



Empowered lives.
Resilient nations.



TERMINAL EVALUATION

Final Report Draft

UNDP/GEF Project

Promotion of environmentally sustainable and climate-resilient grid/isolated grid-based hydroelectric electricity through an integrated approach in Sao Tome and Principe

UNDP Project ID (PIMS #): 4602	PIF Approval Date: May 26 th 2015
GEF Project ID (PMIS #): 5334	CEO Endorsement Date: June 6 th 2015
ATLAS Business Unit, Award # Project. ID: STP10; Project ID #: 00087589	Project Document (ProDoc) Signature Date (date project began): January 21 st , 2016.
Country(ies): Sao Tome and Principe	Date project manager hired: July 2016
Region: Gulf of Guinea	Inception Workshop date: 21 January 2016
Focal Area: Climate Change; Land Degradation	Midterm Review completion date: June 2019
GEF Focal Area Strategic Objective:	Planned closing date: December 2020
Trust Fund [indicate GEF TF, LDCF, SCCF, NPIF]: GEF TF	If revised, proposed op. closing date: March 31 st 2022
Executing Agency/ Implementing Partner: Ministry of Public Works, Infrastructure, Natural Resources and Environment (MPWINRE).	
Other execution partners: Empresa da Agua e Electricidade (EMAE – Water and Electricity Company), Ministry of Agriculture, Fisheries and Rural Development.	
TE Team members: Guido Fernández de Velasco, Edchilson Cravid, Sandro Constantino	

Submitted by: Guido Fernández de Velasco (Team Leader)
Edchilson Cravid (National consultant)
Sandro Costantino (National Consultant)
May 2022

ACKNOWLEDGEMENTS

The consulting team would like to thank the UNDP STP and the Energy Project Coordination Unit for their excellent support, information and feedback provided during the Terminal Evaluation, essential to this report. We would also like to extend special recognition and thanks to Maria Teresa Mendizabal and Arielle Guiadem for their kind support to the evaluation team. We also recognize all other participants listed in Annex 6 for kindly providing time, information, and logistical support during site visits and both virtual and face to face interviews. Without your support, this evaluation would not be possible.

TABLE OF CONTENTS

Acknowledgements.....	ii
Acronyms and Abbreviations.....	vi
1. Executive Summary.....	8
1.1. Project Information Table.....	8
1.2 Project Description.....	9
1.3 Evaluation Ratings Table.....	11
1.4. Concise Summary of Conclusions, findings and lessons learned.....	12
1.5 Recommendations Summary.....	14
2. INTRODUCTION.....	15
2.1 Purpose, Objective, and Scope of the Terminal Evaluation.....	15
2.2 Evaluation Methodology.....	15
The Terminal Evaluation Approach.....	15
The Terminal Evaluation Methodology.....	16
TE Coordination/ Kick-off meeting.....	16
Desk Review.....	16
Stakeholder Mapping.....	16
4.2.4. Data Collection Methods.....	17
4.2.5. Triangulation of Information from Data Sources.....	18
4.2.6 Elaboration and Submission of TE Draft Report.....	18
4.2.7. Elaboration of Final Terminal Evaluation Report.....	18
4.2.8. Presentation of Findings.....	18
2.3 Ethics.....	18
2.4 Limitations to the Evaluation.....	19
3. Project Description.....	19
3.1. Project start and duration, including milestones.....	19
3.2 The Development Context.....	20
3.3. Problems that the Project Sought to Address.....	21
3.4 Immediate and development objective of the project.....	22
3.5 Expected Results.....	23
3.6 Main Stakeholder: summary list.....	24
3.7 Theory of Change.....	25
4. Findings.....	26

4.1 Project Design/Formulation.....	26
4.1.1. Results Framework: Project Strategy, Design, Logic, and Indicators.....	26
4.1.2. Assumptions and Risks.....	30
4.1.3. Lessons from Other Sector-Relevant Projects Incorporated into Project Design.....	32
4.1.4 Planned Stakeholder Participation	33
4.1.5 Linkages between the project and other interventions within the sector	36
4.1.6 Social and Environmental Safeguards in Project Design/Formulation	37
4.1.7. The Project Implementation and Governance Modality	37
4.2. Project Implementation	39
4.2.1. Adaptive Management	39
4.2.2 Actual Stakeholder Participation and Partnership Arrangements.....	42
4.2.3 Project Finance and Co-finance	44
4.2.4. Monitoring & Evaluation.....	47
4.2.5. UNDP implementation/oversight	49
4.2.6. Risk Management including social and Environmental Standards (Safeguards).....	50
4.3. Project Results and Impacts.....	50
4.3.1 Progress Towards Objectives and Expected Outcomes.....	50
4.3.2 Relevance	53
4.3.3 Effectiveness	56
4.3.4 Efficiency.....	63
4.3.5. Overall Project Outcome Rating	64
4.3.6. Progress to Impact GEF Core Indicators	65
4.3.7 Sustainability: financial, socio-economic, institutional framework and governance, environmental.....	65
4.3.8. Country ownership.....	66
4.3.9 Gender Equality and women’s empowerment.....	67
4.3.10. Cross Cutting Issues	68
4.3.11.GEF Additionality	68
4.3.12. Catalytic/Replication Effect.....	68
4.3.13. Social and Environmental Standards	69
5. Conclusions, Recommendations, Lessons Learned.....	69
5.1 Conclusions	69
5.2 Recommendations	72
5.3 Lessons learned.....	73
6. Annexes.....	74

Annex 1. Terms of Reference.....	74
Annex 2. Guidelines and Rating Scales for The Terminal Evaluation.....	84
Annex 3. Terminal Evaluation Matrix.....	88
Annex 4: List of Documents Reviewed.....	94
Annex 5. Semi-structure Interview Questionnaire	95
Annex 6. Stakeholder List.....	100
Annex 7. Mission Agenda.....	107
Annex 8: UNEG Code of Conduct for Terminal Evaluation Consultants	110
Annex 9. Results Framework Analysis	111
Annex 10 GEF Core Indicators.....	122
Annex 11. Non sa Obô Communication Campaign Baseline analysis.....	130
Annex 12: UNDP-GEF TE Audit Trail	131
Annex 13 UNDP-GEF Terminal Evaluation Management Response.....	138
Annex 14: TE Report Clearance Form	141

List of Figures

Figure 1 Theory of Change	25
Figure 2 Budget Execution by March 2022	46
Figure 3 Overall budget execution including commitments.....	46
Figure 4 Electricity consumption by type of client – 2020.....	55
Figure 5 Ineligible Documents for approval.....	58

ACRONYMS AND ABBREVIATIONS

AfDB	African Development Bank
APR	Annual Progress Report
AWP	Annual Work Plan
BPPS	Bureau for Programme & Policy Support
CPD	Combined Delivery Document
DGA	Direção Geral do Ambiente
DFB	Direção das Florestas e da Biodiversidade
DE	Direção de Energia
EA	Executing Agency
EMAE	Empresa da Agua e Electricidade
EMP	Environmental Management Plan
E(S)IA	Environmental and Social Impact Assessment
FYQ	Fiscal Year Quarter
FGs	Focus Groups
GEF	Global Environment Facility
GOSTP	Government of Sao Tome and Principe
HS	Highly satisfactory
HU	Highly unsatisfactory
IA	Implementing Agency
KII	Key Informant Interviews
L	Likely
MAG	Ministry of Agriculture
M&E	Monitoring & Evaluation
ML	Moderately likely
MOPIRNA	Ministerio de Obras Públicas, Recursos Naturais e Ambiente
MPWINRE	Ministry of Public Works, Infrastructure, Natural Resources and Environment
MS	Moderately satisfactory
MU	Moderately unsatisfactory/Moderately unlikely
MOU	Memorandum of Understanding
MTR	Mid-Term Review
NGO	Non-Governmental Organization
PIR	Project Implementation Report
PMU	Project Management Unit
PRODOC	Project Document
PSC	Project Steering Committee
QPR	Quarterly Progress Report
S	Satisfactory

SEP	Stakeholder Engagement Plan
SESP	Social and Environmental Screening Procedure
SMART	Specific, measurable, attainable, relevant, time-bound
TE	Terminal Evaluation
TOR	Terms of Reference
U	Unsatisfactory
UA	Unable to assess
UNDP	United Nations Development Program

1. EXECUTIVE SUMMARY

1.1. Project Information Table

Table 1 Project Information

Project Details		Project Milestones	
Project Title	Promotion of environmentally sustainable and climate-resilient grid/isolated grid-based hydroelectric electricity through an integrated approach in Sao Tome and Principe	PIF Approval Date:	May 26 th 2015
UNDP Project ID (PIMS #):	4602	CEO Endorsement Date (FSP) / Approval date (MSP):	June 6 th 2015
GEF Project ID:	5334	ProDoc Signature Date:	21 st January 2016
UNDP Atlas Business Unit, Award ID, Project ID:	00087589	Date Project Manager hired:	July 2016
Country/Countries:	Saô Tomé and Príncipe	Inception Workshop Date:	23 March 2016
Region:	Gulf of Guinea, Africa	Mid-Term Review Completion Date:	June 2019
Focal Area:	Climate Change, Land Degradation	Terminal Evaluation Completion date:	18 th May 2022 ¹
GEF Operational Programme or Strategic Priorities/Objectives:	GEF 5	Planned Operational Closure Date:	31 st March 2022
Trust Fund:	GEF TF		
Implementing Partner (GEF Executing Entity):	Ministry of Public Works, Infrastructure, Natural Resources and Environment (MPWINRE).		
NGOs/CBOs involvement:			
Financial Information			
Project Financing	at CEO Endorsement (US\$)		at TE (US\$)
[1] GEF financing:	5,274,544		3,854,173
[2] UNDP contribution:	100,000		0
[3] Government:	15,382,704		0
[4] Other partners:	4,323,000		1,570,349
[5] Total co-financing [2 + 3+ 4]:	19,805,704		1,570,349
PROJECT TOTAL COSTS [1 + 5]	25,980,248		5,424,522

¹ The Terminal Evaluation suffered a considerable delay due to the fact that the Lead Evaluator contracted COVID right after the mission to STP which affected the entire workplan.

1.2 Project Description

The project “Promotion of environmentally sustainable and climate-resilient grid/isolated grid-based hydroelectric electricity through an integrated approach in Sao Tome and Principe”, Project Energy from now on, was designed in 2015 taking into consideration the energy national context at that time which is very similar to today, with an increasing demand and constant power cuts and shortages which sometimes bring the country to a halt. The bulk of the electricity generation in São Tomé and Príncipe (STP) is based on imported diesel, even though the country possesses renewable energy alternatives like hydro and solar. The project design focused only on the country’s hydrological potential although, as it will be described later, it opened its scope to incorporate photovoltaic energy generation to the grid due to global lower production costs and alignment between main donors in the energy sector (ie. African Development Bank and the World Bank). In order to ensure the availability of hydro resources for electricity generation as well as irrigation and job creation, the project focused on implementing an integrated watershed management approach. This indeed proved to be innovative as it combined renewable energy and land management. It aimed at integrating natural resources management with community livelihoods improvement in a sustainable way and within a landscape approach.

The Energy Project’s objective was to introduce an integrated energy and ecosystem-based approach to grid/isolated-grid-based mini/small hydro-electricity generation in Saô Tomé and Príncipe by leveraging \$20.7 million in multilateral and private sector financing over its five-year implementation period. The Project was to do so by introducing a conducive regulatory framework and by establishing a financial support mechanism that together would facilitate private sector participation in increasing the share of hydropower electricity generation. The project had four components:

- **Component 1:** To formulate and introduce a streamlined and comprehensive policy and legal/regulatory framework for private sector investment in on-grid/isolated-grid mini/small hydro electricity generation and for integrated watershed management.
- **Component 2:** To promote investment in mini/small hydro through appropriate catalytic financial incentives for project investors.
- **Component 3:** Integrated land use, sustainable forest management and natural resource management provide social benefits and sustain environmental services at the watershed level.
- **Component 4:** To formulate an outreach programme and document/disseminate project experience/best practices/lessons learned for replication throughout the region/among SIDS countries.

In November 2017, during a joint UNDP-AFDB mission to the country, two implementation challenges came to light and forced necessary changes to the original project design. Notably, the operationalization of the loan guarantee fund, which as designed to incentivize private

sector investment in the sector, and the fact that many of the sites with known hydropower potential were tied up in concession agreements, which made their exploitation legally challenging. Regarding the guarantee fund, broad consensus was reached between the Government of São Tomé e Príncipe (GoSTP) and the donor community that, while the guarantee funds was theoretically sound and innovative, it was premature to talk about private sector investment in renewable energy given the absence of a supportive regulatory framework, the low income and electricity consumption levels of most consumers, and the financial situation of the utility, Empresa da Água e Electricidade (EMAE). Government partners, according to UNDP Back to Office Report, recommended reallocating \$1 Million USD that had been earmarked for the guarantee fund to policy derisking (component 1) and investment activities that had greater likelihood of success (component 3). This recommendation was well received and in fact, was perfectly aligned to UNDP's "Derisking Renewable Energy Investment" Framework launched in 2013. The framework clearly proves that the elevated financing costs in developing countries of renewable energy projects reflect several perceived or actual investment (informational, technical, regulatory, financial and administrative) barriers and associated risks. Lowering these financing costs by addressing barriers to investments is, therefore, an important task for policymakers seeking to scale-up access to renewable energy in STP. The key challenge of funding the transition towards a low-carbon energy system is to address existing investor risks that affect the financing costs and competitiveness of renewable energy in developing countries². The project did concentrate on policy derisking instruments such as renewable energy policy design, institutional capacity building, resource assessments, grid connection and management, and skills development for local operations and maintenance.

On the second challenge, the GoSTP informed the joint AfDB/UNDP mission that it reached an agreement with Soares da Costa SGPS SA in November 2017 by which the latter will fully relinquish its concession and all outstanding claims, also forfeiting all EPC/O&M rights by 31st of march 2018.

According to the note to file: PIMS 462 Budget Amendments for Project Extension document dated November 23rd, 2020, the project took the following adaptive management steps which affected the project original design:

- Refining activities for developing and implementing a policy, regulatory, technical and administrative framework to de-risking private sector investments, to focus on building overall capacity and coordination of the renewable energy sector. Thought as a crucial precursor to stimulating private sector investment.
- Focus on rehabilitation of an existing micro-hydro power plant "Papagaio" instead of creating a financing mechanism for micro-hydro investments with the private sector. The rehabilitation of MHPP Papagaio is to result in full renewable electrification of the Principe Island.

² Oliver Waissbein et al, UNDP 2013 "Derisking Renewable Energy Investment, A framework to support policymakers in selecting public instruments to promote renewable energy investment in developing countries".

- Acknowledge that the design of project component 3 overestimated both the number of hectares available for Sustainable Land Management (SLM) and Sustainable Forest Management (SFM) activities and the corresponding budget originally allocated.
- Carry out additional solar photovoltaic (PV) installations and diesel hybridization of selected sites as indicated by the Government’s renewable energy strategy, and in partnership with the African Development Bank (AfDB).

The Energy Project is a GEF full-sized project, which started in June 2016 and was to be closed by December 2021 although requested, and was granted, an extension until 31st March 2022. The project is now in its 6th year of implementation although it was designed to last 5 years. The extension was justified as follows: “since the project’s design from 2013-2015, the energy sector landscape in STP evolved substantially and achieved several developments, coinciding with major changes in government which produced overall changes in approach to the management of the energy sector. Notably for the project, this has meant that parts of the overall objective, including stimulating investment into renewable energies from the private sector, had to be re-evaluated”.

1.3 Evaluation Ratings Table

Table 2 Evaluation Ratings Table

The following Evaluation Ratings Table consolidates individual ratings undertaken in several areas within the main TE report.

