

INDEPENDENT TERMINAL EVALUATION

Promoting Integrated Biomass and Small Hydro Solutions for
Productive Uses in Cameroon

UNIDO SAP ID: 120335

GEF Project ID: 4785



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Distr. GENERAL

EIO/IEU/22/R.15

July 2023

Original: English

This evaluation was managed
by the responsible
UNIDO Evaluation Officer
with quality assurance by the
Independent Evaluation Unit

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Mention of company names and commercial products does not imply the endorsement of UNIDO. The views and opinions of the team do not necessarily reflect the views of the involved Governments and of UNIDO.

This document has not been formally edited.

PROJECT DATA

Title of UNIDO Supported GEF Financed Project	Promoting Integrated Biomass and Small Hydro Solutions for Productive Uses in Cameroon
UNDP and GEF Project ID Numbers and Focal Area	UNIDO Project ID: 120335 GEF Project ID: 4785 GEF Operational Focal Area: Climate Change CCM3
Region and Countries included in the Project	Region: Africa Country: Cameroon
Implementing Partner and Other Project Partners	UNIDO
Direct Beneficiaries	Ministry of Energy and Water Resources (MINEE) Cameroon Rural Electrification Agency (AER) Ministry of Economy, Planning and Regional Development (MINEPAT)
Project Type	Full-Sized Project
Project Duration (Months):	48 months + 42 months (extension)
Extension(s):	Three
GEF Project Financing	USD 2,000,000
Co-financing Amount	USD 10,300,000
Date of CEO Endorsement/Approval	8 th September 2014
Actual Implementation Start Date:	May 2015
Original Closing Date	31 st December 2018
Revised Closing Date	30 th September 2022

Acknowledgements

This Terminal Evaluation report sets out findings, conclusions, lessons learnt and recommendations for the GEF 5 funder UNIDO implemented project titled “Promoting Integrated Biomass and Small Hydro Solutions for Productive Uses in Cameroon”. The report is developed in compliance with the terms of reference for the assignment. The conclusions and recommendations set out in the following pages are solely those of the evaluators and are not binding on the project management and sponsors.

The authors would like to thank all who assisted in the Terminal Evaluation, particularly the PMU and UNIDO Cameroon for providing technical and logistic support, and all the stakeholders who consented to be interviewed.

Acronyms	Definition
ARSEL	Electricity Sector Regulatory Agency
BOT	Build-Operate-Transfer
CEO	Chief Executive Officer
COP	Conference of the Parties
CERF	Caribbean Renewable Energy Forum
DPR	Detailed Project Report
EDC	Electricity Development Corporation
EIA	Environmental Impact Assessments
ESIA	Environmental and Social Impact Assessment
ESS	Environmental and Social Safeguards
GEF	Global Environment Facility
GIS	Geographic Information System
IED	Innovation Energie Développement
IPPs	Independent Power Producers
M&E	Monitoring and Evaluation
MHPs	Micro Hydro Powerplants
MINEE	Ministry of Water Resources and Energy
MINEPDED	Ministry of Environment, Protection of Nature and Sustainable Development
MINMIDT	Ministry of Mines, Industry and Technological Development
MTR	Mid-Term Review
Mwe	Megawatt Electrical
MWh	Megawatt Hour

Acronyms	Definition
ARSEL	Electricity Sector Regulatory Agency
BOT	Build-Operate-Transfer
CEO	Chief Executive Officer
COP	Conference of the Parties
CERF	Caribbean Renewable Energy Forum
DPR	Detailed Project Report
EDC	Electricity Development Corporation
EIA	Environmental Impact Assessments
ESIA	Environmental and Social Impact Assessment
ESS	Environmental and Social Safeguards
GEF	Global Environment Facility
GIS	Geographic Information System
IED	Innovation Energie Développement
IPPs	Independent Power Producers
M&E	Monitoring and Evaluation
MHPs	Micro Hydro Powerplants
MINEE	Ministry of Water Resources and Energy
MINEPDED	Ministry of Environment, Protection of Nature and Sustainable Development
MINMIDT	Ministry of Mines, Industry and Technological Development
MTR	Mid-Term Review
Mwe	Megawatt Electrical
MWh	Megawatt Hour

Table of Contents

Acknowledgements	IV
Executive summary	XII
1. Introduction	1
1.1. Evaluation objectives and scope	1
1.2. Overview of the project context	2
1.3. Overview of the project.....	3
1.4. Theory of change	5
1.5. Evaluation methodology	7
2. Project’s contribution to development results – effectiveness and impact.....	9
2.1. Project’s achieved results and overall effectiveness	9
2.1.1. Component 1: strengthening renewable energy policy and regulatory framework	9
2.1.2. Component 2: mechanisms to promote and sustain private sector investments	11
2.1.3. Component 3: demonstration of integrated renewable energy mini-grids.....	13
2.1.4. Component 4: monitoring and evaluation.....	16
2.2. Progress towards impact	17
2.2.1 Behavioral change.....	17
2.2.2 Broader adoption	18
3. Project’s quality and performance	20
3.1. Design	20
3.2. Relevance	21
3.3. Efficiency	22
3.3.1 Project management	22
3.3.2 Timeliness	23
3.3.3 Stakeholder management and communication	24
3.3.4 Financial management.....	25
3.4. Sustainability	28
3.5. Gender mainstreaming.....	30
4. Performance of partners.....	31
4.1 UNIDO.....	31
4.2 National counterparts	32

4.3 Donor	33
5. Factors facilitating or limiting the achievement of results.....	34
5.1 Monitoring and evaluation	34
5.2 Results-based management.....	34
5.3 Overarching assessment and rating table	35
6. Factors facilitating or limiting the achievement of results.....	37
6.1 Conclusions	37
6.2 Lessons learned	39
6.3 Recommendations	39
6.3.1 Recommendations to UNIDO.....	39
6.3.2 Recommendations to MINEE.....	40
6.4 Good practices	40
I. Project background and context.....	65
1. Project factsheet	65
2. Project context.....	65
3. Project objective and expected outcomes	67
4. Project Implementation and arrangements	69
5. Budget information	72
II. Purpose and scope of the evaluation.....	75
III. Evaluation criteria and key questions.....	75
IV. Evaluation approach and methodology.....	76
V. Time schedule and deliverables	77
VI. Evaluation team composition	78
VII. Reporting.....	79
VIII. Quality assurance.....	80
Annex 1: Current project results framework and conclusions from the MTR.....	81
Annex 2: Detailed questions to assess evaluation criteria.....	90
Annex 3: Job descriptions.....	90
Annex 4: Report quality checklist.....	105
Annex 5: Guidance on gender-responsive evaluation.....	107

List of tables

Table 1: Programmatic scope of the terminal evaluation	2
Table 2: Project components, outcomes, and outputs.....	4
Table 3: Stakeholders interviewed by the consultant	8
Table 4: Ratings of various components of project	36

List of figures

Figure 1: Projects theory of change	6
Figure 2: Initially proposed funds allocation	26
Figure 3: Funds allocated to components vs expenditure	277

List of annexes

Annex 1: List of Documents Reviewed45
Annex 2: Assessment Tool46
Annex 3: Rating Scale59
Annex 4: Full TE Mission Schedule60
Annex 5: Stakeholders Interviewed61
Annex 6: Co-Finance Letter from AER63
Annex 7: Terms of References for TE Consultants.....65

Executive summary

The *Promoting Integrated Biomass and Small Hydro Solutions for Productive Uses in Cameroon* Project was a full-sized GEF-funded project expected to start in September 2014, for an initial duration of 48 months, and an expected end date of September 2018. With actual implementation starting in May 2015, the project received multiple no-cost extensions which extended the timeframe of the project till September 2022, which resulted in a total implementation duration of nearly 90 months. The project was designed to be managed by UNIDO in collaboration with the Ministry of Energy and Water Resources (MINEE) as the designated National Executing Agency. The project was financed by a GEF grant of USD 2,000,000, and co-financing of USD 10,300,000 was committed by UNIDO and the Rural Electrification Agency (AER). Of the total co-financing, the AER had committed to provide a co-financing amounting to USD 10,000,000 in cash.

The objective of the terminal evaluation (TE) is to provide a comprehensive and systematic account of the performance of the project by assessing its design, implementation, and achievement of objectives. To that end, the scope of the current evaluation assessed the project implementation activities from its inception in May 2015 to its conclusion in September 2022. The TE was undertaken from September 2022 to November 2022, adopting a consultative and participatory approach and employing mixed methodologies by combining qualitative and quantitative data from both primary and secondary sources.

The terminal evaluation found the project to be **Relevant** in that the current project was developed through an elaborate consultative process at various levels, including local, district, and national level stakeholders. In addition to being consistent with national priorities and plans pertaining to the promotion and development of renewable energy sector in Cameroon, the project also aligned with the Focal Area Strategic Objectives of GEF and the mandate of UNIDO as the implementing agency of GEF funds.

In terms of the **project design**, the evaluation found the project's design to be **Moderately Unsatisfactory** due to being overly ambitious, particularly since the project was being implemented in a context where no renewable energy policies or regulatory frameworks existed. This pertains to the fact that the project's design involved not just the development of renewable energy policies and regulatory frameworks, but also their implementation, along with the demonstration of two renewable energy technologies instead of one. In addition, the evaluation also identified key gaps in the project design process such as the lack of an in-depth assessment of the private financial sector in Cameroon for an understanding of the availability of potential funding, and the lack of engagement with the World Bank to collaborate on the special window for renewable energy financing through the Rural Energy Fund (REF).

The TE also assessed the project's **implementation arrangements and management approaches**. The project faced significant challenges in coordination and management as MINEE did not host and establish the Project Management Unit (PMU) or appoint a National Project Director (NPD) to provide national leadership to the project. Similarly, the Project Steering Committee (PSC) was never formed per se, thereby depriving the project of critical oversight, guidance, and collaboration opportunities with other relevant government ministries and stakeholders. While a Project Monitoring Committee was eventually formed

three years into implementation, its functions were limited to providing guidance and monitoring support, while major implementation decisions were delegated to UNIDO. Within the PMU, which was instead established and hosted by UNIDO, the National Project Coordinator (NPC) position remained vacant for 11 months between December 2018 and November 2019, during which time the Project Assistance acted as the NPC, while the Project Manager and Project Associate at UNIDO HQ provided guidance and monitoring of the project. Consequently, the TE rated the ***Project Management as Moderately Unsatisfactory***.

In terms of the Project's Financial Management and Co-financing, the evaluation found that only the GEF and UNIDO funding materialized, comprising 18.6% of the total committed funds. Conversely, the contribution from the Government of Cameroon (81.3%) of the total funds were not provided. Furthermore, the project duration protracted from the original four years doubled to a total of seven years, adding further strain on the resources available for project management and implementation. Consequently, the Project Management was unable to initiate and/or finish activities as envisaged in the project design, and instead had to prioritize activities across the four Project Components, in accordance with the available budget. As a result, the project's ***Financial Management and Co-financing was rated as Unsatisfactory***.

In terms of the project's Monitoring and Evaluation, the evaluation noted that M&E was integrated into the project strategy as one of the project components, with a corresponding outcome, outputs, and activities in the project's logical framework focused on M&E. It was also noted that, although there was a three year delay in the establishment of the PSC, once in place, the Project Monitoring Committee played a critical role in project monitoring. Moreover, a local monitoring committee was established in each of the two biomass sites to monitor the project's activities at the local level. However, members reported having little or no involvement in planning of activities and committee members lacked knowledge of the timeline for operationalization of the two biomass plants. Furthermore, while progress reports were consistently and regularly prepared under the project, the project's mid-term review (MTR) was delayed for an extensive period of time and in fact the MTR was not undertaken until April 2022, i.e. 05 months before the conclusion of the project. Consequently, the project's ***Monitoring and Evaluation was rated as Moderately Unsatisfactory***.

In terms of the project's ***Effectiveness***, the evaluation noted that very limited progress was made on Component 1, which mostly pertained to improvements and amendments into the policy framework on SHPs through technical minimal specifications and amendments in ARSEL and MINEE bid documents for launching calls for tenders for the construction of two SHPs. It was noted that the project was unsuccessful in developing a comprehensive renewable energy policy and regulatory framework as had been envisioned in its design. Consequently, the project's trainings and workshops for capacity building were primarily targeted towards improving technical capabilities in the implementation of renewable energy projects rather than towards policy and regulatory framework formulation. Lastly, work undertaken towards Component 1 was focused exclusively towards the SHP aspect of the project, with little attention paid towards biomass. Under Component 2, the project prioritized the delivery of technical trainings and capacity building workshops on various

components of SHP technologies such as the design of a SHP plant, conducting Environmental Impact Assessments (EIAs), and Geographic Information System (GIS) mapping of SHP sites. These trainings were launched and implemented in collaboration with the Renewable Energy Center at the Polytechnic School which was established by the UNIDO project. Although SHP has been the primary focus of the training conducted, the project was seen to have undertaken a training for SOMCO SARL and its contractor pertaining to biomass technology, and further trainings are anticipated after the project's end.

Under Outcome 3, the project developed Detailed Project Reports (DPRs) for each of the two SHP and biomass plants. For the SHP plants, the projects have reached the sufficient stage of maturity to qualify for government financing, and tenders have been launched by MINEE to select Independent Power Producers (IPPs) for the installation of the two SHP sites on a Build-Operate-Transfer (BOT) basis. For the biomass component, the project changed the Ekom Nkam site for the Essekou site after conducting an assessment, which found the presence of a solar mini-grid installed by HUAWEI and lower levels of energy utilization by the village. The Foyemtcha site was also reassessed by the project which revealed that the earlier feasibility study had overestimated the installed capacity for biomass site and that the originally proposed biomass gasification mode of energy production was not the optimal technological solution. As of the project's closure, construction of the two biomass sites is over half-way completed. In light of the major challenges faced due to the lack of co-financing and management and coordination with national partners, the overall effectiveness of the project was rated as ***Moderately Unsatisfactory*** as major project activities and outputs remained incomplete or uninitiated by the project's close.

Nevertheless, the project has demonstrated **impact** on improved technical capacities in the Cameroon's Renewable Energy sector and has also transformed mindsets in the public sector towards support to SHPs. Furthermore, if the four sites are established successfully, there is a potential for job creation, improvement in agricultural processing, and enhanced quality of life for the residents of the project sites. Hence, the project's impact was found to be ***Moderately Satisfactory***. In terms of **gender mainstreaming**, an assessment of the project's results framework revealed that gender mainstreaming considerations were not sufficiently incorporated into the project's design as evident by the absence of specific indicators pertaining to gender mainstreaming as well as the lack of gender-disaggregated targets for activities such as trainings, awareness-raising exercises, and workshops. However, it is important to keep in mind that projects designed under GEF 5 did not require gender mainstreaming. Moreover, relative to its design, the project's implementation showed improvements in incorporating gender mainstreaming considerations through the inclusion of one woman in the Project's Steering Committee, and the project staff at UNIDO, and the inclusion of women in the various trainings and workshops held, with women representing 25% of total participants in over 10 capacity building sessions held on various aspects of SHP implementation over the course of the project's duration. Therefore, the **gender mainstreaming in the project was found to be *Satisfactory***.

Further, since the project has closed with crucial activities for the demonstration of renewable technologies still ongoing, several factors constrain the project's **sustainability**. While the project was successful in sensitizing government stakeholders and private sector to the potential of SHP in Cameroon, the development of renewable energy policies and

regulatory frameworks for the promotion of renewable energy was not achieved, as the full support and endorsement of the government counterparts was lacking; this also affected implementation of the power plants. With the SHP sites, UNIDO lacks oversight and has limited involvement in the selection of IPPs, the construction of plants, and the Operation and Maintenance (O&M), tariff and governance arrangements of the plants. With regards to the biomass plants, while the construction is at an advanced stage and an international biomass specialist is also expected to provide targeted O&M trainings to stakeholders, the biggest factors that constrain sustainability relate to the lack of finalized management and governance arrangements for the two biomass plants. Moreover, structural factors such as financing, competitiveness, and technical capacities within the country for the installation and operationalization of biomass technologies hinder the scalability and replicability of biomass technologies. Consequently, the evaluation rated the **sustainability of the project as Unlikely**.

In line with TE Guidelines, the following ratings are provided for each of the evaluation criteria below.

	<u>Evaluation criteria</u>	<u>Rating</u>
A	Impact	Moderately Satisfactory
B	Project design assessment	
1	Project design	Moderately Unsatisfactory
2	Project results framework/log frame	Moderately Satisfactory
C	Project performance and progress towards results	
1	Relevance	Satisfactory
2	Effectiveness and progress towards expected results	Moderately Unsatisfactory
3	Efficiency	Moderately Unsatisfactory
4	Gender mainstreaming	Satisfactory
6	Sustainability	Unlikely
D	Project implementation management	
1	Project management	Moderately Unsatisfactory
2	Results-based work planning, monitoring and evaluation, reporting	Moderately Unsatisfactory
3	Financial management and co-financing	Unsatisfactory
4	Stakeholder engagement and communication	Moderately Satisfactory
E	Performance of Partners	Unsatisfactory
F	Environmental and Social Safeguards (ESS)	Satisfactory
G	Overall Assessment	Moderately Unsatisfactory

Based on the above stated findings of the TE, the following recommendations are provided:

RECOMMENDATIONS TO UNIDO

1. It is recommended that UNIDO through its UNIDO Representative in Cameroon continue to actively take part beyond the project end in the **IPP Procurement Committee established by MINEE**, by providing guidance and technical insight in the selection of IPPs, development of O&M and governance arrangements, and construction and installation of the two planned SHP plants in Bafang and Manjo.

2. It is recommended that UNIDO facilitate further development and **financial linkages for the Government of Cameroon** with donors, partnering with international financial institutions based on a results-based lending approach.
3. In order to widely **disseminate knowledge products and lessons learned** under the project, it is recommended that UNIDO make the DPRs for the two SHP and two biomass sites, along with training modules on SHP design, EIAs, and GIS mapping of SHP sites available to other relevant government ministries in addition to MINEE.
4. When designing future projects, to ensure country-level ownership, it is critical to get **formal letters of commitment from relevant ministries/institutions for co-financing** and other cooperation. Also, a mix of co-financing modalities should be sought from national and local stakeholders, rather than reliance on only in-cash co-financing. In addition, there is a need for a mechanism to measure and formally track in-kind co-financing received from partners such as land from local communities for the construction of plants and for construction of roads for transport of machinery for the construction of plants, etc. Similarly, it is critical to **engage key development stakeholders**, especially when planned project outcomes, such as the REF window, are contingent upon cooperation from these organizations, such as the World Bank's ownership of the REF.

RECOMMENDATIONS TO MINEE

1. To encourage private sector investment in the RE sector, it is imperative that the Government of Cameroon focus on providing an **enabling environment** through the endorsement of conducive policies and frameworks.
2. It is also recommended that assistance is sought from international financial institutions with considerable experience in support to private-led RE development in Africa, such as BADEA, the World Bank, and AfDB, etc., in order to encourage private sector investment in the RE sector.
3. At the activity-level, to ensure sustainability, it is recommended that **management plans for the future biomass sites** incorporate a mix of Operation and Maintenance (O&M) training for technical experts at MINEE and AER with monitoring support from the communities and municipalities. This can also result in assigning a dedicated manager for the installed SHP and biomass plants.
4. In the interest of replication and upscaling, it is recommended that MINEE make the DPRs for the two SHP and any other similar **knowledge products publicly available** for the benefit of concerned stakeholders, **such as potential IPPs, financial institutions, academia, etc.**

1. Introduction

1.1. Evaluation objectives and scope

In accordance with UNIDO and GEF M&E policies and procedures, all full- and medium-sized UNIDO-supported GEF-financed projects are required to undergo a Terminal Evaluation (TE) at the end of the project. The purpose of the TE was to independently assess the project to help UNIDO improve performance and results of ongoing and future programs and projects. Accordingly, the TE aimed to:

- ❖ Identify potential project **design** problems;
- ❖ Assess **progress** towards the achievement of the project objective;
- ❖ Identify and document **lessons** learned (including lessons that might improve design and implementation of other UNIDO-GEF projects); and
- ❖ Make **recommendations** to improve future development interventions.

Moreover, the TE aimed to fulfil the objectives of the monitoring and evaluation of GEF projects, including:

- ❖ Assess the project **performance** in terms of relevance, effectiveness, efficiency, sustainability and progress to impact; and
- ❖ Develop a series of **findings**, lessons and recommendations for enhancing the design of new and implementation of ongoing projects by UNIDO.

The scope of the TE covers the entire UNIDO/GEF-funded project and its components from its starting date in **May 2015 to the estimated end date in September 2022**. Accordingly, the TE assessed the project performance against expectations set out in the project's **Logical Framework**.¹ Moreover, the TE was conducted in accordance with the UNIDO Evaluation Policy, the UNIDO Evaluation Manual (2018) and the GEF Guidelines for GEF Agencies in Conducting Terminal Evaluations, and the GEF Monitoring and Evaluation Policy.

The evaluation covered the criteria of: **Design, Relevance, Effectiveness, Efficiency, Sustainability and Impact**. In addition, the TE assessed the Project **Finance/Co Finance, Gender Mainstreaming, Performance of Partners, and Monitoring and Evaluation**. The evaluation report also includes a chapter providing a set of **conclusions, recommendations and lessons**.² The Programmatic Scope of the TE is summarily presented in Table 01 below.

¹ As provided in the "Terms of References – Independent technical evaluation of the project 'Promoting Integrated Biomass and Small Hydro solutions for Productive Uses in Cameroon'" ToRs Annex 1

² The TE Draft Report will be based on the outline provided in the "Terms of References – Independent technical evaluation of the project 'Promoting Integrated Biomass and Small Hydro solutions for Productive Uses in Cameroon'" ToRs Annex 4

Table 1: PROGRAMMATIC SCOPE OF THE TERMINAL EVALUATION

SCOPE OF WORK
<p>Assess the project based on the standardized terminal review GEF Criteria, Questions, and Rating System: In order to establish objectively comparable performance, the review team will assess and rate the project under review on the following eight categories and rate them on a six-point scale from highly satisfactory (6) to highly unsatisfactory (1)³:</p> <ul style="list-style-type: none"> • Project’s Contribution to Development Results – Effectiveness and Impact <ul style="list-style-type: none"> ○ Project’s achieved results and overall effectiveness ○ Progress towards impact • Project’s Quality and Performance <ul style="list-style-type: none"> ○ Design ○ Relevance ○ Efficiency ○ Sustainability ○ Gender Mainstreaming • Performance of Partners <ul style="list-style-type: none"> ○ UNIDO ○ National Counterparts ○ Donor • Factors Facilitating or Limiting the Achievement of Results <ul style="list-style-type: none"> ○ Monitoring and Evaluation ○ Results-Based Management ○ Overarching Assessment and Rating Table

1.2. Overview of the project context

Energy is essential to not only set up a strong industrial base but also to enable a business environment which fosters business growth and proliferation. Cameroon's total energy consumption in 2018 was 7.41 Mtoe, with biomass accounting for 74.22%, fossil fuels accounting for 18.48%, and electricity accounting for 7.30%. Furthermore, of the 6977 GWh of power produced in the same year, industry (57.04%) and residential (20.74%) sectors consumed more than three-quarters of all electricity produced. The country currently has an installed electricity generation capacity of 1402 MW, with hydropower accounting for 56.15%, fossil fuels accounting for 43.84% (17.55% from natural gas and 26.29% from oil), and solar photovoltaic accounting for just 0.01%.

Cameroon has substantial potential for renewable energy; specifically in solar, hydroelectric, and biomass. The average solar output over Cameroon is about 4.9kWh/m²/day; however, good solar resources with insolation up to 5.5kWh/day/m² are also available in select regions. These figures imply that the country's solar potential is fairly high, as reported by IRENA. Solar power is used for distributed generation systems in Cameroon, where roughly 50 PV plants are currently being developed through various projects. Except for a few areas in the north and the coastal zone, the country lacks a significant wind energy resource.

In terms of biomass, the country has the 3rd biggest biomass potential in Sub-Saharan Africa, with 25 million ha of forest spanning three-quarters of its area and the capacity for sustainable use. Cameroon features a few hot springs, such as those in the Ngaoundéré

³ The rating system is established by GEF and based on the “Guidelines for GEF Agencies in Conducting Terminal Evaluations – Evaluation Document No. 3”, 2008, GEF.

region, Mount Cameroon region, and Manengoumba area with Lake Moundou, that could be used as a geothermal energy source. However, no assessment studies have been conducted in this area, therefore the potential is unknown.

The country has the 2nd largest hydropower potential in Africa, with around 20 GW of technical hydropower potential. The initiative focuses on biomass and small hydropower systems because they have been demonstrated to be sustainable and cost effective globally, and the country has tremendous resources available in every location. The power potential of various resources in the country is examined in detail in the section that follows.

The growth of renewable energy is a critical component of Cameroon's aim to ensure energy security and create economic opportunities. However, the renewable energy sector faces challenges and barriers which have stymied the sector's growth. Briefly, the sector faces the following challenges that are leading to poor utilization of renewable energy resources:

- a. At the institutional level there is no specific policy and regulation of existing energy resources. This is also hindering the development of these resources and has failed to attract investments from the private sector.
- b. There is a lack of governmental institutional capacity for policy development and incentive mechanisms for RE sources.
- c. Among the financial institutions of the country there is a lack of interest and awareness.
- d. The government and the private sector lack technical capacity in design, development, implementation, and operational skills respectively to design and operate RE plants.
- e. Lastly, there is a lack of skilled manpower to manage the operation and maintenance of these plants.

In conclusion, the current issues impeding the development of renewable energy in the country are a lack of proactive and long-term renewable energy policy and laws, as well as less attention paid to renewable energy training and research, financing mechanisms, and unaffordable costs of renewable energy technologies to the poor population.

1.3. Overview of the project

In order to address the aforementioned barriers, the UNIDO-implemented in cooperation with MINEE and AER the GEF funded **Promoting Integrated Biomass and Small Hydro Solutions for Productive Uses in Cameroon**. The project was expected to start on September 2014 as a full-sized GEF project for an initial implementation period of 48 months, with an expected end date of September 2018. However, actual implementation was initiated in May 2015 and the project was granted a first no-cost extension from October 2018 to December 2020. The project subsequently received another no-cost extension which extended the end date of the project to September 2022, which resulted in a total implementation period of nearly 90 months. The project was financed by a GEF grant of USD 2,000,000, and co-financing of USD 10,300,000. Of the total co-financing, UNIDO committed USD 300,000 in-kind. While the AER had committed to providing co-financing amounting to USD 10,000,000 in cash, this amount did not materialize.

The project sought the demonstration of biomass and SHP-based mini-grids for the productive use of electricity in the rural areas of the Littoral region, with the goals to:

- a) strengthen the legal and regulatory framework for renewable energy;
- b) develop mechanisms to promote and sustain private sector investments in renewable energy generation; and
- c) demonstrate the technical and commercial viability of integrated renewable energy generation.

The overall objective of the project was to **reduce GHG emissions** through **promotion of investments** and a market in the scale up and **replication of integrated renewable energy solutions** for **productive uses and industrial applications** in Cameroon.

The demonstration of renewable energy plants was proposed to be implemented in the Littoral region of Cameroon. Within the Littoral region the project initially selected SHP and biomass sites in the Kekem, Melong, Bare-bakem, and Manjo districts. These target districts were selected based on the results of a baseline survey which revealed a high potential for the use of small hydro and biomass for electricity generation. However, during implementation, after undertaking a feasibility study to confirm the sites for the biomass plants, the sites selected at Melong and Bare-bakem were substituted for Haut Nkam.

Under this objective the project has four components:

- i) Strengthening the policy and regulatory framework for renewable energy and its enforcement;
- ii) Developing mechanisms to promote and sustain private sector investments in renewable energy generation;
- iii) Demonstration of the technical and commercial viability of renewable energy mini-grids; and
- iv) Monitoring and evaluation.

Against these components the project had seven outcomes which are further divided into 12 outputs. These outcomes and outputs are given in the table below.

