style-type: none"> <li>Have the relevant stakeholders been adequately identified and have their views, needs and rights been considered during design and implementation?</li> </ul>	<ul style="list-style-type: none"> <li>The stakeholder mapping and associated engagement plan includes all relevant stakeholders and appropriate modalities for engagement</li> </ul>	<ul style="list-style-type: none"> <li>Inception report</li> <li>Stakeholder mapping/engagement plan and reporting</li> </ul>

<ul style="list-style-type: none"> <li>Have the interventions of the project been adequately considered in the context of other development activities being undertaken in the same or related thematic area?</li> </ul>	<ul style="list-style-type: none"> <li>Additionality, cooperation, complementarity, and synergies with other interventions</li> </ul>	<ul style="list-style-type: none"> <li>Project Document</li> <li>Stakeholder mapping/engagement plan and reporting</li> </ul>
<ul style="list-style-type: none"> <li>Did the project design adequately identify, assess and design appropriate mitigation actions for the potential social and environmental risks posed by its interventions?</li> </ul>	<ul style="list-style-type: none"> <li>The SES checklist was completed appropriately and all reasonable risks were identified with appropriate impact and probability ratings and risk mitigation measures specified</li> </ul>	<ul style="list-style-type: none"> <li>Project Document</li> <li>SES Annex</li> </ul>
<b>Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?</b>		
<ul style="list-style-type: none"> <li>Has the project achieved its output and outcome level objectives?</li> </ul>	<ul style="list-style-type: none"> <li>The project has met or exceeded the output and outcome indicator end-of-project targets</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly Reports</li> <li>Annual Reports (PIR)</li> </ul>
<ul style="list-style-type: none"> <li>Were lessons learned captured and integrated into project planning and decision-making?</li> </ul>	<ul style="list-style-type: none"> <li>Lessons learned have been captured at project inception</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly Reports</li> <li>Annual Reports (PIR)</li> </ul>
<ul style="list-style-type: none"> <li>How well were risks (including those identified in the Social and Environmental Screening (SES) Checklist), assumptions and impact drivers being managed?</li> </ul>	<ul style="list-style-type: none"> <li>A clearly defined risk identification, categorization and mitigation strategy (updated risk log in ATLAS)</li> </ul>	<ul style="list-style-type: none"> <li>Risk matrix at inception</li> <li>Quarterly Reports</li> </ul>
<ul style="list-style-type: none"> <li>Were relevant counterparts from government and civil society involved in project implementation?</li> </ul>	<ul style="list-style-type: none"> <li>Participation of representatives from UNDP COs and relevant institutions from the Governments</li> </ul>	<ul style="list-style-type: none"> <li>Mini-grid Summit report</li> <li>Program Framework Document</li> </ul>
<b>Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards?</b>		
<ul style="list-style-type: none"> <li>Did the project adjust dynamically to reflect changing priorities/external evaluations during implementation to ensure it remained relevant?</li> </ul>	<ul style="list-style-type: none"> <li>Evidence of adaptive management and changes integrated into project implementation through adjustments to AWP, budgets and activities</li> <li>Approval of changes to the project's planned activities and output-level changes by the Project Board</li> </ul>	<ul style="list-style-type: none"> <li>Annual Work Plan</li> <li>Inception Workshop Minutes</li> <li>Quarterly Reports</li> <li>Project Board meeting minutes (<i>if available</i>)</li> </ul>