1. Monitoring & Evaluation	Rating
M&E design at entry	S
M&E Plan Implementation	MS
Overall Quality of M&E	MS
2. Implementing Agency (IA) Implementation & Executing Agency (EA) Execution	Rating
Quality of UNDP Implementation / Oversight	HS
Quality of Implementing Partner Execution	S
Overall quality of Implementation/Execution	S
3. Assessment of Outcomes	Rating
Relevance	HS
Effectiveness	MS
Efficiency	MS
Overall Project Outcome Rating	MS
4. Sustainability	Rating

Financial sustainability	ML
Socio-political sustainability	ML
Institutional framework and governance sustainability	ML
Environmental sustainability	L
Overall Likelihood of Sustainability	ML

L= Likely; ML= Moderately Likely; MU=Moderately Unlikely; U=Unlikely (U/A=Unable to Assess)

(HS) Highly Satisfactory; (S) Satisfactory; (MS) Moderately Satisfactory; (MU) Moderately Unsatisfactory; (U) Unsatisfactory; (HU) Highly Unsatisfactory

1.4. Concise Summary of Conclusions, findings and lessons learned

Conclusions are presented in each section of the Terminal Evaluation Report. The salient conclusions are summarized as follows:

Project Design:

- The project architecture was solid and innovative although too ambitious at the time.
- The assumptions lacked depth of analysis. Several outcomes (for example, outcome 1, output 1.1 and 1.2 have as an assumption “Commitment of the various Government Institutions) and outputs present in the logical framework very simple and hollow assumptions that reflect little analysis.
- Several indicators couldn’t be measures locally. For example, at the objective level, the second indicator “hydro-electricity generation and the related reduction of tCO2e over the 5 year and the subsequent generation of MWh/year” was not monitored nor reported at all since the project did not manage to build the expected infrastructure over the life of the project. Also, in terms of tCO2 from watershed management could also not be measures since the country does not yet have a baseline and therefore it was not feasible for the project to monitor such indicators.
- The targets set a heavy burden on the first year and a half of implementation and being unrealistic with standard policy making timelines.
- The project governance structured changed after the second year and it has proven to be a more effective coordination mechanism with Government, international donors and private sector.
- A strategic communication function is critical to policy development and ought to be strategically included in project design.

Project Effectiveness, Efficiency, Relevance:

- **Efficiency:** The project executed 74% of GEF allocated budget in six years and three months. At TE had US \$1.2 committed. If spent , as committed, after project operational closure, it could bring the execution to 97% together with outstanding NEX balances and undepreciated fixed assets.
- **Relevance:** The budget was revised following the re-programming exercise conducted in 2017 to adapt to the new focus on component’s 2 and 4.
- **Relevance:** The UNDP-GEF resources used as de-risking tool for investment of potential private sector investment.

- **Relevance:** The 2015 Project currently ending is still aligned to the STP updated Nationally Determined Contributions 2021 energy sector goals and the Least Cost Development Plan. Component 2 outputs are tangible results with the investment in an infrastructure helping the country to achieve its goals and commitments.
- **Effectiveness:** Project underwent a partial re-programming to adjust itself to unrealistic design and changing energy scenarios. The re-programmed outputs were reflected in the logframe but the indicators and targets were not modified complicating monitoring tasks.
- **Effectiveness:** The CT-PTSE became the project board bringing together key actors and interests in the renewable energy sector. The Government managed, together with UNDP, AfDB, World Bank, UNIDO and others, to ensure proper coordination for the sector.
- **Effectiveness:** the project ability to coordinate with AfDB, WB and UNIDO has brought tangible outputs in line with the Electric Sector Transformational Programme (Santo Amaro, DGRNE) as well as the required technical and feasibility studies and EIAs for the small hydroelectrical plants prioritized by the country.
- **Effectiveness:** Component 1 has placed great emphasis on designing and pushing forward all necessary legal and regulatory frameworks to promote renewable energy and private investment in the country. At the time of project closure, four of the laws and regulations promoted under component 1 were not fit for purpose although the path is clear as to which ones need to be prioritized.
- **Effectiveness:** Component 3 was over dimensioned. Part of the resources used to cover reprogrammed outputs for components 2 and 4. The Government counterparts have now IWMP for 4 major basins that can become great planning tools if sufficient resources are secured for their implementation. Efforts have been made to reforest the selected watershed, promote land conservation best practices and non-forest timber products.
- **Effectiveness:** EMAE's participation has been marginal in key moments. It is a key player and is considered as a bottleneck for efficient energy transition.
- UNDP has gone beyond mere supervision to actively support project implementation.

Sustainability

- The main risk to sustainability is right now financial. The Government's signature of PPAs with private investors does not allow multilateral development banks to finance such endeavors. Also, EMAE's weaknesses, system losses and debt complicate the return on investment.
- Project counterparts do have greater capacity and preparedness to push forward the renewable energy path set strategically by the Government. This project as well as World Bank and African Development Bank and other UN Agencies projects have invested greatly on numerous trainings in a coordinated manner.
- The swift execution with appropriate adaptive management of this project, enable the GEF to allocate the STAR GEF 7 cycle for continuity support with the PIF National child project of the Africa mini grid in STP PIMS XXXX which is a Programme in 21 countries on the continent
- Regarding **gender**, gender equality or women's empowerment is completely lacking at project design. The project focus was on energy production from the investment of independent producers, without taking into consideration gender considerations. However, during implementation greater attention was placed on to recollect disaggregated data in terms of attendance to events, workshops, ateliers and in the training and capacity building sessions.

Table 2 above illustrates Evaluation ratings. Overall evaluation rated as “Satisfactory” and the quality of activities for coordination, communication, and reporting has been “Highly Satisfactory” in general. The results of the project are “Likely” to be sustained. A summary of the ranking system is included in [Annex 2](#).

1.5 Recommendations Summary

The following summarized the recommendations from the evaluation. They are intended to inform the design, monitoring and evaluation of future programs and projects. More detailed recommendations are included in the text.

Table 3 Recommendations Table

Rec #	TE Recommendation	Entity Responsible	Time frame
A	Category 1: Project Design		
A.1	Thematic checklist to be created at national level to ensure key assumptions are duly considered	UNDP; GEF Focal Point	NA
A.2	Design processes include national GEF and EMAE focal points from the start to gain accountability	UNDP; GEF Focal Point	NA
A.3	Use of attainable indicators and conservative target setting. Update logframe indicators and targets to proper monitor project progress	UNDP; DGRNE; MOPIRINA	NA
A.4	Estimate longer timelines when dealing with policy making. Policy and legal regulations require an average of 3 to 4 years from design to enactment.	UNDP; MOPIRINA; DGRNE; AGER; EMAE	NA
B	Category 2: Catalytic Effect		
B.1	Replicate the CT-PTSE model as a coordination and planning space to ensure Government, Donors and private sector buy-in and effective coordination for future project designs.	Government, UNDP	NA
B.2	Carry out initial baseline analysis regarding SLFM and NTFP production projects to effectively monitor the impact. This would allow to the determine, if any, changes in terms of hectares under production, yield, revenues obtained by beneficiaries, etc.	Directorate of Agriculture, UNDP	NA
B.3	Strategic communication to be included when policy outcomes are called for to support the policy enactment and approval process by effectively communicating key messages with Government and Non-Governmental actors.	UNDP, Government	NA
C	Category 3: Sustainability		
C.2	Current tariff system is not accounting for system inefficiencies and poor management. There is a need to update the tariffs to make return on investment more attractive to the private sector.	EMAE	NA

2. INTRODUCTION

2.1 Purpose, Objective, and Scope of the Terminal Evaluation

The evaluation is an independent technical and financial Terminal Evaluation (TE) of the GEF “Promotion of environmentally sustainable and climate-resilient grid/isolated grid-based hydroelectric electricity through an integrated approach in Sao Tome and Principe”. In adherence to GEF requirements, UNDP, the GEF implementing agency, has contracted an independent consultant, Guido Fernández de Velasco -THE CONSULTANT-, to execute the TE. The international consultant was supported by two national consultants, Edchilson Cravid y Sandro Constantino who supported with the mission agenda, interviews as well as information processing and synthesis.

The TE is used by GEF Agencies and project partners to provide a comprehensive and systematic account of the performance of a completed project by assessing its design, implementation, and achievement of objectives. The evaluation is expected to: promote accountability and transparency; and facilitate synthesis of lessons. The TE will provide feedback to allow the GEF Independent Evaluation Office (IEO) to identify recurring issues across the GEF portfolio; and contribute to GEF IEO databases for aggregation and analysis. The project began on 21 January 2016, and its operational closure termination date was extended to 30 March 2022.

The objective of this evaluation is to determine whether the project achieved its objective of *introduce and integrated energy and ecosystems-based approach to grid/isolated-grid-based mini/small hydro-electricity generation ins Sao Tome and Principe* through the achievement of the project outcomes and objectives.

The product is a Terminal Evaluation report that assesses the achievement of project results against expectations and draws lessons aimed to improve the sustainability of project benefits and aid in the overall enhancement of UNDP programming by informing future project design and implementation. The TE report promotes accountability and transparency and assesses the extent of project accomplishments, including through adaptation to the outbreak of the COVID-19 pandemic. The Terms-of-Reference for the TE is included in Annex 1. Table 5, below in section 4.2.4, provides a summary of GEF Terminal Evaluation Criteria.

2.2 Evaluation Methodology

The Terminal Evaluation Approach

The TE will be guided by the OECD DAC³ criteria: relevance, efficiency, effectiveness, and the anticipated sustainability of the UNDP projects, based upon the results achieved. The mentioned criteria will complement the established by UNDP Agency evaluation criteria and guidance⁴.

³ <http://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm>

⁴ As specified in Annex 1 and Annex 2 of the Terms of Reference; and incorporating any new or modified guidance by GEF and/or CI. All published GEF guidance and policies apply.

The Terminal Evaluation Methodology

Empirical tools were applied to produce statistically significant results, use technology to enhance efficiency and cost effectiveness, and lower carbon footprint of operations.

The TE Methodology is summarized by the following three steps:

TE Coordination/ Kick-off meeting

A joint discussion process and subject of this report defined with UNDP the scope and methodological framework of the evaluation and coordination of the data collection phase. As indicated in the introduction, THE CONSULTANT did held a kick-off meeting held on 10 February 2022 to (i) establish a collaborative relationship between actors; (ii) confirm the objectives and scope of the evaluation and evaluation questions; (iii) introduce team members, roles, and responsibilities; (iv) review of overall approach and evaluation phases; (v) coordinate information for the desk survey (below); and (vi) identify possible members of the reference group and steps to establish and engage the stakeholder groups in the evaluation process. During the meeting, the deliverables and timeframe were agreed upon.

Desk Review

UNDP and the Ministry of Public Works, Infrastructure, Natural Resources and Environment (MPWINRE) provided THE CONSULTANT the relevant available documents and data from the project for a desktop survey and gap analysis including organizational documents, charts, and management structures, GEF Project documents and tracking tools (updated during the TE process), toolkits and guidance, etc. The list of documents received and reviewed is presented in Annex 4. All documents were shared via wetransfer with the Consulting team prior to the field mission. During the inception meetings, THE CONSULTANT requested the following:

- The latest Technical and Financial Quarterly Reports;
- 2021 Report;
- Inception Report; and
- Co-financing matrix⁵.

Information exchange was a fluid and ongoing process during the evaluation. All documents and information sources consulted throughout the process has been logged in the annex ([Annex 5](#)).

Stakeholder Mapping

For this evaluation, the most logical stakeholder groups are oriented around each of the four components and the Project Management Unit (PMU). In addition to this, the Implementing Agency (IA)/Executing Agency (EA) also have organizational interests and benefits. A final group consists of national government

⁵ Co-financing matrix has not been produced per se. The project, nonetheless, has kept track of other donor's planned investments in the renewable energy sector in STP.

representatives. Based on these categories, a stakeholder contact list was developed, and all the people were contacted for the benefit of this evaluation. The list accompanies this report as Annex 6.

4.2.4. Data Collection Methods

The following table lists the data collection methods and indicates the pertinent stakeholder groups.

Table 4 Evaluation data collection methods

<p>Desk Review</p>	<p>The desk review of the key quarterly and annual workplans and reports has informed the effectiveness in terms of completion of the outputs and the achievement of outcomes. The Activities Completion has been compared with the progress towards results as indicated in the reports and taking reference to the indicators in the approved Results Framework. THE CONSULTANT has retrospectively analyze the project’s Context, Theory of Change, Strategy and key assumptions, to validate the project’s internal logical framework as well as the project Results Framework with indicators, baselines and targets, the established monitoring benchmarks. THE CONSULTANT used the financials of the project to analyze the quarterly trends in project execution as a proxy for efficiency. To gauge risks, a literature review of online information did test for any current events or recent developments that affect the project as risks or in terms of sustainability. The UNDP Environmental Management Framework has been assessed with field trip reports and information from the Project Implementation Report (PIR) to gauge management and oversight of safeguards. The results of the desk survey were triangulated through structured questions through Key Informant Interviews (KIIs) and Focus Groups (FGs).</p>
<p>Focus Group Meetings</p>	<p>Focus groups were used to promote active participation of all participants, group discussions and the generation of more detailed qualitative information related to the achievement of outcomes in components 1,2,3 and 4 as well in project management. Component 1 did unite key actors at different legislative and regulatory levels. Component 2 did seek the participation of key informants from the national electricity arena and Component 3 did include representatives of the agricultural and forestry departments with different communities at the basin level benefitted from sustainable land practices. UNDP representatives assigned to the project were interviewed. A fourth focus group involves the EA Project Management Unit.</p>
<p>Key Informant Interviews</p>	<p>“Key” refers to the quality of their participation as defined by an appropriate stake in relation to a given output or a specific contributing activity and, in some cases, they are considered as “representative” of a stakeholder group and were interviewed individually and outside of any focus group. The preliminary list of key actors did evolve throughout the evaluation process. The final report includes a comprehensive list of all stakeholders consulted during the process (Annex 7). The list of Key Informants is presented in Structured interview with Key Informants did</p>

	respect the unique perspective or position of the informant. Examples include IA financial staff, GEF Focal Point, high level directors, numerous Government counterparts and UNDP component leaders. The KIIs was useful to triangulate information from the desk survey and from FGMs.
--	--

4.2.5. Triangulation of Information from Data Sources

Quantitative and qualitative information from different data collection tools was processed according to different levels of analysis and by stakeholder characteristics for cross-checking and data triangulation using the key evaluation questions as parameters. THE CONSULTANT did complete a final evidence-based process through data analysis comparing primary data against the secondary data obtained through the desk review to ensure reliability of information. Triangulation did include follow-on interviews, consultation of third-party sources of information, or through additional information requested of the project team and UNDP focal points. This process enabled the evaluation team to extrapolate arguments and assessments and appreciate lessons learned from different perspectives. The evaluators were particularly interested in the lessons learned in relation to the different components, gender, safeguards, project management, etc. The purpose is to prepare the final presentation of the level of attainment based on original expectations and on the evaluation criteria presented.

4.2.6 Elaboration and Submission of TE Draft Report

The consultant will submit a TE Draft Report to the UNDP Agency coordinator for review and feedback. The report will include the lessons learned, best practices and related recommendations based on the negotiated criteria for a UNDP Terminal Evaluation and the Terms of Reference for the TE. The draft report triggers a feedback loop. UNDP will circulate the draft and return to THE CONSULTANT with comments. All reports will be drafted and finalized in the English language.

4.2.7. Elaboration of Final Terminal Evaluation Report

Upon receipt of comments, THE CONSULTANT will incorporate all comments into the final draft and re-submit incorporating feedback from UNDP and partners including all attachments and support materials, including an Audit Trail documenting the comments received and responses, data sets, etc. Once approved, THE CONSULTANT will produce the Final TE Report with a concise executive summary and additional knowledge products. THE CONSULTANT will work with UNDP to resolve any outstanding issues that might arise and/or for a final conference to close the consultancy.

4.2.8. Presentation of Findings

THE CONSULTANT did provide a summary presentation of findings to an audience as indicated by UNDP. The language of the report was in English.

2.3 Ethics

The evaluation was conducted in accordance with the principles outlined in the United Nations Evaluation Group (UNEG) 'Ethical Guidelines for Evaluations'⁶ and in accordance with the norms, standards, ethical, and conduct as defined in the UNDP-GEF guidance and policy stating, among others, that evaluations must abide by professional and ethical guidelines and codes with respect to research on human subjects as described in UNDP's human research ethics policy and be mindful of differences in culture, language, customs, religious beliefs, and practices of all stakeholders. The evaluation made judgements on their participation in the definition/design, implementation and achievements based on accountability and learning. A signed declaration is included in [Annex 8](#).

2.4 Limitations to the Evaluation

The TE consultants faced the following limitations:

- Virtual interviews required more time to manage and process and schedule than anticipated. UNDP country units insisted on coordinating meetings with national government Key Informants (KIs). Although with some delay, all interviews with key actors did take place during this evaluation process.
- UNDP did provide the Combined Delivery Reports for the years 2016 to 2021. Initially, the reports were not disaggregated per outcome which made more difficult the effectiveness analysis. UNDP CO quickly provided the Quarterly CDRs for the requested year per activity. Also, at the time of the field mission, the project had not reach financial closure and presented a large volume of committed resources. The final commitment was obtained during the month of April after the field mission.
- The lead evaluator succumbed to COVID-19 causing a significant delay in the Evaluation process. The team is grateful to UNDP STP and the PMU for their kind support, understanding and solidarity.