Table 2: PROJECT COMPONENTS, OUTCOMES, AND OUTPUTS

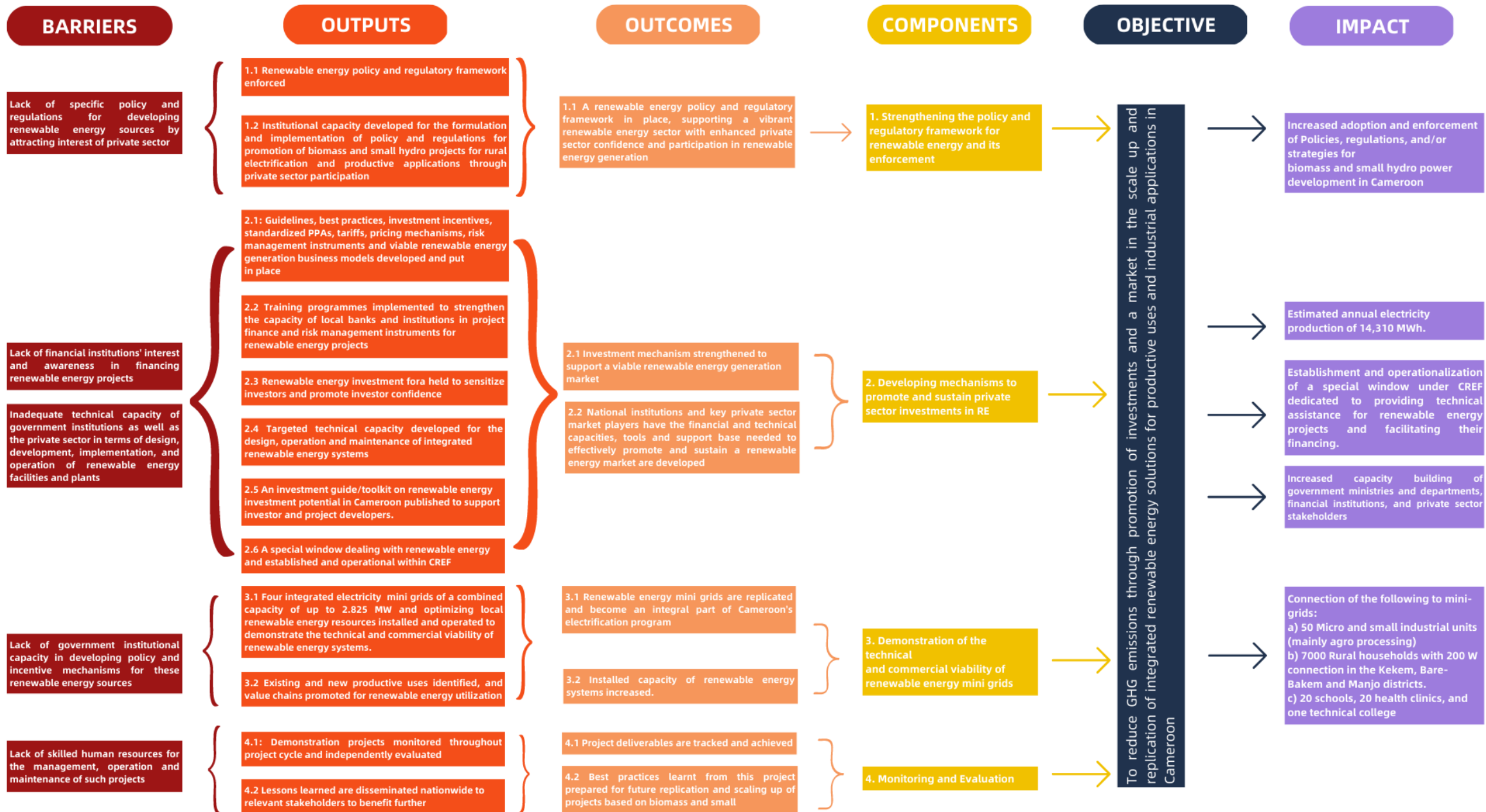
Project Component	Project Outcomes	Project Outputs
Strengthening the policy and regulatory framework for renewable energy and its enforcement	1.1 A renewable energy policy and regulatory framework in place, supporting a vibrant renewable energy sector with enhanced private sector confidence and participation in renewable energy generation	1.1 Renewable energy policy and regulatory framework enforced
		1.2 Institutional capacity developed for the formulation and implementation of policy and regulations for promotion of biomass and small hydro projects for rural electrification and productive applications through private sector participation.
Developing mechanisms to promote and sustain private sector	2.1. Investment mechanism strengthened to support a viable renewable energy generation market.	2.1. Guidelines, best practices, investment incentives, standardized PPAs, tariffs, pricing mechanisms, risk management instruments and viable renewable energy

<p>investments in renewable energy</p>	<p>2.2. National institutions and key private sector market players have the financial and technical capacities, tools and support base needed to effectively promote and sustain a renewable energy market are developed.</p>	<p>generation business models developed and put in place.</p> <p>2.2. Training programmes implemented to strengthen the capacity of local banks and institutions in project finance and risk management instruments for renewable energy projects.</p> <p>2.3. Renewable energy investment fora held to sensitise investors and promote investor confidence.</p> <p>2.4. Targeted technical capacity developed for the design, operation and maintenance of integrated renewable energy systems.</p> <p>2.5. An investment guide/toolkit on renewable energy investment potential in Cameroon published to support investors and project developers.</p> <p>2.6. Special window for renewable energy under CREF established and operational.</p>
<p>Demonstration of the technical and commercial viability of renewable energy mini grids</p>	<p>3.1. Renewable energy mini grids are replicated and become an integral part of Cameroon’s electrification program</p> <p>3.2. Installed capacity of renewable energy systems increased.</p>	<p>3.1. Four mini grids of a combined capacity of up to 2.825 MW and optimizing local renewable energy resources installed and operated to demonstrate the technical and commercial viability of renewable energy systems.</p> <p>3.2. Existing and new productive uses identified and value chains promoted for renewable energy utilization.</p>
<p>Monitoring and Evaluation</p>	<p>4.1 Project deliverables are tracked and achieved</p> <p>4.2 Best practices learnt from this project prepared for future replication and scaling up of projects based on biomass and small</p>	<p>4.1. Demonstration projects monitored throughout project cycle and independently evaluated</p> <p>4.2. Lessons learned are disseminated nationwide to relevant stakeholders to benefit further</p>

1.4. Theory of change

The project document did not provide an explicitly laid out Theory of Change (ToC). Hence the TE Team constructed a To C based on the descriptions of the project objectives, outcomes, outputs, underlying risks and assumptions, and pathways for long-term impact based on the project documents and through consultations with stakeholders, as elaborated in Figure 01.

Figure 1: PROJECT'S THEORY OF CHANGE



The current project was designed to address and work towards the removal of key barriers to renewable energy deployment in Cameroon. The project comprises of three technical/programmatic components: a) Strengthening the legal and regulatory framework for renewable energy; b) Development of mechanisms to promote and sustain private sector investments in renewable energy generation; and c) demonstration of the technical and commercial viability of integrated renewable energy based mini-grids.

A key barrier identified by the project revolves around institutional capacity and policy barriers, namely: a) the lack of specific policies, laws, and regulations related to renewable energy in the country; b) inadequate national capacity to explore biomass and small hydro resources; and c) the lack of capacity of agencies to design mechanisms for promotion of renewable energy projects. To remove these key barriers, Component 1 of the project sought to utilize GEF resources to provide technical assistance to the Government of Cameroon in developing its policy and regulatory framework for renewable energy and specifically for small hydropower and biomass power based mini-grids.

Component 2 of the current project sought to develop mechanisms to promote and sustain private sector investments in renewable energy generation through the creation of pricing mechanisms and tariff structures for renewable energy based electricity generation, and development of standardized PPAs and RE investment instruments. Component 2 also involved the implementation of capacity building and awareness programs for financing institutions in project finance and risk management instruments for renewable energy projects, as well as the implementation of targeted capacity building trainings on the design, operation, and maintenance of integrated renewable energy systems. This component sought to directly address key market, financial, and technological barriers, namely the lack of effective technical support services for undertaking renewable energy-based projects operations and maintenance, as well as the apprehension by banks and financing institutions about the returns on renewable energy projects.

Lastly, another major barrier revolves around the lack of prior experience of implementation and management of small hydropower and biomass projects for rural electrification and productive use. To address this barrier, under Component 3, the project seeks to demonstrate the implementation of two SHP and biomass plants each which will give the government of Cameroon as well as the private sector the confidence and impetus to surcharge the development of renewable energy technologies in Cameroon.

1.5. Evaluation methodology

The Terminal Evaluation was carried out using a consultative and participatory approach which employed mix-methodologies, combining qualitative and quantitative data to capture information relating to the evaluation objectives. To that end, the TE team engaged in various activities to undertake the evaluation, including literature review, development of evaluation tools, and meetings with various project stakeholders through a 09-day field mission to Cameroon undertaken by the International Consultant and the National consultant.

A detailed desk review of relevant documents and sources of information was undertaken to collect and analyze secondary project data, determine the stakeholders to be interviewed,

and facilitated in the development of evaluation tools. The list of documents reviewed as part of the evaluation is provided in Annex 01.

As part of the TE, a 09-day field mission to Cameroon was undertaken between September 21 and September 29, 2022. The International TE Consultant (Ms. Umm e Zia) and the National Consultant (Mr. Serges Okala) were accompanied by three members of the UNIDO Cameroon Country Office including Mr. Nzukou Djoughem Francis Aurelien (National Project Coordinator), Mrs. Chi Chantal Ngwellum (Project Secretary), and Mr. Tedjong Youmsi Sylvestre (Project Driver). The mission covered the following sites: i) Yaoundé; ii) Foyemtcha; iii) Kekem; iv) Bafang; v) Essekou Centre; and vi) Manjo

Using the evaluation tools developed by the International TE Consultant (provided in Annex 02), the following stakeholders and project beneficiaries were interviewed as part of the evaluation. In total, the Evaluation Team interviewed 22 stakeholders which include key personnel at UNIDO, MINEPDED, MINEE, AER, Polytechnic School, and local government. A full list of stakeholders and interview dates is provided in Annex 05.

Table 3: STAKEHOLDERS INTERVIEWED BY THE CONSULTANT

	Type of Stakeholder	Position
1	UNIDO	Industrial Development Officer/ Ex Project Manager
2		Project Administrator
3		Resident Representative
4		Project Assistant
5		National Project Coordinator
6		Former National Project Coordinator
7		International Senior Biomass Expert
8	Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED)	GEF Operational Focal Point
9	Ministry of Water Resources and Energy (MINEE)	Deputy Director, Focal Point of the Project at MINEE
10		Divisional Delegates
11		Water Expert
12	National Advanced School of Engineering/Polytechnic School	Trainee
13	AER	Director Rural Energy Fund
14	Local Government	Chief of Bafang
15	Bart Frederiks	1 st Deputy Mayor of Bafang Local Council
16	Chi Chantal Ngwellum	Municipal Counsellor/Mayor of Bafang Local Council
17	Francis Nzukou	Local Council Development Officer
18	Chief Bafang	Foyemtcha Village Chief
19	John Marc Tiengua	Kekem Mayor
20	Lebou	Deputy Mayor of Melong
21	Mondjoko Sylvain	Village Chief Essekou
22	Foya Essome Bienvenue	Mayor of Manjo

Upon the completion of data collection activities, the evaluation team delivered a debriefing to UNIDO regarding its assessment of the progress towards achievement of the project

outcomes and outputs, the relevance of the various project outputs, and effectiveness and efficiency of the different activities undertaken to achieve the outputs.

2. Project's contribution to development results – effectiveness and impact

2.1. Project's achieved results and overall effectiveness

This section provides an outcome-wise analysis of the project's results. In accordance with the TE guidelines, the analysis for effectiveness focused on the extent to which the project's objectives at the outcome level were achieved.

2.1.1. Component 1: strengthening renewable energy policy and regulatory framework

Under Outcome 1, the project aimed to institute a **renewable energy policy and regulatory framework** to enhance private sector confidence and participation in the renewable energy generation. Outcome 1.1 was undergirded by two Outputs, which pertained to: a) developing renewable energy policy and regulatory framework (Output 1.1); and b) developing institutional capacity for the formulation and implementation of renewable energy policy and regulatory framework (Output 1.2).

Overall, the evaluation learned that the project achieved very limited progress on Output 1.1, which pertained to the development of renewable energy policy and regulatory framework for SHP and biomass extraction. This was a consequence of the lack of appetite at MINEE for policy formulation as well as the lack of materialization of the USD 10 million committed co-financing from the AER, which left the project with only the USD 2 million GEF grant. As a result, the project had to prioritize certain activities listed in its Results Framework over others, which left the majority of work under Component 1 uninitiated.

Originally, the project had envisioned the development of policy and regulatory instruments for renewable energy (RE) in order to set guidelines for supporting RE projects, identifying and approving projects, mechanisms for setting up financial incentives such as feed in tariffs, tax holidays, subsidies, regulations on import duty exemption, sharing intellectual property rights, among others. However, due to the above mentioned challenges, in lieu of the planned support to a comprehensive renewable energy policy or regulatory framework, the project limited its support to improvements in the policy framework on SHP through providing technical minimal specifications and amendments in ARSEL and MINEE bid documents for launching calls for tenders for the construction of two SHPs. On the other hand, no progress was reported on the development of policies for biomass extraction and utilization and water use for power generation. Similarly, the development of local-level systems to monitor the sustainability of biomass extraction and enforcement of restrictions was also not undertaken.

In addition, the project also sought to develop the **institutional capacity** of various stakeholders to facilitate implementation of the developed policy and regulations for the promotion of SHP and biomass projects. However, as no new policies or frameworks could be developed on which training was planned to be provided, the project instead focused on building technical capacities of public and private sector stakeholders through facilitating

and supporting participation in internationally held trainings, workshops, and exchanges to build their technical capacities. Particularly, in February 2016, government officials from MINEE participated in a 14-day training event held in India by TERI University on various cross-cutting aspects of sustainable energy transition. Following that, one official from MINEE participated in an exposure visit to China in May 2016, with support from UNIDO. Subsequently, in May 2017, several MINEE staff were also sent for a three-week training on renewable energy in Israel as part of the MASHAV programme.

In addition, the project conducted in-country workshops. This included a multi-stakeholder, in-country workshop in May 2016, aimed at promoting renewable energy for inclusive and sustainable development. The workshop covered various aspects of the RE context in Cameroon, such as institutional and regulatory framework, business models on SHP and biomass plants in Cameroon and Africa, financing and incentive measures for private investments in RE, and institutional networking on solutions regarding power purchase agreements and mini-grids in Cameroon. Furthermore, a series of five regional workshops involving the participation of regional representatives of government agencies and departments such as MINEE, MINIMIDT, etc., were held across Cameroon in 2018 and 2019 to sensitize sub-national level stakeholders on the opportunities and barriers to the development and financing of SHP projects in Cameroon.

However, the evaluation team determined that while the project has facilitated government officials' participation in capacity building workshops, trainings, and exchange visits; and held sensitization workshops across Cameroon; these trainings and workshops were not targeted towards policy formulation and implementation as was envisioned under Output 1.1. Instead, the project primarily focused on building technical capacities of public and private sector stakeholders through trainings on designing and planning SHP projects, conducting Environmental Impact Assessments (EIA), and GIS mapping, which are described and assessed in the following section.

In 2020, the project attempted to organize a training of the public and private sector stakeholders in policy and regulatory framework by providing de-risking instruments in the renewable energy project implementation. To that end, the project developed ToRs for the recruitment of a Renewable Energy Policy expert for the identification of gaps in existing renewable energy policies and regulations and provision of recommendations and best practices for expansion of renewable energy in Cameroon. However, eventually the project was unable to undertake this activity due to significant budgetary restrictions. Instead, the project reportedly aimed to train at least 08 biomass experts from various ministries and regional delegations in the country to strengthen their technical capacities in biomass to electricity production. However, this activity is now planned to be undertaken after the project closure in February/March 2023.

In conclusion, the project made very limited progress on Component 1. Although some improvements and amendments were successfully incorporated into the policy framework on SHPs through technical minimal specifications and amendments in ARSEL and MINEE bid documents for launching calls for tenders for the construction of two SHPs, the project was unsuccessful in developing a comprehensive renewable energy policy and regulatory framework as had been envisioned in its design. Consequently, the project's trainings and workshops for capacity building were primarily targeted towards improving technical

capabilities in the implementation of renewable energy projects rather than towards policy and regulatory framework formulation. Lastly, work undertaken towards Component 1 was focused exclusively towards the SHP aspect of the project, with little attention was paid towards biomass.

2.1.2. Component 2: mechanisms to promote and sustain private sector investments

Component 2 aimed to develop **mechanisms to promote and sustain private sector investments** in renewable energy generation. The component was undergirded by two Outcomes that aimed to: a) strengthen investment mechanisms to support a viable renewable energy generation market (Outcome 2.1); and b) strengthening the financial and technical capacities, tools, and support base of public and private sector stakeholders to effectively promote and sustain a renewable energy market (Outcome 2.2). Component 2 also comprised of six Outputs which related to:

- Output 2.1: Development and institution of **guidelines, best practices**, investment incentives, standardized PPAs, tariffs, pricing mechanisms, risk management instruments and viable renewable energy generation business models
- Output 2.2: Implementation of **training programmes** to strengthen the capacity of local banks and institutions in project finance and risk management instruments for renewable energy projects
- Output 2.3: **Sensitization of investors** and promotion of investor confidence through holding renewable energy investment fora
- Output 2.4: Development of **technical capacities** for the design, operation, and maintenance of integrated renewable energy systems
- Output 2.5: Development of an **investment guide/toolkit** on renewable energy investment potential in Cameroon to support investors and project developers
- Output 2.6: Establishment and operationalization of a **special window within CREF** dealing with renewable energy.

Similarly to Component 1, the project had to prioritize certain activities relating to particular outputs over others within Component 2 due to the significant budgetary constraints from the lack of co-financing available. To that end, the most significant progress was achieved towards the development of technical capacities for the design, operation, and maintenance of SHPs (Output 2.4).

One of the key early achievements of the project was the establishment of a Renewable Energy Center at the Ecole Nationale Supérieure Polytechnique de Yaoundé (*Polytechnic School*) in December 2016, with the first batch of trainings initiated in August 2017 with 50 participants from various government departments, universities, and private sector. The three-week training, composed of lectures and practical sessions, aimed to improve the skills of national and local engineers, students, and experts in the domain of small hydro power off-grid production through the set-up of mini-grids, and undertaking feasibility studies. Following the first session in August 2017, another three-week training was organized in December 2017 for 23 participants screened from the original 50 participants. The second

phase of training focused on developing the skills of participants in designing a SHP plant through field visits to SHP sites in Bafang and in preparation of technical documentations such as the Detailed Project Report (DPR).

A key outcome of these trainings was that participants who completed both sets of trainings went on to lead similar capacity building workshops and trainings in other regional workshops as trainers. In addition, these participants were tasked with identifying, planning, and designing sites of their choice in the ten regions of Cameroon as well as mapping SHP sites in the country. These trainers also took part in the five regional workshops held in Limbe, Bafoussam, Ebolowa, Ngaoundere, and Nkongsamba by the project across Cameroon, and presented their findings pertaining to the design of a SHP plant located within the region the workshop was conducted in. In addition to trainings on the design and planning of SHP plants, the project also conducted trainings on furthering knowledge of the processes and practices of Environmental Impact Assessments (EIA). In January 2019, a three-week training was held in collaboration with the Polytechnic School in Yaounde in which 51 stakeholders representing the public sector, private sector, and academia participated. Lastly, a two day capacity building workshop was conducted relating to the GIS mapping of SHP sites with participation of 20 participants from various sectors. The key outcome from this training was the identification of all potential SHP sites in Cameroon which will now be available for the Government of Cameroon, project developers, and other relevant stakeholders.

As the project primarily focused on the SHP component in its first five years of implementation, the trainings conducted under the project pertained to various technical aspects of SHP plants. Nevertheless, in 2020, the project pivoted towards the biomass component. To that end, the project provided training on technical aspects of biogas digesters and bio gasification, including their design, construction, and maintenance to staff members of SOMCO SARL and one of their subcontractors, Renewable Energy Cameroon, which are responsible for supplying and installing two biomass power plants in Essokou and Foyemtcha. The project has also recruited an international Senior Biomass Expert who along with the company will seek to build the capacities of at least eight biomass engineers from various ministries on the technical aspects of biomass to electricity production over the course of the construction of the two biomass plants.

On other outputs under Component 2, the project showed varying levels of progress. On Output 2.1, the project was successful in identifying a PPA model as part of the Manjo and Bafang SHP projects, which involved negotiations with the electricity transmission, distribution, and sale companies. The viable business model developed for the two SHP projects was also replicated in the EC-funded Mbakaou SHP project, which received funding from the REF under the window for renewable energy projects.

Although the project held and participated in a number of international fora on renewable energy investments as planned under Output 2.3, targeted training programs to strengthen the capacity of local banks and institutions in project finance and risk management instruments were not carried out by the project due to budgetary constraints (Output 2.2). With regards to Output 2.5, an investment toolkit on SHP in Cameroon was developed and finalized in 2021 and shared with at least five developers interested in investing on SHP in Cameroon. However, plans to develop a toolkit for the entire spectrum of renewable energy

technologies in the country were scrapped due to financial limitations. Lastly, under Output 2.6, implementation of the special window was not achieved due to the lack of co-financing mobilized by the AER.

Thus, in conclusion, under Component 2, the project prioritized the delivery of technical trainings and capacity building workshops on various components of SHP technologies such as the design of a SHP plant, conducting EIAs, and GIS mapping of SHP sites. These trainings were launched and implemented in collaboration with the Renewable Energy Center at the Polytechnic School which was established by the UNIDO project. Although SHP has been the primary focus of the training conducted, the project was seen to have undertaken a training for SOMCO SARL and its contractor pertaining to biomass technology, and further trainings are anticipated after the project's end.

2.1.3. Component 3: demonstration of integrated renewable energy mini-grids

Component 3 pertained to the demonstration of technical and commercial viability of integrated renewable energy mini-grid and comprised of two outcomes: a) the replication of renewable energy mini-grids; and b) increased installed capacity of renewable energy systems. Under this component, the project sought to install and operationalize four integrated electricity mini-grids with a combined capacity of 2.825 MW to demonstrate their technical and commercial viability (Output 3.1). In addition, the project also sought to identify existing and new productive uses and promote value chains for the utilization of renewable energy (Output 3.2).

At the design stage, UNIDO conducted a preliminary investigation in various parts of Cameroon, particularly the Littoral Region, for the identification of potential sites for SHP and biomass power installations for rural electrification and productive applications development. This involved conducting preliminary feasibility studies and carrying out a socio-economic baseline survey around the identified project sites to understand the relevance of the project to local communities and their willingness for development of SHP and biomass plants. Resultantly, at the time of design, the project had identified two sites at Bafang and Manjo for the installation of the SHP plants and two sites at Ekom-Nkam and Foyemtcha for the biomass plants.

One of the two pre-identified SHP sites was at the Mouanakeu Falls in Bafang . However, during implementation, it was realized that the site has cultural and religious significance along with being a tourist site. Hence, an alternative site located 2 km downstream from the Falls was selected. The new site is located 3 km west of Bafang in the village of Famkeu and is located on the Mouneke river. The other site selected for the installation of a SHP plant is located about 8 km southwest of the Manjo, down the Dibombe river, near the village of Lala Mission.

The project contracted two international firms, Innovation Energie Développement (IED) and TPF, to conduct the feasibility studies of the Bafang and Manjo SHP sites respectively in collaboration with local engineers. The feasibility study of the Bafang SHP site was carried out between November 2018 and August 2019, which determined an installed capacity of 3.4 MW and an average annual power capacity of 1.8 MW, with a capacity factor of 52.4%. The Environmental and Social Impact Assessment (ESIA) conducted as part of the feasibility study also found that the installation of the SHP plant would have positive impacts on the

development of agriculture-related enterprises, such as palm oil and palm kernel oil processing and coffee processing, increase in jobs, and increased coverage rate of the population with access to electricity. Although the electricity company, ENEO, already supplies electricity to the Bafang commune, only 57% of primary schools and 26% of households surveyed are connected with ENEO. Moreover, untimely power cuts are significant challenges faced by households and businesses.

The feasibility study of the SHP site near Manjo was conducted in 2019 with the Detailed Project Report (DPR) produced in February 2020. The DPR revealed that the SHP site at Manjo has an installed capacity of 4.6 MW and an annual average power capacity of 2.11 MW, taking into account a capacity factor of 48.9%. As in the case with the Bafang site, the vicinities around the Manjo site are also electrified by the grid but suffer from frequent untimely power outages of up to 6 hours on average. The ESIA identified several positive impacts associated with the installation of the SHP plant including the creation of jobs, increased fishing activities due to the reservoir created by the water impoundment, and increased access to electricity for households and businesses for productive uses in agriculture. Moreover, no significant risks and negative impacts from deforestation, land clearance, and water impoundment on flora and fauna were identified by the assessment and mitigation measures such as reforestation and construction of drainage networks were identified to manage minor negative impacts.

Due to the due diligence conducted by the project for the two SHP sites, the evaluation found that the projects are eligible for government funding, since, in 2018, new policies were adopted by the AER and MINEE, which require that projects be at the stage of maturity with ready feasibility studies available showing a viable business model, in order to be eligible for government funding. Therefore, with the DPRs of the Bafang and Manjo SHP sites prepared in 2020, the project undertook a validation workshop in June 2020 and transferred all related documents to MINEE. MINEE has launched international open tenders in 2022 to identify interested parties to develop the SHP sites at Manjo and Bafang through a Build-Operate-Transfer (BOT) model as Independent Power Producers (IPPs). Despite the project's close in September 2022, UNIDO plans to continue to have involvement in the selection of the IPP for the two SHP sites through the engagement of UNIDO Cameroon staff on a Committee established by MINEE to oversee the procurement process.

After handing over the SHP DPRs to MINEE in 2020, the project pivoted towards initiating the biomass component of the project. The TE revealed that this shift was undertaken for a number of reasons that included continued interest from government counterparts for the demonstration of biomass plants and due to the fact that the remaining GEF Funds constrained the project's ability to continue working on the SHP component within the available time of the project.

As previously mentioned, the project had identified the Ekom-Nkam and Foyemtcha sites for the installation of the biomass plants and a feasibility study for both sites was conducted in 2013. UNIDO launched a call for the expressions of interest in January 2020 for the recruitment of companies to install the two biomass plants. Although eight firms were selected to participate in the tender, the call was cancelled because the submitted bids exceeded the GEF funds available.

Consequently, UNIDO first decided to have the components for the biomass plants manufactured in Cameroon through a local supplier. However, with the arrival of the new Project Manager in October 2020, a decision was made to re-assess the design of the two biomass sites and undertake detailed feasibility studies to validate the findings of the earlier 2013 pre-feasibility study.

To that end, a senior international biomass expert was recruited by the project who initiated the feasibility studies in December 2020 with a field mission to visit the two project villages for validation of the earlier studies. The visit to Ekom Nkam revealed the presence of a solar-powered mini-grid already installed by HUAWEI. Moreover, an energy demand assessment conducted in Ekom-Nkam also found that the energy generated by the solar plant was currently underutilized by the village population. As a result, the biomass expert assessed two alternative sites – Essekou and Ebang Mama – and Essekou was selected as the alternative to Ekom Nkam due to a high energy demand from the presence of strong agro-processing and production in palm oil and other agricultural activities.

The evaluation team also noted that while the pre-feasibility study conducted in 2013 had revealed that the Foyemtcha biomass site had an estimated capacity of 50 KWe, the subsequent feasibility study conducted in 2021 found that the earlier power capacity was significantly over-estimated as the installed production capacity was found to be 15 KWe. The earlier feasibility study had proposed biomass gasification for the Foyemtcha site. However, the subsequent feasibility study conducted found that the biomass gasification method was not an optimal solution and would have a high risk of failure due to the complexity of the technology, the small scale of the gasifier capacity (15 KW), and unfavorable loading conditions in the village. Instead, the study proposed that biogas would be a viable option for electricity production in Foyemtcha, particularly using wastewater from palm oil production (POME).

Whereas, for the Essekou site, the feasibility study found that the biomass plant would have an estimated power capacity between 22 and 25 KWe and recommended the production of electricity through the gasification of solid biomass (particularly palm kernel shell). Moreover, due to the complexity of the gasification technology along with the need for specialist intervention in case of technical problems, the study also recommended to include a diesel backup system so that production can continue in case of breakdowns and accommodate any seasonal fluctuations in biomass availability.

As of the project's close, the project has recruited SOMCO SARL, a company based in Cameroon, to construct the two biomass plants and an estimated 80% of civil works have been completed. However, some delays were experienced in the shipping of machinery from the US to Cameroon due to challenges with making payments from Cameroon to the USA in USD. Consequently, the equipment was not delivered during the life of the project and is now expected to arrive by the end of 2022.