<ul style="list-style-type: none"> <li>Was the process of achieving results efficient? Did the actual or expected results (outputs and outcomes) justify the costs incurred? Were the resources effectively utilized?</li> </ul>	<ul style="list-style-type: none"> <li>The project achieved the planned results in an efficient manner</li> <li>Evidence of effective use of funds for project implementation and contribution to achievement of project results</li> </ul>	<ul style="list-style-type: none"> <li>Annual Workplan</li> <li>Quarterly Reports</li> <li>Project Document</li> </ul>
<ul style="list-style-type: none"> <li>What are the strengths and weaknesses of the implementation modality?</li> </ul>	<ul style="list-style-type: none"> <li>Specific contributions of the Executing Entity</li> </ul>	<ul style="list-style-type: none"> <li>Annual Report (PIR)</li> <li>Quarterly reports</li> </ul>
<ul style="list-style-type: none"> <li>How effective were the partnership arrangements under the project and to what extent did they contribute to achievements of the project results?</li> </ul>	<ul style="list-style-type: none"> <li>Partnership frameworks with key partners and identification of complementarities</li> </ul>	<ul style="list-style-type: none"> <li>Annual Report (PIR)</li> <li>Quarterly reports</li> <li>Program Framework Document</li> </ul>
<ul style="list-style-type: none"> <li>Was co-financing adequately estimated during project design (sources, type, value, relevance), tracked during implementation and what were the reasons for any differences between expected and realised co-financing?</li> </ul>	<ul style="list-style-type: none"> <li>Actually realized co-financing compared to original estimates</li> <li>Continuous tracking of co-financing throughout the project lifecycle and of identification of alternative sources</li> </ul>	<ul style="list-style-type: none"> <li>Annual Work Plan</li> <li>Quarterly Reports, including financial reports</li> <li>Annual Report (PIR)</li> </ul>
<ul style="list-style-type: none"> <li>Was the level of implementation support provided by UNDP adequate and in keeping with the implementation modality and the Project Cooperation Agreement?</li> </ul>	<ul style="list-style-type: none"> <li>Timely technical support of UNDP to the Executing Entity</li> <li>Evidence of adequate management inputs by the Executing Entity, including budgeting</li> </ul>	<ul style="list-style-type: none"> <li>UNDP project support documents</li> <li>Quarterly Reports</li> <li>Annual Reports (PIR)</li> </ul>
<ul style="list-style-type: none"> <li>Has the M&amp;E plan been well-formulated and adequately budgeted?</li> </ul>	<ul style="list-style-type: none"> <li>Evidence of adequate budget for M&amp;E plan</li> <li>Evidence of use of the logical framework during implementation as a management and M&amp;E tool</li> <li>Compliance with the financial and narrative reporting requirements (timeliness and quality)</li> <li>Evidence of monitoring and reporting at both the activity and results levels</li> </ul>	<ul style="list-style-type: none"> <li>Project Document</li> <li>M&amp;E Plan</li> <li>Annual Work Plan</li> <li>Quarterly Reports</li> </ul>
<ul style="list-style-type: none"> <li><b>Sustainability:</b> To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results?</li> </ul>		
<ul style="list-style-type: none"> <li>Are there political, social or financial risks that may jeopardize the sustainability of project outcomes?</li> </ul>	<ul style="list-style-type: none"> <li>Exit strategy with explicit interventions to ensure sustainability of relevant activities</li> </ul>	<ul style="list-style-type: none"> <li>Program Framework Document</li> </ul>



<ul style="list-style-type: none"> <li>• To what extent are the project results contributing to the sustainability of the GEF7 project proposal and what are the lessons learned to enhance sustainability of the GEF 7 project? What are the factors that will require attention in order to improve prospects of sustainability and potential for replication?</li> </ul>	<ul style="list-style-type: none"> <li>• Inclusion of explicit interventions to ensure sustainability of relevant activities and identification of relevant factors requiring attention in the future</li> </ul>	<ul style="list-style-type: none"> <li>• Program Framework Document</li> </ul>	
<ul style="list-style-type: none"> <li>• Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize sustainability of project benefits?</li> </ul>	<ul style="list-style-type: none"> <li>• Identification of relevant socio-political risks and explicit interventions to mitigate them</li> </ul>	<ul style="list-style-type: none"> <li>• Program Framework Document</li> </ul>	
<ul style="list-style-type: none"> <li>• Have key stakeholders identified their interest in project benefits beyond project-end and accepted responsibility for ensuring that project benefits continue to flow?</li> </ul>	<ul style="list-style-type: none"> <li>• Interest of key stakeholders and their roles and responsibilities in the exit strategy</li> </ul>	<ul style="list-style-type: none"> <li>• Program Framework Document</li> </ul>	
<ul style="list-style-type: none"> <li>• Are there ongoing activities that may pose an environmental threat to the sustainability of project outcomes?</li> </ul>	<ul style="list-style-type: none"> <li>• The exit strategy identifies relevant environmental risks and includes explicit interventions to mitigate same</li> </ul>	<ul style="list-style-type: none"> <li>• Program Framework Document</li> <li>• Risk Log</li> </ul>	
<b>Impact: Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status?</b>			
<ul style="list-style-type: none"> <li>• Has the project been able to attract funding of interventions for rural electrification and reduced GHG emissions?</li> </ul>	<ul style="list-style-type: none"> <li>• Follow-up projects for rural electrification and reduced GHG emissions through use of renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>• Program Framework Document</li> </ul>	