Despite the challenges mentioned, evaluators were able to address the issues with the mentioned parties to the satisfaction of the evaluation team.

3. PROJECT DESCRIPTION

3.1. Project start and duration, including milestones

The Project document was signed in January 2016. It experienced a slow start typical of these types of projects where time is needed to set up the PMU, office space, vehicles, etc. The project was designed to last 5 years until December 2020. A no cost extension was requested and approved prolonging the life of the project until march 2022.

As mentioned previously, the Project Board together with key international partners conducted a re-programming exercise in 2017 (Table 6) which modified the several outputs but did not change the overall project's objective. The impacts of the reprogramming exercise and adjustments to the results framework and further developed in Section 4.

⁶ United Nations Evaluation Group (UNEG), Ethical Guidelines for Evaluations. URL: <http://www.unevaluation.org/document/detail/100> accessed 10 March 2022.

3.2 The Development Context

STP is a small country in sub-Saharan Africa that is part of the Small Island Developing States (SIDS) and therefore faces specific challenges in relation to its size (1,001 km², 219,161 inhabitants), remoteness from major markets, dependence on a small number of economic sectors, direct investment and remittance inflows, lack of resources and a significant trade deficit. The economic sector consists mainly of the production and export of cocoa, which accounts for about 90% of total export revenue.

The largely informal tertiary sector accounts for about 60% of Gross Domestic Product (GDP), employing 60% of the working population, while the primary and secondary sectors each contribute 20% of GDP (USD 418.6 million in 2019).

The country is a signatory to the 2030 Agenda for Sustainable Development (Agenda 2030), which includes the 17 Sustainable Development Goals (SDGs).

The context of SDG implementation in the country has been marked by the elaboration of the main strategic planning instruments for national development in recent years, namely: the STP Transformation Agenda on the horizon 2030, the National Development Plan (NDP) 2017-2021 and the National Sustainable Development Plan. In addition to these instruments, several sectoral plans and strategies have been developed, aligning with SDGs.

STP has selected 7 SDGs as a benchmark in defining and implementing development policies and strategies, namely: SDG 1 - Eradicate poverty; SDG 8 - Decent work and economic growth; SDG 9 - Industry, innovation, and infrastructure; SDG 13 - Climate action; SDG 14 - Protect marine life; SDG 15 - Protect terrestrial life; SDG 16 - Peace, justice and effective institutions.

Regarding SDG 7, in the energy domain, STP currently has one of the highest power generation costs in Sub-Saharan Africa. The power sector remains subsidized, and tariffs are not cost-reflective, so the national utility, the Empresa de Agua e Electricidade (EMAE) is unable to recover its costs and the country faces challenges resulting from an outdated transmission and distribution system, a power generation mix highly dependent on expensive diesel and poor management. In addition, there is a worrying volume of grid losses which, according to EMAE, in 2019 was about 33% of that generated. The losses are associated with inefficiencies in the transmission and distribution networks, accompanied by theft and fraud in the use of electricity.

STP does not yet produce fossil fuels and therefore all those consumed in the country are imported, making the country dependent on imports and price fluctuations at international level. Electricity supply is characterized by frequent power cuts and load shedding, forcing businesses and providers of essential social services to run on diesel generators.

It is noted that the rate of access to electricity services has evolved positively, and it is estimated that 84% of the Santomean population had access to electricity in 2019. The STP energy policy includes a target of achieving a **100% electrification rate by 2030**, to guarantee access to reliable electricity services for the entire population. In the case of grid-connected power generation, the installed generation capacity in 2019 was estimated at 29.7 MW, of which only 19.9 MW was with guaranteed availability. Only 1.22 MW is of hydroelectric origin, and the remaining capacity is of thermoelectric (fossil fuel) origin. In addition to grid-connected generation, the island of São Tomé had three isolated (diesel) power plants in 2019 with a total installed capacity of 544 kW, of which only 178 kW were with guaranteed availability. There are also a number of self-producers, not connected to the electricity grid, who generate it locally for their own consumption, and consist mainly of hotels in the tourism sector.

STP's electricity matrix is not very diversified, with the predominant presence of six thermoelectric diesel power plants, five of which are located in São Tomé and one in RAP, and only one hydroelectric power plant

located in São Tomé. Most of the thermoelectric power plants have on average more than 10 years of operation and have a guaranteed availability well below the total installed capacity.

The production of electricity in STP has increased over the last 40 years, due to the increase in consumption resulting from the electrification of the country, in accordance with the growth of the population and the economy of São Tomé. The production of electricity has experienced a sharp growth since 2009 with the commissioning of new thermal power plants. If in 2010 the production was 57.9 GWh, in 2019 it reached 109.1 GWh, an increase of approximately 90% in 9 years.

A sustainable industrial and socio-economic development strongly depends on a reform of the energy sector and a transformational shift from an almost complete reliance on fossil fuels to renewable energy (RE) and energy efficiency (EE). Such a transition will lead to a significant reduction in fossil fuel import costs and free scarce monetary resources for social and economic development (e.g. education, health, transport, export diversification, Small and Medium Enterprise (SME) development and climate change adaptation). It will also help the island's key industries and income generating activities (e.g. water supply, agriculture, food processing, tourism, fisheries and the blue economy in general) to become more productive and competitive.

To face the existing barriers in the energy sector, the Government of STP, with the support of Development Partners, namely UNDP, WB, AFDB, UNIDO, through the different funds that are allocated and made available, has been developing strategies, plans and legal instruments to strengthen the sector that has the vision in the energy transition, promoting in this way the implementation of renewable energy, in other words, clean energy sources.

With the support of the UNIDO, the Government of STP has developed the National Action Plan for Renewable Energy (NREAP) and the National Action Plan for Energy Efficiency (NEEAP) under the project "Strategic programme to promote investments in renewable energy and energy efficiency in the electricity sector".

The NREAP and NEEAP provide the Government with practical guidance how to make the energy transition a reality by 2030 and 2050. Based on energy modelling using Low Emissions Analysis Platform (LEAP) software, PANER and PANEE propose a low-carbon scenario that will significantly reduce the country's energy costs and greenhouse gas (GHG) emissions. The energy transition is a prerequisite for the achievement of important national, regional and global policy goals. The main reference documents used in the development of the NREAP and NEEAP are the Vision 2030 "São Tomé & Príncipe 2030: the country we need to build", the Blue Economy Transition Strategy for São Tomé & Príncipe, Agenda 2030 and Agenda 2063: "The Africa we want", the Nationally Determined Contributions (NDCs, 2021), the Third National Communication (TCN) on Climate Change, the National Action Plan for Adaptation to Climate Change (NAPA) and regional CEEAC/CEMAC policies. With the implementation of the action plans, the country will achieve Sustainable Development Goal 7 (SDG-7), which aims at universal access to affordable, reliable, sustainable and modern energy services by 2030.

The project "Promoting Hydropower in a Sustainable and Climate Resilient Way through an Approach Integrating Land and Forest Management, financed by GEF and implemented by UNDP and DGRNE has substantially supported the country in improving the legal/regulatory framework of the water, energy and forestry sectors.

3.3. Problems that the Project Sought to Address

The main problem addressed by the project is: *Dependency of the country on imported diesel for energy generation with a steadily increasing demand which has systematically been met by increasing the thermal*

generation capacity, despite de availability of an extensive network of rivers. At the same time, the electricity from renewable sources of energy, including hydro, photovoltaics and wind, represents less than 10% fraction of the total energy supplied in the country.

- Electrical power in the country is provided by EMAE, a public-private company that is 51% owned by the Government of STP, an 41% is jointly owned by the private sector, with Sonangol holding 40% and a local anonymous enterprise owning the remaining 9%. EMAE experiencing heavy technical and non-technical losses, capacity constraints and difficulties collecting tariffs.
- Another key problem addressed by the project was the need to liberalise the market allowing for greater private sector participation. The investment in renewable energy requires to be supported with financial incentives, at least initially, due to its cost per installed capacity and the associated risk.
- The project document also highlights the importance of ecosystems, land use and forest management necessary to guarantee sufficient water resources to fully develop the hydrological potential of the country. In this respect, the following problems were identified:
 - Poorly managed shifting agriculture and the absence of forests management plan degrade soils and ecosystems. Major pressures on the ecosystems are driven by demand for wood and charcoal as a domestic fuel in the capital, and by illegal tree cutting. Soil loss is amongst the most serious environmental problem threatening the fragile ecological balance of the country.
 - The country has enormous water potential. Several studies range the total volume of water flows from 2.1 billion m³ per year (DRNE, 2010) to 6.4 billion m³/year. The treat on water resources in the country call for an integrated watershed planning and management approach

While there are many challenges facing STP with respect to energy and management of natural resources, the long-term solution proposed involved two inter-related axes of action; one, embracing a renewable hydropower self-sufficient development path while also supporting human and economic development.

3.4 Immediate and development objective of the project

The development objective of the **project** is to *“introduce an integrated energy and ecosystem-based approach to grid/isolated-grid-based mini/small hydropower generation and sustainable watershed management”*.

The selected strategy was targeted at the mini/small hydropower development to substitute for the electricity generated from diesel power stations that burn imported fuel and to provide additional capacity to enable EMAE to meet the needs of the approximately 50% of the population that has not access to electricity services which was to be achieved with the participation of the private sector.

The project was to integrate the hydroelectricity development objective with sustainable -level and sought to catalyze the development or transformation of national and sub-national systems by strengthening the mentioned levers. To realize the objective and address the barriers, the Project proposed the following components and results as summarized from the Project’s Results Framework (Annex 9):

- Creating attractive and competitive business terms and conditions for investors, such as providing financial incentives towards project development and implementation, which will give developers long-term stability and provide for sufficient investment return;
- Streamlining and simplifying the administrative procedures for developers of mini/small hydropower projects for electricity generation and assisting the Ministry of Public Works, Infrastructure, Natural

Resources and Environment to promote this market through strengthening of the one-stop shop within EMAE; and

- Facilitating implementation of mini/small hydropower projects by assisting to put in place a fair and transparent project selection process, supporting subsequent negotiation and signature of Power Purchase Agreements and providing technical support and oversight throughout the construction process.

3.5 Expected Results

In a five-year time span the project planned to have, under **component 1**, streamlined policy and legal/regulatory frameworks in place (the majority completed in 12 months from project start and approved by Government in the second year) to promote private sector electricity generation and development of updated integrated resource and forestry/watershed management. This implied, in the above indicated time frame to work, in the absence of a National Energy Policy, to work on a guiding policy document to promote private sector investment in renewable energy in the country.

The project was then to work on policy and legal framework for participatory Integrated Watershed planning and management to guarantee sufficient water for the proposed hydropower plants taking into consideration the communities development needs. Another key milestone was the finalization of the Forestry Management Plan of 2002 providing accurate data on forests state, deeper analysis of the Community based forest management and specific action plans in the forestry sector together with an Integrated Water Resource Management Law. The project was to prepare a generic IWMPs framework supporting practical experiences with its preparation by testing them in pilot sites and to produce specific environmental safeguards frameworks for the hydropower site installation.

Under this overarching component, the project also intended to, produce a technical report on grid capacity requirements to enable system stability feed-in for grid-connected mini-hydro systems as well as an updated grid code; establish procedures and standardized PPAs for the introduction of a transparent procurement process in the selection/award of hydro sites to private developers; setting up of a one-stop shop within EMAE for issuance of construction licenses and permits to developers; standard environmental methodology for evaluating hydropower projects and financial evaluation methodologies for calculating small hydropower tariffs to be paid to IPPS; capacity development within EMAE, local banks and key national actors to appraise mini/small hydro projects for PPAs and lending and increased national capacity to coordinate institutions for inter-sectoral SLM approach and to implement IRM at the watershed level.

Component 2 seeks to promote investment in mini/small hydro through appropriate catalytic financial incentives for project investors. The project was to achieve this goal by means of establishing and capitalizing a Financial Support Mechanism (FSM) drafting rules and regulations; signing a MOU with the Central Bank of STP setting up the objective, funding mechanism, administration rules regarding its participation as fiduciary agent of the FSM; designing incentives to be provided to project developers to be operationalized by MPWINRE; facilitation of documents confirming financial closure with identified investors and installed capacity of a minimum of 4 MW of on-grid/isolated-grid generation from mini/small hydro IPPs commissioned.

Component 3 on integrated land use, sustainable forest management and natural resource management was to consist on developing at least 3 IWMP including water and carbon-monitoring schemes as well as at least 6,000 hectares of Community Forests managed effectively for sustainable resource conservation in the selected Integrated managed lands; promoting new methods and techniques of agroforestry to reduce land degradation in watersheds of 10,000 hectares; 7,000 of hectares of forests rehabilitated to ensure water

resources, alternative incomes and sustainable environmental services and a financial mechanism in place for re-investing on energy proceeds into community lands conservation.

Component 4 focused on reaching out disseminate project experiences/best practices for replication throughout the region and other SIDS countries by means designing outreach/promotional material to reach domestic and international investors, develop capacity of MPWINRE/EMAE and MAPRD to monitor and document project experiences and publishing materials on project experiences.

3.6 Main Stakeholder: summary list

Regarding the implementation of the project the main stakeholders are:

Table 5 List of stakeholders

Key Stakeholders	Acronym/Abbreviation
Ministry of Infrastructure and Natural Resources	MIRN
Ministry of Agriculture, Fisheries and Rural Development	MAPDR
Directorate General of Natural Resources and Energy	DGRNE
Directorate for Forests and Biodiversity	DFB
Directorate of Agriculture and Rural Development	DADR
Regulatory Agency	AGER
Water and Electricity Company	EMAE
Private Sector (Companies and Independent	SP

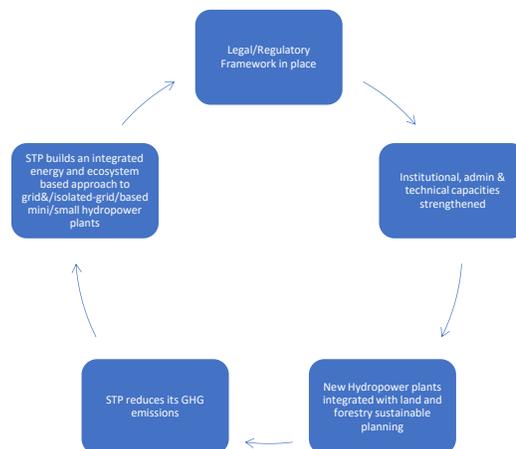
Producers in the Energy Sector)	
Local Populations: farmers and their families	PL

3.7 Theory of Change

The approved Project Document (PRODOC) does not outline the Theory of Change (TOC) upon which the project strategy is developed. Nonetheless, it can be reconstructed by reading the project rationale and policy conformity section (page 34). The TOC could be as follows:

If STP has a legal, regulatory and market favorable environment able to promote a market driven approach private sector participation into the electricity generation market; If institutional, administrative and technical capacities are strengthened to promote the utilization of the country's extensive mini/small hydropower potential for electricity generation to supply the EMAE grid and its isolated mini-grids and If, the development of new hydropower plants is to be integrated with an approach to land-use planning and sustainable land and forestry management practices, THEN, STP will be able to reduce its Green House Gas (GHG) emissions by building an integrated energy and ecosystems-based approach to grid/isolated-grid-based mini/small hydropower plants and sustainable land management.

Figure 1 Theory of Change



The barriers identified to achieving the proposed integrated solution were:

- Policy and legal instruments relating to community management and benefit-sharing in secondary forest are inexistent. An appropriate policy and legal framework is required to support effective implementation of IWM model.
- Poor understanding of the natural resources base, ecosystem and ecosystem services flows and the impact of land management, natural resource and energy use inhibit development of integrated and sustainable management at the watershed level.
- Poverty, cultural habits and lack of alternatives, innovation and investment (private sector and public finance) at village level make it hard for communities to break out of a cycle of unsustainable land, resource and energy use.
- Poor understanding of the IWM model and of conservation farming, ecosystems and potential carbon benefits, coupled with poor communication and working relationships and limited capacity of national administrations and local communities inhibit the development, promotion and widespread replication of an effective and sustainable IWM model.