The evaluation learned that the project has involved local labor in the construction of the sites, four local members of the community in each of the two biomass sites (08 members in total) have been recruited to undergo on the job training in the installation of the plant. Moreover, the local government and communities have supported the installation of the two plants by providing land and in the case of Foyemtcha, constructing roads for the

transportation of machinery. Moreover, local monitoring committees have been established for the two sites with active participation of local community and authorities. However, the role and structure of the management and operations for both plants and the roles and responsibilities vis-à-vis the AER, local community, local and municipal government has not been finalized as of the project's end. Crucially, MINEE has officially committed to finance the grid connectivity of the plants and call for tender documents for the distribution grid in the two villages has been completed and transmitted to the procurement services of the ministry.

In conclusion, under Outcome 3, the project has developed DPRs for each of the two SHP plants and the two biomass plants. With regards to the SHP plants, the projects have reached the sufficient stage of maturity for government financing. To that end, tenders have been launched by MINEE to select IPPs for the installation of the two SHP sites on a BOT basis. However, with the UNIDO project being closed, there is limited involvement of UNIDO in supporting the government to select bidders and oversee the construction and implementation of the project, as was planned in the project design. With regards to biomass, the project changed the Ekom Nkam site for Esssekou after it found the presence of a solar mini-grid installed by HUAWEI and the lower levels of energy utilization by the village. Moreover, the project also reassessed the Foyemtcha site and found that the earlier feasibility study had overestimated the installed capacity for the biomass plant and that the biomass gasification mode of energy production as recommended by the previous study was not the optimal technological solution. As of the project's close, construction of the two biomass sites is over half-way completed. However, the management and operational roles, structures, and plans for both sites have not been finalized.

2.1.4. Component 4: monitoring and evaluation

Component 4 revolved around monitoring and evaluation, which have been assessed as part of the Project Management and Monitoring and Evaluations sections in the report.

In conclusion, the project was able to deliver on a series of trainings and capacity building workshops to various stakeholders in the public and private sector on SHP, and to a lesser extent biomass, and launch a series of sensitization and awareness-raising activities to raise the profile and importance of SHP in the country. In addition, the project also developed DPRs for each of the two SHP plants and the two biomass plants. With the SHP component, the detailed feasibility studies conducted resulted in the SHP sites reaching a sufficient stage of maturity to receive government financing and MINEE launched tenders to select IPPs for the installation of the two SHP sites on a BOT basis. On the biomass component, the project contracted a company for the installation of the two biomass plants, with work over half-way completed for both plants. However, due to the significant challenges faced by the project due to the lack of co-financing and management and coordination challenges with MINEE and other public sector partners, a significant number of project activities and outputs remained uninitiated or only partially complete. Thus, the evaluation team found the overall effectiveness of the project as ***Moderately Unsatisfactory***.

2.2. Progress towards impact

This section assesses the progress made by the project towards achieving impact in the short and long-run. Overall, due to the current status of the project where key activities pertaining to the demonstration of the SHP and biomass plants are yet to be completed, the full extent of the project's impact are not yet evident. Nevertheless, an assessment of the impact of the project's completed activities as well as the likely impact of the project's outstanding activities is outlined in the following paragraphs.

2.2.1 Behavioral change

The evaluation found that one of the most significant contributions of the project pertained to the capacity building and awareness raising activities initiated under Component 2. Interviews with various stakeholders such as government agencies revealed that the sensitization and awareness-raising activities of the project had a significant impact on furthering public sector stakeholders' knowledge of the untapped potential of SHPs in Cameroon. This is evident by the fact that the AER has supported the EC-funded Mbakaou SHP project by providing funding, and has launched 15 SHP projects, five (05) of which are under the World Bank funded and MINEPDAT-implemented Rural Electrification and Energy Access Project (PERACE)⁴ as a result of the project's efforts in highlighting the important role SHPs can play in increasing energy access and improving energy usage for productive uses in the country. On the other hand, while the private sector as well as financial institution and banks have been part of the sensitization efforts, the lack of development and enactment of renewable energy policies and regulatory frameworks for the promotion of investment and financing in SHPs pose a continuous barrier for a vibrant renewable energy sector in the country.

During the demonstration of the two renewable energy components, the project was also seen to have made an impact with regards to the socio-economic and environmental safeguards. For instance, the project commissioned a detailed feasibility study of the two pre-selected SHP sites in an effort to bring them to a stage of maturity in order to qualify for government financing. A key outcome of the feasibility study resulted in changing the pre-selected site at Mouanakeu Falls in Bafang to another site in Bafang in an effort to preserve its religious and cultural significance for the local community. Overall, all feasibility studies conducted for both the biomass and SHP sites were found to have conducted a detailed Environmental Impact Assessment and mitigation measures and management plans accompanied the feasibility studies.

The project was also found to be socially inclusive in that the project's engagements at the local level with communities and local government resulted in high community buy-in in the form of provision of manual labor, contribution of land for the sites, and construction of road infrastructure for the transport of machinery for the construction and installation of the biomass plants.

⁴ Source: Mid-term Review of the "Promoting Integrated Biomass and Small Hydro Solutions for Productive Use in Cameroon" Project

2.2.2 Broader adoption

Interviews with various stakeholders including public sector partners such as MINEE and AER revealed that there are significant gaps in public sector stakeholders' technical capacity regarding implementation of various aspects of renewable energy technologies. To that end, the project was successful in establishing the Renewable Energy Center at the Ecole Nationale Supérieure Polytechnique de Yaoundé (*Polytechnic School*) in December 2016. The project partnered with the Renewable Energy Center at the Polytechnic School to provide practical and hands-on training on the design and planning of SHP plants, conducting EIAs, and GIS mapping of SHP sites to over 100 people from various sectors, including but not limited to government agencies, private sector, and academia. Upon the conclusion of the series of trainings in 2021, the Center was confirmed as a full laboratory on small hydro power and water systems and is being utilized by 4 PHD students and 10-Master degree students. Furthermore, the impact as well as the sustainability of the laboratory is also bolstered by its continued collaboration with other development sector actors. For instance, the laboratory is currently working with Agence Francaise de Developpement (AFD) for the development of innovative technologies on an environmental and poverty alleviation project. In addition, the laboratory has also made a successful bid for the establishment of a digital laboratory for the manufacture of small turbines made from sustainable materials such as wood. While one of the challenges faced by the Center include the lack of an operating budget, the laboratory has demonstrated an ability to partner with other agencies on projects which is indicative of its capacities to obtain funding from other sources.

Moreover, a key outcome of these trainings was that participants who completed both set of the trainings on planning and design of SHPs went on to lead similar capacity building workshops and trainings in other regional workshops as trainers, thereby catalyzing the capacity building efforts of the current project. Although capacity building activities were primarily geared towards SHP technologies, the project has also provided training on technical aspects of implementing biomass technologies to the staff of the company commissioned to install the two biomass plants in Foyemtcha and Essekou, while making provisions and arrangements for the training of biomass experts from various government departments during the installation of the biomass plants.

With regards to the likely impact from the operationalization of the two SHP and biomass plants each, the project is expected to yield an increase in energy access, the creation of jobs, and increases in the productive use of energy through agro-processing in the vicinities of the plant sites. In terms of the project's core GEF Indicators, the installation of the four plants is expected to result in an annual energy production of a total of 33,674 MWh, which would far exceed the end-of-project target of 14,310 MWh of energy production per annum by 135%. This is due to the fact that the pre-feasibilities conducted for the Manjo and Mouakeu sites at the time of design yielded a power capacity of 1.2 MWe and 1.5 MWe, respectively; whereas, the feasibility studies for the final SHP sites at Manjo and Bafang yielded an installed power capacity of 4.6 MWe and 3.4 MWe respectively. However, as noted earlier, the full socio-economic and environmental impact of the plants will be evident upon the successful implementation of the two SHP and biomass sites each.

In brief, the project has demonstrated impact on improved technical capacities in the Renewable Energy sector and has also transformed mindsets in the public sector towards

support to SHPs. Furthermore, if the 04 sites are established successfully, there is a potential for job creation, improvement in agricultural processing, and enhanced quality of life for the residents of the project sites. Consequently, the project's progress towards impact is rated ***Moderately Satisfactory.***

3. Project's quality and performance

This section provides an assessment of the project's Design, Relevance, Efficiency (including timeliness, project management, financial management and co-financing, and stakeholder engagement), Sustainability, and Gender Mainstreaming.

3.1. Design

The evaluation determined that the project design was based on a multifaceted situation assessment conducted by an international team of experts. This included information gathering and consultations at different levels, including community/village, district, and national levels. In particular, the situation assessment focused on review of Cameroon's energy policies, role of government institutions, ongoing initiatives for energy development, demand potential, and resource mapping for Small hydro power and Biomass power generation, etc. In addition, project preparation also included site identification and development of pre-feasibilities for hydro and biomass power generation at four selected locations. The assessment findings were also disseminated to various stakeholders from the community, local municipalities, and national government ministries in a workshop held in Yaoundé in 2011.

However, while the Evaluation Team found the project development process to be extensive, it noted that the project design assessment lacked an in-depth review of the private financial sector to get an understanding for availability of potential financing. Furthermore, despite the World Bank being a critical stakeholder due to the project's planned strategy to set up a special window for RE financing through its Rural Energy Fund (2009), the evaluation team did not find any evidence of discussions with the World Bank to get buy in for collaboration on the project.

A review of the project document revealed that the document provides a clear objective supported by an elaborate logical framework detailing outcomes and outputs. In addition, the project document elaborates an implementation strategy, with key activities detailed under each respective project component, outcome, and output. It was also noted that the four project components provide a comprehensive approach to addressing key barriers to Renewable Energy (RE) development in Cameroon, including policy, demonstration, capacity building, and financing, etc. Furthermore, most of the indicators and associated targets in the logical framework are SMART. Similarly, the project document was found to provide details on implementation arrangements as well as the roles and responsibilities of key stakeholders. Furthermore, the document includes an elaborate M&E framework in line with UNIDO-GEF guidelines and an analysis of potential risks.

However, the Evaluation Team found the planned project outputs and activities to be highly ambitious in view of limited existing policy and capacity in the country as well as the original four year project duration. Key examples of these are: 1) plans for development of at least 03 policies; 3) commitment to implementation of the developed policies and guidelines/frameworks, etc.; and 2) demonstration of two new technologies, i.e. SHP and Biomass instead of just one.

Moreover, while the project budget is clearly presented in the project document, it was noted that all the planned co-financing of USD 10 Million from the Government of Cameroon was

set to be in cash. This is a departure from standard GEF project design, where contribution from local stakeholders is generally split into in-cash and in-kind support. It was also noted that while MINEE was the designated National Executing Agency of the project, the co-financing was committed by the Rural Electrification Agency (REA) as shown in Annex 06, a subsidiary of the MINEE. This arrangement eventually resulted in significant challenges during implementation, as elaborated in the sections on Effectiveness and Finance, and in fact the co-financing from AER never materialized.

In summary, while the project document was found to be elaborate and also generally followed UNIDO-GEF guidelines on project development, the selected outputs and activities were highly ambitious. Furthermore, the entire amount of committed co-financing from the Government of Cameroon was in cash and the commitment for co-financing was provided by a subsidiary agency instead of a Ministry, thereby resulting in highly significant challenges during implementation. Hence, the evaluation team found the project design to be *Moderately Unsatisfactory*.

3.2. Relevance

The TE team found that the Project is relevant at the local, national, and institutional levels.

At the **institutional level**, the project was found to be consistent with the GEF Climate Change Focal Area Strategic Objective CCM-3 which pertains to promoting investment in renewable energy technologies. The current project aimed to promote investment in renewable energy by strengthening the policy and regulatory framework for renewable energy and its enforcement, developing mechanisms to promote and sustain private sector investments in the renewable energy sector, and demonstrate the technical and commercial viability of integrated renewable energy solutions through small hydroelectric power plants and biomass plants. In the same vein, the project was also found to be consistent with the overall mandate of UNIDO and its energy strategy, which aligns with its long-standing experience in the development and implementation of renewable energy projects for productive applications in developing countries, including countries in Central and Western Africa.

At the **national level**, the project was also found to be consistent and in alignment with Cameroon's national development objectives, priorities, strategies, and targets such as the Cameroon Vision 2035, Electricity Development Plan 2035, the Intended Nationally Determined Contributions, and the Rural Electrification Master Plan. The project was developed from the outcome of the Cameroon GEF National Portfolio Formulation Exercise workshop and was validated and endorsed at the final workshop held in Yaoundé in August 2011. Moreover, the formulation of the current project also involved extensive stakeholder consultation process involving stakeholders at the local village level, district council level, and national level through meetings with village chiefs and households at the proposed project sites, mayors and other representatives from district council office, and representatives from various ministries such as the Ministry of Energy and Water (MINEE), the Rural Electrification Agency (AER), and multi-lateral donor agencies. The GEF Operational Focal Point at the Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED) was also consulted at the project proposal development stage who endorsed the project. Thus, the project was found to have taken into account the

viewpoints of various stakeholders at the design stage to ensure that it aligned with the priorities of stakeholders at the local and national levels. Lastly, at the **local level**, the project was also considered to be relevant to the needs of the local communities situated around the selected sites for the demonstration projects who would benefit from electrification and increased opportunities for productive use through the local small scale industries such as palm oil extraction, cassava processing, and coffee grinding, among others.

Therefore, the project was found to be developed through a consultative process at various levels, taking into account input from local, district and national level stakeholders. Moreover, the project was also found to be consistent with the national priorities and plans of the Cameroonian government. Lastly, the project was also aligned with the Focal Area Strategic Objectives of GEF as well as the mandate of UNIDO as the implementing agency of GEF funds. Consequently, the project's relevance is rated as *Satisfactory*.

3.3. Efficiency

This section provides the evaluation's assessment of the project's efficiency in terms of Project Management, Results-based Management, Stakeholder Management and Communication, and Project Finances.

3.3.1 Project management

The project was designed to be managed by UNIDO in collaboration with the Ministry of Energy and Water Resources (MINEE) designated as the GEF Local Executing Agency. Accordingly, a Project Management Unit (PMU) to be funded by the GEF Project budget would be hosted at the MINEE and be responsible for the project execution, managing day to day operations, and to provide regular monitoring reports to the Project Steering Committee (PSC) and UNIDO. The PMU was to be headed by a senior representative from MINEE as the National Project Director (NPD) and staffed by a Project Manager and other national and international technical staffs. Hence, MINEE through the NPD would lead the project execution with collaboration and technical support from UNIDO. Furthermore, a Project Steering Committee (PSC) to be chaired by MINEE and membership comprised of UNIDO, MINEE, MINEPDED, AER, ARSEL, and EDC was planned to provide guidance to the NPD in making key project management decisions.

However, during implementation, the project faced significant challenges of management with respect to MINEE at least until after the first half of the project. In fact, while the project had received co-financing commitment from the AER at the time of project design in June 2013, an MOU for cooperation was not signed with MINEE, the parent ministry of AER until April 2016, one year after the official project start. Also, as the planned support to the establishment and hosting of a PMU was not forthcoming from MINEE, the PMU had to be established by UNIDO at its office in Cameroon. Also, while UNIDO recruited a National Project Coordinator (NPC) and a Project Assistant, an NPD was never assigned by MINEE. The evaluation team determined that the lack of hosting by MINEE as well as non-appointment of an NPD had serious implications for ownership by the Government of Cameroon, which in turn adversely affected project progress across the board, as elaborated in the section on Effectiveness.

It is also worth noting that while UNIDO took charge of the PMU, changes among the UNIDO project management have also resulted in implementation and leadership gaps. In particular, the project has been managed by two Project Managers (PMs) at the UNIDO HQ, with the initial PM, who was also involved in the project design, being reassigned to another Unit. Considering the extensive gap of roughly 11 years between project design and finalization, this staff turnover is acceptable. However, the evaluation team found that due to COVID-19 travel restrictions for in-country visits and the transfer of the project mid-way to the new PM, the project faced less hands on support after this transition. Similarly, the initial Project Coordinator (PC) who was timely hired in July 2015 at the project start also left in December 2018, while his replacement was recruited after a gap of 11 months in November 2019, during which time the Project Assistant acted as the PC. Furthermore, within MINEE one major change in staffing has been the arrival of a new Focal Point in 2020, who nevertheless reportedly helped improve the coordination between MINEE and the Project.

Similarly, a PSC was never formed, thereby depriving the project of critical oversight, guidance, and opportunities for collaboration with various relevant government ministries and other stakeholders. To fill this gap, in August 2019, more than three years after the project start, UNIDO established a Project Monitoring Committee (PMC). However, in the absence of a full PSC as planned in the project design document, the PMC's functions were limited to only provide guidance and monitoring support to the project, while leaving UNIDO to make major implementation decisions. Thus, due to the challenges outlined above, the project's management is rated as ***Moderately Unsatisfactory***.

3.3.2 Timeliness

The 'Promoting Integrated Biomass and Small Hydro Solutions for Productive Uses in Cameroon' project suffered delays from the very onset. While the project was designed in 2011 and PIF approved in 2012, the project was not endorsed by the GEF Council until later in August 2014, while the actual implementation started in May 2015. With a planned implementation period of four years, the project's target closing date was September 2018. However, after receiving three no-cost extensions in 2018, 2020, and 2021, the project was finally closed in September 2022, thereby increasing the planned implementation time to seven years. Major reasons cited for extensions were a delayed start date, the shifting of PMU responsibilities to UNIDO, lack of co-financing by the Government of Cameroon, and COVID-19.

Considering the technological nature of the program, these extensive delays proved to be critical for project effectiveness and sustainability. For instance, while the project design in 2011 considered Biomass as a sustainable option, it can be argued that the evolution of solar technology since then presents a far more sustainable option. Furthermore, the no-cost extension delays increased the financial burden on a project that was already highly stressed due to the non-materialization of the counterpart committed co-financing. In addition, the long implementation period also resulted in the turnover of key staff within the project management.

The project has also faced major delays in activities across all four components, as elaborated in the section on Effectiveness. These delays occurred due to lack of government cooperation and co-financing, resulting in no or limited progress during the project life. Of these, key

activities affected were: the project's inability to contribute to any policy development or implementation and the non-establishment of the RE window in the REF; while there have also been critical delays for MHP and biomass demonstration units, and no unit has been established during the project's life. Instead, arrangements for continuity were made in the last year of implementation (2022) by handing off the SHP feasibility studies to MINEE while supporting the Ministry on organizing call for tenders and the hiring of an operator for the biomass sites to oversee installation and operations for a two-year period.

3.3.3 Stakeholder management and communication

The project design was based on consultations with stakeholders at various levels, including national, regional, and community-level stakeholders. In addition, the project document identified key stakeholders and also provided some guidance on stakeholder engagement. These stakeholders included several government ministries/departments (MINEE, REA, ARSEL, MINEPEDED, EDC), development banks (World Bank, AfDB), private sector banks, private sector companies, CSOs, district council representatives, and village chiefs, etc. In addition, the project also aimed to collaborate with local communities.

However, the evaluation determined that during implementation, the project faced several coordination challenges with MINEE, which according to the CEO Endorsement was the designated stakeholder to be responsible for the overall execution of the project. The lack of a PSC prevented coordination between major stakeholders, thereby depriving key stakeholders to play their respective envisaged role in project implementation, and also resulted in a lost opportunity for exchange of lessons learned and guidance. Furthermore, as the PMU had to be managed by UNIDO instead of MINEE, the project was deprived of having privileged relations and clout with several public and private stakeholders and development agencies that the MINEE could have achieved. Nevertheless, once the Project Monitoring Committee (PMC) was established, the project was able to engage select key stakeholders (MINEE, MINEPEDED, and AER) to some extent through information exchange, progress sharing, and collaboration. Key outcomes of this outcome have been: 1) establishment of the SHP operator procurement committee; and 2) support by MINEE for establishment of mini grids at the biomass sites.

The project was also able to engage several stakeholders, including government departments, academia, private sector, and community, by undertaking trainings, workshops, and awareness raising sessions. Similarly, while engagement with local representatives and community stakeholders was limited in the initial project years, this improved considerably when conducting feasibility studies of MHPs and installation of biomass units, also including establishment of two local monitoring committees and consultation with communities, as mentioned in the section on Monitoring.

Furthermore, the project has had some interaction with development agencies focusing on Renewable Energy in Cameroon, such as the EU. Similarly, the project has also been referenced in publications on RE development. For instance, the USAID's Power Africa Off-grid Solar Market Assessment Report (2019). However, despite the World Bank being a major stakeholder in the energy sector in Cameroon through the REF, the project has not carried out any engagements with this stakeholder.

The project management has also engaged private sector developers and investors, mostly while undertaking activities under Components 2 and 3. For instance, in 2016 a three day workshop on investment in Renewable Energy projects was held with the participation of financial institutions, and included topics such as PPA modalities and viable business models for mini grids in Africa. Similarly, RE investment promotion workshops with financial institutions such as banks were also held in four regions of the country. However, this engagement was short-term and not sufficient to make any pivotal impact on the policies of the financial institutions.

Furthermore, a document review yielded that the PMU also used the opportunity to present its experiences and lessons learned at some events related to RE. These include the: i) Launch of HYPOSO (Hydropower solutions for developing and emerging countries), UE project in Cameroon – 28 January 2022; ii) Africa Energy Market place held virtually from 26 to 29 October 2021 organized by the World Bank; and iii) International exhibition on renewable energy held in Yaoundé from 23 to 25 February 2022, organized by Cameroon Association for Renewable Energy. However, the lack of progress and availability of financing restricted the project's full potential for such exchanges. For instance, as elaborated in the section on Effectiveness, while the project was able to develop an investment toolkit on SHP in Cameroon, plans for the development of an investment toolkit on the spectrum of RE technologies in the country had to be abandoned due to insufficient budget.

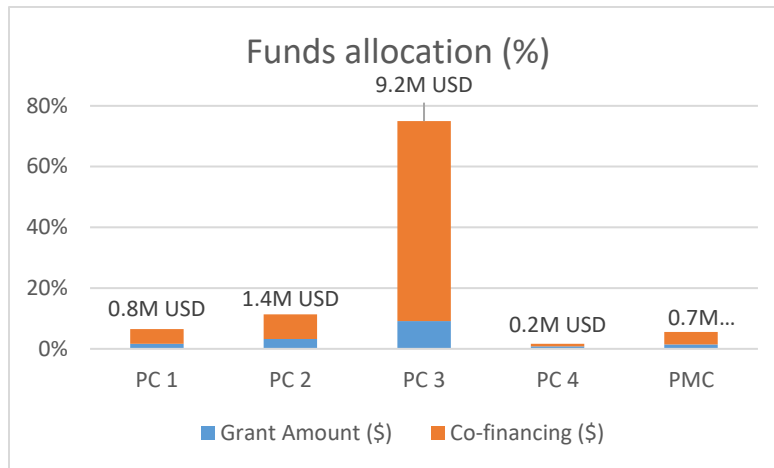
Finally, while the PMU has openly shared most of its available knowledge through information exchanges, events, and distribution of documents, the evaluation team observed a key gap in the project communication as the SHP and Biomass feasibility studies completed by the Project are not available even to key stakeholders, such as the REA. Instead, these important documents that can be used for the proliferation of the two technologies, have been only shared with MINEE, which in turn treats them as proprietary information.

Overall, since the project demonstrated significant stakeholder engagement at the national as well as international level with a range of national and international stakeholders, albeit with some key gaps, the project's Stakeholder Engagement and Communication was found to be *Moderately Satisfactory*.

3.3.4 Financial management

According to the CEO endorsement, the total project funding was USD 12.3 Million. This included a GEF grant of USD 2 M (cash) and the committed co-financing of USD 10 M (cash) from the national government (AER), as well as USD 0.30 M from UNIDO (in kind and cash). The planned project-wise allocation of funds is shown in Figure 2.

Figure 2: INITIALLY PROPOSED FUNDS ALLOCATION



However, in reality, only the GEF and UNIDO funding materialized, comprising of 18.6% of the total committed funds. Conversely, the contribution from Government of Cameroon (81.3%) of the total funds were not provided. Furthermore, the project duration protracted from the original four years doubled to a total of seven years, adding further strain on the resources available for project management and implementation. Consequently, the Project Management was unable to initiate and/or finish activities as envisaged in the project design, and instead had to prioritize activities across the four PCs, in accordance with the available budget. Figure 3 shows actual fund allocation vs. expenditure as of the project end.

Figure 3: FUNDS ALLOCATED TO COMPONENTS VS EXPENDITURE

Grant Delivery Report		2016	2017	2018	2019	2020	2021	2022	2016 - 2022	
	<i>Allocated Budget</i>	Total	Total	Total	Total	Total	Total	Total	Total	
Component 1: RE Policy	200,000	74,754.52	69,344.87	24,367.69	4,802.62	1,517.55	135.24	16,503.44	191,425.93	
Component 2: Investment & Promotion	400,000	43,206.21	139,149.49	422,741.79	40,860.06	84,995.25	65,342.33	46,928.42	1,043,223.55	
Component 3: Project Development & Demo	1,120,000	4,749.22	4,396.50	58,463.41	52,704.68	6,119.44	101,548.10	198,234.38	426,215.73	
Component 4: Project Management and M&E	280,000*			13,775.75	87,257.51	90,714.49	50,980.93	64,975.27	307,703.95	
Total	2,000,000	122,709.95	212,890.86	519,348.64	185,624.87	183,346.73	218,006.60	526,641.51	1,968,569.16	
		*Project Management Cost of USD 180,000 added to component 4								
		** Figures noted here are represented in USD								

In total, USD 1,968,569 (98%) of the USD 2 million GEF fund has been expended by the project. It is important to note that at the time of project design, PC 3 was planned to have by far the highest total allocation, i.e. 75% of the total committed funds, as the demonstration projects were planned to be executed under this component. Conversely, the allocation to PC 1 and PC 2 (7% and 11%, respectively, of the total budget) was significantly lower. However, during implementation, the distribution of funds during implementation was higher for PC 2 (USD 1,043,233) as compared to PC 3 (USD 426,216) due to the abovementioned budgetary constraints and need to reallocate the budget to implement prioritized activities under PC 2. As such, 88% of the financial contribution planned for PC 3 was to be provided by the Government of Cameroon, of which only an insignificant sum of USD 107,000 (1.3%) has materialized. This funding has been provided for the establishment of minigrids at the Bimomass demonstration sites, including USD 38,000 Foyemtcha and USD 69,000 Essekou. Furthermore, it is also estimated that USD 40,400 have been contributed by the community as in-cash and in-kind co-financing for the biomass sites. Whereas, a substantial share of the limited funds available from GEF under PC 3 have been used for the establishment of these biomass demonstration sites. Whereas, any residual funds under PC 3 were used for activities such as training.

It is also important to note that while PC 4, which is related to Monitoring and Evaluation/ was allocated USD 100,000 (from the GEF Fund) at the project design, was given 180% more

funds during implementation. This change has been a result of the inclusion of Project Management activities into PC 4, as well as undertaking these functions during the additional years of no-cost extension.

Furthermore, UNIDO is responsible for financial management and was found to consistently provide financial progress reports.

Overall, the evaluation found the project's financial management and co-financing to be **Unsatisfactory** primarily because the co-financing for the project never materialized which resulted in significant challenges during implementation such as non-initiation and non-completion of key outputs and activities.

3.4. Sustainability

This section assesses the overall risks to sustainability of the project in terms of financial, institutional framework and governance, socioeconomic, and environmental factors. Overall, there are significant risks to the project which are amplified because of the project's closure before the completion of key project activities such as the installation of the SHP and biomass plants.

The sustainability of the project is bolstered by the fact that the current project was successful in generating interest amongst key government stakeholders and sensitizing the public and private sector stakeholders on the benefits and potential of SHP in Cameroon. This is evident by the fact that the AER has supported the Mbakaou SHP project by providing funding, and has launched 10 SHP projects and five (05) SHP projects under the World Bank funded and MINEPDAT-implemented Rural Electrification and Energy Access Project (PERACE), as a result of the awareness-raising and sensitization activities initiated by the UNIDO project. Moreover, the UNIDO project also undertook the GIS mapping of 50 SHP sites across Cameroon which would also be beneficial to MINEE and AER for future planning of SHP sites in the country.