### Annex 3: List of People Interviewed

<b>Name</b>	<b>Capacity</b>	<b>Institution</b>
Kelly Carlin	Project Manager	Rocky Mountain Institute
Shelley Backstrom	Program Coordinator	Rocky Mountain Institute
Callie Ruh	Compliance Manager	Rocky Mountain Institute
Faris Khader	Regional Technical Advisor	UNDP RO Addis Ababa
Marcel Alers	Head of Energy, Global Environmental Finance	UNDP BPPS
Lucas Black	Senior Coordinator for AMP	UNDP Consultant
Goetz Schroth	Programme Analyst, Climate Change	UNDP CO Angola
Sylvain Thiombiano	Head of Energy Programme	UNDP CO Burkina Faso
Gugulethu Dlamini	Programme Analyst	UNDP CO Eswatini
Kidanua Abera	Programme Analyst, Energy and Low Carbon Development Programme	UNDP CO Ethiopia
Sophie Nyirabakwiye	Head of Poverty Reduction and Environment Programmes	UNDP CO Madagascar
Emmanuel Mjimapemba	Programme Manager, Energy Access	UNDP CO Malawi
Muiywa Odele	Team Leader, Environment	UNDP CO Nigeria

## **Annex 4: List of Documents Consulted**

1. Clean Rural Electrification for African Countries, GEF-6 Project Identification Form
2. Clean Rural Electrification for African Countries, Project Document, UNDP/GEF
3. Clean Rural Electrification for African Countries, Inception Report, RMI
4. Project Cooperation Agreement between UNDP and RMI
5. Clean Rural Electrification for African Countries, Country Partner Workshop, RMI
6. Project Quarterly Narrative Report, 4Q 2019, RMI
7. Project Quarterly Narrative Report, 1Q 2020, RMI
8. Project Quarterly Narrative Report, 2Q 2020, RMI
9. Project Quarterly Narrative Report, 3Q 2020, RMI
10. Project Quarterly Narrative Report, 4Q 2020, RMI
11. Draft Project Annual Review (PIR) 2020, RMI
12. Post-trip Summaries: September 2018-September 2019), RMI
13. Memorandum of Country Selection Methodology, RMI
14. 20 by 20 Mini-grid Charrette Summary, RMI
15. Country Partner Workshop Report, RMI
16. GEF-7 Replenishment Programming Directions, GEF
17. Delivering Sustainable Energy in a Changing Climate: Strategy Note on Sustainable Energy, UNDP
18. Achieving Universal Access to Electricity: Policy Brief #1, UNDESA
19. Letters of Endorsement for PFD Child Project Concept Notes for 11 countries, UNDP
20. GEF-7 Africa Mini-grids Programme: Project Framework Document, UNDP
21. Regional Project for the GEF Africa Mini-grid Programme, GEF-7 Child Project Concept

## Annex 5: Evaluation Report Outline

### i. Opening page:

- Title of UNDP supported GEF financed project
- UNDP and GEF project ID#s.
- Evaluation time frame and date of evaluation report
- Region and countries included in the project
- GEF Operational Program/Strategic Program
- Implementing Partner and other project partners
- Evaluation team members
- Acknowledgements

### ii. Executive Summary

- Project Summary Table
- Project Description (brief)
- Evaluation Rating Table
- Summary of conclusions, recommendations and lessons

### iii. Acronyms and Abbreviations

#### 1. Introduction

- Purpose of the evaluation
- Scope & Methodology
- Structure of the evaluation report

#### 2. Project description and development context

- Project start and duration
- Problems that the project sought to address
- Immediate and development objectives of the project
- Baseline Indicators established
- Main stakeholders
- Expected Results

#### 3. Findings

(In addition to a descriptive assessment, all criteria marked with (\*) must be rated)

##### 3.1 Project Design / Formulation

- Analysis of LFA/Results Framework (Project logic /strategy; Indicators)
- Assumptions and Risks
- Lessons from other relevant projects (e.g., same focal area) incorporated into project design
- Planned stakeholder participation
- Replication approach
- UNDP comparative advantage

- Linkages between project and other interventions within the sector
- Management arrangements

### 3.2 Project Implementation

- Adaptive management (changes to the project design and project outputs during implementation)
- Partnership arrangements (with relevant stakeholders involved in the country/region)
- Feedback from M&E activities used for adaptive management
- Project Finance:
- Monitoring and evaluation: design at entry and implementation (\*)
- UNDP and Implementing Partner implementation / execution (\*) coordination, and operational issues

### 3.3 Project Results

- Overall results (attainment of objectives) (\*)
- Relevance (\*)
- Effectiveness & Efficiency (\*)
- Country ownership
- Mainstreaming
- Sustainability (\*)
- Impact