4. FINDINGS

4.1 Project Design/Formulation

4.1.1. Results Framework: Project Strategy, Design, Logic, and Indicators

A review of the project documentation and through interviews with managers at the country-level, leads evaluators to conclude that the architecture of the project design was too ambitious at the time and that the national and internal revision process failed to spot the major flaws in the analysis. Theoretically speaking, the design was very sound and made total sense to promote mini/small hydroelectrical power in the country through a financial mechanism to create the enabling environment for private sector investment while promoting SLFM in the key watersheds ensuring water resources in the long run. Nonetheless, the project strategy, as it will be shown further down the analysis, was over dimensioned (in terms of the proposed targets) and there were very important risks that had not been identified (ie. Two of the major basins where the project was to be implemented were under concessions and the timing wasn't right to promote the financial support mechanism) and a weaker institutional and legislative framework in place which might have guided the strategy on a different path.

However, the expected outcomes were not sufficient to achieve the Project's objectives due to unrealistic estimates of capacity, timeframes, and costs. The project was clearly pointed in the right direction at the outcome level. However, the assumptions for each and the execution requirements were generally underestimated and finally, the indicators chosen, especially at the outcome level do not tell the whole story of the project as it turned out. As indicated previously, after the joint mission conducted by UNDP and AfDB in November 2017, the project was re-designed changing the scope of several outputs. The following table shows the changes made at the output level per component. As per the interview conducted with UNDP staff, the objective and outcomes were not altered, nor did they modify the indicators and targets in order to continue developing the project. Although it is understandable that, if a major change took place, it could have delayed project implementation since it would have required higher level of approval from UNDP and GEF, it does not make sense to leave the indicators and targets as they were since this affected proper monitoring and reporting.

Table 6 Comparison of original design vs restructuring conducted in 2017

Original Project Results		Reprogramming
Component 1		Component 1
Output 1.2: Technical report on grid capacity requirements to enable feed-in for grid-connected mini-hydro systems followed by development of an updated grid code.		Output 1.2: Defining capacity requirements for the grid to enable feed-in for grid-connected alternative energy production systems by private operators
Output 1.3 Established procedures and standardized PPAs for the introduction of transparent procurement process in the selection/award of hydro sites by private developers		Output 1.3: Standardised procedures and PPAs established for the introduction of a transparent procurement process in the selection/award of investors in energy production from all renewable energy sources
Output 1.4 Setting up of a one-stop shop for issuance of construction licenses and permits to hydropower developers.		Output 1.4: Existing one-stop shop with capabilities for document review and issuance of construction and operation permits to investors in energy production from all renewable energy sources
Component 2		Component 2
Output 2.1 Financial Support Mechanism (FSM) established and capitalized to support private investment in grid/isolated grid connected mini/small hydro		Output 2.1 Principe Island hydroelectric inventory study
Output 2.2. MOU signed with Central Bank of STP setting out the objective, funding mechanism and administration rules regarding its participation as fiduciary agent of the FSM.		Output 2.2 Memorandum of Understanding (MOU) signed with the African Development Bank, defining the purpose and the rules of administration of a joint investment fund in the renewable energy sector in Principe Island
Output 2.3 Financial and other incentives to be provided to project developers.		Output 2.3 Defined Hydropower investment incentives for future private investors
Output 2.4 Reports on financial closure with identified investors.		Output 2.4: Defined models and agreements for sustainable management of energy production systems, involving the community and EMAE
Output 2.5 Report on completion of construction of at least 4 MW of ongrid/isolated-grid hydropower		Output 2.5 Installed capacity to produce at least 2.5MW of

commissioned at various sites by end of project.		hydroelectric power in-network or isolated grid
Component 4		Component 4
Output 4.1 National Plan to implement outreach/promotional activities targeting domestic (and international) investors		Output 4.1 Designed and implemented Communication and advocacy strategy to promote the efficient use of energy and the sustainable use of forests

The following evaluates the strategic and design aspects of the project.

Based on the Project’s Context (Section 3), the problem addressed is well documented in the Project’s approval documents⁷, and was thoroughly litigated at the Mid-term Review (MTR). The prodoc section on key indicators, risks and assumptions states that the assumptions are those stated on the results framework. Thus, we need to assume that the project is designed in response to the following development assumptions:

- Continued commitment of project partners, including Government agencies and investors/developers (at the objective level); and
- Commitment of the various Government institutions and project developers, continued investor interest; cooperation of Government entities and staff; concerned institutions willing to release staff for training; cooperation of Government entities and staff; Political support to the integrated approach at the watershed level remains very high, supporting national level reforms; communities will change behaviour and commit to new practices if provided with alternatives and support to implementation; Investments of IPPs within 2 years after project initiation and growth of programme will be sustained.

The assumptions lack depth of analysis and have proven to be irrelevant. The designers ought to have analyzed in greater detail the necessary conditions that had to be in place for the outcomes to take place under each component. For example, are the necessary laws and regulations sufficient to promote private investment? Can the project achieve what it is set for in the given time frame? Are the financial conditions and agreements in place to promote a funding mechanism? A greater analysis of the assumptions might have prevented the re-structuring exercise conducted in 2017 and subsequent changes as reflected in the AWP. In a nutshell, the evaluation team considers the assumptions to be very hollow and simple not providing any insight into the different outcomes or outputs. For example, outcome 1 and outputs 1.1 and 1.2 assume that “Commitment of the various Government institutions and project developers” was all that was needed to have in place to ensure the outcome and outputs would be achieved. As it has been demonstrated, the overall conditions were not in place at the time to have such a scheme in place and therefore the assumption should have analyzed if the country had the enabling conditions in place to promote private investment at that time.

Overall, the four components that constitute the project’s architecture were aligned with the development needs, as indicated in the project document, and collectively respond to the Project’ development problems and barriers across the suite of outcomes. There is integrity between the components and the development objective. Component 1 was to focus on formulating and introducing comprehensive policy and legal/regulatory framework for private sector investment which turned out to focus on further strengthening the legal framework necessary before start talking about private sector investment; Component 2 promoting investment in mini/small-hydro through appropriate catalytic financial incentives for project investors which

⁷ Project Identification Form, Project Document, CEO Endorsement Request
Energy PIMS 4602

proofed to be unrealistic at the time. Component 3, focusing on SLFM and Component 4 focusing on dissemination of lessons learned and best practices remained unchanged.

At the objective level, the project includes four GEF Core Indicators. The first, *“framework in place to enable the private sector to invest in grid/isolated-grid-based mini/small hydropower generation”* does not have a related target indicating “when” the framework is expected to be in place. The second indicator, “hydro-electricity generation and the related reduction of tCO² over the 5 year and the subsequent generation of MWh/year” were properly defined and targets estimated although not monitored nor reported since the project did not manage to build the expected infrastructure over the life of the project. The fourth indicator *“Three Integrated Watershed Management Plans are adopted, and 23,000 hectares are under SLM practices”* is not neutral mixing the target within the wording of the indicator. The same applies to the number of hectares under SLM. Also, as it will be shown further down the analysis, the target was completely unrealistic given the national capacities and duration of the project.

The overall project seeks to realize the project objective through 4 stated outcomes and 20 outputs. Overall, the design is excessive and could have been better focused on the Outcome level leading to a lower and more targeted number of outputs. At the output level, most of the indicator targets indicated that, for outcome 1, a few of the policy related outputs were to be achieved or completed within 12 months of the project and approved by Government early in year 2 (ie, output 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 2.1, 2.2, 2.3, 2.4) putting a heavy burden on the PMU and proving to be completely unrealistic given the country context.

The policy-legal realm in particular has one dependent outcome and seven outputs very focus on improving procedures to promote private sector investment. The indicators proposed are a repetition of the output statement and in some cases, not aligned to the targets proposed, for example, output 1.4 indicator “one stop shop is established and operational” and its target being “all construction licenses and permits are issued within 4-6 months of submission of documents”. There is a clear disconnect between the indicator and the target. Another example, output indicator 1.3 “standardised bidding document for sites and PPAs drafted and approved by Government” is expected to be completed within the first 11 months of the project and that “competitive bidding for sites/concession areas completed by the end of year 1”. The indicator speaks about the documents needed for the bidding process and the target speaks about the actual bidding process which is actually out of the scope and responsibility of the project proponent. This leads to indicators that do not tell the full story of the project, as discussed further in section 4.3. The conclusion is that the project design could have been leaner and better focused with indicators that would better tell the story of the project. The following briefly reviews the design aspects by component 2, 3 and 4:

Component 2 seeks “to promote investment in mini/small-hydro through appropriate catalytic financial incentives for project investors”. It was intended to create the conditions for private sector investment which, after the 2017 re-design process, changed and focused on conducting the technical and environmental feasibility studies of key mini-small hydros in alignment with government interests. The outcome was to be achieved, originally, by implementing 5 outputs focusing on the financial mechanism to be established with the supporting tools and the actual construction of an on-grid/isolated-grid hydropower station. Indeed, the outcome was very ambitious given the weak institutional capacity from Government counterparts. The indicators proposed were a repetition of the output and as such do not provide greater detail not any indication as to how the output is to be achieved. Four of the five targets specify that the indicators are to be completed within 12 months of project initiation, thus expecting most of the outcome to be completed within the project’s first year. Output 2.5 indicator “At least 4MW of hydropower stations constructed and operational” is not neutral. The number of MW has to be indicated at the target level.

Component 3 provides the Land-use and sustainable forest management plans, or tools to enhance land-use governance in targeted watersheds. This component responds to the need to provide decision-makers and

local communities at multiple levels with the planning tools needed to develop their territories sustainably and ensure sufficient water is available for hydroelectricity production. It does so by investing in IWMP which include water & carbon monitoring, the inclusion of a carbon fund to continue supporting activities at the watershed level, the introduction of new agroecological techniques and methods to reduce land degradation, reforested lands and the establishment of a community trust for re-investment of energy proceeds into community lands. The baseline situation indicates a total absence of preparedness to undertake IWMP or lack of previous experience from both the Government and communities. Output 3.1 indicator related to carbon & water flows in selected watersheds; enhancement of carbon stocks; reduced water deficiency and erosion, etc” do not provide a baseline nor related quantitative target which makes it impossible to measure. The other four indicators are properly worded although propose really high targets which, as it will be shown in section 4.2.3 failed to be achieved.

Finally, **Component 4** responds to all of the development assumptions by promoting increased knowledge of effective strategies through targeted consultancies, knowledge projects, communications and information dissemination and replication of lessons needed to backstop the previous three components. A process indicator, such as the conformity, usefulness, understandability, etc. might be useful in that regard.

In terms of technical design criteria, the Project’s 4 components are parsed into 4 outcomes supported by 20 outputs. From a design perspective, the project is too dense in the number of outputs and for its length and system boundary, thereby requiring a considerable amount of management energy and cost to monitor and report. It is therefore both a complex and ambitious project.

Given the Project’s complexity, all those interviewed agreed that *the project timeline was too short and underbudgeted for an ambitious project*. Areas that increased the time-load are trust-building, policy development and authorization, socialization of concepts at the watershed level, increased resources for field presence and promotion, strategic communications and M&E, and knowledge management. A 6-year window for this project and more financial resources to extend the management of the project would have provided sufficient time to adapt to changing political landscapes and push through policies that are known to take 3 to 4 years to come to fruition in addition to developing tools and allowing sufficient time for their deployment and evaluation.

The GEF Core indicators are: (i) installed capacity per technology directly resulting from the project; (iii) lifetime energy production per technology directly resulting from the project; and (iv) carbon stored in forest ecosystems and emissions avoided from deforestation and forest degradation from the project are included in the project’s indicators as indicated in the GEF Core indicator worksheet (Annex 10).

4.1.2. Assumptions and Risks

The following table presents the comparison of the original risks identified during project design and the evaluation conducted by the evaluation team and new risks identified.

Table 7 Assumptions and risks at design and TE stage

Prodoc Original Risks	Original Ranks (Probability & Impact)	TE Ranks
Political: A sudden change in Government could lead to delays in enacting any new legislation and implementing policies.	P=3	P=3

	I=3	I=5
Institutional: Reluctance in some quarters of the Government to introduce the necessary policies/regulations in support of mini/small hydropower development.	P=3 I=3	P=1 I=4
Flooding: Floods with watersheds can cause damages in reforested areas and to mini/small hydropower installations.	P=1 I=1	P=3 I=3
Rehabilitation of forests and defining no-development zones in the country's watersheds may encounter resistance from production sectors such as infrastructure, agriculture, and local communities.	P=3 I=3	P=2 I=3
Environmental/Climate Change.	P=3 I=3	P=3 I=3
Financial: Lack of commitment from private sector to invest in mini/small hydropower.	P=3 I=3	P=2 I=4
Operational: Weak capacity of communities is a risk for all project activities proposed at local level – land use planning (IWMPs) and management, CF management, IGAs, wide-scale planting, etc.	P=3 I=3	P=2 I=2
New Risks identified	TE Ranks	
Financial: The international Banking procedures demand international public tenders. Direct concessions between Government and private promoters will not allow for international funding to be sought.	P=4 I=5	
Institutional: EMAE's structure currently not ready to receive and distribute additional energy production. Infrastructural changes needed.	P=4 I=5	
Institutional: EMAE 40% of energy loss in Low Tension grid plus difficulty collection fees make it hard to guarantee payment to private investors.	P=4 I=5	
Global threats: COVID-19 or Ukraine war affecting overall Project implementation	P=3 I=3	

It is important to highlight that several of the ratings assigned to the identified risks, specially, the impact these pose to the project or now to the sustainability of the achievements are ranked differently by the evaluation team. More specifically, the political, institutional, flooding and financial risk. In terms of the political risk, the coming elections might have a great impact on the whole legal component of the project (component 1) since it might entail that the required regulations might not be approved before the new government comes into place or that the approval might suffer a considerable delay. Also, as can be observed on section 4.3.2, there are 4 rules which are not fit for purpose (according to the Final Report presented by AFC Energie Telecom Consulting LTD) and thus cannot be passed as they stand. In terms of the institutional risk, the evaluation team has increased the impact rating of the reluctance of certain quarters of Government to introduce changes due to economic interests in place not aligned with the Government's renewable energy policies. The big rains suffered in Mato Cana, Cantagalo water basin last December 2021 proved that the flooding risk can indeed happen and has greater impact than originally thought. Most of the Non Forest alternatives promoted in the area by the ALISEI NGO and the communities were totally lost due to the heavy rains. The private sector involvement during the project's lifetime has been absent due to the reprogramming exercise. Also, new risks have been identified as indicated in the table above. The first one, financial, is related to the impossibility of

the funding institutions like AfDB or World Bank to fund the projects signed directly to private promoters since it goes against their banking procedures. In terms of institutional risks, EMAE is still not in a position to receive and distribute additional energy production. All actors interviewed are clear that EMAE can be considered as a considerable bottle-neck to actually achieve the renewable energy goals of the country. Great efforts in terms of donations in the form of concrete projects are already in place to support EMAE's capacity although it will take a bit of time for the business to be fully operational. A final risk is related to global threat like COVID-19 or the Ukrainian war with Russia. These were obviously unpredictable but they did take place. COVID-19 had considerable impact on the project's execution due to lock-down and difficulty to have consultants come to the country or shipment of materials which implied considerable delays and it is still unclear how the war can actually affect the country.

The Development Assumptions upon which the project is based are presented above in Section 4.1.2.

Objective and limited outcome assumptions are included at the outcome level in the results framework. Assumptions are conditions that must prove true if the suite of successfully completed outputs are to foment the desired outcome. Assumptions are also independent and completely outside of the influence of project management. Assumptions should allow project managers to know the limits within which Project's actions will be effective or not.

The UNDP Country Office and the PMU collaborated in logging and tracking **risks at the PIR level**. The project identified risks at design and were re-assessed during the life of the project. A risk log lists and analyzes risks by category, likelihood, impact. Risks were analyzed from the point of view of changes in risks from the initial risk assessment elaborated during the PPG phase. The revised risk rating table is shown above. The risk assessment at project formulation was incomplete and did not include extremely high risks, such as a EMAE incapacity to receive nor distribute additional energy production or its current high energy loss making it difficult to guarantee payment to private investors or even the lack of an appropriate legal and regulatory framework in place to properly enable private sector investment into the renewable energy market.