However, a key factor that constrains the sustainability of the results achieved under the project as well as the future of SHP and biomass in the country is the lack of renewable energy policies and regulatory frameworks enacted that would bolster private sector investment and confidence. Indeed, the evaluation found that despite the sensitization efforts undertaken by the UNIDO project, there is a lack of appetite in the country to regulate fiscal and policy regime in order to promote private sector investment in SHP.

As of the project's end, tenders for the solicitation of bids for the construction and implementation of the two SHP plants have been launched. However, going forward, UNIDO is seen to have limited involvement in the selection of the IPPs, as well as the construction, and implementation of the two SHP sites, which is mostly limited to the participation of the UR on a monitoring committee set up by MINEE to bring the two SHP plants to operation. The implementation of the two SHPs is also contingent upon the availability of an enabling regulatory environment in the country.

With regards to the biomass component of the project, construction of the two biomass plants in Foyemtcha and Essekou is currently underway. The Government of Cameroon is investing CFA 66 million (USD 107,000) for the grid extension to the two biomass plants which demonstrates its commitment to bringing the projects to fruition. In addition, the

UNIDO project has also been successful in garnering the interest and cooperation of local government and communities at the two biomass plants. In the case of Foyemtcha, the local mayor has constructed roads to ease access to the site for the transport of machinery. Local community members in Foyemtcha have also been recruited to partake in on-the-job training during the installation of the site. Moreover, local monitoring bodies for both biomass sites have been established, who will oversee the installation of the sites as well as contribute to planning and decision making regarding the management structure and operational plans for the biomass sites.

The overall sustainability of the biomass plants will be contingent on the tariffs, the availability of biomass, and governance arrangements. However, the evaluation found that as of the project's end, the tariff structure and management plans for both the biomass sites have not been finalized. Moreover, there is also friction and lack of clarity between the local government and municipal government over the roles and responsibilities pertaining to the governance structure for the two plants.

Additionally, there is no planning/provisions to raise finance for the procurement of biomass inputs and electricity demand increase. Furthermore, while local community members in Essekou and Foyemtcha are being trained on operational and management aspects of the plants, there are no trained experts at the municipal level to resolve any technical problems with the plants that could be beyond the capacity of local community members. Finally, longer-term planning on the integration of the plants within broader rural electrification plans is missing. For instance, Essekou has been selected for inclusion in the HUAWEI solar mini-grids programme which will eventually see the construction of a solar mini-grid in the village. Hence, suitable alternative plans for the integration of the biomass plant within the solar-powered mini-grid and/or its use as a standalone productive unit connected to an institution such as a school or hospital would need to be explored and assessed in due course. Thus, to bolster the sustainability of the project, it is necessary to resolve outstanding issues pertaining to the operational, management and governance structure of the plants. However, since the UNIDO project has closed, there is very limited support that can be offered to various stakeholders in mitigating and managing outstanding issues.

Although the use of biomass for grid electrification is new to Cameroon, some private sector companies have demonstrated the use of biomass technology for electricity generation as part of their production processes. However, though biomass plants can be demonstration sites for implementation, the use of biomass for electrification is difficult to scale, particularly in the context of Cameroon where both technical capacity as well as financing are major barriers for the replicability of biomass power plants. This is further compounded by the low capacities of the biomass plants being demonstrated (15 KW in Foyemtcha and 22-25 KW in Essekou) which hamper their attractiveness for private sector investment and would necessitate the provision of subsidies which may not be feasible for the Government of Cameroon. Moreover, global advances in the use of solar PV mini-grids for rural electrification have significantly overtaken those of biomass technologies. Although GEF-4 focused on the use of biomass technologies for electrification, since then, the widespread use of biomass technologies to that effect has been rendered obsolete. Thus, even in a country such as Cameroon where biomass availability is significant, several interviewed

stakeholders agreed that the long-term outlook for the use of biomass technologies for electrification is unfavorable.

In conclusion, although the project is likely to implement the two SHP and biomass plants, a number of factors constrain the project's sustainability. With the SHP sites, these pertain to the lack of oversight and limited involvement of UNIDO in the selection of IPPs, the construction of plants, and the O&M, tariff and governance arrangements of the plants. Moreover, the project was also unsuccessful in the development and enactment of renewable energy policies and regulatory frameworks in Cameroonian law to attract private sector investment in the country. With that said, the project did sensitize government stakeholders and private sector and brought awareness regarding the significant potential for SHP in the country, which could provide impetus for further action by the government on instituting the required policies for the advancement of renewable energy in Cameroon. With regards to the biomass plants, the biggest factors that constrain sustainability relate to the lack of finalized management, O&M, and governance arrangements for the two biomass plants. Moreover, structural factors such as financing, competitiveness, and technical capacities within the country for the installation and operationalization of biomass technologies hinder the scalability and replicability of biomass technologies.

Overall, in the absence of an enabling regulatory environment and limited technical capacities, the evaluation determined that the Sustainability of the project's outcomes and outputs is *Unlikely*.

3.5. Gender mainstreaming

An assessment of the project's results framework revealed that gender mainstreaming considerations were not sufficiently incorporated into the project's design as evident by the absence of specific indicators pertaining to gender mainstreaming as well as the lack of gender-disaggregated targets for activities such as trainings, awareness-raising exercises, and workshops. However, it is important to keep in mind that projects designed under GEF 5 did not require gender mainstreaming. Nevertheless, the design attempted to mainstream gender in its governance structure, as the design specified the inclusion of at least one woman member in the Project Steering Committee (PSC).

Relative to its design, the project's implementation showed improvements in incorporating gender mainstreaming considerations. In addition to including one woman in the Project's Steering Committee, the project staff at UNIDO also included one woman. Also, at the activity level, the project was shown to encourage the participation of women and inclusion of women in the various trainings and workshops held. Hence, the project reported that women comprised 25% of total participants in over 10 capacity building sessions held on various aspects of SHP implementation over the course of the project's duration. Whereas, the two awareness-raising and sensitization sessions held on the biomass component also saw women comprising 15% of the participants, and youth comprising 50%. Furthermore, for the construction and installation of the biomass plants, the project set up a local project monitoring committee in Foyemtcha and Essekou, each, with two women identified to be part of each monitoring committee (total 04 women).

The evaluation also noted the active participation of women from the local communities around the biomass sites. Interview with the chief of Essekou revealed that both men and

women from the village have been involved in the construction of the biomass site. Similarly, in Foyemtcha, women have actively participated in the data collection activities during the feasibility study by providing processing data for palm oil press mills, crushing mills, and other agro-processing activities as part of the energy demand assessment conducted.

Although the two SHP and biomass sites remain to be implemented and operationalized, it is anticipated that their successful demonstration will have a positive effect on women by providing greater access to energy for not just their households, but also for productive uses such as agro-processing plants in which women are actively involved. Thus, the project has the potential to create additional job opportunities and increase women's incomes, thereby contributing to their economic empowerment. Consequently, the project's gender mainstreaming was found to be *Satisfactory*.

4. Performance of partners

This section provides the evaluation's assessment of the performance of key project partners, including UNIDO, National Counterparts, and GEF as the donor.

4.1 UNIDO

According to the project design, as the project implementing agency UNIDO was responsible for oversight for project implementation, monitoring and reporting to GEF about project progress and the results achieved as per the standard formats of GEF and UNIDO. In this role, UNIDO would provide guidance to the project from its Cameroon Country Office and the Headquarter in Vienna. However, as elaborated in the section on Efficiency, UNIDO also had to take over the additional responsibilities of the Project Management Unit (PMU). Furthermore, UNIDO provided 2.9% of the committed co-financing (USD 300,000) to the project.

Generally, the evaluation team found that UNIDO has attempted to adapt the project's operational and program strategy to the ground realities. In particular, as the Project was unable to receive active support from MINEE, UNIDO took over the PMU establishment and operations. Eventually, in the absence of a Project Steering Committee (PSC), in 2019 UNIDO formed a Project Monitoring Committee (PMC) with participation from key stakeholders. Moreover, due to limited cooperation from the Government of Cameroon on other key project implementation aspects such as lack of collaboration on policy development and non-availability of committed co-financing by AER (nearly 78% of the total project fund), the UNIDO Project team continually reprioritized activities for implementation in line with the available resources. Furthermore, where needed, UNIDO provided key technical support to the project, such as hiring experts for the development of training modules and undertaking feasibility studies for SHP and biomass plants, etc. In addition, in collaboration with its local government partners, UNIDO has duly engaged local communities in the project sites.

Nevertheless, the evaluation team found that while UNIDO proactively undertook adaptive strategies to overcome challenges posed by limited cooperation from the National Executing Agency, there were some gaps in the management of these challenges. In particular, an amicable resolution of these issues would require intervention by a high-level official from the UNIDO or UN Resident Coordinator's (UNRC) Office. However, the prolonged absence of a UNIDO Regional Representative (UR) (from 2011 to 2021) or support from another high-

level official resulted in the issues not being addressed at the Ministerial level. The situation was eventually rectified with the arrival of a UR, as evidenced from improved collaboration between MINEE and UNIDO since 2019. Similarly, while cooperation with the World Bank-funded Renewable Energy Facility (REF) was a significant planned part of the project for the establishment of a special window to facilitate RE project financing, the project did not engage the World Bank at any time to seek cooperation.

Furthermore, while activities were prioritized according to the very limited budgetary resources, the project implementation strategy or logical framework were not modified to incorporate these changes. Also, importantly, the project's MTR which was meant to provide a review for improved implementation was significantly delayed and not undertaken until the final year of the project. Finally, while the UNIDO project management made the decision to continue with installing the Biomass pilot demonstration projects in view of the available funding, this decision overlooked the significant challenges with the efficiency and sustainability of biomass technology that have emerged since the time of project design in 2011/12.

4.2 National counterparts

The project had four key national counterparts, including MINEE and AER at the national level and district councils and communities at the local level. According to the project design, MINEE as the National Executing Agency was to be responsible for most of the substantive work to be performed under Project Components, as well as setting up a Project Steering Committee (PSC), hosting the Project management Unit (PMU) headed by its designated senior official as the National Project Director (NPD) for the project, and coordinating with various ministries and agencies. Furthermore, with support from the project, MINEE was to update the policy, regulation, and its implementation for renewable energy and rural electrification. Whereas, the AER was the co-financing agency and would be responsible for providing the local technical support for the preparation of technical reports and selection of the contractor through their technical evaluation as per UNIDO –GEF guidelines, power plant development, providing candidates for getting training during the project implementation etc. At the local level, the district councils and the beneficiary village chiefs would be responsible for providing support to the project, including 'sufficient labours, at low rate, office spaces, lands and other facilities'.

However, the first half of the project saw significant issues due to lack of collaboration from MINEE and the inability of AER the committed cash co-financing of USD 10 Million. This resulted in UNIDO undertaking additional responsibility for the PMU management, deprived the project of oversight and guidance by a PSC, and reduced the project budget by more than 80%. However, since 2019, the national government's cooperation with the project has gradually improved, as majorly demonstrated by participation in the UNIDO-established Project Management Committee (PMC), technical support to feasibility studies, co-financing of USD 107,000 to the biomass plant establishment, and the constitution of a procurement committee for SHP investors. Having said that, the project co-financing has not materialized and key activities such as policy changes have not been undertaken, while the commissioning of the four power plants (02 SHP and 02 biomass) are now planned after the project closure.

On the other hand, the local councilors and communities have been actively involved in the project through participation in the planning/identification of biomass sites, as well as provision of land, labour, and other sources.

4.3 Donor

The evaluation determined that GEF as the donor allowed UNIDO, the GEF Agency for this project to undertake complete oversight of the project. Whereas, with the exception of three no-cost extensions, GEF has not intervened in the project's implementation.

In summary, while UNIDO has undertaken extensive adaptive measures to ensure project continuity in the face of major financial constraints and lack of collaboration of key stakeholders, its approach to resolving these challenges could have benefited from a more hands-on manner. Moreover, while the project received some cooperation from the national government, this support did not transpire until 2019. Also, the committed co-financing from the government has not been provided. Nevertheless, the government has now taken the responsibility to support the installation of the two SHP demonstration units and contribution to the establishment of the two biomass units. Whereas, the local municipalities and communities have provided significant support to the project through planning and in-kind contribution. Therefore, the performance of partner's was found to be ***Unsatisfactory***.

5. Factors facilitating or limiting the achievement of results

5.1 Monitoring and evaluation

Monitoring and Evaluation (M&E) was integrated into the project strategy as one of the project components, with a corresponding outcome, outputs, and activities in the project's logical framework focused on M&E. In particular, planned M&E activities included preparation of semi-annual progress reports, mid-term review, final evaluation, preparation of project terminal reports, assessment of the project results, and preparation of learning, good practices, and case studies for dissemination of the benefits of renewable energy based mini-grid for rural electrification and productive applications achieved through this project.

The evaluation team noted that the progress reports have been consistently and regularly prepared under the project. However, the project's mid-term review (MTR) was delayed for an extensive period of time and in fact the MTR was not undertaken until April 2022, just 5 months before the project end. As the purpose of an MTR is to make adjustments for improved implementation for results, this unnecessary delay has deprived the project of an opportunity for such feedback.

Moreover, to compensate for the lack of a PSC, the project set up a Project Monitoring Committee (PMC), as elaborated in the section on Project Management. Although, there was a three year delay in the establishment of the PSC, once in place, the Committee played a critical role in project monitoring. Since its inception in August 2019, the PSC has convened nearly once a quarter, as planned.

In addition, a local monitoring committee has been established in each of the two biogas sites (at the municipalities of Baré Bakem and Kekem) to monitor the project's activities at the local level. Each committee is comprised of seven stakeholders including those from local government and community, etc. The membership of the local monitoring committee comprises of: UNIDO, local Mayor, Departmental Delegate of MINEE, Departmental Delegate for Water and Forests, village chief, a local woman representative, and an engineer/technician in energy/electricity, etc. Evaluation interviews with these local committee members revealed that they have been actively involved in the consultations for installation of the biomass plants, e.g. consultations with community and local authorities, etc. However, these member reported having little or no involvement in planning of activities. For instance, committee members lack knowledge on the timeline for operationalization of the two biomass plants.

Furthermore, while the project has developed some knowledge documents, such as feasibility studies, DPRs, and training manuals, etc., these have not been disseminated widely.

5.2 Results-based management

In line with UNIDO-GEF M&E guidelines, the project was designed to utilize Results-based Management (RBM). Accordingly, a four-year work plan was presented at the start of the project, including activities corresponding to all outputs. However, the subsequent work

plans prepared by the project management only provided component and output level information and did not present information on activity planning. This had potential implications for both project planning and progress monitoring. As such, since the co-financing for the project did not come through, the project management had to prioritize activities within the available GEF and UNIDO budget and also in accordance with the level of cooperation by stakeholders. Hence, some activities, such as facilitating public sector stakeholders' participation in international trainings and workshops, and the establishment of the MHP center at the polytechnic were included in the project although they were not part of the original design, whereas important planned activities such as the development of renewable energy policies and regulatory frameworks, the capacity building for banks and financial institutions, and the development of financial risk management instruments, etc., had to be dropped.

Furthermore, some key lessons learned from monitoring have not been used to adjust project planning. For instance, despite non-materializing of the committed co-financing of USD 10 million by the Government of Cameroon, no changes were made to the scope of project activities or the project implementation strategy. Nevertheless, at the activity level, the project has made some modifications in view of contextual changes. For instance, the project site for biomass demo in Ekom Nkam was moved to Essekou as an alternative solar energy unit was installed there by the time the project was ready to work there.

Overall, while the progress reports have been consistently and regularly prepared under the project, the project's mid-term review (MTR) was delayed for an extensive period of time. It was also noted that, although there was a three year delay in the establishment of the PSC, once in place, the Project Monitoring Committee played a critical role in project monitoring. Moreover, a local monitoring committee has been established in each of the two biomass sites to monitor the project's activities at the local level. However, members reported having little or no involvement in planning of activities and committee members lacked knowledge on the timeline for operationalization of the two biomass plants. In terms of Results Based Management, work plans prepared by the project management only provided component and output level information and did not present information on activity planning. Due to the lack of materialization of co-financing, the project management had to prioritize activities within the available GEF and UNIDO budget and also in accordance with the level of cooperation by stakeholders. Consequently, the project's Monitoring and Evaluation and Results Based Management was rated as ***Moderately Unsatisfactory***.

5.3 Overarching assessment and rating table

In line with the TE guidelines and criteria, the following table provides the Consultants' overarching assessments and ratings of various components of the project and the evaluation criteria.

Table 4: RATINGS OF VARIOUS COMPONENTS OF PROJECT

Evaluation criteria		Rating
A	Impact	Moderately Satisfactory
B	Project design assessment	
1	Project design	Moderately Unsatisfactory
2	Project results framework/log frame	Moderately Satisfactory
C	Project performance and progress towards results	
1	Relevance	Satisfactory
2	Effectiveness and progress towards expected results	Moderately Unsatisfactory
3	Efficiency	Moderately Unsatisfactory
4	Gender mainstreaming	Satisfactory
6	Sustainability	Unlikely
D	Project implementation management	
1	Project management	Moderately Unsatisfactory
2	Results-based work planning, monitoring and evaluation, reporting	Moderately Unsatisfactory
3	Financial management and co-financing	Unsatisfactory
4	Stakeholder engagement and communication	Moderately Satisfactory
E	Performance of Partners	Unsatisfactory
F	Environmental and Social Safeguards (ESS)	Satisfactory
G	Overall Assessment	Moderately Unsatisfactory

6. Factors facilitating or limiting the achievement of results

6.1. Conclusions

In conclusion, the terminal evaluation found that the current project was developed through an elaborate consultative process at various levels, including local, district, and national level stakeholders. In addition to being consistent with national priorities and plans pertaining to the promotion and development of renewable energy sector in Cameroon, the project also aligned with the Focal Area Strategic Objectives of GEF and the mandate of UNIDO as the implementing agency of GEF funds.

However, the evaluation found the project's design to be overly ambitious, particularly since the project was being implemented in a context where no renewable energy policies or regulatory frameworks existed. This in particular pertains to the fact that the project's design involved not just the development of renewable energy policies and regulatory frameworks, but also their implementation, along with the demonstration of two renewable energy technologies instead of one. In addition, the evaluation also identified key gaps in the project design process such as the lack of an in-depth assessment of the private financial sector in Cameroon for an understanding of the availability of potential financing, and the lack of engagement with the World Bank to collaborate on the special window for renewable energy financing through the Rural Energy Fund (REF).

Challenges with the extensive project design were further amplified by the implementation arrangements and financing modality whereby, although MINEE was designated as the National Executing Agency, the Rural Electrification Agency (AER) - a subsidiary of MINEE, committed all of the USD 10 million in co-financing. Moreover, the project did not sign an MoU with MINEE until April 2016 – one year after the official project start. It was also noted that the entire USD 10 million in co-financing committed was in cash, which was a departure from standard GEF project design which involves the contribution of both in-cash and in-kind support from national stakeholders. Moreover, the project also faced significant challenges in coordination and management as MINEE did not host and establish the PMU and appoint a National Project Director (NPD) to provide national leadership to the project. Similarly, the PSC was never formed, thereby depriving the project of critical oversight, guidance, and collaboration opportunities with other relevant government ministries and stakeholders. While a Project Monitoring Committee was eventually formed three years into implementation, its functions were limited to provide guidance and monitoring support, while major implementation decisions were delegated to UNIDO. Within the PMU, which was instead established and hosted by UNIDO, the National Project Coordinator (NPC) position was unfilled for 11 months between December 2018 and November 2019, during which time the Project Assistance acted as the NPC.

The lack of co-financing along with challenges in management and coordination mechanisms had significant implications on the project's timeliness as well as progress towards results. Although initially set to close in September 2018, the project received three no-cost extensions in 2018, 2020, and 2021 to finally close in September 2022. As a consequence of the non-materialization of the counterpart committed co-financing and challenges with coordination and collaboration with government partners, the project was forced to prioritize certain activities and outputs from its extensive list of activities and outputs. To

that end, the evaluation found that very limited progress was achieved towards Component 1, which revolved around the development and implementation renewable energy policies and regulatory frameworks for SHP, biomass, and water extraction. The project's contribution towards this Component mostly consisted of improvements and amendments into the policy framework of SHPs through technical minimal specifications and amendments in ARSEL and MINEE bid documents for launching the calls for tenders for the construction of the two SHPs.

With regard to Component 2, the project prioritized the delivery of trainings and capacity building activities towards the design, operation, and maintenance of SHPs. An early achievement of the project was the establishment of a Renewable Energy Center at the Polytechnic School in Yaoundé in December 2016. The project partnered with the Renewable Energy Center to conduct a series of trainings on the design of SHP plants, technical skills and practical experience of conducting EIAs, and the GIS mapping of SHP sites in Cameroon. For the biomass component, the project recruited an international biomass expert who provided training on the technical aspects of biogas digesters and bio gasification, including their design, construction, and maintenance to staff members of SOMCO SARL and its subcontractor who are responsible for supplying and installing the two biomass plants in Essekou and Foyemtcha. The project has also planned for the biomass expert and SOMCO SARL to build the capacities of at least 08 biomass engineers from various ministries on the technical aspects of biomass to electricity production after the project's end. Other activities under this component involved: a) holding and participating in a number of international fora on renewable energy investments; b) the identification of a PPA model as part of the Manjo and Bafang SHP projects which was subsequently replicated for the EC-funded Mbakaou SHP project, and c) the development of an investment toolkit on SHP in Cameroon which was shared with at least 05 developers interested in investing in SHP in Cameroon.

Under Outcome 3, the project developed DPRs for each of the two SHP and biomass plants. For the SHP plants, the projects have reached the sufficient stage of maturity to qualify for government financing, and tenders have been launched by MINEE to select IPPs for the installation of the two SHP sites on a BOT basis. For the biomass component, the project changed the Ekom Nkam site for the Essekou site after conducting an assessment, which found the presence of a solar mini-grid installed by HUAWEI and lower levels of energy utilization by the village. The Foyemtcha site was also reassessed by the project which revealed that the earlier feasibility study had overestimated the installed capacity for biomass site and that the originally proposed biomass gasification mode of energy production was not the optimal technological solution. As of the project's close, construction of the two biomass sites is over half-way completed.

Since the project has closed with crucial activities for the demonstration of renewable technologies still ongoing, several factors constrain the project's sustainability. While the project was successful in sensitizing government stakeholders and private sector to the potential of SHP in Cameroon, the development of renewable energy policies and regulatory frameworks for the promotion of renewable energy was not achieved. With the SHP sites, UNIDO lacks oversight and has limited involvement in the selection of IPPs, the construction of plants, and the O&M, tariff and governance arrangements of the plants. With regards to the biomass plants, the biggest factors that constrain sustainability relate to the lack of

finalized management, O&M, and governance arrangements for the two biomass plants. Moreover, structural factors such as financing, competitiveness, and technical capacities within the country for the installation and operationalization of biomass technologies hinder the scalability and replicability of biomass technologies.

6.2. Lessons learned

The in-depth review of the project had yielded the following major lessons learned:

1. Obtaining formal co-financing commitment requires due diligence to guarantee the materialization of the commitment.
2. A modification of the project strategy and results framework is necessary in cases where financial and implementation contexts have significantly deviated from those at the time of project design.
3. A mix of in-kind and in-cash co-financing modalities is more practical as compared to overreliance/sole reliance on in-cash co-financing.

6.3 Recommendations

Based on the in-depth assessment of the project, the TE Team presents the following recommendation directed at key stakeholders, including UNIDO and MINEE.

6.3.1 Recommendations to UNIDO

1. It is recommended that UNIDO through its UNIDO Representative in Cameroon continue to actively take part beyond the project end in the **IPP Procurement Committee established by MINEE**, by providing guidance and technical insight in the selection of IPPs, development of O&M and governance arrangements, and construction and installation of the two planned SHP plants in Bafang and Manjo.
2. It is recommended that UNIDO facilitate further development and **financial linkages for the Government of Cameroon** with donors, partnering with international financial institutions based on a results-based lending approach.
3. In order to widely **disseminate knowledge products and lessons learned** under the project, it is recommended that UNIDO make the DPRs for the two SHP and two biomass sites, along with training modules on SHP design, EIAs, and GIS mapping of SHP sites available to other relevant government ministries in addition to MINEE.
4. When designing future projects, to ensure country-level ownership, it is critical to get **formal letters of commitment from relevant ministries/institutions for co-financing** and other cooperation. Also, a mix of co-financing modalities should be sought from national and local stakeholders, rather than reliance on only in-cash co-financing. In addition, there is a need for a mechanism to measure and formally track in-kind co-financing received from partners such as land from local communities for the construction of plants and for construction of roads for transport of machinery

for the construction of plants, etc. Similarly, it is critical to **engage key development stakeholders**, especially when planned project outcomes, such as the REF window, are contingent upon cooperation from these organizations, such as the World Bank's ownership of the REF.

6.3.2 Recommendations to MINEE

1. To encourage private sector investment in the RE sector, it is imperative that the Government of Cameroon focus on providing an **enabling environment** through the endorsement of conducive policies and frameworks.
2. It is also recommended that assistance is sought from international financial institutions with considerable experience in support to private-led RE development in Africa, such as BADEA, the World Bank, and AfDB, etc., in order to encourage private sector investment in the RE sector.
3. At the activity-level, to ensure sustainability, it is recommended that **management plans for the future biomass sites** incorporate a mix of Operation and Maintenance (O&M) training for technical experts at MINEE and AER with the monitoring support from the communities and municipalities members. This can also result in assigning a dedicated manager for the installed SHP and biomass plants.
4. In the interest of replication and upscaling, it is recommended that MINEE make the DPRs for the two SHP and any other similar **knowledge products publicly available** for the benefit of concerned stakeholders, **such as potential IPPs, financial institutions, academia, etc.**

6.4. Good practices

The terminal evaluation revealed the following good practices followed by the project during its implementation:

1. **Establishment of the Renewable Energy Center:** Although not a part of the project design, the project established a Renewable Energy Center at the Polytechnic School in Yaounde in December 2016. The Center supported the project in conducting a series of capacity building trainings and workshops which saw the participation of over 100 people from not just government ministries and departments, but also academia and private sector. In 2021, the Renewable Energy Center was certified as a full laboratory and is now benefiting 5 Ph.D. and 10 Master's students at the Polytechnic School.
2. **Reassessment of feasibility studies:** The project commissioned a detailed feasibility study for each of the two SHP and biomass sites selected at the design stage. For the SHP sites, the feasibility studies resulted in changing the earlier selected site at Mouanakeu Falls in Bafang due to the site's cultural and religious significance along with being a tourist site, for a more favorable site. The detailed feasibility studies for both the SHP sites revealed a far more significant installed power capacity (3.4 MW

in Bafang and 4.6 MW at Manjo) than previously estimated in the pre-feasibility study (1.5 MW and 1.2 MW respectively). In the case of the biomass sites, the feasibility studies conducted in 2020 revealed that the earlier site of Ekom Nkam was not suitable due to the presence of a solar mini-grid and underutilization, resulting in substituting that site with Essekou. Moreover, for Foyemtcha, the feasibility study uncovered that the earlier power capacity of 50 KW was grossly overestimated as the installed capacity was found to be 15 KW, and that the biomass gasification method proposed in the earlier study was not the optimal solution and proposed a biogas option using wastewater from palm oil production.

3. **Involvement of local communities:** The terminal evaluation revealed that the project's engagements at the local level with communities and local government resulted in high community buy-in in the form of provision of manual labor, contribution of land for the sites, and construction of road infrastructure for the transport of machinery for the construction and installation of the biomass plants.

Annex 01: List of Documents Reviewed⁵

1. Project Document
2. Annual Project Implementation Review PIR (2016, 2017, 2018, 2019, 2020 2021, and 2022)
3. Project Identification Form PIF
4. Approval Letter – Project Identification Form PIF Clearance and Project Preparation Grant PPG Approval
5. Detailed Project Report – SHP Bafang, 2019
6. Detailed Project Report – SHP Manjo, 2020
7. Cameroon Biomass Energy Feasibility and Project Design Study, 2021
8. Report from Project Monitoring Committee (2019, 2020, and 2021)
9. Progress Report to MINEE (2020 and 2021)
10. Midterm Review Report for Promoting Integrated Biomass and Small Hydro Solutions for Productive Uses in Cameroon

⁵ List of documents reviewed till the date of submission of this inception report.