### 4. Conclusions, Recommendations & Lessons

- Corrective actions for the design, implementation, monitoring and evaluation of the project
- Actions to follow up or reinforce initial benefits from the project
- Proposals for future directions underlining main objectives
- Best and worst practices in addressing issues relating to relevance, performance and success

### 5. Annexes

- ToR
- Itinerary
- List of persons interviewed
- Summary of field visits
- List of documents reviewed
- Evaluation Question Matrix
- Questionnaire used and summary of results
- Evaluation Consultant Agreement Form

## Annex 6: Project Results Framework (at the Project Inception)

<b>This project will contribute to the following Sustainable Development Goal (s):</b> SDG 7 and 13
<b>This project will contribute to the following country outcome included in the UNDAF/Country Programme Document:</b> Regional, so does not apply
<b>This project will be linked to the following output of the UNDP Strategic Plan:</b> 1.5.1 Solutions adopted to achieve universal access to clean, affordable and sustainable energy, with focus on (b) In rural areas.

	Objective and Outcome Indicators	Baseline <sup>12</sup>	Mid-term Target <sup>13</sup>	End of Project Target	Data Collection Methods and Risks/Assumptions <sup>14</sup>
<b>Project Objective:</b> To develop a distinctive approach and accelerate the deployment of rural electrification utilizing renewable minigrids	Number and proportion of households in rural areas benefiting from clean, affordable and sustainable energy access <sup>15</sup>	Currently a small minority of rural communities benefiting from clean and affordable energy access. Also, there are no GEF-7 projects identified to tackle rural electrification in SSA	A minimum of 2 rural electrification projects identified for funding under the GEF-7 cycle	A minimum of 5 rural electrification projects identified for funding under the GEF-7 cycle  Scaling strategy presented to GEF-7 in June 2018 with follow on support for implementation through January 2019.	Data sourced during workshops taking place at both summits Risks: Lack of political will and engagement from Governments and Stakeholders Assumptions: Governments and stakeholders invited to attend summit to so and feasible projects eligible for GEF funding identified.

<sup>12</sup> Baseline, mid-term and end of project target levels must be expressed in the same neutral unit of analysis as the corresponding indicator. Baseline is the current/original status or condition and need to be quantified. The baseline must be established before the project document is submitted to the GEF for final approval. The baseline values will be used to measure the success of the project through implementation monitoring and evaluation.

<sup>13</sup> Target is the change in the baseline value that will be achieved by the mid-term review and then again by the terminal evaluation.

<sup>14</sup> Data collection methods should outline specific tools used to collect data and additional information as necessary to support monitoring. The PIR cannot be used as a source of verification.

<sup>15</sup> At the time of project formulation, this was a mandatory indicator. However, as the CREAC project is not a typical GEF project in the sense that it is more of a large-scale project preparation exercise, the targets do not match the indicator.

	Objective and Outcome Indicators	Baseline <sup>12</sup>	Mid-term Target <sup>13</sup>	End of Project Target	Data Collection Methods and Risks/Assumptions <sup>14</sup>
<b>Component/ Outcome<sup>16</sup> 1</b>  <b>Design scaling mechanisms for minigrids funded by GEF-7 replenishment</b>	<i>Indicator 1:</i> Number of recommendations created for scaling minigrids through subsequent GEF programs	0	15 initial recommendations identified	10 final recommendations provided	The creation and delivery of scaling recommendations to GEF will be used to assess target completion.
					Risks: Project unable to be completed within time frame, a smaller number of recommendations for scaling are developed Assumptions: Stakeholders engage in process and provide input into the process thereby creating multiple recommendations for scaling minigrids
	<i>Indicator 2:</i> Number of countries identified for pilots	0	4 potential countries identified	2 finalist countries identified with expressions of interest in a minigrid pilot program signed	The identification of countries and number of signed expressions of interest will be used to assess target completion
					Risks: Participating countries unable or unwilling to contribute to road map and recommended pilots  Assumptions: Cost benefits attract governments to participate in pilot design

<sup>16</sup>Outcomes are short to medium term results that the project makes a contribution towards, and that are designed to help achieve the longerterm objective. Achievement of outcomes will be influenced both by project outputs and additional factors that may be outside the direct control of the project.