4.1.3. Lessons from Other Sector-Relevant Projects Incorporated into Project Design

The project is aligned with GEF 5's climate change objective 3 to promote investment in renewable energy technologies. In this regard, GEF-4 supported the promotion of market approaches to renewable energy technologies and energy production of biomass, with an emphasis on the development of policies and regulatory frameworks for renewable energy along with limited support for piloting and demonstration investments. In GEF-5, the GEF was to build on its robust experience in the past and to boost investment in renewable energy technologies, recognizing that renewable energy plays an indispensable role not only in combating climate change but also in addressing energy access, energy security, environmental pollution, and sustainable development. Support under this objective was to expand beyond the creation of enabling policy and regulatory environment to promoting investment in renewable energy technologies. The objective's outcomes were appropriate; policy, legal and regulatory frameworks adopted and enforced (component 1); sustainable financing and delivery mechanisms established and operational (component 2) and GHG emissions avoided (the project document included several emissions reductions indicators although these were not monitored through the life span of the project). The project design included an innovative approach to ensure the availability of hydro resources for electricity generation by implementing integrated watershed management approaches linked to GEF-5 climate change objective 5 to promote conservation and enhancement of carbon stocks through sustainable management of land use, land-use change, and forestry. Therefore, the project focused on the lessons learned on GEF-4 and designed a very comprehensive cross-cutting project, that, on paper, looked very appealing and aligned with GEF priorities.

The project document does not present specific lessons learned from previous sector-relevant projects although it speaks about coordination with other GEF-related initiatives (described below in section 4.1.5).

4.1.4 Planned Stakeholder Participation

Regarding the analysis of the participation of Stakeholders and their involvement in the implementation of the project, it can be stated that each of the actors described below had the following participation and responsibilities in the project:

Table 8 List of original stakeholders

No.	Main Stakeholders	Participation, roles and responsibilities in the project
1	MOPIRNA	<p>In the implementation of the project, this Ministry was ultimately responsible for project execution through its Competent Entity, the Directorate General of Natural Resources and Energy (DGRNE), which obtained the necessary guidelines for project execution from the Ministry's superior and UNDP CO.</p> <p>The institutional pillar of the project, committed to project implementation, represented the leadership of the steering committee, although very few sessions of this committee were held in relation to what was defined in the PRODOC.</p>
2	DGRNE	<p>PMU, had the role of following up and monitoring the project actions as well as proposing and adjusting the work plan and actions and coordinating with vast number of stakeholders.</p>
3	EMAE	<p>A project stakeholder whose objective is to improve its performance for the implementation of renewable energies.</p> <p>The participation and involvement were also in the training of technicians, work meetings, workshops for document analysis and validation, of specific regulations to be applied in the energy sector as well as participation in different capacity building exercises. Nevertheless, EMAE did not participate as actively as it should have done in the CT-PTSE.</p>
4	AGER	<p>An institution that within the framework of the project has participated in training actions, creation and review of documentation produced by the project in order to strengthen institutional capacities to improve its performance in the</p>

		implementation of renewable energy. Therefore, the project has developed legal and technical tools and trained technicians to better respond to the project objectives and the challenges of the renewable energy sector.
5	DGA	Institution also interested in the implementation of the project, so the project has trained technicians to better respond to the objectives of the project and the challenges of the renewable energy sector.
6	Secretaria Regional do Ambiente de Desenvolvimento Sustentável	<p>Like the DGRNE on the island of São Tomé, the SRADS at the level of the Autonomous Region of Príncipe had the role of implementing the project, following up and monitoring the actions of the project as well as proposing and adjusting the work plan and actions at the level of that region of the country.</p> <p>There was involvement and participation in the project, 16 hectares of degraded areas were recovered through the planting of leguminous and commercially valuable fruit trees in the communities of Campo Político, Terreiro Velho, Bela Vista, Pincaté, Porto Real, Montalegre and a nursery centre was built in the RAP. They benefited from the Parrot River Basin Management Plan as well as the feasibility study. The RAP benefited from transport (car and motorbikes), printers, various office and field work materials, construction and rehabilitation of the building for the Regional Directorate of the Environment.</p>
7	Ministry of Agriculture, Fisheries and Rural Development	This institution, which is also a pillar of the project with two main directorates assigned (Agriculture and Forests & Biodiversity) in relation to what was defined in the PRODOC, allowed, in a certain way, to streamline the actions designed at sector level in order to meet the objectives and goals of the project specially to Component 3.
8	Local Authorities	They constituted the stakeholders of the project and were specifically involved in the field activities. The involvement of municipalities and the regional party were relevant in the field actions throughout the project implementation process.
9	NGOs	These were the implementing partners for the specific actions of the project, because NGOs and organised civil society have proven experience in field work involving the population and

		<p>communities. In addition, NGOs and Organised Civil Society have been active in sensitisation and social activities</p> <p>The community leaders are worthy representatives of the communities before any authority or organization, therefore their role becomes crucial in the implementation of different actions in the communities. With the implementation of the project, their involvement in different activities such as reforestation, NTLFPs, GSTA or even watershed studies were more feasible, as they represent the link with the community members. And with this project the involvement and engagement of the community leaders was remarkable.</p> <p>Local Population (Farmers and their families) - With the implementation of the project, several members of the communities were involved, being farmers, plot owners, men, women, youth and children in the intervened communities, whether in the field of reforestation, PNFLs, Basin Studies where people were consulted on the social and economic side, in awareness-raising actions to promote a change in behavior) and ensure their effective inclusion in the design and achieve the conservation of natural resources and biodiversity.</p> <p>At the NGO level, ALISEI's involvement was at the basis of the project's recruitment for the implementation of the NFP activities in the communities of Lembá, Ponta Furada, Generosa, Mato Cana, Bernardo Faro and Claudino Faro.</p>
10	Private Sector	<p>At the level of the private sector, particularly for renewable energy companies (independent producers) they participated in the process of collecting contributions and analysis of the regulations of the renewable energy sector produced by the different consultancies carried out within the project. Ex: EBTC, Electro Frio, Kilowatt, Het Servic, Solo solar, AGNA, Cunha Soares)</p>
11	Other parties	<p>Besides the institutions mentioned above, the Training Plan for the Energy Transition Program is directed to the following actors: Directorate of Planning (DP), District Councils (CD), Directorate of Taxes (DI), Customs, Agency for Promotion, Trade and Investment (APCI), Private Companies operating in the area of energy (Private).</p>

12	Other UN Agencies and Multilateral Development Banks.	<p>At the level of the UNIDO project "Strategic programme to promote investments in renewable energy and energy efficiency in the electricity sector", the Energy Project, in partnership with UNIDO, funded the training of national staff in renewable energy and energy efficiency, training carried out by the Competence Centre Cape Verde (CdC 3C) in partnership with the Centre for Renewable Energy and Industrial Maintenance (CERMI) of Cape Verde, in collaboration with the DGRNE of the Ministry of Infrastructure and Natural Resources of STP. This capacity building action enabled the training of about 39 technicians from different institutions linked to the energy sector, namely DGRNE - Directorate General of Natural Resources and Energy, AGER - General Regulation Authority, DGA - Directorate General of Environment, EMAE - Water and Electricity Company, DP - Planning Directorate and SRADS/RAP - Regional Secretary of Environment and Social Development. These trainings took place during 3 weeks in December 2020 at the Muclumbi complex in the North of the country.</p> <p>Based on the feasibility studies carried out by MHYD & ENERGY SOLUTIONS under this project, in the framework of the energy sector transition programme, funding from partners AfDB, UNDP and UNIDO was defined for 2MWp of the Santo Amaro photovoltaic plant.</p> <p>In the area of Forests and Biodiversity, forest restoration and biodiversity conservation are also part of the FAO TRI project that has been developing some actions in this area as well. There is no direct alignment between these two projects, however a cooperation protocol was signed between TELA DIGITAL, a company recruited for the implementation of the Communication Strategy for the Sustainable Management of Forest Ecosystems of STP by the Energy Project and ALISEI which also has this mission at the level of the TRI project.</p>
----	---	--

4.1.5 Linkages between the project and other interventions within the sector

The project document speaks about past experiences from a Japan-funded Africa Adaptation Programme implemented by UNDP regarding studies conducted for 20-kW run-of-the-river micro hydropower station at

Caldeiras on Rio Carvao and the identification of another 20-kW central PV station at Agua Sampaio. The project ended before the power station could be built and the PV panels were ordered and were in storage in Sao Tome awaiting completion. Interestingly enough, the project design could have looked into the reasons why this happened since it seems that the same situation took place with the Energy Project. Three other initiatives are referenced although these were just starting and no indication of lessons being incorporated into project design.

Non-GEF related activities were also presented at the design stage. The AfDB encouragement to Governments in the region to transition to green energy. The EU's 11th cycle under the European Fund for Development (EFD) over 2014-2020 targetting agriculture, water and sanitation and a Cameroon-based non-profit ARPEDAC and CEREECA which were to benefit from the lessons learned and knowledge sharing from the project. Another initiative, a Taiwanese cooperation project, the Food Crops Development Project that was working on food safety and SATOCAO focusing on cacao production. ECOFAC, EUs program to preserve environmental quality and biological diversity was also to support civil society in country. It is interesting that, in term of coordination, the prodoc states that "during implementation of the proposed project, UNDP will ensure that the various project partners periodically meet to share information on progress in project activities and to avoid any duplication". Although the projet did not in fact coordinate with these actors, it was hihgly succesful in coordinating with AfDB, UNIDO and the World Bank throuhg the Electric Sector Transformational Programme Technical Committee which became, in a sense, the Project's Board where the Government and key stakeholders of the energy sector effectively coordinated their actions to avoid unnecessary duplication.

4.1.6 Social and Environmental Safeguards in Project Design/Formulation

UNDP's Social and Environmental Screening Template, an integral part of the prodoc, identified two social and environmental risks:

- Resistance from production sectors to rehabilitation of forests and no-development zone setting;
- Floods / Environmental / climate change;

The SESP provided reasonable mitigation measures to ensure active participation from production sectors in the selected areas and the idea that the project would use climate modelling data which could help prevent floods, etc. The latter did not take place.

There is a minor mistake on the SESP on the response to the question "how does the project integrate the overarching principles in order to strengthen Social and Environmental Sustainability" and the description of how the project is likely to improve gender equality and women's empowerment. It is stated that "women will participate in all project activities and specifically those related to capacity development under the various project components. Clean cooking solutions such as biogas will benefit women by saving time for wood collection, and by improving health issues linked to smoked fuelwood use". This clearly is not related to the project and thus should have not been included in the SESP.

4.1.7. The Project Implementation and Governance Modality

The project was, as originally planned, implemented under UNDP's National Implementation modality (NIM) by the MPWINRE as the National Implementing Partner. Nonetheless, UNDP was also requested to support the project with certain complex procurement processes for which it carried out adhoc Direct Implementation Modality (DIM). The UNDP STP CO was the implementing partner in those instances

delegated authority for project execution. MPWINRE did provide office space to the PMU as their contribution to the project and as originally planned, assigning a National Project Director. MPWINRE's tasks as implementing partner were to (i) coordinate project activities with other Government activities like EMAE, Ministry of Agriculture, Fisheries and Rural Development, etc; (ii) certify expenditures in line with approved budgets and work-plans; (iii) facilitate, monitor and report on the procurement of inputs and delivery of outputs; (iv) approve ToR; and (v) report to UNDP on project delivery and impact. A Project Board, chaired by MPWINRE was indeed established at project inception although there is only evidence of one joint meeting conducted with other environmental sector projects financed by GEF and implemented by UNDP, in 2017, where the results achieved by three projects, namely, SAP (Early Warning Systems), Strengthening of rural communities' capacities to adapt to climate change in rural districts of STP (CMPLCL) and the Energy Project. The Project Board was in fact substituted by the Pilot and Technical Committees to Support the Transformation Program of the Electricity Sector (CT-PTSE), officially launched by His Excellency the Minister of MOPINRNA the 18th of June 2020. It was the Government's intention to articulate all actor's interests and objectives to achieve more with the available resources, increasing the level of achievement in the Renewable Energy area. The Technical Committee was constituted by key representatives of Government institutions relevant to the electric sector (MOPIRINA; RAP; DGRNE; DGA; AGER; EMAE; AFAP; DGRNE-DE (UNIDO project); UGP-PE (Energy Project) as well as representatives from the donor community present in the country (ie. UNDP; AfDB; UNIDO; World Bank) and in one meeting, at least, representatives from the private sector (BP; SHELL and TOTAL). The PTSE was to have two types of meetings:

- Ordinary (monthly) meetings with the objective to monitor the evolution of the activities scheduled between the different projects and donors and when overlaps or gaps were identified, to decide how to discuss and resolve these issues; and
- Extraordinary Meetings. The purpose of Extraordinary Meetings is to allow for in-depth discussion of matters identified at Ordinary Meetings or in another of the ways provided for in the Order, but which it is not possible to deal with during Ordinary Meetings for the time necessary for their discussion.

The evaluation team has had access to the minutes of two CT-PTSE meetings held, one in June 2020 and another one held in March 2021. The analysis of the minutes provided great understanding of the level of coordination required by all actors to achieve the Government's goal of renewable energy under the Least Cost Development Strategy and the existing gaps still posing a risk to effective accomplishment of the objectives. There is evidence that these committees were indeed a space for sharing progress and challenges faced by the different stakeholders, especially important since, all projects are designed with similar components (ie. Capacity building; regulatory frameworks; institutional reform; strengthening operational performance and administration of EMAE and increased reliability of electricity generation, transmission and distribution).

The minutes of the meetings also highlighted the existing coordination between projects, particularly, between UNDP-GEF Energy Project, AfDB and UNIDO for both Papagaio mini-hydropower rehabilitation project and the Santo Amaro power plant and a space where all actors shared relevant information and risks. For example, on the march 2021 meeting, the participants highlighted EMAE's participation as a critical success factor for the achievement of the PTSE and the expectations of "having a company that guarantees the operation of the infrastructures in a modern and efficient manner, reducing technical and commercial losses, thus ensuring the sustainability of the sector". All stakeholders agreed on the urgent need to engage more actively with EMAE.

Also, the analysis of the minutes of the ordinary meeting held the 14th of November 2020 between Government representatives from MOPIRINA, RAP, DGRNE, PMU and UNDP was used to reallocate the resources available for the Renewable Energy Atlas to increase the PV potential of Santo Amaro power plant.

The ordinary meeting proved to be a suitable space to share progress and challenges and find the best option forward. In this case, UNDP, in light of the problems faced with the request for proposals for the elaboration of the Atlas, proposed, having in mind the project for the construction of the Santo Amaro PV power plant, where UNDP already participated in partnership with AfDB for an expected power of 1MW, reallocating \$ 500,000 U.S for this objective, increasing the power of the plant. The proposal was approved by the different participants highlighting that “the Photovoltaic power plan is a priority project for the Government, with a great potential for savings in diesel imports”. In the same meeting, the next steps to be taken to ensure the actions were applied and clearly specified with timelines established.

Another interesting result of the coordination efforts that came in to place, as stated on the Aide-Mémoire from the AfDB Sustainable Energy Fund for Africa (SEFA) mission to country from July 25th to August 4th 2018 was, besides the signing of the Grant Agreement between AfDB and the Government of STP, the DGRNE under MIRNA, to act as Implementation Unit through its team who were already implementing the Energy Project and to use the same steering committees as those utilized by GEF/UNDP.

4.2. Project Implementation

4.2.1. Adaptive Management

As documented in the Note to File for PIMS 4602 Budget Amendments for Project Extension Period (23rd November 2020), since the project’s design from 2013-2015, the energy sector landscape in STP evolved substantially and achieved several developments, coincided with major changes in government which produced overall changes in approach to the management of the energy sector. Notably for the project, this meant that parts of the overall objective, including stimulating investment into renewable energies from the private sector, had to be re-evaluated (as explained in [section 1.2](#) above). Additionally, the private sector market for investment is much smaller than anticipated in the monopolized and poorly regulated energy sector. Following the re-programming mission jointly conducted with the AfDB in November 2017, the project took the following adaptive management steps:

1. Refining activities for developing and implementing a policy, regulatory, technical and administrative framework to de-risking private sector investments, to focus on building overall capacity and coordination of the renewable energy sector.
2. Focus on rehabilitation of an existing micro-hydro powerplant (which was later defined as Papagaio in the Island of Principe) instead of in the creation of a financing mechanism. This new focus was a joint endeavor between the UNDP/GEF Energy project and the AfDB where clear tasks were assigned. UNDP/GEF Energy Project was to conduct the Technical and Environmental feasibility studies to lay the groundwork the AfDB to tackle the actual rehabilitation works of the power plant.
3. Acknowledge that the design phase of the component 3 of the project greatly overestimated the number of hectares available for SLM (10,000 ha under good management practices. Considering the country has approximately, 836 Km², 83,600 ha, this would entail SLM in 12% of the national territory) and SFM (at least 6,000 ha of Community Forests established) activities and the budget allocated to them.
4. Carry out additional solar PV installations and diesel hybridization of selected sites in accordance with the Government’s Renewable Energy Strategy, and in partnership with the AfDB.