Annex 02: Assessment Tools

Assessment Tools	Respondent(s)
KII/FGD	UNIDO/Project Staff

Date	
Name(s) of Staff	
Position(s) in Project	
Contact Info	
Name of Interviewer	

I. Project Design and Adaptive Management

1. What were the timeline and process of project design? E.g: consultations, baseline studies, stakeholder meetings, etc.
2. What challenges were faced during the design phase? E.g: limited baseline information, lack of stakeholder consensus, limited ownership of project, etc.
3. Have the project design and logframe been relevant across the project duration? If no, why not?
4. Based on your experience of implementing this project, what have been the major positive elements of the project design? E.g.: flexibility, approach to financial management, partnerships, inclusion of particular activities that are easy to implement and/or highly welcomed by beneficiaries, SMART logframe, etc. Please elaborate.
5. And, what have been the major elements of design that have resulted in implementation problems? E.g: ambitious targets, limitations in institutional capacity and/or prioritization amongst executing partners, ambiguity in activities, etc. Please elaborate.
6. Have there been any changes to the original project design/Log Frame? If yes, why?
7. How were these changes approved? E.g. recommendations of MTR, PMO's recommendations to the PSC Meetings, etc.
8. Has the logframe/project document been reviewed to reflect these changes?

II. Timeliness

9. When were the two project extensions granted and what were the reasons for these extensions?
10. What was the process for obtaining these extensions?
11. Were these extensions no-cost or were additional funds provided by GEF or the Government for implementation during the extension? If yes, what was the amount of additional funds?
12. What has been the impact of these extensions on project implementation and progress?
13. How has COVID-19 impacted project activities and outcomes? And what have been the mitigation measures employed?

III. Project Management and Planning

14. What were the challenges encountered in setting up a PMU within the Ministry of Energy and Water Resources (MINEE)?
15. Similarly, what challenges were encountered in the establishment of a Project Steering Committee?
16. How did the delays in the establishment of a PMU and PSC affect the implementation of the project and its effectiveness?
17. What mitigation measures were employed by UNIDO in light of delays in the establishment of a PMU and PSC? To what extent were these measures effective in ensuring progress towards implementation?
18. To what extent did the transfer of additional management and monitoring responsibilities impact UNIDO's capacities and resources?

IV. Personnel and Staffing

19. What is the organogram of the PMO?
20. Has the project faced any HR challenges, e.g. insufficient or under qualified staff, high turnover, non-availability on in country technical knowhow, etc?
21. If yes, how have these been resolved? E.g. through hiring of ICs or subcontractors, providing training to existing staff, etc.
22. Did the delays in implementation have any impact on staffing numbers? E.g. some staff were laid off, etc. Please elaborate.

V. M&E

23. What are the methods and process of tracking progress against project goal, outcome, and outputs?
24. Does the project have a Monitoring database? If yes, please provide details, e.g. what information is recorded in the database? Who updates the database? And how often is the database updated/
25. What were some of the challenges faced in tracking progress against the logical framework? E.g. indicators were not SMART or information was difficult to track, etc.
26. How were these challenges overcome?

VI. Steering/Monitoring Committee

27. What have been the major lessons learned with regards to the challenges in the establishment of a Project Steering Committee? What are your thoughts on how such challenges can be overcome in future projects?
28. How long after the project's inception was the Monitoring Committee established?
29. Has the Monitoring Committee met regularly since its establishment? If no, what have been the reasons?
30. Who are members of the Monitoring Committee? And have these members changed during the course of the project? If yes, please provide details.
31. What key role has the Monitoring Committee played in guiding / facilitating the project implementation? Please provide examples?
32. How can the role of Monitoring Committee be strengthened during future projects?

VII. Progress towards Outcomes and Outputs

33. What have been some of the project's key successes?
34. What factors have been critical for the success of the project to achieve its goals and objectives? E.g. Government policies, trade environment, stakeholder collaboration, etc.
35. What have been some of the project's key challenges?
36. To what extent has the project contributed to the transformation of renewable energy in Cameroon as compared to other projects and initiatives active during this time?

Policy and Regulatory Framework for Renewable Energy

37. What have been the key achievements of the project with regards to developing and enacting policy and regulatory frameworks to renewable energy?

38. What have been the major challenges encountered by the project in terms of developing and enacting policy and regulatory frameworks for renewable energy?
39. What progress has the project made towards developing a biomass extraction and utilization policy and water use policy as the project had planned?
40. What have been the key achievements of the project towards sensitizing investors and increasing investor confidence through renewable energy investment fora? What have been the outcomes from these fora and sensitization sessions?

Training and Capacity Building

41. List of various training and outreach activities (including budget, and people reached) under each of the three project components
42. What was the process of trainee selection?
43. Has the training/outreach impact been assessed? If yes, what have been the outcomes?
44. How have the trainings contributed to project impact and sustainability?
45. What key challenges were faced in the training program? E.g. availability of sufficient funding, availability of local technical knowhow, interest by trainees, etc.
46. How were these challenges mitigated?

Demonstration of Integrated Renewable Energy Mini-grids

47. Overall, what have been the key challenges and constraints faced by the project towards the achievement of demonstration of integrated renewable energy mini-grids?
48. Since the Detailed Project Reports conducted for the two SHP sites (Manjo and Bafang) in 2021, what is the current status of the implementation and operation of the two SHP sites? What further contribution is expected from UNIDO for the implementation of these two sites?
49. What has been the progress towards the installation and commissioning of two biomass power plants in Essekou and Foyemtcha?

VIII. Communications and Outreach

50. Does the project have a communications and outreach strategy? If yes, what are the major elements of this strategy?
51. How have the experiences and lessons from the project been recorded and saved so that they are easily accessible to any stakeholder who wishes to build on the project's success in the future? E.g. a website, library of UNIDO/MINEE/AER, etc.

52.

IX. Stakeholder Collaboration & Partnerships

53. Which stakeholders under each component have made the most productive contribution towards the project goal? Which stakeholders have made the least productive contribution?
54. What is the liaison mechanism between UNIDO and other institutional stakeholders? (e.g. MINEE, AER, etc.)
55. What is the liaison mechanism between UNIDO and beneficiaries, e.g. farmers, producers, MSMEs?
56. How do the various stakeholders and partners interact to ensure communication and linkages between their respective activities?
57. What are some of the other major government and development sector initiatives focused on RE that were active during this project? How has the project collaborated/coordinated activities with these? And what have been the challenges and opportunities during this cooperation?
58. How has this cooperation contributed to the project achieving its targets and outcomes?
59. What support has been provided to the project by the GEF Focal Point? How can this support be further improved?
60. What support has been provided by the MINEE and AER respectively? How has this support ensured effective project outcomes? Also, what have been some of the challenges with support from the MINEE and AER, respectively? E.g. frequent changes of officials, etc.
61. What key challenges have been faced by the key stakeholders in collaborating with each other? How were some of these challenges mitigated?

X. Financing and Co-Financing

62. What have been the delays or problems faced with the project's financial disbursements from the different stakeholders?
63. How did these impact project implementation?
64. What efforts were undertaken by the project to make up the shortfall in funding from co-financiers?
65. To what extent were these efforts successful in mitigating funding constraints?
66. Have regular project financial audits been undertaken? Were these audits satisfactory?
67. If not, what were the reasons and how were these issues resolved?
68. How is the project co-financing data tracked? What are the challenges in tracking co-financing?

XI. Gender

69. What efforts has the project made to improve/ensure the engagement of women throughout project implementation?
70. What have been the challenges and opportunities faced by the project for the engagement of women?
71. How many women have been engaged as a result of the project? Also, as a result of the project support, what proportion of women have been engaged at senior levels?
72. What are the major aspects in which women are engaged?

XII. Impact

73. In your opinion, which project activities have had the highest potential for impact? Why?
74. Also, which project activities do you think have had the lowest potential for impact? Why?
75. How can the potential impact of these activities be enhanced?

XIII. Sustainability

76. What have been the key measures of sustainability/replicability embedded in the project design and delivery?
77. Which elements/results of the project are particularly sustainable? Why?
78. Which elements/results of the project are least sustainable? Why?
79. Are there any plans of UNIDO to design future similar projects for further development of the RE industry? If yes, what are the major elements of these projects and when will these project be implemented?

XIV. Lessons Learned and Recommendations

80. What have been some of the project's key lessons learnt?
81. What are your recommendations for the sustainability of project interventions?
82. What are you recommendations for design of similar future projects?

Assessment Tool	Respondent(s)
KII	Institutional Stakeholders Ministry of Water and Energy Resources (MINEE); Rural Electrification Agency (AER)/Rural Electrification Fund (REF); Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED); National Higher Polytechnic School of Yaoundé

Date	
Name of Interviewee	
Title	
Name of Interviewer	
Organization Name	
Contact Info	

I. Background

1. Since when has your organization been collaborating with the UNIDO project?
2. How does the project fit into the strategic priorities and current programming of your organization?
3. What particular role does your organization perform in relation to the project?
4. In your opinion, what have been the key successes of the project?
5. How has your organization contributed to some of these project successes?
6. In your opinion, what have been the key challenges faced by the project?
7. How could these challenges have been mitigated?

II. Project Design and Adaptive Management

8. Was your organization involved in the design of the project? If yes, please provide details of your organization's role in the design.
9. Has the project design and logframe remained relevant over the course of the project? E.g. due to the various developments in the Renewable Energy policy, technology, and demand since the project design.

10. If no, what key factors were irrelevant and how were these redundancies addressed during the course of implementation?

III. Project Results

11. In addition to this project, what other Renewable Energy programs has your agency been involved in? Also, have there been any linkage between this project and other Renewable Energy programs being implemented by your organization?
12. How would you rate the comparative contributions and challenges of this project with the other Renewable Energy programs?

IV. Capacity Building and Support

13. What support has the project provided to your organization in terms of: a) formulation and implementation of policy and regulations for promotion of biomass and small hydro projects; and b) design, operation and maintenance of integrated renewable energy systems? Please provide details.
14. Are you satisfied with the level of administrative, financial, and technical support provided by the project to your organization or to other stakeholders? If yes, why? If no, why not?
15. How have the project activities contributed to building the capacity of your organization? (e.g. training of personnel, technology transfer, policy support, market mapping, etc.)
16. What were the key problems faced by your organization in receiving support from the project? E.g. funding delays, outdated or advanced technology transfer, etc. How were these problems resolved?

V. Project Management

17. In your opinion, what have been the major challenges with establishing a PMU and a PSC within MINEE?
18. What mitigation measures were utilized to overcome these challenges? To what extent were these measures successful?
19. In your opinion, what have been the major causes for the delay in project implementation? What has been the impact of these on project implementation and progress?
20. What measures were taken by key stakeholders to avoid any further delays?

VI. Monitoring

21. How are the project activities implemented by your organization monitored and reported?
22. Have there been any challenges with monitoring and reporting? E.g. availability of data, reporting format, reporting frequency, etc.

23. How have these challenges been mitigated?
24. What key role has the Monitoring Committee played in guiding / facilitating the project implementation? Please provide examples?
25. What challenges and opportunities has the Monitoring Committee faced in overseeing the project activities? E.g. policy, stakeholder buy in, etc?
26. How can the role of the Monitoring Committee be further strengthened in future projects?

VII. [FOR AER ONLY] CO-FINANCING

27. What have been the challenges encountered in the disbursement of USD 10 million in co-financing from AER as stipulated in the project design document?
28. What mitigation measures were employed to meet the challenges in the materialization of co-financing?
29. To what extent were these measures effective in mitigating challenges around co-funding?
30. What are your organization's plans with regards to the disbursement of co-financing towards the outstanding project activities?

VIII. Stakeholder Collaboration

31. Which project stakeholders/beneficiaries do you deal with directly?
32. What is the mechanism for collaboration with the project? E.g. quarterly meetings, etc.
33. In your opinion, which stakeholders have played a key role in ensuring the project's success?
34. What have been some of the opportunities/positive outcomes of the stakeholder collaboration under this project? E.g. funding leverage, policy support, higher outreach, etc.
35. What have been some of the challenges in regard to collaboration among stakeholders? E.g. difference in organizational priorities, delay in reporting, etc.
36. Have these issues been resolved? How?
37. Will there be opportunity for the project stakeholders from the business and/or public sector to continue collaboration after project end? How
38. What can the project do to institutionalize such collaboration platforms before it closes?

IX. Lessons Learned and Recommendations

39. In your opinion, what are the key lessons learned from the project design and implementation?
40. Based on these lessons, what are your suggestions for improvement in future projects?

Assessment Tool	Respondent(s)
KII	Representatives of Local Government and Communities – Manjo, Bafang, Bare-Bakem, and Kekem (Mayors, Chief of Village, Divisional Delegates (MINEE), etc)

Date	
Name of Interviewee	
Title/Designation	
Name of Interviewer	
Name of Village/Municipality	
Contact Info	

I. Background

1. Since when has your community been involved in the UNIDO renewable energy Project?
2. What and how was the process of initially engaging your community? Please elaborate.
3. Why did your community agree to participate in the project activities? Please elaborate the reasons.
4. What activities have been implemented or will be implemented by the UNIDO RE project in your community? E.g: consultations, community sensitization activities, engagements with farmers and MSMEs, etc.
5. When did the project initiate these activities?

II. Project Activities

6. In your opinion, what have been the advantages or are the potential advantages to your community for participating in the project activities?
7. Are there any particular advantages to women and girls from participation in the project activities? If yes, please elaborate.

8. In your opinion, what have been the key challenges faced by your community while participating in the project activities? E.g.: locations selected without consultation with the communities, slow implementation of project activities, project activities are difficult to understand, or cannot be implemented in reality, etc.
9. Did women in the community face any particular challenges in addition to the above issues elaborated? If yes, what were these?
10. Did you report these problems to the project? If yes, what was the response from the project?
11. What are the future activities that your community will be undertaking with the project?
12. What potential benefits do you think your community will derive from these activities?

III. Communication and Awareness

13. Has your community received any awareness materials from the project? E.g. newsletters, videos, flyers, etc.?
14. If yes, how are these useful to you? Please elaborate?
15. And what problems do you face with using these products? E.g. cannot read, they are not easy to understand, the messages in them are difficult to implement, etc.
16. Do you have any recommendations for the project to improve the implementation approach or nature of activities? If yes, please elaborate.

IV. Other Development Work

17. Are there any other development projects (particularly, rural electrification projects) being implemented in your community? If yes, who is implementing these projects? E.g.: Government agency, NGO, international donors, etc.
18. And what are the main activities being implemented under that/those project(s)? Please elaborate.
19. Since when has/have that/those project(s) been implemented in your community?

Assessment Tool	Respondent(s)
KII/FGD	Entrepreneurs (Palm oil producers, cassava processing units, coffee processing units, etc)

Date	
Name of Interviewee	
Title	
Name of Interviewer	
Company Ownership (Sole Proprietorship, LLB Company, etc)	
Years of Operation	
Contact Info	

I. Background

1. What is the major source of your income?
2. Which crops are you primarily involved in the production/processing/marketing of? Please elaborate.
3. How much area do you grow the above-mentioned crops on? Please provide area in acres for each product mentioned above.
4. How do you currently meet your electricity needs? E.g.: connection to main grid, off-grid solutions such as mini-grids, diesel-powered generators, etc.
5. What challenges with regards to electricity access does your business face?

II. Project Activities

6. What and how was the process through which you were engaged by the UNIDO project? E.g.: communication through local government representatives, consultations and sensitization meetings by project staff, etc.
7. What has been your current involvement with the UNIDO project? Please elaborate.

8. To what extent has the project effectively communicated the impacts (positive and/or negative) of its activities in your community?
9. In your opinion, what are the advantages or potential advantages to your business as a result of the current UNIDO project?
10. How does the current project address the energy access challenges elaborated above?
11. What potential benefits do you think your community will derive from the successful implementation of activities under the UNIDO project?
12. Have you faced any challenges while participating in the project activities? Please elaborate.
13. What level of involvement with the project do you foresee in the future?
14. Do you anticipate any challenges or negative impacts as a result of future activities implemented under the project?

Annex 03: Ratings Scale

A rating scale of 1-6 is used for each criterion: Highly satisfactory = 6, Satisfactory = 5, Moderately satisfactory = 4, Moderately unsatisfactory = 3, Unsatisfactory = 2, Highly unsatisfactory = 1, and unable to assess = 0.

Score	Definition	Category
6	Highly satisfactory Level of achievement presents no shortcomings (90% - 100% achievement rate of planned expectations and targets).	SATISFACTORY
5	Satisfactory Level of achievement presents minor shortcomings (70% - 89% achievement rate of planned expectations and targets).	
4	Moderately satisfactory Level of achievement presents moderate shortcomings (50% - 69% achievement rate of planned expectations and targets).	
3	Moderately unsatisfactory Level of achievement presents some significant shortcomings (30% - 49% achievement rate of planned expectations and targets).	UNSATISFACTORY
2	Unsatisfactory Level of achievement presents major shortcomings (10% - 29% achievement rate of planned expectations and targets).	
1	Highly unsatisfactory Level of achievement presents severe shortcomings (0% - 9% achievement rate of planned expectations and targets).	

Annex 04: Full TE Mission Schedule

Date	Day	Activities	Place	Observations
21-sep	Wed	Arrival in Yaoundé	Yaoundé	Visa upon arrival
22-sep	Thu	<ul style="list-style-type: none"> - Welcome by UNIDO Team in Cameroon - Security briefing at UNDSS - Meeting with UR - Meeting with Haman Unusa, GEF OFP 	Yaoundé	All the meetings (date and hour need to be confirmed)
23-sep	Fri	<ul style="list-style-type: none"> - Meeting with Tita Bekono David, Project Focal Point at the Ministry of Water & Energy - Meeting with Ful Jude Fonkwa, Director of Rural Energy Fund at AER - Visit at Small Hydro Power Center at National Advanced School of Yaoundé. Meeting with Pr. Kenfack, Director of the Center 	Yaoundé	All the meetings (date and hour need to be confirmed)
24-sep	Sat	<ul style="list-style-type: none"> - Meeting with Maxime Kamdem, former National Project Coordinator - Discussion with some trainees 	Yaoundé	All the meetings (date and hour need to be confirmed)
25-sep	Sun	Travel from Yaoundé to Bafang		Travel by road UNDSS clearance needed before travel
26-sep	Mon	<ul style="list-style-type: none"> - Meeting with MINEE Departmental Delegate in Bafang - Meeting with representative of Kekem Municipality - Field visit in Essekou. Discussion with the Chief of Village Travel from Melong to Nkongsamba	Bafang Kekem Essekou	
27-sep	Tue	<ul style="list-style-type: none"> - Meeting with MINEE Departmental Delegate in Nkongsamba - Meeting with representative of Manjo Municipality - Field visit in Manjo Falls and Lala Village Return to Nkongsamba	Nkongsamba Manjo Lala Village Nkongsamba	
28-sep	Wed	Travel back from Nkongsamba to Yaoundé - Debriefing with UR and CMR Field Office Team	Yaoundé	Travel by road UNDSS Clearance needed before travel
29-sep	Thu	Travel back to Islamabad		

Annex 05: Stakeholders Interviewed

Sr No	Name	Designation	Organization	Date Interviewed
1.	Rana Partap Singh	Industrial Development Officer/ Ex Project Manager	UNIDO	18-Oct-22
2.	Gentjan Sema	Project Administrator	UNIDO	17-Oct-22
3.	Raymond Tavares	Resident Representative	UNIDO	22-Sep-22
4.	Chi Chantal Ngwellum	Project Assistant	UNIDO	22-Sep-22
5.	Francis Nzukou	National Project Coordinator	UNIDO	22-Sep-22
6.	Haman Unsa	GEF Operational Focal Point	Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED)	22-Sep-22
7.	Chi Chantal Ngwellum	Project Assistant	UNIDO	22-Sep-22
8.	Francis Nzukou	National Project Coordinator	UNIDO	22-Sep-22
9.	Tita Bekono	Deputy Director, Focal Point of the Project at MINEE	Ministry of Water Resources and Energy (MINEE)	22-Sep-22
10.	Joseph Voufo	Trainee	National Advanced School of Engineering	22-Sep-22
11.	Maxime Kamdem	Former National Project Coordinator	UNIDO	22-Sep-22
12.	Ful Jude Fonkwa	Director Rural Energy Fund	AER	23-Sep-22
13.	Bart Frederiks	Independent Bio-Energy Consultant	UNIDO	23-Sep-22
14.	Chi Chantal Ngwellum	Project Assistant	UNIDO	23-Sep-22
15.	Francis Nzukou	National Project Coordinator	UNIDO	23-Sep-22
16.	Chief Bafang	Chief of Bafang	Local Government	25-Sep-22

Sr No	Name	Designation	Organization	Date Interviewed
17.	John Marc Tiengua	1st Deputy mayor of Bafang Local Council	Local Government	26-Sep-22
18.	Lebou	Municipal Counsellor/Mayor of Bafang Local Council	Local Government	26-Sep-22
19.	Mondjoko Sylvain	Local Council Development Officer	Local Government	26-Sep-22
20.	Foya Essome Bienvenue	Foyemtcha Village Chief	Local Government	26-Sep-22
21.	Eningue Henri	Divisional Delegate	MINEE	26-Sep-22
22.	Simon Pierre Sone	Deputy Mayor of Melong	Local Government	27-Sep-22
23.		Village Chief Essekou	Local Government	27-Sep-22
24.	Ekosso	Mayor of Manjo	Local Government	27-Sep-22
25.	Atangana Nkouli Thomas	Divisional Delegate of MINEE	MINEE	27-Sep-22
26.	Dieudonné Kemeni	Mayor of Kekem	Local Government	28-Sep-22
27.	Atangana Thomas Nkouli	Water Engineer	MINEE	27-Sep-22

Annex 06: Co-Finance Letter from AER



REPUBLIQUE DU CAMEROUN

Paix-Travail-Patrie

REPUBLIC OF CAMEROON

Peace-Work-Fatherland

A . E . R

AGENCE D'ELECTRIFICATION RURALE DU CAMEROUN

ETABLISSEMENT PUBLIC ADMINISTRATIF PLACE SOUS LA DOUBLE TUTELLE DU MINISTRE DU MINIERE & DU MINISTRE DE L'ENERGIE
B P 30704 YAOUNDE - TEL (237) 22 21 23 84 - 22 21 23 85 - FAX (237) 22 21 23 81 - E-mail : aercam2000@yahoo.fr
SIEGE SOCIAL : NYLON BASTOS YAOUNDE

Yaoundé, le 10 JUIN 2013

Réf. : N° 323^B /AER/DG/D¹FER/2013

THE GENERAL MANAGER OF UNIDO

VIENNA

SUBJECT: Partnership for Implementation of the GEF project:
Promoting Integrated Biomass and small hydro
solutions for productive uses in Cameroon.

Dear Sir,

The Rural Electrification Agency (AER) is hereby expressing its great interest in partnering with your institution in the implementation of the project mentioned above initiated by GEF.

AER understands that:

- GEF project aims to provide technical and investment assistance to Cameroon by financing incremental costs associated with capacity building, financial instruments, policy and regulatory framework, technical and commercial required in promoting and supporting private sector participation in the country.
- GEF project will not allocate fund to the REF but only establish the window in the REF for grants co-financing private sector investments in rural renewable energy development;
- GEF project, working with the REF could aims to target up to 50% of the funding for renewable energy projects in rural areas.

AER needs to emphasize that:

- The proposed project is fully consistent and well aligned with Cameroon's national development objectives, priorities, strategies and targets in the energy sector;
- The Rural Energy Fund (REF) located in AER is the main mechanism set in place by the Government of Cameroon to insure sustainably rural energy projects and program financing and to promote private-public partnership in the goal to attract private operators in the rural energy sector;
- The REF is operational and will finance the three-year action plan (2013-2015) adopted in February 2013 by the Ministry in charge of Energy as the President of the planning and programming Committee for rural energy projects;
- AER has carried out many activities in the field of rural electrification and renewable energy in cooperation with multiple partners such as the World Bank, the European Union Commission, the Islamic Development Bank, etc.

Therefore, AER undertake to mobilize through the REF mechanism an amount of ten millions US Dollars (10 000 000 USD) in order to contribute to the achievement of the project objectives. This will come as co-financing for the initial GEF/UNIDO funding of the project.

While hoping that this will contribute to the effective realization of the project,

We look forward to hear from you soon.

Regards.

AER GENERAL MANAGER

MOUSSA OUSMANOU

Annex 07: Terms of References for TE Consultants



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE

Independent technical evaluation of the project

Promoting integrated biomass and small hydro solutions for productive uses in Cameroon

UNIDO ID: [Status]

GEF Project ID: 4785

June 2022

I. Project background and context

1. Project factsheet

Project title	Promoting integrated biomass and small hydro solutions for productive uses in Cameroon
UNIDO ID	
GEF Project ID	4785
Region	AFR - Africa
Country	Cameroon
Project donor(s)	GEF
Project implementation start date	10 August, 2014
Expected duration at project approval	48 months
Expected implementation end date	30 September, 2022
GEF Focal Areas and Operational Project	Climate Change Mitigation (CCM)
Implementing agency(ies)	UNIDO
Executing Partners	Ministry of Energy and Water Resources (MINEE) Cameroon Rural Electrification Agency (AER) Ministry of Economy (MINEPAT)
GEF project grant (excluding PPG, in USD)	USD 2,000,000
Project GEF CEO endorsement / approval date	03 March, 2014
UNIDO co-financing initially expected (in kind and cash)	USD 300,000
Co-financing at CEO Endorsement, as applicable	USD 10,000 000 million
Total project cost (USD), excluding support costs and PPG	USD 12,300 000 million

Sources: Project document, the PIR 2020-2021 and the Mid-Term Evaluation Report

2. Project context

The project titled ‘Promoting Integrated Biomass and Small Hydro Solutions for Productive Uses in Cameroon’ funded by the Global Environment Facility GEF is implemented by UNIDO, in partnership with the Ministry of Energy and Water Resources (MINEE), Cameroon Rural Electrification Agency (AER) and Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED). Other important stakeholders in the implementation of the project are the Ministry of Economy (MINEPAT), the Ministry of Industries, Mines and Technological Development (MINIMIDT), the Ministry of Forestry and Fauna (MINFOF), the Electricity Sector Regulation Agency (ARSEL) and the *Ecole Nationale Supérieure Polytechnique* (ENSP).

Cameroon is a country located in west Central Africa, on the Gulf of Guinea, between 2° to 13° east and 8° to 16° north. It has an area of 475,650 km². The country shares its border with Nigeria in the west, Chad to the north-east, Central African Republic to the east, and Equatorial Guinea, Gabon, and Congo in the North. Cameroon has potential for biomass, hydro, and solar power generation, with substantial quantities of biomass and second largest hydropower potential in central Africa. The potential for Small Hydro Power (SHP) installations (up to 1 MW) was estimated at 1.115 TWh, however this potential is yet to be properly assessed and exploited. For the agro-processing activities, one of the main in the country, the access to energy is limited, and depends on inefficient burning of wood and using diesel generators. The target of this UNIDO project is to address gaps in the renewable energy for rural area and demonstrate the feasibility of mini grid based on renewable energy projects for productive applications in rural areas of Cameroon.

The project was designed in line with the Cameroon's Growth and Employment Strategy Paper (GESP) document in 2009 (a reference framework for the government action over the period 2010-2020) and the Cameroon Vision 2035 (national long term development goals). It is also aligned with other national priorities, strategies, and plans: National Energy Action Plan for Poverty Reduction (PANERP), the Electricity Sector Development Plan 2035, the Intended Nationally Determined Contributions (INDC), the Rural Electrification Master Plan (PDER). In general, these national strategies share the project goals of increasing electricity coverage, reducing GHG emissions, and upscaling access to electricity for rural, remote areas. Specifically, the project has the goals of building national capacity and implementing renewable energy demonstration projects for future replication, a strategic area of the PANERP and a concern of the Rural Energy Fund (REF).

The appropriate exploitation of small hydro and biomass resources available in Cameroon is critical to increase generation of electricity and enable the transition towards a more reliable, cheaper, sustainable, and renewable energy sources. However, to maximize the benefits of the country's hydro power potential, significantly large investment is required, especially through public-private partnerships (PPP) as well as strong management systems for generation, transmission, and distribution. Realizing the importance of small hydro power and biomass resources in Cameroon, UNIDO conducted preliminary assessment in various parts of the country and identified various sites in the Littoral Region as having a good potential for SHP and Biomass power installations for rural electrification and productive applications development. This led to the design and preparation of a Project Information Form (PIF) and a Project Preparation Grant (PPG) for the project titled '*Promoting Integrated Biomass and Small Hydro Solutions for Productive Uses in Cameroon*', which was approved by GEF in April 2012 (GEF project ID 4785). The project proposal was discussed with and endorsed by the GEF operational focal point at Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED). The design and formulation of the project proposal was finalized through PPG resources made available by the GEF and additional co-financing through UNIDO resources.