	Objective and Outcome Indicators	Baseline <sup>12</sup>	Mid-term Target <sup>13</sup>	End of Project Target	Data Collection Methods and Risks/Assumptions <sup>14</sup>
<b>Component/ Outcome 2</b>  <b>Minigrid summit</b>	<i>Indicator 3:</i> Number of minigrid summit participants	0	40 participants invited to summit	40 participants attend summit	The invitation and final participant list will be used to assess target completion.
					Risks: Summit participation is low Assumptions: The value proposition of collectively developing a cost-reduction and minigrid-scaling roadmap will attract participants
	<i>Indicator 4:</i> Number of cost-reduction, regulatory reform, business model innovation concepts developed during the summit	0	20	20	The number of concepts in the post summit summary will be used to assess target completion
					Risks: new concepts are not generated during summit Assumptions: There are many concepts for scaling yet to be articulated in the minigrid market



## Annex 7: Performance Rating of GEF Projects

The main dimensions of project performance on which ratings are provided in terminal evaluation are outcomes, sustainability, quality of monitoring and evaluation, quality of implementation, and quality of execution.

### Outcome ratings

The overall ratings on the outcomes of the project will be based on performance of the criteria of relevance, effectiveness and efficiency. A six-point rating scale is used to assess overall outcomes.

Highly Satisfactory (HS)	Level of outcomes achieved clearly exceeds expectations and/or there were no short comings
Satisfactory (S)	Level of outcomes achieved was as expected and/or there were no or minor short comings
Moderately Satisfactory (MS)	Level of outcomes achieved more or less as expected and/or there were moderate short comings
Moderately Unsatisfactory (MU)	Level of outcomes achieved somewhat lower than expected and/or there were significant shortcomings
Unsatisfactory (U)	Level of outcomes achieved substantially lower than expected and/or there were major short comings
Highly Unsatisfactory (U)	Only a negligible level of outcomes achieved and/or there were severe short comings
Unable to Assess (UA)	The available information does not allow an assessment of the level of outcome achievements

### Sustainability Ratings

The sustainability will be assessed taking into account the risks related to financial, sociopolitical, institutional, and environmental sustainability of project outcomes. The evaluator may also take other risks into account that may affect sustainability. The overall sustainability will be assessed using a four-point scale.

Likely (L)	There is little or no risks to sustainability
Moderately Likely (ML)	There are moderate risks to sustainability
Moderately Unlikely (MU)	There are significant risks to sustainability
Unlikely (U)	There are severe risks to sustainability
Unable to Assess (UA)	Unable to assess the expected incidence and magnitude of risks to sustainability

### Monitoring and Evaluation Ratings

Quality of project M&E are assessed in terms of design and implementation on a six point scale:

Highly Satisfactory (HS)	There were no short comings and quality of M&E design / implementation exceeded expectations
Satisfactory (S)	There were no or minor short comings and quality of M&E design / implementation meets expectations
Moderately Satisfactory (MS)	There were some short comings and quality of M&E design/implementation more or less meets expectations
Moderately Unsatisfactory (MU)	There were significant shortcomings and quality of M&E design / implementation somewhat lower than expected
Unsatisfactory (U)	There were major short comings and quality of M&E design/implementation substantially lower than expected
Highly Unsatisfactory (U)	There were severe short comings in M&E design/ implementation
Unable to Assess (UA)	The available information does not allow an assessment of the quality of M&E design / implementation

### Implementation and Execution Rating

Quality of implementation and of execution will be rated separately. Quality of implementation pertains to the role and responsibilities discharged by the GEF Agencies that have direct access to GEF resources. Quality of Execution pertains to the roles and responsibilities discharged by the country or regional counterparts that received GEF funds from the GEF Agencies and executed the funded activities on ground. The performance will be rated on a six-point scale.

Highly Satisfactory (HS)	There were no short comings and quality of implementation / execution exceeded expectations
Satisfactory (S)	There were no or minor short comings and quality of implementation / execution meets expectations
Moderately Satisfactory (MS)	There were some short comings and quality of implementation / execution more or less meets expectations
Moderately Unsatisfactory (MU)	There were significant shortcomings and quality of implementation / execution somewhat lower than expected
Unsatisfactory (U)	There were major short comings and quality of implementation / execution substantially lower than expected
Highly Unsatisfactory (U)	There were severe short comings in quality of implementation / execution
Unable to Assess (UA)	The available information does not allow an assessment of the quality of implementation / execution

## Annex 8: Evaluation Consultant Agreement Form

### Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

### Agreement to abide by the Code of Conduct for Evaluation in the UN System

**Name of Consultant:** DALIBOR KYSELA

**Name of Consultancy Organization (where relevant):** N.A.

**I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.**

Signed at Vienna on 29.01.2020



**Signature:** \_\_\_\_\_

**Annex 9: Audit Trail – annexed as separate file**