It is clear then that the project and its PMU have had to adapt to constant changes, not just to the planned activities (which is common practice as observed in the AWP’s approved yearly by the Project Board) but also

to the objectives. The following tables provide an idea of how the project has been evolving per outcome on a yearly basis:

Table 9 Comparison of changes at budgetary level that took place between the design and implementation phase

OUTCOME	2016			%
	PRODOC	AWP	CDR	Spent
Outcome 1	226.500	124.000	116.129	94%
Outcome 2	1.147.500	125.500	99.228	79%
Outcome 3	415.700	70.200	88.441	126%
Outcome 4	12.000	29.520	29.767	101%
PMC (GEF)	47.250			
TOTAL	1.848.950	349.220	333.565	96%

OUTCOME	Q1 2022			%
	PRODOC	AWP	CDR	Spent
Outcome 1		37.856	61.045	161%
Outcome 2		4.023	76.866	1911%
Outcome 3		67.620	30.826	46%
Outcome 4			23.492	
PMC (GEF)		5.900	7.465	127%
TOTAL	0	115.399	199.695	173%

OUTCOME	2017			%
	PRODOC	AWP	CDR	Spent
Outcome 1	84.000	153.500	121.618	79%
Outcome 2	51.660	370.800	157.204	42%
Outcome 3	688.284	160.700	148.624	92%
Outcome 4	12.000	30.000	10.689	36%
PMC (GEF)	47.250	35.000	21.284	61%
TOTAL	883.194	750.000	459.419	61%

OUTCOME	2019			%
	PRODOC	AWP	CDR	Spent
Outcome 1	54.000	537.650	304.407	57%
Outcome 2	42.500	15.000	2.659	18%
Outcome 3	657.400	312.000	355.904	114%
Outcome 4	27.000	335.350	110.196	33%
PMC (GEF)	47.250	50.000	69.890	140%
TOTAL	828.150	1.250.000	843.056	67%

OUTCOME	2018			%
	PRODOC	AWP	CDR	Spent
Outcome 1	54.000	526.000	390.005	74%
Outcome 2	42.500	150.000	150.121	100%
Outcome 3	729.000	448.500	200.561	45%
Outcome 4	22.000	136.500	111.197	81%
PMC (GEF)	47.250	39.000	33.338	85%
TOTAL	894.750	1.300.000	885.221	68%

OUTCOME	2021			%
	PRODOC	AWP	CDR	Spent
Outcome 1		201.290	248.241	123%
Outcome 2		1.102.780	152.512	14%
Outcome 3		192.185	64.711	34%
Outcome 4		0	76.815	
PMC (GEF)		45.235	42.541	94%
TOTAL		1.541.490	584.820	38%

OUTCOME	2020			%
	PRODOC	AWP	CDR	Spent
Outcome 1	54.000	580.869	-723.854	-125%
Outcome 2	42.500	541.717	81.695	15%
Outcome 3	647.400	103.270	1.237.525	1198%
Outcome 4	27.000	118.000	-172.012	-146%
PMC (GEF)	47.250	170.300	124.686	73%
TOTAL	818.150	933.287	548.040	59%

As can be observed in the above tables, the AWP reflect annual changes from what was originally planned and in between outcomes which imply constant changes and need for UNDP and PMU to constantly adapt to the changing situation. All actors interviewed expressed that the project suffered constant changes which

made it difficult to implement but at the same time indicated that it was thanks to the PMU’s adaptive management that they were able to implement and monitor the planned activities.

The project start-up phase took almost one year. In addition, during implementation, there were significant staff and consultant turnovers in key positions. The associated delays significantly cut the operational time of the project. These were adequately captured in a Reprogramming document. One of the action points highlighted was the need to strengthen the PMU and change the Project Manager and seek for more of a managerial profile. Given the complexity of the project in the national context with the large number of stakeholders, the project needed, in order to move ahead, stronger managerial capabilities.

Management responses to problems were logged in an Adaptive Management Log in the PIRs.

The MTR report produced the following recommendations:

Table 10 MTR Recommendations

Type of recommendation	Description	TE Observation
Organization and management adaptation	Strengthening the Management Unit with the expected admission of a technical advisor, mobilize the regular intervention of the Technical Committee and the inactive stakeholders, and elaboration of a complete roadmap of activities until the end of the project.	The PMU was strengthened, the new Project Coordinator hired as well as one technical support staff and an administrator. The Electric Sector Transformation Technical Committee was constituted and became the actual governing body of the project.
Actions to guarantee results	Strengthening the dissemination of the project at the level of proximity and definition of a progressive process of empowerment of the beneficiaries already covered by the interventions in the agroforestry area.	Component 4 was reshaped and given more financial resources to produce communication and dissemination materials to reach beneficiaries. All actions undertaken with the communities implied capacity building.
	Introduce gender-sensitive indicators in the activities from which they benefit.	There is no evidence of gender sensitive indicators beyond disaggregated by sex attendance sheets.
Redirection and actions towards key Objectives		
Completion of the regulatory framework and investment in hydroelectric production	Formalize the coordination platform between UNDP, ADB, WB and EIB, and promote the drafting of a joint guide for the reformation of the electricity and water sector.	The Electric Sector Transformation Technical Committee became indeed a donor’s coordination platform useful to all the projects.
	Selection of a hydroelectric project to promote and mobilize the Project Implementation Entity, other donors and interested stakeholders, namely private investors and consumers for the project.	The project and its partners focused on Papagaio in RAP and Santo Amaro in São Tomé.
Agroforestry management	Extend the intervention area and the universe of beneficiaries with a search for new mechanisms to increase income through intervention in the marketing chain and / or complementary activities.	Through Component 3 the project engaged with the NGO Alisei to define and put in practice non-forest related livelihoods trying to further process some of the products produced.

Disclosure of experience gathered	Replicate, in an adapted way, the communication plan already elaborated regarding the agroforestry components, water management and the production and consumption of electricity.	Component 4 planned budget, to tackle further capacity building and replication of best practices, was almost doubled from its original size.
--	--	---

The management response is well documented with the PMU acting on nine recommendations by June 2021. An additional response to the MTR, a no cost project extension, was officially requested and granted until March 2022, to reach policy-related targets and secure government approval which required longer processes to develop. This process suffered significantly from COVID-19 related office closures.

The project governance process per se did not function well as originally designed. The project Board meetings took place on very few occasions and in reality, it was substituted by the Electric Sector Transformational Programme Technical Committee which worked as the project’s Board.

4.2.2 Actual Stakeholder Participation and Partnership Arrangements

At the level of implementation of the Project, we can consider both the implementation partners that in an articulated manner and creating synergy, were also involved as stakeholders:

Ministry of Infrastructure and Natural Resources- Institutional pillar institution in the project, committed to the implementation of the project, represents the leadership of the steering committee, although very few sessions of this committee have been held in relation to what was defined in the PRODOC, however the engagement and political will allowed to be somewhat driving and determining decision making in relation to the project guidelines.

Ministry of Agriculture and Rural Development - This institution, which is also a pillar of the project with two main directorates (**Agriculture and Forests & Biodiversity**), in relation to what was defined in the PRODOC, enabled, in a certain way, the dynamics of the actions planned at sectoral level to comply with the objectives and goals of the project. Under the project, it was responsible for the implementation mainly in component 3, through its institutions namely the Directorate of Forests and Biodiversity, Directorate of Agriculture and Rural Development in Sao Tome and at the level of RAP the Regional Directorate of Forests and Biodiversity and the Regional Directorate of Agriculture and Rural Development. These institutions actively participated in the implementation of GSTA activities and the recovery of degraded areas. These institutions, including others of the same ministry, namely CADR, CIAT and CATAP, were reinforced in material resources and technical capacity building to respond to the successful implementation of component 3 of the project.

At the same time, they constituted the link between the project actions and the beneficiaries, i.e. the local population (project perimeter), i.e. the communities adjacent to potential hydrographic basins for the development of hydropower.

At the level of the **Directorate General of Natural Resources and Energy (DGRNE)**, a set of actions were carried out, namely construction/rehabilitation of the new DGRNE building, printers, various office materials, installation of a photovoltaic system in the building with a capacity of 8kW, dissemination of the Framework Law on Water Resources (Law 7/2018), preparation of 6 regulations for the implementation of the Law, preparation of the Statute of the National Water Institute (INA) - Entity created under Law 7/2018,

rehabilitation of 12 hydrological stations and 9 meteorological stations, as well as the preparation of 4 River Basin Management Plans (Manuel Jorge, Abade, Io Grande, Banzu and Papagaio). Various training and capacity building actions in the field of GIS, Renewable Energy and others, as well as participation in technical meetings, consultation workshops and validation of documents.

At the level of the Autonomous Region of Príncipe, through the **Regional Secretariat for Infrastructure and Sustainable Development**, there was involvement and participation in the project. 16 hectares of degraded areas were recovered through the planting of leguminous and commercially valuable fruit trees in the communities of Campo Político, Terreiro Velho, Bela Vista, Pincaté, Porto Real, Montalegre and a nursery centre was built in the RAP. They benefited from the Parrot River Basin Management Plan as well as the feasibility study. The RAP benefited from transport (car and motorbikes), printers, various office and field work materials, construction and rehabilitation of the building for the Regional Directorate of the Environment. They also benefited from training, participation in work meetings, workshops on document analysis and validation, and specific regulations for application in the energy sector.

With the Directorate of Agriculture and Rural Development, terracing and practices of Sustainable Management of Agricultural Land (GSTA) were carried out, Implementation of the Plan for Sustainable Management of Agroforestry Land (GSTA), in the communities of the Manuel Jorge river basin: namely: Saudade, Bom sucesso Macambarará and Boa Esperança. Within the framework of the campaign launched by the Government "BOMU XIMIÁ PA NON BÊ QUÂ CUMÉ" as support for the Government's contingency plan in the face of the COVID 2019 pandemic period, the project provided 200,000 matabalas seedlings and strengthened the Directorate of Agriculture and Rural Development with means for implementation and monitoring at country level. Capacity building of more than 300 farmers in different techniques of Sustainable Agricultural Land Management. Involving also CADR.

Directorate General of the Environment, participation and involvement was in capacity building for technicians, participation in work meetings, workshops for document analysis and validation, and specific regulations for application in the energy sector.

At the level of the Regulatory Agency (AGER), as a stakeholder, they benefited from training, participation in work meetings, workshops on document analysis and validation, of specific regulations for the application of its powers in the energy sector.

As for the Water and Electricity Company (EMAE), similarly to AGER, the participation and involvement was also in the training of technicians, work meetings, workshops on analysis and validation of documents, of specific regulations for the application in the field of energy sector.

The Community Leaders are worthy representatives of the communities before any authority or organization, so their role becomes crucial in the implementation of different actions in communities, with the implementation of the project their involvement in different activities of reforestation, NTFPs, GSTA or even the watershed studies were more viable, because they represent the link with the community members. And with this project the involvement and engagement of the community leaders was remarkable.

At the NGO level, ALISEI's involvement was at the base of the project's recruitment for the implementation of the NFP activities in the communities of Lembá, Ponta Furada, Generosa, Mato Cana, Bernardo Faro and Claudino Faro.

Local Population (Farmers and their families) - With the implementation of the project, various members of the communities were involved, being farmers, plot owners, men, women, youth and children in the intervened communities, whether in the field of reforestation, PNFLs, Basin Studies where people were consulted in the social and economic aspect, in awareness raising actions to promote a change in behaviour) and ensure their effective inclusion in the design and achieve the conservation of natural resources and biodiversity.

Within the scope of the Energy Project", a Training Plan for the Energy Transition of the "whose objective is to build capacity through a coherent set of training sessions, according to the needs of each institution and its role in the management and development process of the energy sector and energy transition. Based on this assumption, implemented by the IPB - Polytechnic Institute of Bragança, the following institutions and organizations were involved as interested parties, besides the institutions mentioned above Directorate of Planning (DP), District Councils (CD), Directorate of Taxes (DI), Customs, Agency for Promotion, Trade and Investment (APCI), Private Companies operating in the area of energy (Private).

In terms of partnerships, as indicated in section 4.1.4, UN Agencies and Multilateral Development Banks play a very important role. In partnership with UNIDO, the project funded the training of national staff in renewable energy and energy efficiency, training carried out by the Competence Centre Cape Verde (CdC 3C) in partnership with the Centre for Renewable Energy and Industrial Maintenance (CERMI) of Cape Verde, in collaboration with the Directorate General of Natural Resources and Energy (DGRNE) of the Ministry of Infrastructure and Natural Resources of Sao Tome and Principe. This training action enabled the training of 39 technicians from different institutions linked to the energy sector, namely DGRNE - Directorate General of Natural Resources and Energy, AGER - General Regulation Authority, DGA - Directorate General of Environment, EMAE - Water and Electricity Company, DP - Planning Directorate and SRADS/RAP - Regional Secretary of Environment and Social Development.

Based on the feasibility studies carried out by MHYD & ENERGY SOLUTIONS, within the framework of the Energy Sector Transition Programme, funding from partners AfDB, UNDP and UNIDO was defined for a joint 2MWp of the Santo Amaro photovoltaic plant with the following specifications; UNDP to build 0.54 MWp; AfDB 1.5 MWp and UNIDO responsible for an extension of the switchgear post for connecting the two power stations to the electricity grid.

4.2.3 Project Finance and Co-finance

This project was financed through a GEF grant for the amount of \$5,274,544 U.S. administered by UNDP and \$100,000 U.S in kind managed by UNDP. The project did also expect the following funds from other partners as co-finance:

- Government \$15,382,704 U.S
- Private sector (Afriland First Bank + EcoBank) \$800,000 U.S
- Private sector (HidroElectrica, Renergia Ltd) \$3,400,000 U.S
- NGO (AgriSud International) \$123,000 U.S

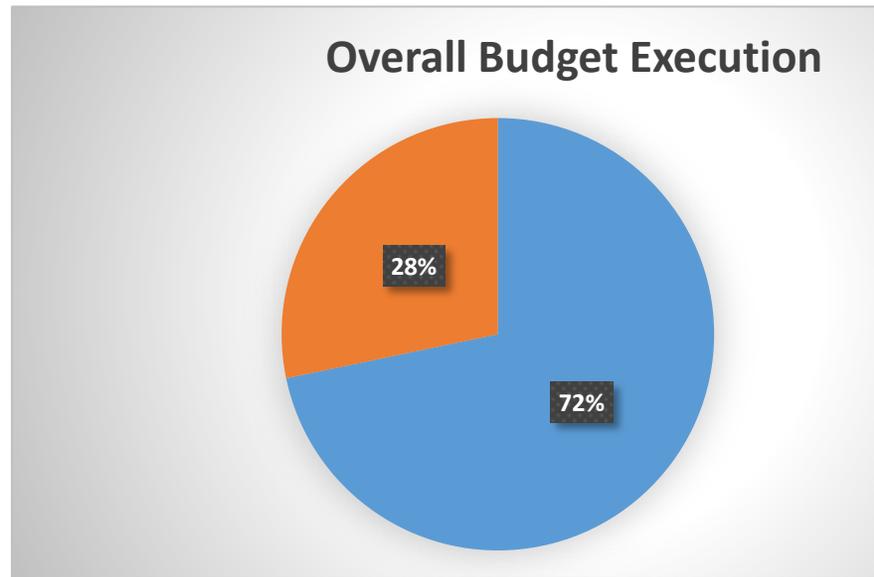
The total resources required by the project was \$25,980,248 U.S. UNDP, as the GEF Implementing Agency, was responsible for the execution of the GEF resources and the cash co-financing transferred to UNDP bank account only.