The demonstration projects were identified after completion of the preliminary techno-economic feasibility studies in all the initially identified potential SHP and biomass project sites and by carrying out the socio-economic survey around the identified feasible project sites to understand the importance, willingness of the people and the sustainability aspects of the project. Based on the study of the resources, site conditions, development possibilities, approach roads, expected loads and other socio-economic parameters two SHP projects (1.2 MW Manjo SHP and 1.5 MW Mouankeu (Small Ekom-Nkam) and two Biomass projects (75 kW at Ekom-Nkam village and 50 kW at Foyemtcha Chefferie village) have been identified. During the implementation of the projects, the sites were changed for the two SHP projects, 4.6 MW Manjo SHP and 3.4 MW Bafang SHP, and two Biomass projects, at Essekou village and at Foyemtcha Chefferie village.

The project was approved by UNIDO on 7 June 2012 and had the CEO Endorsement/Approval on 4 August 2014. The actual implementation started on May 28th, 2015, with the expected duration of 48 months. After a couple extensions, the project is expected to end by September 30th, 2022.

3. Project objective and expected outcomes

The main project objective is *to reduce GHG emissions through promotion of investments and a market in the scale up and replication of integrated renewable energy solutions for productive uses and industrial applications* in Cameroon.

The expected **outcomes** are (i) the removal of technology, policy, finance and capacity related barriers for renewable energy and (ii) increase the number of biomass and small hydropower projects for productive uses, developed through public private partnerships and market-based approach, in Cameroon.

The outcome **indicators** are:

- Tons CO₂eq avoided.
- Electricity units (kWh) generated from adoption of biomass and small hydro power and best practices of electricity uses for rural electrification and productive applications

The project consists of the following three technical components and a project monitoring component:

Project component 1: Strengthening the policy and regulatory framework for renewable energy and its enforcement.

Outcome 1: A renewable energy policy and regulatory framework in place, supporting a vibrant renewable energy sector with enhanced private sector confidence and participation in renewable energy generation.

- Output 1.1: Renewable energy policy and regulatory framework enforced.

- Output 1.2: Institutional capacity developed for the formulation and implementation of policy and regulations for promotion of biomass and small hydro projects for rural electrification and productive applications through private sector participation.

Project component 2: Developing mechanisms to promote and sustain private sector investments in renewable energy generation.

Outcome 2: (2.1) Investment mechanism strengthened to support a viable renewable energy generation market; and (2.2) National institutions and key private sector market players have the financial and technical capacities, tools and support base needed to effectively promote and sustain a renewable energy market are developed.

- Output 2.1: Guidelines, best practices, investment incentives, standardized PPAs, tariffs, pricing mechanisms, risk management instruments and viable renewable energy generation business models developed and put in place.
- Output 2.2. Training programs implemented to strengthen the capacity of local banks and institutions in project finance and risk management instruments for renewable energy projects.
- Output 2.3 Renewable energy investment fora held to sensitize investors and promote investor confidence.
- Output 2.4. Targeted technical capacity developed for the design, operation and maintenance of integrated renewable energy systems.
- Output 2.5. An investment guide/toolkit on renewable energy investment potential in Cameroon published to support investors and project developers.
- Output 2.6. Special window for renewable energy under CREF established and operational

Project component 3: Demonstration of the technical and commercial viability of renewable energy mini grids.

Outcome 3: (3.1) Renewable energy mini grids are replicated and become an integral part of Cameroon's electrification program; and (3.2) Installed capacity of renewable energy systems increased.

- Output 3.1: Four mini grids of a combined capacity of up to 2.825 MW and optimizing local renewable energy resources installed and operated to demonstrate the technical and commercial viability of renewable energy systems.
- Output 3.2: Existing and new productive uses identified and value chains promoted for renewable energy utilization.

Project component 4: Monitoring and evaluation.

Outcome 4: (4.1) Project deliverables are tracked and achieved and (4.2) Best practices learnt from this project prepared for future replication and scaling up of projects based on biomass and small hydropower.

- Output 4.1: Demonstration projects monitored throughout project cycle and independently evaluated.
- Output 4.2: Lessons learned are disseminated nationwide to relevant stakeholders to benefit further.

4. Project Implementation and arrangements

As the project implementing agency, UNIDO was responsible for overall project implementation, monitoring and reporting to GEF on project progress and the results achieved, in line with the standard formats of GEF and UNIDO.

The major project stakeholders were:

- i) Ministry of Energy and Water Resources (MINEE) for the execution of the project and the institutional coordination of demonstration projects, policy and regulatory framework
- ii) Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED), where the GEF focal point is located
- iii) the Rural Electrification Agency (AER) responsible for administrating and funding of rural energy projects and facilitating the creation of a special window for RE under the Rural Energy Fund (REF), created by the World Bank (WB) and the Government of Cameroon in 2009).
- iv) Electricity Development Corporation (EDC) for infrastructure development;
- v) Cameroon Electricity Sector Regulation Agency (ARSEL) for policy and regulatory framework development and enforcement;
- vi) the Ministry of Industries, Mines and Technological Development (MINIMIDT)
- vii) the Ministry of Economy, Planning and Regional Development (MINEPAT)
- viii) National, regional and multilateral development banks for funding and operationalization of the financial mechanism
- ix) private sector companies (including members of GICAM, the association of Cameroon industries) for project development and financing
- x) Various other ministries for funding and other strategic support; civil society organizations, universities, technical training colleges, research institutions and district councils for community participation, awareness promotion, capacity development and knowledge management. As a direct recipient or final

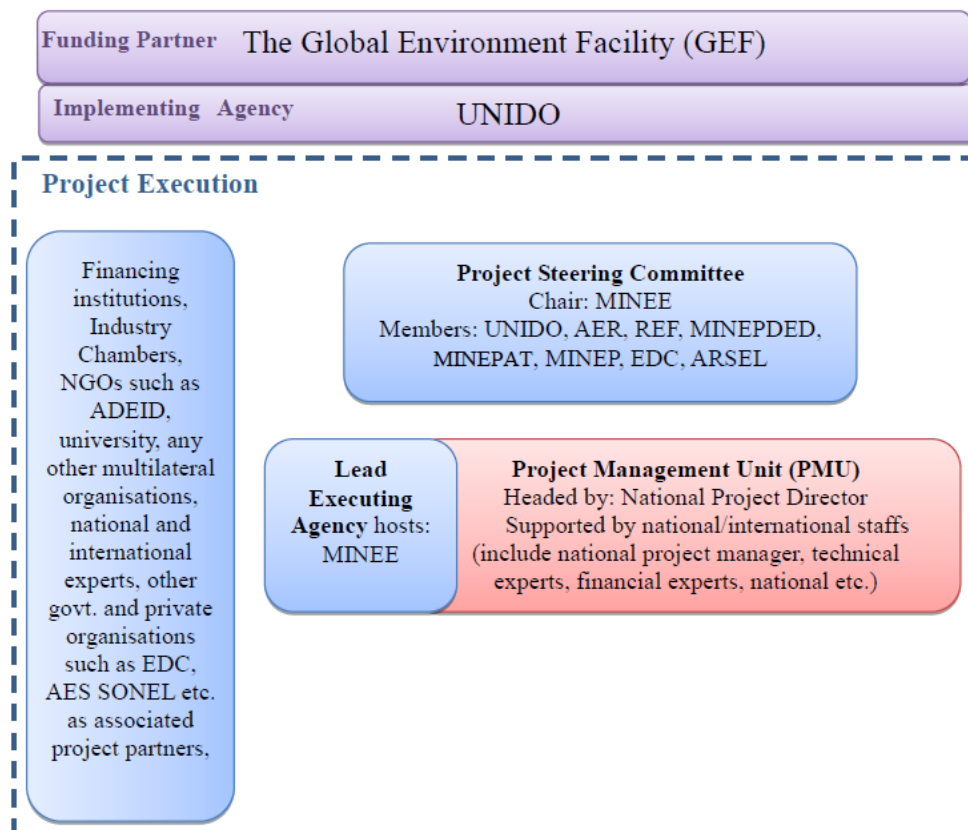
beneficiary of the project interventions, continuous involvement of the local and indigenous people in the project is of utmost importance.

Original Project Management Arrangements

At the CEO endorsement stage, the project was planned to be implemented by UNIDO in collaboration with the Ministry of Energy and Water Resources (MINEE) as the local execution partner (*GEF Local Executing Agency*). The project management team has been comprised by the following:

1. UNIDO - The implementing Agency.
2. MINEE - The executing Agency.
3. The Project Steering Committee (PSC).
4. Project Management Unit (PMU) - Housed at MINEE and comprised of a National Project Director (NPD), Project Manager and other national and international technical staff.

Figure 1. Project management scheme



Source: CEO endorsement

KEY AGENCY	EXPECTED ROLE
UNIDO Implementing agency	<p>UNIDO is the implementing agency for the proposed project and a member of the PSC. UNIDO will provide overall management and guidance from its Cameroon Country Office and the Headquarters in Vienna and is responsible for the delivery of the planned outputs, the achievement of the expected outcomes, monitoring and evaluation of the project as per standard GEF and UNIDO requirements.</p> <p>The UNIDO project manager will be responsible for tracking overall project milestones and progress towards the attainment of the set project outputs and will follow up with the NPD for assessing the overall project progress and advise him, as necessary. The UNIDO project manager will be responsible for the narrative reporting to the GEF. Furthermore, wherever necessary, UNIDO will guide/assist the PMU in properly executing the activities, including the preparation of periodic reports, audits, project evaluation (etc.) for presentation to GEF.</p>
Ministry of Energy and Water Resources (MINEE) Executing Agency	<p>MINEE will be the national executing agency for this project, responsible at the policy level for updating the policy, regulation and its implementation for renewable energy and rural electrification. The MINEE as executing agency, will have the overall responsibility for most of the substantive work to be performed under Project Components. MINEE will be responsible for hosting the Project management Unit (PMU) and designating a senior official as the National Project Director (NPD). MINEE will ensure through the NPD the overall coordination with various ministries and agencies, review and provide substantive inputs to project reports, and look after the administrative arrangements required between the Government of Cameroon and UNIDO.</p>
Project Steering Committee (PSC)	<p>The <i>Project Steering Committee (PSC)</i> will be composed of UNIDO, MINEE, MINEPDED, AER, ARSEL, and EDC; Other members such as financing institutions, regulators, industry chambers, research institutes, private sector/technical partners, regional governors/district mayors (etc.) could be invited as co-opt members by the decision of the PSC as required. The PSC will be chaired by the MINEE and will include at-least one female member as the gender focal point. The PSC will be responsible for taking management decisions related to the project, in particular when guidance is required by the NPD. The PSC plays a critical role in project monitoring and evaluation by providing quality assurance and using evaluations for performance improvement, accountability and learning. The PSC ensures that required resources are properly committed. It arbitrates on any conflicts within the project, or negotiates solutions to any problems with external bodies. The NPD will sign the budgeted Annual Work Plan (AWP) with UNIDO on an annual basis, as per UNIDO rules and regulations. Based on the approved AWP, the PSC will consider and approve the quarterly plans and also approve any essential deviations from the original plans. The PSC will operate in accordance with the GEF and UNIDO policies.</p>
Project Management Unit (PMU)	<p>The Project Management Unit (PMU) will be hosted at MINEE to execute the project. The PMU shall be headed by a National Project Director, who will be responsible for implementing day-to-day activities in coordination with UNIDO. Efforts shall be made to mobilize the project team for the full project tenure to ensure the availability of experts and consultants until the end of project. The NPD will be responsible for overall project execution, including adherence to the AWP and achievement of planned results as outlined in the project components activities and outputs result framework, and for the use of UNIDO-GEF funds through effective management and well-established project review and oversight mechanisms. The NPD, along with UNIDO, will also be in charge of procuring the international expertise needed to deliver the outputs planned under the four project components. It will manage, supervise and monitor the work of the international teams and ensure that deliverables are technically sound and consistent with the requirements of the project. The NPD will report to UNIDO about all progress work of the projects for effective overall implementation monitoring by UNIDO.</p> <p>The PMU will be supported by technical, administration and a finance staff. As needed, adequate numbers of technical experts in different disciplines and project management consultants with expertise in project, finance, legal matters etc. will be associated on long-term</p>

KEY AGENCY	EXPECTED ROLE
	<p>or short-term basis depending upon the workload. In close collaboration with the UNIDO, MINEE and MINEPDED, the PMU will coordinate all project activities being carried out by the national staff, international experts and project partners. It will also be in charge of the organization of the various workshops and trainings to be carried out under project components. The PMU will be funded by the GEF Project budget. During the whole implementation period of the project, UNIDO will provide PMU the necessary management and monitoring support.</p> <p>The PMU will be responsible for the overall operational and financial management, in accordance with financial rules and regulations imposed by UNIDO/GEF for nationally executed projects. It will prepare progress reports, which are to be submitted to UNIDO. It will hold semi-annual meetings with UNIDO and the Government of Cameroon to discuss the progress reports, work plans, budget and any other relevant issues. At the end of the project, the PMU will support the preparation of a project terminal report, which is to be submitted to the advisory group at least two weeks before the Terminal meeting.</p>
Technical partners and local stakeholders	<p>AER, as the co-financing agency, will have an important role in providing local technical support for the preparation of technical reports, for the selection of contractors (through technical evaluations, as per UNIDO/GEF guidelines), power plant development, suggest appropriate candidates for trainings during the project implementation, etc.</p> <p>Along with AER, the EDC also will be an important stakeholder, as they provide technical inputs on the issues that may arise for the implementation of policy and regulatory guidelines, under the component 1 of the project.</p> <p>The district councils and the beneficiary village chiefs will be responsible under their capacity to provide adequate labor force, office space, land and other facilities for the completion of the pilot projects within the stipulated timeframe.</p>

Actual Project Management Arrangement

The management arrangements were not implemented in line with the approved Project Document (CEO Endorsement). The main alterations occurred are:

- The functions defined for a National Project Director have been delegated to a National Project Coordinator, appointed by UNIDO.
- The MINEE, ultimately did not undertake the responsibility for hosting the PMU.
- UNIDO established a Project Monitoring Committee, to cover for the absence of the PSC, which failed to be created.

5. Budget information

The expected sources of co-financing for the project at the CEO endorsement are presented below.

Table 5. Expected Co-financing for the project

Sources of Co-financing	Name of Co-financier (source)	Type of Co-financing	Co-financing Amount (\$)
GEF Agency	UNIDO	In-kind	240,000

GEF Agency	UNIDO	Cash	60,000
National Government	AER	Cash	10,000,000
Total Co-financing			10,300,000

Source: CEO endorsement

Table 6. Expected financing plan summary⁶

Sources of financing	Name of financier	Type of financing	Amount (\$)
GEF Agency (Donor)	UNIDO	Grant	2,000,000
GEF Agency	UNIDO	Co-financing (Cash and In-kind)	300,000
National Government	AER	Co-financing (Cash)	10,000,000
Total			12,300,000

Source: CEO endorsement

Expenditures until the 15 December 2021 was the GEF grant, 2,000,000 USD, distributed among the components as presented below.

Table 7. Financing summary (by Outcome)⁷

Project outcomes	Amount	Co-Financing	Total (\$)	%/Total
Outcome 1	237,475.72	0	237,475.72	11.9%
Outcome 2	1,094,500.00	0	1,094,500.00	54.7%
Outcome 3	388,000.00	0	388,000.00	19.4%
Outcome 4	280,024.28	0	280,024.28	14.0%
Total (\$)	2,000,000.00	0	2,000,000.00	100.0%

Note: This distribution changed according to the plans defined during implementation.

⁶ Source: Project document (CEO endorsement)

⁷ Source: Budget vs. Commitment/Actual document, 20211215_Available_Budget_Project_ID_120335_CMV.xls.

Table 8. UNIDO Expenditure Items (US Dollars)

Item	2014	2015	2016	2017	2018	2019	2020	2021 ⁸	Total expenditure
Staff & Intern Consultants		5722.8	10736.6	68959.5	32863.2	50,205.0	83,086.4	108,268.6	359,842.1
Local travel	5,854.9	12455.7	8973.4	6396.3	5553.7		10,251.0	610.6	50,095.6
Staff Travel							17.9		17.9
Nat. Consultants / Staff		19479.6	70316.5	60712.5	53,901.0	56,557.1	51,566.6	55,222.4	367,755.7
Contractual Services		823.0		212.7	346872.0	15,973.6	2,184.9	19,900.0	385,966.2
Train/Fellowship/Study		2,681.4		46,130.8	22,729.9	34,422.9	1,380.2	113.9	107,459.1
International Meetings			13,968.5	3,997.0		3,241.6		-72.0	21,135.1
Premises			36.1		4,134.0			3,079.1	7,249.2
Equipment		153,164.6	617.3	1,965.8			534.0	21.8	156,303.5
Other Direct Costs	84.9	6,643.4	6,906.0	5,162.3	6,081.3	8,349.9	13,315.4	9,560.4	56,103.6
Support Cost IDC							4,777.0		4,777.0
Grand Total	5,939.8	200,970.5	111,554.4	193,537.0	472,135.1	168,750.0	167,113.4	196,704.7	1,516,704.7

Table 9. UNIDO Expenditure/Budget Items (US Dollars)

Item	Total expenditure ⁹	2021 Available funds ¹⁰	2022 Available funds	Available funds	Total Budget	%/Total
Staff & Intern Consultants	359,842.1	11,731.4	75,000.0	86,731.40	446,573.5	22.3%
Local travel	50,095.6	5,889.4	10,000.0	15,889.40	65,985.0	3.3%
Staff Travel	17.9	500.0	3,500.0	4,000.00	4,017.9	0.2%
Nat. Consult./Staff	367,755.7	14,777.6	112,000.0	126,777.60	494,533.3	24.7%
Contractual Services	385,966.2	20,100.0	77,500.0	97,600.00	483,566.2	24.2%
Train/Fellowship/Study	107,459.1	5,386.1	29,000.0	34,386.10	141,845.2	7.1%
International Meetings	21,135.1	72.0	7,000.0	7,072.00	28,207.1	1.4%
Premises	7,249.2	421.0	10,000.0	10,421.00	17,670.2	0.9%

⁸ Budget planning and expenses on 15th December 2021⁹ From Table 8. UNIDO Expenditure Items (US Dollars)¹⁰ Budget planning and expenses on 15th December 2021

Item	Total expenditure ⁹	2021 Available funds ¹⁰	2022 Available funds	Available funds	Total Budget	%/Total
Equipment	156,303.5	5,978.2	65,000.0	70,978.20	227,281.7	11.4%
Other Direct Costs	56,103.6	2,439.6	7,338.1	9,777.70	65,881.3	3.3%
Contingencies		2,000.0	5,060.6	7,060.60	7,060.6	0.4%
Support Cost IDC	4,777.0		12,601.3	12601.3	17,378.3	0.9%
Grand Total	1,516,704.7	69,295.3	414,000.0	483,295.3	2,000,000.0	100%

II. Purpose and scope of the evaluation

The purpose of the evaluation is to independently assess the project to help UNIDO improve performance and results of ongoing and future programs and projects. The terminal evaluation (TE) will cover the whole duration of the project, from its starting date in August 2014 to the estimated completion date in September 2022.

The evaluation has two specific objectives:

- i. Assess the project performance in terms of relevance, effectiveness, efficiency, sustainability and progress to impact; and
- ii. Develop a series of findings, lessons and recommendations for enhancing the design of new and implementation of ongoing projects by UNIDO.

III. Evaluation criteria and key questions

The key evaluation questions are the following:

- (a) What are the key drivers and barriers to achieving the project's long-term objectives? To what extent has the project helped put in place the conditions likely to address the drivers, overcome barriers and contribute to the long-term objectives?
- (b) How well has the project performed? Has the project done the right things? Has the project done things right, with good value for money?
- (c) What have been the project's key results (outputs, outcome and impact)? To what extent have the expected results been achieved or are likely to be achieved? To what extent the achieved results will sustain after the completion of the project?
- (d) What lessons can be drawn from the successful and unsuccessful practices in designing, implementing and managing the project?

The evaluation will assess the sustainability of project results after the project completion. It will also assess key risks (e.g., in terms of financial, socio-political, institutional and environmental risks) and explain how these risks may affect the continuation of results after the project ends. Table 10 below provides the evaluation criteria to be assessed by the evaluation. The detailed questions to assess each evaluation criterion are in annex 2.

Table 10. Evaluation criteria

	Evaluation criteria	Mandatory rating
A	Impact	Yes
B	Project design assessment	Yes
1	Project design	Yes
2	Project results framework/log frame	Yes
C	Project performance and progress towards results	Yes
1	Relevance	Yes
2	Effectiveness and progress towards expected results	Yes
3	Efficiency	Yes
4	Gender mainstreaming	Yes
5	Coherence	Yes
6	Sustainability	Yes
7	Remaining barriers for renewable energy in Cameroon	Yes
D	Project implementation management	Yes
1	Project management	Yes
2	Results-based work planning, monitoring and evaluation, reporting	Yes
3	Financial management and co-financing	Yes
4	Stakeholder engagement and communication	Yes
E	Performance of Partners	Yes
F	Environmental and Social Safeguards (ESS)	Yes
G	Overall Assessment	Yes

IV. Evaluation approach and methodology

The TE will be conducted in accordance with the UNIDO Evaluation Policy¹¹, the UNIDO Evaluation Manual (2018) and the GEF Guidelines for GEF Agencies in Conducting Terminal Evaluations, the GEF Monitoring and Evaluation Policy and the GEF Minimum Fiduciary Standards for GEF Implementing and Executing Agencies.

The evaluation will be carried out as an independent in-depth evaluation using a participatory approach, whereby all the key parties associated with the project will be informed and consulted throughout the evaluation. The evaluation team (ET) leader will liaise with the UNIDO Independent Evaluation Division (ODG/EIO/IED) on the conduct of the evaluation and methodological issues.

The evaluation will use a theory of change approach and mixed methods to collect data and information from a range of sources and informants. It will pay attention to triangulating

¹¹ UNIDO. (2015). Director General's Bulletin: Evaluation Policy (UNIDO/DGB/(M).98/Rev.1)

the data and information collected before forming its assessment. This is essential to ensure an evidence-based and credible evaluation, with robust analytical underpinning.

The theory of change will identify causal and transformational pathways from the project outputs to outcomes and longer-term impacts, and drivers as well as barriers to achieve them. The learning from this analysis will be useful to for the design of future projects.

Following are the main instruments for data collection:

- (a) **Desk and literature review** of documents related to the project, including but not limited to:
 - The original project document, monitoring reports such as progress and financial reports, mid-term review report, work plan in the shape of Gantt schedules, output reports, back-to-office mission report(s), end-of-contract report(s) and relevant correspondence. A list of key documents will be provided by the UNIDO project team.
 - Notes from the meetings of committees involved in the project.
- (b) **Stakeholder consultations** will be conducted through structured and semi-structured interviews and focus group discussion. A list of key contact will be provided by the UNIDO project team. Key stakeholders to be interviewed include:
 - UNIDO Management and staff involved in the project; and
 - Representatives of donors, counterparts and stakeholders.
- (c) **Field visit** to project sites in Cameroon (ideally back-to-back to the final PSC meeting).

V. Time schedule and deliverables

The evaluation is scheduled to take place from June to September 2022. The evaluation field mission is tentatively planned for the end of July, beginning of August, 2022. At the end of the field mission, there will be a presentation of the preliminary findings for all stakeholders involved in this project in Cameroon. The tentative timelines are provided in Table 11.

After the field visit, the evaluation team leader will meet with UNIDO HQ in Vienna (or via virtual means) for debriefing and presentation of the preliminary findings of the terminal evaluation. The draft TE report will be submitted up to 6 weeks after the end of the mission.

The draft TE report is to be shared with the UNIDO project management unit, UNIDO Independent Evaluation Division, the UNIDO GEF Coordinator and GEF OFP and other

stakeholders for receipt of comments. The ET (evaluation team) leader is expected to revise the draft TE report based on the comments received, edit the language and form and submit the final version of the TE report in accordance with UNIDO ODG/EIO/EID standards.

Table 11. Tentative schedule¹²

Activity	Tentative timing
Recruitment of the evaluation team	July-August 2022
Desk review	Mid-August 2022
Inception report (including updated TOC and evaluation matrix) Briefing with UNIDO headquarters	End August 2022
Data collection, including field visits, surveys, interviews, focus groups, etc.	Early September 2022
Presentation to national stakeholders	Mid-September 2022
Debriefing on preliminary findings for UNIDO HQ	Mid-September 2022
Preparation of the first draft of the report	September-Oct. 2022
First draft submitted to ODG/EIO/IED and thereafter to stakeholders for fact-checking	Mid-October 2022
Submission of final and revised Independent Evaluation Report	Early November 2022

The evaluation report will be done in English.

VI. Evaluation team composition

The evaluation team will be composed of one evaluation consultant acting as the team leader and one national evaluation consultant. The team members will possess relevant experience and skills in evaluation design and conduct with expertise and experience in innovative renewable energy technologies. Both consultants will be contracted by UNIDO. According to UNIDO Evaluation Policy, members of the evaluation team must not have been directly involved in the design and/or implementation of the project under evaluation. The tasks of each team member are specified in the job descriptions annexed to these terms reference.

¹² These dates are subject to revision based on both UNIDO's procedures during the COVID-19 crisis and existing regulations inside Cameroon on COVID-19

The evaluation will be managed and supervised by an evaluation manager appointed by UNIDO ODG/EVQ/IEV. The UNIDO Project Manager and national project teams will act as resourced persons and provide support to the evaluation team and the evaluation manager.

The UNIDO Project Manager and the project team in Cameroon will support the evaluation team. The UNIDO GEF Coordinator and GEF OFP(s) will be briefed on the evaluation and provide support to its conduct. GEF OFP(s) will, where applicable and feasible, also be briefed and debriefed at the start and end of the evaluation mission.

VII. Reporting

This Terms of Reference (ToR) provide some information on the evaluation methodology, but this is not exhaustive. After reviewing the project documentation and initial interviews with the project manager, the Team Leader will prepare, in collaboration with the national evaluator, an inception report that will elaborate further on the evaluation questions, outline the data collection methods (qualitative and quantitative), draw up a theory of change to guide the evaluation's analysis and, thus, present the evaluation methodology. It will be discussed with and approved by the responsible UNIDO Evaluation Manager.

Evaluation report format and review procedures

The draft report will be delivered to UNIDO's Independent Evaluation Division (the suggested report outline is in Annex 4) and circulated to UNIDO staff and national stakeholders associated with the project for factual validation and comments. Any comments or responses, or feedback on any errors of fact to the draft report provided by the stakeholders will be sent to UNIDO's Independent Evaluation Division for collation and onward transmission to the project evaluation team who will be advised of any necessary revisions. On the basis of this feedback, and taking into consideration the comments received, the evaluation team will prepare the final version of the terminal evaluation report.

The ET will present its preliminary findings to the local stakeholders at the end of the field visit and take into account their feed-back in preparing the evaluation report. A presentation of preliminary findings will take place at UNIDO HQ after the field mission.

The TE report should be brief, to the point and easy to understand. It must explain the purpose of the evaluation, exactly what was evaluated, and the methods used. The report must highlight any methodological limitations, identify key concerns and present evidence-based findings, consequent conclusions, recommendations and lessons. The report should provide information on when the evaluation took place, the places visited, who was

involved and be presented in a way that makes the information accessible and comprehensible. The report should include an executive summary that encapsulates the essence of the information contained in the report to facilitate dissemination and distillation of lessons.

Findings, conclusions and recommendations should be presented in a complete, logical and balanced manner. The evaluation report shall be written in English and follow the outline given in annex 4. Afterwards the report will be translated to French. The latter is important for counterparts.

VIII. Quality assurance

All UNIDO evaluations are subject to quality assessments by UNIDO Independent Evaluation Division. Quality assurance and control is exercised in different ways throughout the evaluation process (briefing of consultants on methodology and process of UNIDO Independent Evaluation Division, providing inputs regarding findings, lessons learned and recommendations from other UNIDO evaluations, review of inception report and evaluation report by UNIDO's Independent Evaluation Division).

The quality of the evaluation report will be assessed and rated against the criteria set forth in the Checklist on evaluation report quality, attached as Annex 5. The applied evaluation quality assessment criteria are used as a tool to provide structured feedback. UNIDO Independent Evaluation Division should ensure that the evaluation report is useful for UNIDO in terms of organizational learning (recommendations and lessons learned) and is compliant with UNIDO's evaluation policy and these terms of reference. The draft and final evaluation report are reviewed by UNIDO Independent Evaluation Division, which will submit the final report to the GEF Evaluation Office and circulate it within UNIDO together with a management response sheet.

Annex 1: Current Project Results Framework and conclusions from the MTR, as of December 2021

Expected results	Indicator	Baseline and Project Target	Means of verification	Assumptions
Component 1 – Strengthening the policy and regulatory framework for renewable energy and its enforcement				
Outcome 1: A renewable energy policy and regulatory framework in place, supporting a vibrant renewable energy sector with enhanced private sector confidence and participation in renewable energy generation				
Output 1.1: A renewable energy policy and regulatory framework in place, supporting a vibrant renewable energy sector with enhanced private sector confidence and participation in renewable energy generation	<ul style="list-style-type: none"> i. Appropriate policy and regulatory framework for renewable energy promotion in Cameroon is developed and enforced. ii. Biomass extraction and utilization policy and water use policy for power generation is developed and adopted. iii. System at local level developed to monitor the sustainability of biomass extraction 	<p><u>Baseline:</u></p> <ul style="list-style-type: none"> ▪ At present there is no specific policy and regulations on renewable energy. ▪ There is no policy for sustainable extraction and utilization of biomass or water use for power generation in the country. <p><u>Targets:</u></p> <ol style="list-style-type: none"> 1) Policy and regulatory guidelines developed within 1 year of the project start 2) Policy adopted within 2 year of project approval (Q4, year 2). 3) Biomass extraction and utilization policy and water use policy developed and adopted by Q4 year2. 4) Local level monitoring tool and system to check biomass extraction sustainability and enforce restriction developed and enforced by Q4 year 2 	<ul style="list-style-type: none"> ▪ Policy and regulatory guidelines document. And its strategic implementation plan. ▪ Policy document on sustainable biomass extraction and utilization. 	<p><u>Assumptions:</u></p> <ul style="list-style-type: none"> ▪ Government of Cameroon remains committed to small hydro power to improve energy scenario in the country. ▪ Different government department and agencies appreciate, support and adapt the renewable energy development policy and regulations. ▪ Relevant government department, (specially the ministries handling forest, agriculture, energy and environment departments) agrees on the need for and importance of such policy.
Output 1.2: Institutional capacity developed for the formulation and implementation of policy and regulations for promotion of biomass and small hydro projects for rural electrification and productive applications through	<ul style="list-style-type: none"> i. Documented capacity building modules for government stakeholders related to policy, regulation and RE project implementation. ii. Number of capacity building programs conducted successfully on policy and regulations formulation for renewable energy systems and its implementation. iii. Number of government officers trained and given responsibility of preparation and implementation of RE 	<p><u>Baseline:</u></p> <ul style="list-style-type: none"> ▪ Low capability and capacity of government institutions for formulating appropriate policy and regulatory guidelines for RE promotion in country. <p><u>Targets:</u></p> <ol style="list-style-type: none"> 1) List of candidates received from each stakeholder by 1st year of the project. (Q2, Year1). 2) Capacity building modules developed within 1 year of project start (Q4, Year1). 3) Two to three capacity building programs for the government agencies conducted during the second to fourth year of the project. 	<ul style="list-style-type: none"> ▪ List of stakeholders. ▪ Note on stakeholders need assessment ▪ Proceedings of capacity building programs. ▪ List of government officers trained from each stakeholder organizations. 	<p><u>Assumptions:</u></p> <ul style="list-style-type: none"> ▪ Central government remains committed towards development of renewable energy in the country. ▪ Relevant stakeholders show interest and take part in the capacity building programs.

Expected results	Indicator	Baseline and Project Target	Means of verification	Assumptions
private sector participation.	related policies and regulations. iv.Number of stakeholders trained on sustainable biomass extraction policy and the biomass power projects following the guidelines of the policy.	4) Two capacity building programs on policy for sustainable extraction and utilization of biomass resources for power generation.		
<p>Conclusions from the MTR until December 2021</p> <p>A significant part of the activities undertaken in this component involved meetings with government stakeholders, urging the need to develop policies and a regulatory framework for renewable energy and providing recommendations for this purpose. Other reported activities are an improvement in the Policy framework on SHP, with alterations in Call for Tender’s Documents, contributions to the development of guidelines for conducting feasibility studies of SHP, contributions for policy research on mini-grids, and training on EIA policy formulation and implementation. According to latest project implementation reports, no further progress has been made related to the development of renewable energy Policy and regulatory guidelines as well as capacity building. Limited funds and ineffective discussions with national stakeholders have led to renewable energy regulatory framework and policy development falling short of expectations. It is required a great government engagement developing and implementing this component (Strengthening the policy and regulatory framework for renewable energy). Lastly, an important activity of this component is a development and enforcement of Biomass extraction and utilization policy, and water use policy for power generation. This activity had no progress. More financial investment would be required for these activities.</p>				
<p>Component 2 – Developing mechanisms to promote and sustain private sector investments in renewable energy</p>				
<p>Outcome 2:</p> <p>1.1 Investment mechanism strengthened to support a viable renewable energy generation market</p> <p>1.2 National institutions and key private sector market players have the financial and technical capacities, tools and support base needed to effectively promote and sustain a renewable energy market.</p>				
<p>Output 2.1: Guidelines, best practices, investment incentives, standardized PPAs, tariffs, pricing mechanisms, risk management instruments and viable renewable energy generation business models</p>	<p>i.Project developers and investors making use of experiences highlighted in the collected case studies and best practices of investment in renewable energy specially biomass and small hydropower projects. ii.Project viability evaluation framework developed and adopted.</p>	<p><u>Baseline:</u></p> <ul style="list-style-type: none"> ▪ At present the financing instruments and tariff structure for making renewable energy projects viable in country are not available. <p><u>Targets:</u></p> <ol style="list-style-type: none"> 1) Best practices prepared by end of 1 year from project start. 2) Parameters for project evaluation identified and developed by end of 1st year of the project. 3) Incentive structure including tax benefit guidelines are developed by end of 1.5 year of 	<ul style="list-style-type: none"> ▪ Document on best practices. ▪ Incentive and tariff structures. ▪ PPA document. ▪ Project evaluation framework. ▪ Document on business models. 	<p><u>Assumptions:</u></p> <ul style="list-style-type: none"> ▪ The Cameroon government, MINEE and ARSEL cooperate in the formulation and adoption of the guidelines and various implementation mechanisms. ▪ Private sector finds the incentive structure defined attractive.

Expected results	Indicator	Baseline and Project Target	Means of verification	Assumptions
developed and put in place	iii.Number of projects availing financial/fiscal incentives set under this project. iv.Number of power purchase agreement signed as per the standard PPA and tariff rates for renewable energy Number of renewable energy projects being implemented as per developed viable business models under the project. v.Number of local banks that accepted guarantee schemes vi.Number of RE investments supported by local banks thanks to the loan guarantee scheme	project start and put in place by end of year 2016 4) PPA documents including tariff rates developed and adopted by at least 5 developers by end of 2nd year of the project. 5) Viable business models developed and explained to various stakeholders (at least 10 by end of 2nd year of the project start. 6) Identify partners with adequate experience in guaranteed schemes and banks interested in entering the scheme to lend to RE projects 7) Established guarantee schemes for banks interested to lend to RE projects 8) Start of implementation of at least 10 numbers of renewable energy projects utilizing the business model(s) developed and availing financial/ fiscal incentives by the end of the project		
Output 2.2: Training program implemented to strengthen the capacity of local banks and institutions in project finance and risk management instruments for renewable energy projects.	i.Financing risk reduction instruments which are available in the country are put in place for renewable energy project financing. ii.Number of private sector projects availing benefits of the developed financial risk management instruments and the amount of financing received by such projects. iii.Number of capacity building programs organized for financing institutions for sensitizing them about RE project viability and project risk management instruments are.	<u>Baseline:</u> ■ At present financing institutions do not consider renewable energy projects in their priority. They also have less capacity in understanding the RE projects and risk mitigation options for financing. <u>Targets:</u> 1) At least 5 local banks and other financing institution's capacity assessed by end of the 1st year. 2) Financial risk management instrument identified and put in place for the RE projects in country by end of 1.5 year of the project. 3) Two capacity building programs organized during year 2 and 3 of the project.	■ List of financing institutions and their assessment findings. ■ Information on financial risk management instrument. ■ Proceedings of capacity building program.	<u>Assumptions:</u> ■ Financing institutions take interest in participation for capacity building on financing for renewable energy development

Expected results	Indicator	Baseline and Project Target	Means of verification	Assumptions
<p>Output 2.3: Renewable energy investment fora held to sensitize investors and promote investor confidence</p>	<p>i.Important stakeholders which include government bodies, industries, private sector investors and project developers, financing institutions including national banks and international funding agencies etc. giving commitments for RE financing. ii.Number of investment forums organized, and the funding committed by the stakeholders. iii.Amount of funding leveraged from various investors/financers.</p>	<p><u>Baseline:</u></p> <ul style="list-style-type: none"> ▪ At present there is less awareness, confidence, and linkages among various stakeholders for renewable energy development and its benefits. ▪ There are no funding/investment commitments for renewable energy projects. <p><u>Targets:</u></p> <ol style="list-style-type: none"> 1) Candidate’s list from identified stakeholders received within 6 months of the start of the project. 2) Agenda and discussion points for investment fora developed by end of 1.5 year of the project start 3) At least 2 numbers of investment fora organized during the year 2 and 3 of the project start. 	<ul style="list-style-type: none"> ▪ List of stakeholders. ▪ Proceedings of the investment fora. ▪ Funding declarations/MoU signed if any. 	<p><u>Assumptions:</u></p> <ul style="list-style-type: none"> ▪ Private entrepreneurs and local stakeholders are interested in the participation in such fora. ▪ Government of Cameroon remains committed for development of RE through private sector participation.
<p>Output 2.4: Targeted technical capacities developed for the design, operation, and maintenance of integrated renewable energy systems.</p>	<p>i.Number of training programs organized on the design, operation and maintenance of integrated renewable energy systems and number of people trained. ii.Number of trained people engaged in different activities of RE project implementation, operation, and management. iii.Number of people making use of the training</p>	<p><u>Baseline:</u></p> <ul style="list-style-type: none"> ▪ Lack of technical capacity for RE design, installation and operation. <p><u>Targets:</u></p> <ol style="list-style-type: none"> 1) Work plan developed by Q1 of the first year of the project start 2) Stakeholders’ participant’s list received within 6 months of project start. 3) Training modules developed within 1.5 year of the project start 4) 2 training programs for turbine manufacturers organized during 2nd and 3rd year of project and at least 5 number of people/prospective turbine manufacturers trained 5) 2 training programs on designing and implementation of renewable energy projects for private sector organized during 2nd and 3rd year of the project. (Also, the in-plant training during commissioning of the 	<ul style="list-style-type: none"> ▪ List of stakeholders which include the government institutions, agencies, private sector (manufacturers, project developers and service providers), technicians and engineers at private sector institutions and community level etc. trained for biomass and small hydropower plants. ▪ Training modules. ▪ Proceedings of training programs. 	<p><u>Assumptions:</u></p> <ul style="list-style-type: none"> ▪ Sufficient number of stakeholders exists in the country with interest in renewable energy sector. ▪ Good participation expected from all categories of the stakeholders.

Expected results	Indicator	Baseline and Project Target	Means of verification	Assumptions
		<p>plant) and at least 10 number of people trained</p> <p>6) 2-3 training programs organized for the operation and maintenance service providers during 3rd and 4th year of the project and at least 15-20 number of people/service providers trained</p> <p>7) Two training programs organized for the management of RE mini-grid distribution projects in rural areas by the Q2, Y4 and at least 15-20 number of people trained</p> <p>8) 30-40 People making use of the trainings</p> <p>9) Future training plan developed by the end of the project</p>		
<p>Output 2.5: An investment guide/toolkit on renewable energy investment potential in Cameroon published to support investors and project developers.</p>	<p>i.Developed toolkit for assessing benefits of investment in renewable energy.</p> <p>ii.Growth in number of interested private sector investors/financiers utilizing the toolkits to assess the investment potential in the country.</p>	<p><u>Baseline:</u></p> <ul style="list-style-type: none"> ▪ At present no such toolkit available in the country. <p><u>Targets:</u></p> <ol style="list-style-type: none"> 1) Toolkit developed by end of 2nd year of the project (This will be based on the need assessment and various policy and incentive mechanisms developed under different output activities). 2) Dissemination of the toolkit through workshop to at least 10-15 persons by 2.5 to 3 years of the project. 3) At least 5-10 numbers of Private sector investors/financiers using the toolkit to assess the investment potential in renewable energy projects in Cameroon. 	<ul style="list-style-type: none"> ▪ Documentation on toolkit and toolkit itself. ▪ Proceedings of the dissemination workshop. ▪ List of interested private sector investors and financing agencies for renewable energy development in Cameroon. 	<p><u>Assumptions:</u></p> <ul style="list-style-type: none"> ▪ Private sector actively takes part and mentions their expectations from government and benefits from RE projects. ▪ Private sector finds the tool useful and takes part in its use effectively.
<p>Output 2.6: A special window dealing with renewable energy established and operational within CREF.</p>	<p>i.Estimated amount of fund needed to support renewable energy projects to meet certain targets, and the amount of such fund established within REF to support the RE projects.</p>	<p><u>Baseline:</u></p> <ul style="list-style-type: none"> ▪ Present CREF have no specific arrangement or mechanism for long term financing resource for renewable energy projects. <p><u>Targets:</u></p> <ol style="list-style-type: none"> 1) Assessment of present CREF and interaction with relevant stakeholders completed within 	<ul style="list-style-type: none"> ▪ Assessment and fund estimation reports. ▪ Report on the mechanism for special window under CREF for RE funding. ▪ Existence of the special window. 	<p><u>Assumptions:</u></p> <ul style="list-style-type: none"> ▪ All the ministries responsible for energy sector and financial arrangement work in coordination.

Expected results	Indicator	Baseline and Project Target	Means of verification	Assumptions
	ii.Special window having dedicated fund for renewable energy investment in the Cameroon under REF is established and made operational. iii.Number of projects receiving support and services from the special window till the end of the GEF project period.	6 months of the estimated within 1 year of project start. 2) Mechanism for special window under CREF developed within 1.5 Year of project start. 3) One training for the implementation of the mechanism of operation of special window under RE organized and at least 5 number of people trained by Q1 Year2. 4) Operation and services of the special window starts immediately after its establishment and at least 20-30 number of projects approach the window for support	<ul style="list-style-type: none"> ▪ List of projects and services provided by the special window. 	<ul style="list-style-type: none"> ▪ Donor agencies accept the approach of routing RE financing through the single window. ▪ Private investor finds services of special window reliable within reasonable cost.
<p>Conclusions from the MTR until December 2021</p> <p>The developed activities include identification of stakeholders, several trainings, several sensibilization workshops held throughout the country, an international investment forum held to sensitize investors and promote the SHP potential in Cameroon, and a presentation of Manjo’s DPRs were presented during the Hydro 2019 forum. Limited funds also affected the implementation of component 2 activities. The activities had to be adapted in order to obtain some achievement related to the expected outcomes. Because of these changes, the progress highlighted often does not correspond exactly to the established indicators and targeted results. This component aims to create standard tools and mechanisms to evaluate and promote development of renewable energy. Few of these elements were produced. Discussions on PPAs, tariffs, pricing took place, an investment toolkit in SHP was developed, but the intended development of guidelines, toolkits and mechanisms is yet to be achieved.</p> <p>Training activities had a significant emphasis during the implementation of the project. Most of the capacity building was related to the SHP: project appraisal, environmental and social impacts, identification of potential sites for SHP, planning of renewable energy projects, GIS applied to SHP projects. The biomass capacity building has not made the same progress, as its activities started later, in January 2020, so its development is yet to take place. The trainings for biomass are planned to take place after the start of the unit’s installation.</p> <p>Regarding the involvement and capacity building of local banks and institutions, the stakeholders were identified. Some activities to sensitize the key players were carried out. The following activities have not been addressed due to financial constraints.</p>				
<p>Component 2 – Developing mechanisms to promote and sustain private sector investments in renewable energy</p>				
<p>Outcome 3:</p> <p>3.1 Renewable energy mini grids are replicated and become an integral part of Cameroon's electrification program</p> <p>3.2 Installed capacity of renewable energy systems increased</p>				
<p>Output 3.1: Four integrated electricity mini grids of a</p>	i.Functional commissioned demonstration projects. ii.Amount of financing or incentives utilized by the	<u>Baseline:</u> <ul style="list-style-type: none"> ▪ NA. <u>Targets:</u>	<ul style="list-style-type: none"> ▪ Detailed Project Report. ▪ EPC contract. ▪ Project commissioning reports. 	<u>Assumptions:</u>

Expected results	Indicator	Baseline and Project Target	Means of verification	Assumptions
combined capacity of up to 2.825 MW and optimizing local renewable energy resources installed and operated to demonstrate the technical and commercial viability of renewable energy systems.	demonstration projects through the financing risk management instruments put in place under component 2 of this project.	<ol style="list-style-type: none"> 1) Work plan developed by Q1 of year 1 of the project. 2) DPRs for all projects prepared within 9 months of the project start, with the identification of electricity distribution route and financial closure achieved clearly indicating the share of financing/investment by different stakeholders 3) Selection of all the vendors and technology providers completed within 1 year of the project start. 4) EPC contract awarded within 1 year of the project start. 5) Projects commissioning completed within 2 years of the EPC contract award. 6) Plant O&M training modules ready within 2 years of the project start. 7) Operation and management plan adapted within 2.5 year of the project start. 8) Operating parameters set by the time of the commissioning of the plants. 	<ul style="list-style-type: none"> ▪ O&M manuals. ▪ Management plans. ▪ Operating parameter guidelines. 	<ul style="list-style-type: none"> ▪ Best practices and standards are applied during preparation of DPRs. ▪ Global vendors and service providers take part interestingly in providing their technology and services for plant commission in Cameroon. ▪ Government of Cameroon as well as local authorities and villagers provide full support during the commissioning of the project. ▪ Local technicians and engineers get well trained for the operation and maintenance of the plant, by the time of plant commissioning.
<p>Output 3.2: Existing and new productive uses identified, and value chains promoted for renewable energy utilization.</p>	<ol style="list-style-type: none"> i.Number of Identified productive applications being powered through the demo project. ii.Number of people sensitized and trained about productive applications of biomass and small hydroelectricity. iii.Number of entrepreneurs which would show their interest to get power from any such future mini grid project. 	<p><u>Baseline:</u></p> <ul style="list-style-type: none"> ▪ NA. <p><u>Targets:</u></p> <ol style="list-style-type: none"> 1) Existing and future productive applications and interested users identified. Estimated target is <ul style="list-style-type: none"> - About 40 palm oil extraction units - About 5 cassava processing units - About 5 coffee processing units. 2) Two awareness and training programs for productive usage organized among villagers in the project area by the end of 2nd year of the project start. 	<ul style="list-style-type: none"> ▪ List of interested villagers for entering into micro enterprise business through biomass and small hydroelectricity. ▪ Proceedings of the awareness program. 	<p><u>Assumptions:</u></p> <ul style="list-style-type: none"> ▪ Enough number of villagers takes interest in productive use of electricity. ▪ Government support financing for the productive ventures such as machineries and other equipment.
<p>Conclusions from the MTR until December 2021 <u>Mini-hydro projects</u></p>				

Expected results	Indicator	Baseline and Project Target	Means of verification	Assumptions
<p>The activities related to these projects had a significant advanced. Prefeasibility studies of several SHP sites were conducted. From this, the Mbakaou small hydropower project was successfully developed. This project is an indication that the program is boosting the market for SHP. Two sites were selected for the demonstration projects under this component, the Manjo and Bafang Small Hydro Project. And from 2018 to 2020, the Detailed Project Reports were prepared. Grid connections studies and EIA were also conducted, leading to the award of a legal permit. Negotiations for these projects are straightforward and do not appear to encounter many setbacks. The funds for these projects are not yet secured. Though, the lack of co-financing has impacted further development.</p> <p><u>Biomass projects</u></p> <p>Two sites were identified for the implementation of biomass demonstration projects, Foyemtcha Chefferie and Essekou. A “Feasibility and project design study” was produced for this two projects. The studies for these projects include the technologies assessment, recommendations and consumption and market estimation. The consumption estimate is relatively conservative.</p> <p>On the Foyemtcha Chefferie case, CBE report recommends the adoption of dual engines instead of the adoption of purely gas engines. The mandatory consumption of diesel raises some concerns on the GHG emissions, such as the risk that diesel will be always an alternative if the biomass is neglected. The project stakeholders acknowledge the risks associated with the combined systems, but explains that at this point this is the best economically feasible and reliable option, and the reduction of GHG emissions is ensured for the design operation of the system. Recommendations are considered for future scale-up.</p> <p>For the Essekou project, the gasification as the biomass conversion-to-power technology instead of AD solution was selected based on the availability of agriculture woody biomass.</p> <p>The plan is to install the biomass units by the end of the project with available funds and some financial support from MINEE.</p>				
<p>Component 4: Monitoring and evaluation</p>				
<p>Outcome 4:</p>				
<p>4.1 Project deliverables are tracked and achieved and</p>				
<p>4.2 Best practices learnt from this project prepared for future replication and scaling up of projects based on biomass and small hydropower.</p>				
<p>Output 4.1: Demonstration projects monitored throughout project cycle and independently evaluated.</p>	<p>i. List of all the progress report prepared ii. Number of review meetings and steering committee meetings.</p>	<p><u>Baseline:</u> ▪ NA.</p> <p><u>Targets:</u> 1) Project Management Unit Formed and operational within 1 month of the start of the project. 2) M&E plan ready within 3 months of the project start. 3) Mid-term evaluation completed by end of the year 2 of project start. 4) Final evaluation completed by end of project closing time. 5) Project Terminal Report completed by end of the project.</p>	<p>▪ PMU structure. ▪ M&E plan document. ▪ Quarterly Progress Reports. ▪ Mid Term Evaluation Report. ▪ Final Evaluation report. ▪ Project Terminal Report.</p>	<p><u>Assumptions:</u> ▪ Government of Cameroon provides full support in the immediate formation of the PMU. ▪ Appropriate capability of the Project Manager and Project Directors exist for proper management and monitoring of the projects.</p>

Expected results	Indicator	Baseline and Project Target	Means of verification	Assumptions
<p>Output 4.2: Lessons learned are disseminated nationwide to relevant stakeholders to benefit further.</p>	<p>i.Number of dissemination materials (pamphlets, project success report, case study etc.) and it's printed for dissemination.</p>	<p><u>Baseline:</u> ▪ NA. <u>Targets:</u> 1) Lessons learnt from the project drafted by the 3.5 years from project start. 2) Dissemination materials ready by the end of the project.</p>	<p>▪ Copies of dissemination material for lesson learnt. (About 500 copies)</p>	<p>▪ Project gets commissioned successfully and the expected outputs achieved sustainably. ▪ Government and private sector accept the facts and figures produced from this project's experience.</p>
<p>Conclusions from the MTR until December 2021</p> <p>The designed monitoring and evaluation plan was well structured it defined activities to be performed, responsible parties, time frames, as well as the documents to be produced. Important document reports were frequently prepared such as Progress Implementation Report, Annual work plan, Progress report and Monitoring meetings minute. An effective communication plan exists. Regular report to MINEE and GEF regarding the project progress was made. A website was created for the project, reporting several activities undertaken. A project monitoring committee has been set up bringing together MINEE, the GEF focal point, AER, the Ministry of Forests and Wildlife, ENSP and UNIDO.</p> <p>A few changes occurred on the project M&E structure, as well as the management. A Monitoring Committee was created by UNIDO to replace (planned) the Steering Committee in August 2019, and the first Monitoring Committee meeting was held in September. The PMU was planned to be hosted by MINEE, which would appoint a National Project Director. Instead, the project management unit was set up at the beginning of 2015 with the recruitment of a National Coordinator, a Project Assistant and the designation of a focal point within the Ministry of Water and Energy. UNIDO field team held significant monitoring and managing activities.</p>				

Annex 2: Detailed questions to assess evaluation criteria

(See [UNIDO Evaluation Manual Annex 2](#))

Annex 3: Job descriptions

The evaluation team will assess the project performance guided by the questions in the Annex 2.

The final evaluation must be conducted by a team of experts including between two to four staff covering the necessary fields of expertise.



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

Title:	International Evaluator, Team Leader
Main Duty Station and Location:	Home-based
Mission/s to:	Missions to Vienna, Austria and Cameroon
Start of Contract (EOD):	5 August 2022 (or as soon as possible)
End of Contract (COB):	30 September 2022
Contract Type:	WAE
Number of Working Days:	35 days

ORGANIZATIONAL CONTEXT

The United Nations Industrial Development Organization (UNIDO) is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability. The mission of the United Nations Industrial Development Organization (UNIDO), as described in the [Lima Declaration](#) adopted at the fifteenth session of the UNIDO General Conference in 2013 as well as the [Abu Dhabi Declaration](#) adopted at the eighteenth session of UNIDO General Conference in 2019, is to promote and accelerate [inclusive and sustainable industrial development \(ISID\)](#) in Member States. The relevance of ISID as an integrated approach to all three pillars of sustainable development is recognized by the 2030 Agenda for Sustainable Development and the related Sustainable Development Goals (SDGs), which will frame United Nations and country efforts towards sustainable development in the next fifteen years. [UNIDO's mandate is fully recognized in SDG-9](#), which calls to "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation". The relevance of ISID, however, applies in greater or lesser extent to all SDGs. Accordingly, the Organization's programmatic focus is structured in four strategic priorities: [Creating shared prosperity](#); [Advancing economic competitiveness](#); [Safeguarding the environment](#); and [Strengthening knowledge and institutions](#).

Each of these programmatic fields of activity contains a number of individual programmes, which are implemented in a holistic manner to achieve effective outcomes and impacts through UNIDO's four enabling functions: (i) technical cooperation; (ii) analytical and research functions and policy advisory services; (iii) normative functions and standards and quality-related activities; and (iv) convening and partnerships for knowledge transfer, networking and industrial cooperation. Such core functions are carried out in Departments/Offices in its Headquarters, Regional Offices and Hubs and Country Offices.

The Directorate of Environment and Energy (EAE), aims to integrate and scale-up the energy and environment activities focusing on supporting governments and industries to provide sustainable and resilient soft and hard infrastructure for industrial development, supporting industries to contribute to

climate neutral circular economy, and supporting governments and industries in fulfilling national commitments under multinational climate and environmental agreements.

The Directorate consists of the Department of Environment (EAE/ENV) and the Department of Energy (EAE/ENE).

The Department of Energy (EAE/ENE) assists member countries in the transition to a sustainable energy future under the overarching mandate of inclusive and sustainable industrial development, through the application of renewable energy for productive uses, adoption of the efficient use of energy by industry and the introduction of low carbon technologies and processes. In transitioning to a sustainable energy future, the challenges of addressing energy poverty and climate change become an integral part of the Department activities.

The main strategic focus areas of EAE/ENE are: first, to provide integrated energy solutions to industry by promoting energy efficiency; secondly, to deliver renewable energy technologies as well as enhancing access to energy to promote productive activities as a major contribution to reducing rural poverty; and thirdly, to champion industrial energy perspectives in the global debates about sustainable industrial development and climate change mitigation and adaptation. In addition, the Department acts as the focal point within UNIDO for all strategic energy and climate change partnerships, networks and conventions including UN-Energy, Sustainable Energy for All (SE4All), and United Nations Framework Convention on Climate Change (UNFCCC). In discharging its responsibility, the Department cooperates with other relevant organizational units within UNIDO on strengthening strategic partnerships.

This position is located in the Energy Systems and Infrastructure Division (EAE/ENE/ESI), which focuses on promoting sustainable energy solutions and infrastructure for industrial development. The promotion of industrial decarbonization through crosscutting solutions, such as energy management systems and standards, energy systems optimization, and deployment of renewable energy technologies is one of the core functions of the Division. In addition, the Division supports Member States with the transition to sustainable energy systems for ISID. By bringing together supply and demand side perspectives, the focus of the Division is on system level changes and transformative solutions driven by the convergence of key technologies such as distributed generation, digitization and storage technologies as well as climate policies. The Division focuses on disruptive solutions, being they technological or business models. It is also responsible for coordinating policy engagement and dialogues, at national, regional and global levels, and through pursuing meaningful global partnerships in the field of sustainable energy and climate change. The Division positions UNIDO strategically in the global energy and climate change forums and coordinates the global network of regional centers and partnerships.