Table below shows the total budget by components (outcome) in the ProDoc for the project. Expenses by the end of March 2022 were of \$3,854,173 U.S. (72% execution of the total budget)

Table 11 Overall Project Financing

OUTCOME	PROJECT BUDGET						BUDGET EXECUTION									
	YEAR					TOTAL	Outcome	CDR						TOTAL		
	2016	2017	2018	2019	2020			2016	2017	2018	2019	2020	2021		2022	
Outcome 1	226.500	84.000	54.000	54.000	54.000	472.500	Outcome 1	116.129	121.618	390.005	304.407	-723.854	248.241	61.045	517.591	
Outcome 2	1.147.500	51.660	42.500	42.500	42.500	1.326.660	Outcome 2	99.228	157.204	150.121	2.659	81.695	152.511	76.866	720.283	
Outcome 3	415.700	688.284	729.000	657.400	647.400	3.137.784	Outcome 3	88.441	148.624	200.561	355.904	1.237.525	64.891	30.826	2.126.773	
Outcome 4	12.000	12.000	22.000	27.000	27.000	100.000	Outcome 4	29.767	10.689	111.196	110.196	-172.012	76.815	23.492	190.143	
PMC (GEF)	47.250	47.250	47.250	47.250	47.250	236.250	PMC	359	21.284	28.863	63.986	124.686	35.584	7.465	282.227	
PMC (UNDP)	20.000	20.000	20.000	20.000	20.000	100.000	Blank			4.475	5.904	0	6.957	0	17.336	
TOTAL	1.868.950	903.194	914.750	848.150	838.150	5.373.194	TOTAL	333.924	459.419	885.221	843.056	548.040	584.820	199.695	3.854.173	

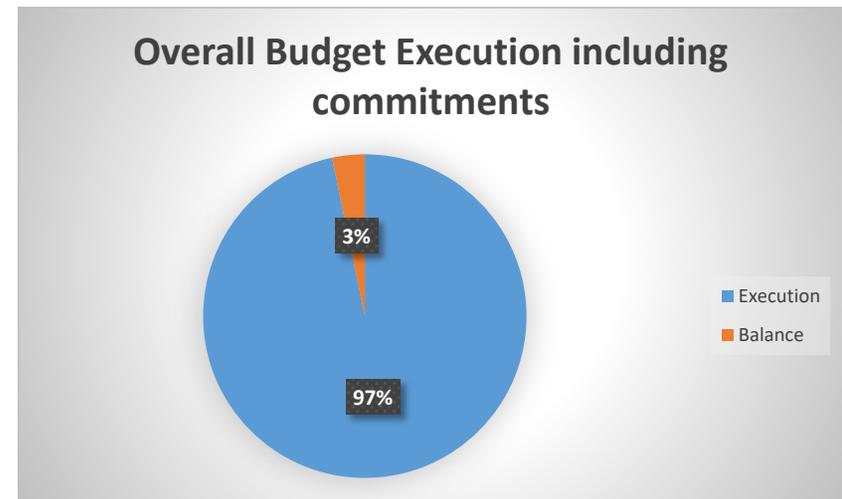
Figure 2 Budget Execution by March 2022



As per the CDR analysis up to the first quarter of 2022, the project executed 72% of the available budget by March 2022. The report also shows that out of the outstanding balance, there are \$ 40,251 U.S as Outstanding NEX advances, \$ 15,804 U.S as undepreciated Fixed Assets and most importantly, \$ 1,288,297 as commitments. If we were to assume that all committed purchase orders are closed, the

overall execution, would account for 97% of the budget leaving a balance of 3% of the total budget, \$74,668 of GEF resources.

Figure 3 Overall budget execution including commitments



The delivery of project co-financing did not proceed as planned. The PMU nor UNDP provided the evaluation team with a co-financing matrix. As per the prodoc, the project was supposed to have 79.70% of the total resources required by the project as cofinancing from, in order of importance, Government (\$ 15,382,704 U.S), private sector IPPs (\$3,400,000 U.S), UNDP regular resources (\$1,000,000 U.S), private sector – banks (\$800,000 U.S) and NGOs with \$123,000 U.S. This level of cofinancing was not reached because the small hydro plant was not built. Nevertheless, as indicated above, through the Technical Committee for the Electricity Sector Transformation Program, the project managed to confirm parallel funding from AfDB, World Bank and UNIDO to work together on the Santo Amaro PV power plant for approximately \$ 1,570,349 U.S (\$1,270,349 from AfDB and \$ 300,000 U.S from UNIDO). The available resources to the country to implement the PTSE are much higher if we take into account AfDB current grant as well as the ongoing World Bank project (\$ 16 million U.S) as well as UNIDO.

4.2.4. Monitoring & Evaluation

4.2.4.1. Monitoring & Evaluation Design at Entry

As per the prodoc, UNDP STP was responsible for monitoring and evaluation (M&E), including organizing project evaluations, approving annual implementation work plans and budget revisions, monitoring progress, identifying problems and suggesting remedial actions, facilitating timely delivery of project outputs and supporting the coordination and networking with other related initiatives and institutions in the country and in the region.

M&E Design at Entry: Project-level monitoring and evaluation was undertaken in compliance with standard UNDP requirements as outlined in the [UNDP Evaluation Policy](#) and in accordance with the [GEF M&E policy](#). A standard UNDP/GEF budgeted Monitoring and Evaluation Plan was included in the ProDoc and CEO Endorsement package detailing roles and responsibilities in a M&E plan compliant with UNDP-GEF standards. For the size of the project, the M&E function at design was properly designed in its ability to supply the information necessary at the Project-level and to inform the donor, UNDP and the Government. In addition, the outreach programme and the dissemination of project experience, best practices, lessons learned for replication (component 4) ought to have been designed to operate in coordination with the M&E process implemented through the project. The M&E Plan included the project inception workshop and report, annual work plans, quarterly reporting, annual reporting, mid-term evaluation, elaboration of tracking tools, terminal evaluation, and financial audits, all requirement documents defined in the M&E plan. A clear alignment of component 4 with the M&E component could have facilitated the implementation of this component.

4.2.4.2. UNDP implementation/oversight and implementing Partner execution, overall project implementation/execution, coordination and operational issues

The PMU managed the monitoring and evaluation of Project interventions, achieving project outcomes, and for the effective use of UNDP resources. The responsibility for regular monitoring and periodic evaluation was vested in the Project Manager and his team, with support from UNDP RTA in the form of quality assurance and with the direct involvement of the UNDP Country Office.

The M&E function remained consistently focused on the Results Framework. In terms of managing the information stream, annual workplans were developed and monitored which were designed jointly with

key actors and used Directorates planning documents in terms of areas to be reforested, hectares, etc. The PMU and Country office reported their activities, as well as challenges encountered, and lessons learnt. Also, the Project's progress in terms of partnerships, communications, adaptive management practices, risks, safeguards and programme resilience, was reported. The annual results were reported in the Project Implementation Report (PIR). No additional inputs, such as qualifying information to report on GEF Core indicators, was gathered through regular monitoring nor reported in the PIR. A risk log was regularly updated in the ATLAS system. The reports also captured adaptive management and mitigation strategies and cross-cutting themes e.g., partnerships, knowledge management etc.

The Project Manager, UNDP STP CO, and the UNDP-GEF Regional Technical Advisor provided feedback and formally reviewed the annual GEF PIRs. The process was backstopped by UNDP Quality Assurance Assessment that provided an independent check on the quality and conformity to UNDP-GEF Policies and Guidelines.

As indicated previously, an inception workshop was held in Saô Tomé. Although it is common practice to use this workshop to present the M&E Plans and in particular, to verify the Means of Verification proposed in the results framework, this was not done in this instance. Due to COVID restrictions, site visits were not possible from 2020 to the end of the project. Also, in the absence of qualitative "process" indicators, the periodic calls provided the PMU the opportunity to gain context related to the diverse reports and appreciate the situational aspects of the project's progress. A common complaint amongst managers is that the Monitoring process was too extensive and time consuming, focused on "checking-off boxes."

An independent Mid-Term Review (MTR) was implemented in June 2019 in accordance with UNDP-GEF Policy. The MTR provided significant guidance to improve project execution in 14 recommendations. The evaluators have not seen a Response Matrix although it is clear that some of the recommendations were accepted, at least, the following three: PMU and UNDP worked on an overall planning of activities for the remaining years although these kept changing due to challenging circumstances; the formalization of the coordination platform between Government and donors; the selection of a hydroelectric project to promote and mobilize other donors and other stakeholders. In response to the recommendations and the non-cost extension requested on the 23rd of November 2020, the GEF provided a no-cost extension to enable the completion of Project Activities, from 1st of January 2021 to 31st March 2022.

Audits of the Project's finances were to be executed yearly. The evaluation team was provided with three audits reports in which the project was audited in 2018, 2020 and 2021, according to UNDP Financial Regulations and Rules and applicable audit policies on NIM implemented projects. It is not possible to draw any findings from the base of information provided.

The project's terminal PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the Project's final project report package to be discussed with the Project's Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

KIIs indicate that the M&E system is not producing sufficient and correct information to foster decision-making (see section 4.2.5. oversight) and does not incorporate the pertinent information per UNDP-GEF. This is mainly because the indicators did not serve the purpose for which they were designed for. First of all, at the objective level, two indicators, namely, carbon stock enhancement in CFs effectively managed and CO₂ sequestration with trees planted were not monitored from the start. The forest inventory expected to take place during inception did not happen and thus at project end, it didn't make sense to calculate the carbon stock enhancement. CO₂ sequestration in terms of tCO₂, wasn't monitored throughout. Secondly, the indicators were not adapted to the reality of the project after the re-programming exercise conducted in 2017. As per the interviews conducted, although the outputs were modified to cope with the national context, a decision was made not to touch the logframe not to jeopardize project implementation and

reporting to GEF. From the country perspective, informants indicated that there was an emphasis on “checking-off boxes” and not enough time dedicated to discussing ideas for adaptations or financing to collect qualitative information. Risks were tracked quarterly, included mitigating actions and were adaptations evoking management responses.

Based on the above, the M&E design at project startup is rated as “satisfactory” and the implementation of the M&E plan as “moderately satisfactory”, giving an Overall Quality of M&E rating of “Moderately Satisfactory” or “MS”

Table 32 Monitoring & Evaluation Ranking

Monitoring & Evaluation (M&E)	Rating
M&E design at entry	S=5
M&E Plan Implementation	MS=4
Overall Quality of M&E	MS=4.5

4.2.5. UNDP implementation/oversight

The quality of UNDP oversight was queried in KIIs and combined with the results of the efficiency of delivery of project outputs as defined for each component and discussed later in this report.

UNDP, was to provide specific support services for proper project implementation, as required, through its Administrative, Programme and Finance Units and through support from Bratislava Regional Centre. Specific support implied annual PIR review, mid-term review and Terminal Evaluation. As it has been highlighted above, UNDP has played a key role in the project well beyond the expected support. UNDP has been actively engaged in supporting the country to legally relinquish the concessions given in two of the country’s water basins, and also has played an important role in the TC-PTSE collaborating with other donors to coordinate project activities amongst key donors in the energy sector. There is plenty of evidence to back up UNDP’s continuous efforts to push the project forward despite the constant changes, COVID-19 and delays in project implementation due to complex procurement processes. Nonetheless, several government counterparts were not too convinced about the suitability of UNDP’s processes and reporting requirements which, according to them, slowed down considerably project implementation.

UNDP monitored the responsible parties executing the project in accordance with the M&E plan (section 4.2.4). Information flowing upstream was collated into the APR/PIR as described in the previous section, discussed with the Project board (CT-PTSE) and eventually with the GGP Secretariat. In the downstream environment, the support provided, especially following the MTR period was considered as both instructive and supportive. The structure and materials provided by the PMU were appreciated. In the upstream environment, the planning and reporting functions were appreciated as informative.

The downstream execution arrangements were generally good with the project reaching moderate achievements. COVID greatly affected the project’s execution, specially, during 2020. The ability to bounce back following COVID indicated the level of resilience of the execution arrangements.

Table 43 Rating for Project Implementation & Oversight

UNDP Implementation/Oversight & Implementing Partner Execution	Rating
Quality of UNDP Implementation/Oversight	HS
Quality of Implementing Partner Execution	S
Overall quality of Implementation/Oversight and Execution	S

4.2.6. Risk Management including social and Environmental Standards (Safeguards)

The PMU is responsible for identifying, reporting and responding to risks in coordination with the executing partners. Risks are evaluated and entered in the Atlas Risk Register on a yearly basis, which is properly maintained, and risks are reviewed and reported on a quarterly basis (to the Steering Committee and Project Board). Risks which are no longer relevant are closed, management measures are updated, and the project team ensures that activities are ongoing – if still needed – and are effective to mitigate the related risk. Overall, the project identified seven types of risks: operational, political, environmental, financial, organizational, strategic, and regulatory.

Project implementation risks are discussed under the Adjustments sections in all PIRs and shared with the Project Board and Steering Committee. The project manager and team worked to identify and implement a management response to an unforeseen risk, COVID, which was included in the risk assessment. Like everyone, the pandemic caught everyone by surprise. Currently, there are risks that are real, such as non-participation, that were proactively identified. The adaptive management practices logged so far are related to coordination, revision of project log frames, reallocation of funds and, especially, the creation of new mechanisms and strategies to achieve targeted improvements. The risk management system added the proactive element to adaptive management process.

4.3. Project Results and Impacts

4.3.1 Progress Towards Objectives and Expected Outcomes

From 13 to 24th of November 2017 UNDP and the AfDB conducted a joint mission to STP which was key in terms of coordination of the donor community and more specifically, to the Energy’s Project planning. The objective of the mission, from UNDPs side was to “identify potential areas of collaboration between the parties in mini-hydro investment, institutional strengthening, and capacity building for STP and to assess the need to amend the UNDP-supported mini-hydro project in light of the new context” and from AfDB side was to “align the proposed SEFA activities with those of other multilateral partners (i.a. World Bank, UNDP, EU-RECP)”. As per the Back to Office Report from the AfDB, “the power sector of STP is in dire need of institutional reform as well as in need of refurbishment of existing and development of new capacity for power generation, transmission and distribution. Fittingly, the GoSTP has declared its **vision to achieve 50% power generation through RE sources by 2025**. This has triggered the interest of a multitude of bilateral and multilateral donors and TA providers to contribute, to this goal, inter alia the World Bank (via IDA and EIB), UNEP, UNIDO, AfDB 8CSP/ADF-14), SEFA, EU-RECP, ALSF and the Government of Italy, whose respective programmes are already being implemented (World Bank and Energy PIMS 4602

UNDP) or in preparation (others). Hence, the Mission served AfDB/SEFA to discuss with UNDP and GoSTP stakeholders' areas of potential overlap of donor activities, and to adapt proposed SEFA grant activities accordingly. The same applied to UNDP/GEF Energy project. During the mission, two implementation challenges were identified affecting UNDP/GEF Energy Project's design, notably:

- The **operationalization of the loan guarantee fund**, originally designed to incentivize private sector investment in the sector. There was broad consensus among key actors in the renewable energy sector that while the guarantee fund was theoretically sound and innovative, it was premature to talk about private sector investment in renewable energy in STP given the absence of a supportive regulatory framework, the low income and electricity consumption levels of most consumers, and the financial situation of the utility, EMAE. According to the AfDB back to office report, "the dominant position of Angolan NOC SONANGOL in the STP economy, the fact that EMAE receives HFO for its thermal power plants from STP NOC ENCO (a 77.56% SONANGOL subsidiary) and EMAE is only "occasionally" able to pay ENCO for the latter's HFO deliveries having run up a debt in 2017 of 60-70 Million USD)". **Government partners recommended reallocating the \$ 1 million that had been earmarked for the guarantee fund to policy derisking and investment activities that had a greater likelihood of success**, and
- The fact that many of the sites with known hydropower potential were tied up in **concession agreements** to Soares da Costa SGPS SA (the GoSTP confirmed that the concession agreement was relinquished, and all outstanding claims were forfeited as of 31st March 2018), which, at the time, made their exploitation legally challenging.

The joint mission produced the following key findings:

1. Mini-hydropower remained a highly relevant option for STP;
2. Several development partners are active in the renewable energy sector. More specifically, the World Bank has a \$16 million Power Sector Recovery project, AfDB was to contribute significant additional resources, the EU was considering investing in the sector, and UNIDO received approval of a GEF-funded project on promoting renewable energy investments in the electricity sector. Also, the World Bank was supporting the preparation of a Least Cost power Development Plan which guides subsequent investments in the sector.
3. The concession agreements were holding back investment in the sector;
4. The conditions were not yet ripe for private sector investment in renewable energy;
5. There were several opportunities, specifically, for AfDB and UNDP to work together to promote, at first, mini-hydro investment;
 - a. Development of a renewable energy strategy. UNIDO included this activity to their project concept;
 - b. Preparation of a study on hydropower potential for Saô Tomé island as it had been conducted for Isle of Principe. This activity was also included in the UNIDO project concept.
 - c. Support the government in defining and clarifying the roles and responsibilities of the three key agencies: AGER, EMAE and MINRA. UNDP was requested to carry out this task, and
 - d. Rehabilitate existing mini-hydro plants at Guégué and Agostinho Neto in São Tomé and Papagaio in Príncipe. AfDB was to provide investment financing.