The UNIDO Independent Evaluation Division (ODG/EIO/IED) is responsible for the independent evaluation function of UNIDO. Through the conduct of independent evaluation, it supports learning and accountability, while providing evidence of project and programme results as well as good practices. The analyses aim to inform both programme development and strategic decision-making. ODG/EIO/IED is guided by the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

This position will be managed by the Independent Evaluation Division (ODG/EIO/IED) in accordance with the UNIDO Evaluation Policy. For that purpose, and in conformity with the UNIDO Evaluation Manual, an Evaluation Manager has been assigned by ODG/EIO/IED, whose primary function is to ensure the quality of the evaluation process and products and thus, assure the independence of the evaluation.

PROJECT CONTEXT

The project was designed in line with the Cameroon's Growth and Employment Strategy Paper (GESP) document in 2009 (a reference framework for the government action over the period 2010-2020) and the Cameroon Vision 2035 (national long term development goals). It is also aligned with other national priorities, strategies, and plans: National Energy Action Plan for Poverty Reduction (PANERP), the Electricity Sector Development Plan 2035, the Intended Nationally Determined Contributions (INDC), the Rural Electrification Master Plan (PDER). In general, these national strategies share the project goals of increasing electricity coverage, reducing GHG emissions, and upscaling access to electricity for rural, remote areas. Specifically, the project has the goals of building national capacity and implementing renewable energy demonstration projects for future replication, a strategic area of the PANERP and a concern of the Rural Energy Fund (REF).

The appropriate exploitation of small hydro and biomass resources available in Cameroon is critical to increase generation of electricity and enable the transition towards a more reliable, cheaper, sustainable, and renewable energy sources. However, to maximize the benefits of the country's hydro power potential, significantly large investment is required, especially through public-private partnerships (PPP) as well as strong management systems for generation, transmission, and distribution. Realizing the importance of small hydro power and biomass resources in Cameroon, UNIDO conducted preliminary assessment in various parts of the country and identified various sites in the Littoral Region as having a good potential for SHP and Biomass power installations for rural electrification and productive applications development. This led to the design and preparation of a Project Information Form (PIF) and a Project Preparation Grant (PPG) for the project titled '*Promoting Integrated Biomass and Small Hydro Solutions for Productive Uses in Cameroon*', which was approved by GEF in April 2012 (GEF project ID 4785). The project proposal was discussed with and endorsed by the GEF operational focal point at Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED). The design and formulation of the project proposal was finalized through PPG resources made available by the GEF and additional co-financing through UNIDO resources.

The demonstration projects were identified after completion of the preliminary techno-economic feasibility studies in all the initially identified potential SHP and biomass project sites and by carrying out the socio-economic survey around the identified feasible project sites to understand the importance, willingness of the people and the sustainability aspects of the project. Based on the study of the resources, site conditions, development possibilities, approach roads, expected loads and other socio-economic parameters two SHP projects (1.2 MW Manjo SHP and 1.5 MW Mouankeu (Small Ekom-Nkam) and two Biomass projects (75 kW at Ekom-Nkam village and 50 kW at Foyemtcha Chefferie village) have been identified. During the implementation of the projects, the sites were changed for the two SHP projects, 4.6 MW Manjo SHP and 3.4 MW Bafang SHP, and two Biomass projects, at Essekou village and at Foyemtcha Chefferie village.

The project was approved by UNIDO on 7 June 2012 and had the CEO Endorsement/Approval on 4 August 2014. The actual implementation started on May 28th, 2015, with the expected duration of 48 months. After a couple extensions, the project is expected to end by September 30th, 2022.

The Evaluation Team (ET) will base their analysis on current official planning documentation related to the project’s design and associated KPIs, as relevant, as well as data collected during the evaluation exercise itself.

FUNCTIONAL RESPONSIBILITIES

Main Duties	Deliverables	Percent time	Location
<p>1. Background: Review documentation and relevant background information the project’s areas of intervention including national investment policies and strategies, relevant private sector development, investment promotion strategies and general economic data.</p>	<ul style="list-style-type: none"> • Draft evaluation matrix (framework) • Stakeholder list (including country representatives, business and industrial associations, companies, partner institutions, support institutions, etc.) 	5	Home-based
<p>2. Methodology: Outline the evaluation questions that will guide the evaluation throughout the data collection and analysis phase of the evaluation.</p> <ul style="list-style-type: none"> • Prepare an updated theory of change based on analysis of documentation and the logical framework. • Develop key survey questions and interview protocols, tailored to the project context. 	<ul style="list-style-type: none"> • Draft theory of change and Evaluation framework for submission to the Evaluation Manager for clearance • Data collection instruments for clearance by the Evaluation Manager • Division of labour within the Evaluation Team 	5	Home-based
<p>3. Mission Planning: Briefing with the UNIDO Independent Evaluation Division, project managers and selected key stakeholders at UNIDO HQ.</p>	<ul style="list-style-type: none"> • Detailed evaluation schedule with tentative mission agenda (incl. list of stakeholders to interview and site visits); mission planning. 	2	Home-based
<p>4. Data Collection: Conduct the interviews with key informants, administer the survey, and organize focus group meetings to gather data on project performance so far. This might take place in person or online, depending on travel</p>	<ul style="list-style-type: none"> • Interview protocols and notes • Survey results • Emerging findings 	8	Cameroon

Main Duties	Deliverables	Percent time	Location
regulations ¹³ .			
5. Feedback: Discuss and share the evaluation’s preliminary findings, conclusions, and recommendations to the national stakeholders.	<ul style="list-style-type: none"> Evaluation presentation of the evaluation’s preliminary findings, conclusions, and recommendations to stakeholders in the country. 	2	
6. Feedback: Present findings, lessons, good practices, strengths and weaknesses, and recommendations to key stakeholders at UNIDO HQ for early feedback to finalise the evaluation report.	<ul style="list-style-type: none"> PowerPoint presentation, incorporating feedback from national stakeholders 	1	Either Vienna, Austria, or online, TBC
<p>7. Report Writing: Analyse survey results and interview protocols to prepare the evaluation report according to TOR and as agreed with the Team Leader.</p> <p>Prepare the evaluation report in close collaboration with the National Evaluator and in consultation with the Evaluation Manager.</p> <p>Share the evaluation report with UNIDO HQ and national stakeholders for feedback and comments.</p>	<ul style="list-style-type: none"> Draft evaluation report. 	8	Home-based
8. Revise the draft project evaluation report based on comments from UNIDO Independent Evaluation Division and stakeholder based on UNIDO standards.	<ul style="list-style-type: none"> Final evaluation report submitted to the Evaluation Manager 	4	Home-based
		35	

REQUIRED COMPETENCIES

Core Values

WE LIVE AND ACT WITH INTEGRITY: work honestly, openly and impartially.

¹³ The exact mission dates will be decided in agreement with the Consultant, the Project Management Team and the Evaluation Manager.

WE SHOW PROFESSIONALISM: work hard and competently in a committed and responsible manner.
WE RESPECT DIVERSITY: work together effectively, respectfully and inclusively, regardless of our differences in culture and perspective.

Key Competencies

WE FOCUS ON PEOPLE: cooperate to fully reach our potential –and this is true for our colleagues as well as our clients. Emotional intelligence and receptiveness are vital parts of our UNIDO identity.

WE FOCUS ON RESULTS AND RESPONSIBILITIES: focus on planning, organizing and managing our work effectively and efficiently. We are responsible and accountable for achieving our results and meeting our performance standards. This accountability does not end with our colleagues and supervisors, but we also owe it to those we serve and who have trusted us to contribute to a better, safer and healthier world.

WE COMMUNICATE AND EARN TRUST: communicate effectively with one another and build an environment of trust where we can all excel in our work.

WE THINK OUTSIDE THE BOX AND INNOVATE: To stay relevant, we continuously improve, support innovation, share our knowledge and skills, and learn from one another.

MINIMUM ORGANIZATIONAL REQUIREMENTS

Education: Advanced degree in development studies or related areas

Technical and Functional Experience:

- Minimum of 15 years' experience in evaluation (of development projects)
- Knowledge of renewable energy technologies and their applications
- Experience in evaluating GEF projects and knowledge of UNIDO activities an asset
- Knowledge about multilateral technical cooperation and the UN, international development priorities and frameworks
- Working experience in developing countries.

Languages: Fluency in written and spoken English is required. All reports and related documents must be in English and presented in electronic format.

Absence of conflict of interest: According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of this contract.



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

Title:	National evaluation consultant
Main Duty Station and Location:	Cameroon (Home-based)
Mission/s to:	Travel to potential sites in Cameroon
Start of Contract (EOD):	5 August 2022 (or as soon as possible)
End of Contract (COB):	30 September 2022
Contract Type:	WAE
Number of Working Days:	35 days

ORGANIZATIONAL CONTEXT

The United Nations Industrial Development Organization (UNIDO) is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability. The mission of the United Nations Industrial Development Organization (UNIDO), as described in the [Lima Declaration](#) adopted at the fifteenth session of the UNIDO General Conference in 2013 as well as the [Abu Dhabi Declaration](#) adopted at the eighteenth session of UNIDO General Conference in 2019, is to promote and accelerate [inclusive and sustainable industrial development \(ISID\)](#) in Member States. The relevance of ISID as an integrated approach to all three pillars of sustainable development is recognized by the 2030 Agenda for Sustainable Development and the related Sustainable Development Goals (SDGs), which will frame United Nations and country efforts towards sustainable development in the next fifteen years. [UNIDO's mandate is fully recognized in SDG-9](#), which calls to “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”. The relevance of ISID, however, applies in greater or lesser extent to all SDGs. Accordingly, the Organization’s programmatic focus is structured in four strategic priorities: [Creating shared prosperity](#); [Advancing economic competitiveness](#); [Safeguarding the environment](#); and [Strengthening knowledge and institutions](#).

Each of these programmatic fields of activity contains a number of individual programmes, which are implemented in a holistic manner to achieve effective outcomes and impacts through UNIDO’s four enabling functions: (i) technical cooperation; (ii) analytical and research functions and policy advisory services; (iii) normative functions and standards and quality-related activities; and (iv) convening and partnerships for knowledge transfer, networking and industrial cooperation. Such core functions are carried out in Departments/Offices in its Headquarters, Regional Offices and Hubs and Country Offices.

The Directorate of Environment and Energy (EAE), headed by a Managing Director, aims to integrate and scale-up the energy and environment activities focusing on supporting governments and industries to provide sustainable and resilient soft and hard infrastructure for industrial development, supporting industries to contribute to climate neutral circular economy, and supporting governments and industries in fulfilling national commitments under multinational climate and environmental agreements.

The Directorate consists of the Department of Environment (EAE/ENV) and the Department of Energy (EAE/ENE).

The Department of Energy (EAE/ENE) assists member countries in the transition to a sustainable energy future under the overarching mandate of inclusive and sustainable industrial development, through the application of renewable energy for productive uses, adoption of the efficient use of energy by industry and the introduction of low carbon technologies and processes. In transitioning to a sustainable energy future, the challenges of addressing energy poverty and climate change become an integral part of the Department activities.

The main strategic focus areas of EAE/ENE are: first, to provide integrated energy solutions to industry by promoting energy efficiency; secondly, to deliver renewable energy technologies as well as enhancing access to energy to promote productive activities as a major contribution to reducing rural poverty; and thirdly, to champion industrial energy perspectives in the global debates about sustainable industrial development and climate change mitigation and adaptation. In addition, the Department acts as the focal point within UNIDO for all strategic energy and climate change partnerships, networks and conventions including UN-Energy, Sustainable Energy for All (SE4All), and United Nations Framework Convention on Climate Change (UNFCCC). In discharging its responsibility, the Department cooperates with other relevant organizational units within UNIDO on strengthening strategic partnerships.

This position is located in the Energy Systems and Infrastructure Division (EAE/ENE/ESI), which focuses on promoting sustainable energy solutions and infrastructure for industrial development. The promotion of industrial decarbonization through crosscutting solutions, such as energy management systems and standards, energy systems optimization, and deployment of renewable energy technologies is one of the core functions of the Division. In addition, the Division supports Member States with the transition to sustainable energy systems for ISID. By bringing together supply and demand side perspectives, the focus of the Division is on system level changes and transformative solutions driven by the convergence of key technologies such as distributed generation, digitization and storage technologies as well as climate policies. The Division focuses on disruptive solutions, being they technological or business models. It is also responsible for coordinating policy engagement and dialogues, at national, regional and global levels, and through pursuing meaningful global partnerships in the field of sustainable energy and climate change. The Division positions UNIDO strategically in the global energy and climate change forums and coordinates the global network of regional centers and partnerships.

The UNIDO Independent Evaluation Division (ODG/EIO/IED) is responsible for the independent evaluation function of UNIDO. Through the conduct of independent evaluation, it supports learning and accountability, while providing evidence of project and programme results as well as good practices. The analyses aim to inform both programme development and strategic decision-making. ODG/EIO/IED

is guided by the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

This position will be managed by the Independent Evaluation Division (ODG/EIO/IED) in accordance with the UNIDO Evaluation Policy. For that purpose, and in conformity with the UNIDO Evaluation Manual, an Evaluation Manager has been assigned by ODG/EIO/IED, whose primary function is to ensure the quality of the evaluation process and products and thus, assure the independence of the evaluation.

PROJECT CONTEXT

The project was designed in line with the Cameroon's Growth and Employment Strategy Paper (GESP) document in 2009 (a reference framework for the government action over the period 2010-2020) and the Cameroon Vision 2035 (national long term development goals). It is also aligned with other national priorities, strategies, and plans: National Energy Action Plan for Poverty Reduction (PANERP), the Electricity Sector Development Plan 2035, the Intended Nationally Determined Contributions (INDC), the Rural Electrification Master Plan (PDER). In general, these national strategies share the project goals of increasing electricity coverage, reducing GHG emissions, and upscaling access to electricity for rural, remote areas. Specifically, the project has the goals of building national capacity and implementing renewable energy demonstration projects for future replication, a strategic area of the PANERP and a concern of the Rural Energy Fund (REF).

The appropriate exploitation of small hydro and biomass resources available in Cameroon is critical to increase generation of electricity and enable the transition towards a more reliable, cheaper, sustainable, and renewable energy sources. However, to maximize the benefits of the country's hydro power potential, significantly large investment is required, especially through public-private partnerships (PPP) as well as strong management systems for generation, transmission, and distribution. Realizing the importance of small hydro power and biomass resources in Cameroon, UNIDO conducted preliminary assessment in various parts of the country and identified various sites in the Littoral Region as having a good potential for SHP and Biomass power installations for rural electrification and productive applications development. This led to the design and preparation of a Project Information Form (PIF) and a Project Preparation Grant (PPG) for the project titled '*Promoting Integrated Biomass and Small Hydro Solutions for Productive Uses in Cameroon*', which was approved by GEF in April 2012 (GEF project ID 4785). The project proposal was discussed with and endorsed by the GEF operational focal point at Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED). The design and formulation of the project proposal was finalized through PPG resources made available by the GEF and additional co-financing through UNIDO resources.

The demonstration projects were identified after completion of the preliminary techno-economic feasibility studies in all the initially identified potential SHP and biomass project sites and by carrying out the socio-economic survey around the identified feasible project sites to understand the importance, willingness of the people and the sustainability aspects of the project. Based on the study of the resources, site conditions, development possibilities, approach roads, expected loads and other socio-economic parameters two SHP projects (1.2 MW Manjo SHP and 1.5 MW Mouankeu (Small Ekom-Nkam)

and two Biomass projects (75 kW at Ekom-Nkam village and 50 kW at Foyemtcha Chefferie village) have been identified. During the implementation of the projects, the sites were changed for the two SHP projects, 4.6 MW Manjo SHP and 3.4 MW Bafang SHP, and two Biomass projects, at Essekou village and at Foyemtcha Chefferie village.

The project was approved by UNIDO on 7 June 2012 and had the CEO Endorsement/Approval on 4 August 2014. The actual implementation started on May 28th, 2015, with the expected duration of 48 months. After a couple extensions, the project is expected to end by September 30th, 2022.

The Evaluation Team (ET) will base their analysis on current official planning documentation related to the project's design and associated KPIs, as relevant, as well as data collected during the evaluation exercise itself.

FUNCTIONAL RESPONSIBILITIES

Main Duties	Deliverables	Percent Time	Location
<p>1. Preparation: Review documentation and relevant background information on the project's areas of intervention including national investment policies and strategies, relevant private sector development, investment promotion strategies and general economic data. Prepare data collection instruments.</p>	<ul style="list-style-type: none"> • Draft evaluation matrix (framework) • Stakeholder list (including country representatives, business and industrial associations, companies, partner institutions, support institutions, etc.). 	4	Home-based
<p>2. Methodology: Outline the evaluation questions that will guide the evaluation throughout the data collection and analysis phase of the evaluation.</p> <ul style="list-style-type: none"> • Prepare an updated theory of change based on analysis of documentation and the logical framework. • Develop survey questions and interview protocols, tailored to the project context. 	<ul style="list-style-type: none"> • Draft theory of change and Evaluation framework for submission to the Evaluation Manager for clearance • Data collection instruments for clearance by the Evaluation Manager • Division of labour within the Evaluation Team. 	4	Home-based
<p>3. Mission Planning. Briefing with the UNIDO Independent Evaluation Division, project</p>	<ul style="list-style-type: none"> • Detailed evaluation schedule with tentative mission agenda (incl. stakeholder list and site 	5	Online

Main Duties	Deliverables	Percent Time	Location
managers and selected key stakeholders at UNIDO HQ. Project sites to be selected in collaboration with the project management team.	visits)		
4. Data Collection: Conduct the interviews with key informants, administer the survey, and organize focus group meetings to gather data on project performance so far. This might take place in person or online, depending on travel regulations ¹⁴ .	<ul style="list-style-type: none"> • Interview protocols and notes • Survey results • Emerging findings 	7	Cameroon
5. Feedback: Discuss and share the evaluation’s preliminary findings, conclusions, and recommendations to the national stakeholders.	Evaluation presentation of the evaluation’s preliminary findings, conclusions, and recommendations to stakeholders in the country.	1	On-line
6. Feedback: Present findings, lessons, good practices, strengths and weaknesses, and recommendations to key stakeholders at UNIDO HQ for early feedback to finalise the evaluation report.	PowerPoint presentation, incorporating feedback from national stakeholders	1	On-line
7. Report Writing: Analyse survey results and interview protocols to prepare the evaluation report according to TOR and as agreed with the Team Leader. Prepare the evaluation report in close collaboration with the Evaluation Team Leader and in consultation with the Evaluation Manager. Share the evaluation report with UNIDO HQ and national stakeholders for feedback and comments	Draft and final evaluation report.	6	Home-based

¹⁴ The exact mission dates will be decided in agreement with the Consultant, ITPO Japan and the Evaluation Manager.

Main Duties	Deliverables	Percent Time	Location
8. Revise the draft project evaluation report based on comments from UNIDO Independent Evaluation Division and stakeholders and submit the final version to the Evaluation Manager.	<ul style="list-style-type: none"> Final evaluation report submitted to the Evaluation Manager 	7	Home-based
TOTAL		35	

REQUIRED COMPETENCIES

Core Values

WE LIVE AND ACT WITH INTEGRITY: work honestly, openly and impartially.

WE SHOW PROFESSIONALISM: work hard and competently in a committed and responsible manner.

WE RESPECT DIVERSITY: work together effectively, respectfully and inclusively, regardless of our differences in culture and perspective.

Key Competencies

WE FOCUS ON PEOPLE: cooperate to fully reach our potential –and this is true for our colleagues as well as our clients. Emotional intelligence and receptiveness are vital parts of our UNIDO identity.

WE FOCUS ON RESULTS AND RESPONSIBILITIES: focus on planning, organizing and managing our work effectively and efficiently. We are responsible and accountable for achieving our results and meeting our performance standards. This accountability does not end with our colleagues and supervisors, but we also owe it to those we serve and who have trusted us to contribute to a better, safer and healthier world.

WE COMMUNICATE AND EARN TRUST: communicate effectively with one another and build an environment of trust where we can all excel in our work.

WE THINK OUTSIDE THE BOX AND INNOVATE: To stay relevant, we continuously improve, support innovation, share our knowledge and skills, and learn from one another.

MINIMUM ORGANIZATIONAL REQUIREMENTS

Education: Advanced university degree in economics, development studies or other relevant discipline like business administration.

Technical and Functional Experience:

- Minimum of 7 years' experience in renewable energy technologies and their applications in Central Africa. Minimum 3 years' experience in evaluation of development projects
- Exposure to the energy challenges in developing countries.
- Experience in the evaluation of development cooperation in developing countries is an asset

Languages: Fluency in written and spoken French and English is required.

Absence of conflict of interest: According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract.

Annex 4 – Independent Evaluation Report Outline

Executive summary (maximum 5 pages)

Evaluation purpose and methodology

Key findings

Conclusions and recommendations

Project ratings

Tabular overview of key findings – conclusions – recommendations

1. Introduction

1.1. Evaluation objectives and scope

1.2. Overview of the Project Context

1.3. Overview of the Project

1.4. Theory of Change

1.5. Evaluation Methodology

1.6. Limitations of the Evaluation

2. Project's contribution to Development Results - Effectiveness and Impact

2.1. Project's achieved results and overall effectiveness

2.2. Progress towards impact

2.2.1. Behavioral change

2.2.1.1. Economically competitive - Advancing economic competitiveness

2.2.1.2. Environmentally sound – Safeguarding environment

2.2.1.3. Socially inclusive – Creating shared prosperity

2.2.2. Broader adoption

2.2.2.1. Mainstreaming

2.2.2.2. Replication

2.2.2.3. Scaling-up

3. Project's quality and performance

3.1. Design

3.2. Relevance

3.3. Efficiency

3.4. Sustainability

3.5. Gender mainstreaming

4. Performance of Partners

4.1. UNIDO

4.2. National counterparts

4.3. Donor

5. Factors facilitating or limiting the achievement of results

- 5.1. Monitoring & evaluation
- 5.2. Results-Based Management
- 5.3. Other factors
- 5.4. Overarching assessment and rating table

6. Conclusions, recommendations and lessons learned

- 6.1. Conclusions
- 6.2. Recommendations
- 6.3. Lessons learned
- 6.4. Good practices

Annexes (to be put online separately later)

- Evaluation Terms of Reference
- Evaluation framework
- List of documentation reviewed
- List of stakeholders consulted
- Project logframe/Theory of Change
- Primary data collection instruments: evaluation survey/questionnaire
- Statistical data from evaluation survey/questionnaire analysis

Annex 4: Report Quality Checklist

Project Title:

UNIDO SAP ID:

Evaluation team:

Quality review done by:

Date:

Report quality criteria	Quality Assessment	Rating
a. Was the report well-structured and properly written? (Clear language, correct grammar, clear and logical structure)		
b. Was the evaluation objective clearly stated and the methodology appropriately defined?		
c. Did the report present an assessment of relevant outcomes and achievement of project objectives?		
d. Was the report consistent with the ToR and was the evidence complete and convincing?		
e. Did the report present a sound assessment of sustainability of outcomes, or did it explain why this is not (yet) possible? (Including assessment of assumptions, risks and impact drivers)		
f. Did the evidence presented support the lessons and recommendations? Are these directly based on findings?		
g. Did the report include the actual project costs (total, per activity, per source)?		
h. Did the report include an assessment of the quality of both the M&E plan at entry and the system used during the implementation? Was the M&E sufficiently budgeted for during preparation and properly funded during implementation?		
i. Quality of the lessons: were lessons readily applicable in other contexts? Did they suggest prescriptive action?		
j. Quality of the recommendations: did recommendations specify the actions necessary to correct existing conditions or improve operations ('who?' 'What?' 'Where?' 'When?'). Can these be immediately implemented with current resources?		
k. Are the main cross-cutting issues, such as gender, human rights and environment, appropriately covered?		
l. Was the report delivered in a timely manner? (Observance of deadlines)		

Rating system for quality of evaluation reports

A rating scale of 1-6 is used for each criterion: Highly satisfactory = 6, Satisfactory = 5, Moderately satisfactory = 4, Moderately unsatisfactory = 3, Unsatisfactory = 2, Highly unsatisfactory = 1, and unable to assess = 0.

Score		Definition	Category
6	Highly satisfactory	Level of achievement presents no shortcomings (90% - 100% achievement rate of planned expectations and targets).	SATISFACTORY
5	Satisfactory	Level of achievement presents minor shortcomings (70% - 89% achievement rate of planned expectations and targets).	
4	Moderately satisfactory	Level of achievement presents moderate shortcomings (50% - 69% achievement rate of planned expectations and targets).	
3	Moderately unsatisfactory	Level of achievement presents some significant shortcomings (30% - 49% achievement rate of planned expectations and targets).	
2	Unsatisfactory	Level of achievement presents major shortcomings (10% - 29% achievement rate of planned expectations and targets).	
1	Highly unsatisfactory	Level of achievement presents severe shortcomings (0% - 9% achievement rate of planned expectations and targets).	

Annex 5: Guidance on Gender-Responsive Evaluation

A. Introduction

Gender equality is internationally recognized as a goal of development and is fundamental to sustainable growth and poverty reduction. The UNIDO Policy on gender equality and the empowerment of women and its addendum, issued respectively in April 2009 and May 2010 (UNIDO/DGB(M).110 and UNIDO/DGB(M).110/Add.1), provides the overall guidelines for establishing a gender mainstreaming strategy and action plans to guide the process of addressing gender issues in the Organization's industrial development interventions.

According to the UNIDO Policy on gender equality and the empowerment of women:

Gender equality refers to the equal rights, responsibilities and opportunities of women and men and girls and boys. Equality does not suggest that women and men become 'the same' but that women's and men's rights, responsibilities and opportunities do not depend on whether they are born male or female. Gender equality implies that the interests, needs and priorities of both women and men are taken into consideration, recognizing the diversity of different groups of women and men. It is therefore not a 'women's issue'. On the contrary, it concerns and should fully engage both men and women and is a precondition for, and an indicator of sustainable people-centered development.

Empowerment of women signifies women gaining power and control over their own lives. It involves awareness-raising, building of self-confidence, expansion of choices, increased access to and control over resources and actions to transform the structures and institutions which reinforce and perpetuate gender discriminations and inequality.

Gender parity signifies equal numbers of men and women at all levels of an institution or organization, particularly at senior and decision-making levels.

The UNIDO projects/programs can be divided into two categories: 1) those where promotion of gender equality is one of the key aspects of the project/program; and 2) those where there is limited or no attempted integration of gender. Evaluation managers/evaluators should select relevant questions depending on the type of interventions.

B. Gender responsive evaluation questions

The questions below will help evaluation managers/evaluators to mainstream gender issues in their evaluations.

B.1. Design

- Is the project/program in line with the UNIDO and national policies on gender equality and the empowerment of women?
- Were gender issues identified at the design stage?
- Did the project/program design adequately consider the gender dimensions in its interventions? If so, how?

- Were adequate resources (e.g., funds, staff time, methodology, experts) allocated to address gender concerns?
- To what extent were the needs and priorities of women, girls, boys and men reflected in the design?
- Was a gender analysis included in a baseline study or needs assessment (if any)?
- If the project/program is people-centered, were target beneficiaries clearly identified and disaggregated by sex, age, race, ethnicity and socio-economic group?
- If the project/program promotes gender equality and/or women's empowerment, was gender equality reflected in its objective/s? To what extent are output/outcome indicators gender disaggregated?

B.2. Implementation management

- Did project monitoring and self-evaluation collect and analyze gender disaggregated data?
- Were decisions and recommendations based on the analyses? If so, how?
- Were gender concerns reflected in the criteria to select beneficiaries? If so, how?
- How gender-balanced was the composition of the project management team, the Steering Committee, experts and consultants and the beneficiaries?
- If the project/program promotes gender equality and/or women's empowerment, did the project/program monitor, assess and report on its gender related objective/s?

B.3. Results

- Have women and men benefited equally from the project's interventions? Do the results affect women and men differently? If so, why and how? How are the results likely to affect gender relations (e.g., division of labor, decision making authority)?
- In the case of a project/program with gender related objective/s, to what extent has the project/program achieved the objective/s? To what extent has the project/program reduced gender disparities and enhanced women's empowerment?