6. The managerial capacities of the PMU needed to be strengthened considerably.

The specific changes to the project's results framework are reflected in Table 14 below.

Based on observations, desk review, interviews, data collection, and review of the Project's technical reports and progress reports (PIR and QRs), the evaluation summarized the achievement in one matrix to determine the contribution of each outcome and outputs for the four components of the project (Annex 9). The analysis tracked the progress as reported through the PIRs received for the period of June 2016 to March 2022. The assessment against the end-of-progress targets is rated via the traffic light color system. For a TE, yellow color is not normally utilized. Nonetheless, given the volume of committed expenses to be executed after project closure and with existing Purchase Orders the Evaluation Team has opted to include it in the analysis. Either the target was achieved (green) or it was not (red). A rating is assigned for each outcome according to Rating Scales. Table 14 below provides a summary of the results:

Table 54 Assessment of the Project's Impact Indicators

PROJECT OBJECTIVE: To assist the Government in addressing the barriers to significantly increase grid/isolated-grid-connected mini/small hydropower capacity and to sustainably manage the watershed.			
Description of Indicator	End Target	Cumulative progress since project start	Evaluation of Results Achieved
Framework in place to enable the private sector to invest in grid/isolated-grid-based mini/small hydropower generation	Hydro-electricity generation of 51,921 MWh, resulting in direct reduction of 137,200 tCO ₂ over the 5 year-FSP. Subsequent generation of 15,871 MWh/year and reduction of 874,200 tCO ₂ over the remaining life of the plants.	The project has made considerable progress in terms of legal framework and regulations to attract private investment into the country although, when the terminal evaluation was conducted, only one had been officially approved and the consultancy conducted by AFC ENERGIE TELECOM Consulting LDA presented to Government in march 2022 indicated that four of the documents (two regulations and two manuals) were not apt for approval.	MS
Hydro-electricity generation reduction of tons of CO ₂ over the 5 year FSP life cycle. Subsequent generation MWh/year and reduction of CO ₂ over the remaining lifetime of the plants	Estimated cumulative indirect GHG emission reduction of 4.8 million tCO ₂ by 2035 on the basis of a conservative policy scenario and a GEF causality factor of 80%	The project has completed all technical and financial viability studies for 4 small hydroelectrical plants and 3 photovoltaic projects. There is an agreement with AfDB to finance one hydroelectrical plant (Papagaio) for 0,6 MW and 0,5 MW (UNDP) and 1,2 MW (AfDB) at Santo Amaro. DGRNE and MIRN additional 1,7 MW. No calculation of CO ₂ reduction done to date.	S

<p>Three Watershed Management Plan (IWMPs) are adopted, and 23,000 ha are under SLFM practices</p>	<p>Integrated Plan (IWMPs) are adopted, and 23,000 ha are under SLFM practices</p>	<p>At least 3 IWMPs for project sites have been developed, adopted by communities and under implementation. 10,000 ha of lands under good management practices. At least 144,000 tCO₂ during the 20 years lifetime. At least 35,000 tCO₂ sequestered during the 20 years lifetime. Additional income-generating opportunities for the local economy through the creation of some 200 jobs for the operation and maintenance of the hydro power stations and 6,995 inhabitants from 58 communities in sustainable forests and land management.</p>	<p>4 IWMPs elaborated by the project and technically validated (Papagaio and Banzu, Manuel Jorge, Iô Grande and Abade). Plan to update them every 10 years. These are comprehensive planning tools adapted to local context although, as per interviews conducted, it is clear that the national counterparts do not have sufficient resources to implement them for the time being.</p>	<p>S</p>
--	--	---	--	----------



Based-on the table above, two of three of the Project’s objective (impact) indicators were realized as satisfactory indicating that the objective was partially achieved. The first impact indicator is not green since the project was presenting the legal package to Government in March 2022 to ensure that the Government key representatives had clarity about all the legal components revised and promoted by the project and partners prior to the elections to be held next October 2022 to seek fast approval and reduce risks delaying or postponing the approval. Please refer to the section 4.3.2 for further analysis in this regard.

As described in Section 4.1, the indicators do not tell the story of this project or its contribution and there are quite a few which are not directly linked to the outcome or output. Moreover, although some of the project outputs were reprogrammed in 2017, the indicators were not altered and as such, weren’t monitored or even, monitoring them did not make sense any longer.

The following section 4.3.2 provides a component-by-component analysis of the Project’s progress towards Outcomes. There a much clearer picture emerges.

4.3.2 Relevance

Sao Tome and Principe despite its high vulnerability is an absolute sink of greenhouse gases, that is, contributes to the kidnapping of CO₂. In September 2015, the country reported its National Intended Contributions (INDC) under the Paris Agreement. In addition, as part of the Paris Agreement, STP will follow its transparency requirements, i.e. engage in biennial international reporting and review cycles of their GHG emissions, implementation of the NDC, as well as presenting updated NDC's every 5 years.

According to the NDC updated in 2021, the energy sector is the one that **contributes the most to emissions**. Despite being a slight contributor to global emissions, it is committed to reducing its GHG emissions by around 109 Gg of CO₂eq by 2030, which equates to a 27% reduction in emissions compared to the BAU by 2030. This means a reduction of 0.4 tCO₂eq per inhabitant and the total cost to achieve such desiderates is about 150 million USD.

The NDC updated in 2021 is ambitious and presents improvements over INDC because: Mitigation contributions represent an increase of 90% (equivalent to 49 GgCO₂eq); mitigation measures have increased from 7 to 9. Renewable energy production increases from 26 MW to 47 MW; adaptation measures increase from 11 to 18, in addition to 3 cross-sectional measures and expand by a larger number of sectors.

The electricity generation sector is one of the biggest emitters, nationally and globally, due to the consumption of fossil fuels for the production of electricity and thermal energy.

According to the NDC, the energy sector contributions for 2021 are presented. In terms of its Mitigation contribution: An Increase in the participation of renewable energy (ER) is expected with the appropriate support. STP intends to make a major change towards the low carbon economy, increasing the participation of RE in the supply of electricity from about 5% (5 GWh) 12 in 2017 to 50% (123 GWh) 13 in 2030. To contribute to this objective, the following policies and measures are planned:

- Installation of PV solar plants (30 MW) by 2030, being: the SOLAR PV Plants (25 MW) for the island of São Tomé; o 5 MW PV solar plant for Príncipe Autonomous Region;
- Installation of domestic Solar PV (800 residences / 3 KW);
- Construction of isolated mini-water plant (1 MW);
- Construction of connected hydroelectrical power plants to the main network (13 MW);
- Promote employment opportunities for young people and women in the area of ER.

STP is a non-fossil fuel producer country, and as such, all consumption of these resources are imported from other countries with costly costs, in view of the fluctuations in market prices at the international level of this product. This matter combined with the geographical location of the country, the vulnerability to the effects of climate change, the constraints with the constant power cuts, poor capacity of the generators, and periodic maintenance thereof, the pandemic situation of covid-19 and its variants, the war in Ukraine, as well as the sharp population growth, make it most urgent to shift to RE sources to guarantee sustainable energy for all the population. Also, the total stock of public sector debt as of the third quarter of 2021, amounting to USD 613.0 million, of which USD 431.7 million corresponds to central government debt and USD 181.3 corresponds to the amount of contingent liabilities. However, as part of the Central Government's debt, there is external and internal debt in the amount of USD 324.8 and USD 106.9 respectively, these elements condition economic growth, although the country has a potential in water, solar (photovoltaic), oceanic and biomass sources.

The country is a signatory to the Sustainable Development Programme in 2030 (Agenda 2030), which includes the 17 Sustainable Development Goals. Two commitments made by the country with this agenda, recognizes that experience with the implementation of the Clean Development Mechanism should be supported by market mechanisms with high environmental integrity that

contribute to sustainable development and establish strong incentives to harness the strength of the private sector for investments in the field of renewable energy.

Based on this aspect, the GoSTP intends to achieve 100% access to electricity by 2030, because currently, about 70% of the population has this access. However, electrical infrastructures show signs of degradation and aging and the services provided are of low quality and unreliable. One consequence of this circumstance is that most of the business economic activity depends, at least partially, on self-generation, using diesel generators. Energy production in STP is almost exclusively based on diesel – imported, expensive and polluting. Consequently, as a way to reduce the country's dependence on fossil fuels, imports and, at the same time, improve the financial aspects of the energy sector, the GoSTP intends to implement its Least Cost Development Plan (LCDP), proposing to increase the share of renewable energy in the energy matrix to about 50% by 2030.

Therefore, the components and results of the Energy Project are aligned with the country's NDCs, as well as the vision and strategic of international partners such as the WB, the AfDB, UNDP, other UN Agencies as well as other multilateral and bilateral partners of the country, because the measures contained in this national instrument reflect the vision of the Government and the country in the use of renewable energies to meet energy demand, reduce costs and dependence on imports, mitigation of emissions and the effects of climate change.

EMAE's 2020 report, page 26, presents the electricity consumption per type of client. In this regard, we can observe the following:

- Volume of electricity in 2020, consumed by domestic customers (private), responsible for just over half (50.53%) of the volume of electricity consumed, corresponding to 35,306,154 KWh.
- Volume of electricity consumed by the Central Administration of the State, Municipalities, Regional Administration of the Prince and autonomous institutions of the State, for which were destined about 17.64% of the volume of electricity consumed, corresponding to 12,328,733 KWh.

Figure 4 Electricity consumption by type of client – 2020

Quadro 7 . - Consumos de eletricidade por tipo de cliente em 2020						
Categoria de Clientes	Nº Clientes	Consumos KWh	Facturação		Percentagem	
			Tarifa	Valor/nDb	KWh	Receita
Serviço Doméstico	42,489	34,584,406	2.49	81,189,067	49.50%	26.71%
Comercial	2,785	9,135,609	3.84	34,007,096	13.08%	11.19%
Industrial	324	2,799,794	3.43	8,174,966	4.01%	2.69%
Administração Central Estado	624	10,396,680	9.87	109,008,793	14.88%	35.86%
Instituições Autónomas Estado	25	1,121,329	9.87	10,011,208	1.60%	3.29%
Empresas Públicas	15	776,782	6.03	4,987,525	1.11%	1.64%
Trabalhadores da EMAE	323	721,748	3.43	623,445	1.03%	0.21%
Embaixadas e Org. Intern.	29	924,700	3.84	6,609,859	1.32%	2.17%
Administração Regional Estado	101	810,724	7.03	5,938,901	1.16%	1.95%
Instituições Financeiras	31	1,404,260	7.03	9,138,969	2.01%	3.01%
Empresas de Telecomunicações	68	2,491,217	7.03	16,763,449	3.57%	5.51%
Companhias Aéreas	5	74,153	7.03	517,438	0.11%	0.17%
Organismos Privados	296	1,030,335	3.84	3,956,488	1.47%	1.30%
Subtotal Pós-Pagamento	47,115	66,271,737		290,927,204	94.86%	95.70%
Sistema Pré-Pagamento	3,251	3,025,853	3.04	9,404,290	4.33%	3.09%
Autoconsumo da EMAE	36	568,253	6.03	3,655,787	0.81%	0.01%
TOTAL GERAL	50,402	69,865,843		303,987,281	100%	100%

68

Source: EMAE 2020 report.

During the evaluation mission several figures were also provided by the Government and these clearly indicate an expected increase in demand from the private sector as well as key government infrastructure projected which makes it even more urgent to find alternative and reliable sources of energy for the country's development.

4.3.3 Effectiveness

Project implementation was efficient in keeping key activities on track under the impact of the pandemic, and the changing socio-economic and political context in the country and especially considering the reprogramming exercise that took place in 2017 which implied a considerable change of focus and related budget revisions. Adaptive management was diligently applied, and adjustments made as could be assessed in the PIRs and analyzed in section 4.2.1.

The project was effective in improving **multi-stakeholder governance and collaborative** action to drive renewable energy legal / regulatory framework for private sector investment and did try to put order in the sector. It developed numerous legal and regulatory documents although the vast majority were still under revision and therefore there is no proof of them being validated nor approved by the Government. The second component focused on financing Technical and Economic Viability Studies within the framework of the Low-Cost Development Plan for the Energy Sector, co-funding the construction of a photovoltaic station of 2MW, the detailed Technical Study and ESIA for the rehabilitation / construction of Papagaio Hydroelectrical Station, viability studies for solar production in city roof tops and funded photovoltaic panels for 0,5 MW in two public buildings. Component 3, integrated land use, sustainable forest and natural resources management successfully elaborated 5 IWMP for the Banzu, Papagaio, Abade, Manuel Jorge and Iô Grande water basins covering the majority of the hydropower potential in the country.

Component 1 To formulate and introduce a streamlined and comprehensive policy and legal/regulatory framework for private sector investment in on-grid/isolated-grid mini/small hydro electricity generation and for integrated watershed management

The Project commissioned, during the first quarter of 2022, a legal package revision to the consulting company AFC - ENERGIE TELECOM CONSULTING, LDA. The objective of this assignment was to review all the legal instruments promoted by the project and prioritize the order and importance of the different tools to assist the renewable energy sector of STP.

Based on the report produced by this company, the legal instruments and their current status are described in the following tables:

Table 65 Norms and regulations of the National Electricity System

Name	Description	Observations
Norms/Regulations of the National Electricity System (SEN)		
SEN Supervisory Regulations	This regulation establishes the legal framework applicable to the <u>inspection and supervision activities</u> within the scope of the National Electricity System in Sao Tome and Principe, as well as the rules of conduct that must guide the activity of the officials in charge of such activity.	This document is still in the review process for approval and promulgation by the Government.
Safety Standards Electricity Production Plants, Substations and Transformer Stations		This document is still in the review process for approval and promulgation by the Government.
Regulation on the Regime for Administrative Offences for the Activity of Generation, Transmission and Distribution of Electricity		
Regulation for the exercise of electricity production through renewable sources		This document is still in the revision process for approval and promulgation by the Government
Legal regime for the Exercise of the activity of Production of Electricity	In particular, it establishes access rules and procedures for the attribution of licenses for the production and commercialisation of electricity.	This document is still in the revision process for approval and promulgation by the Government
Legal regime for auto-production through renewable sources		This document has not , after review, been concluded to be in a condition for approval and promulgation.

Sanctions and Administrative Offence Regime		This document is still in the revision process for approval and promulgation by the Government
Regulation on Connection to the Electricity Network of Private Operators	Establishes in detail the criteria and procedures for authorising the commercial operation of an electricity generation facility in accordance with the electricity sector regulations in force.	This document is still in the revision process for approval and promulgation by the Government
Regulation on commercial relations between SEN operators	Establishes the provisions regarding the technical and commercial conditions under which the access and interconnection of the electricity generation installations of producers and final customers to the public electricity transmission and distribution network takes place.	This document is still in the revision process for approval and promulgation by the Government
Model Contract for the Purchase of Electricity from a Production Facility Connected to the National Grid	Establishes the contractual relations between two parties for purchasing electricity and connecting it to the national grid	This document is still in the revision process for approval and promulgation by the Government
Energy purchase and supply contracts with private operators in renewable energies		This document is still in the revision process for approval and promulgation by the Government

Table 76 Technical and guidance manuals/documents for the electricity sector

Description	Approval Status
Technical report on the characteristics of the electricity networks	This document is still in the revision process for approval and promulgation by the Government
Medium voltage network mapping from all renewable energy sources	This document is still in the revision process for approval and promulgation by the Government
SEN Supervisory Manual	This document is still in the revision process for approval and promulgation by the Government
Manual clarifying the roles of the different institutions of the electricity sector	This document is still in the revision process for approval and promulgation by the Government
Investor's guide to renewable energy	This document is in the promulgation process by DGRNE
Safety Standards Electricity production centres, substations and transformer stations connection to the grid of private energy operators	Documents to be completed in 2022

Manual of Technical and Administrative Procedures	Documents to be completed in 2022
Technical report on the characteristics of electrical networks; Medium voltage network mapping	Documents to be completed in 2022

The following table presents those existing legal documents deemed not fit for approval as they currently stand.

Figure 5 Ineligible Documents for approval

Nº	Description	Elaborated by	Approval process
1	Regulation Applicable to the activity of Auto production	STP Counsel and Miranda Alliance	Government Decree
2	Supervisory manual	STP Counsel and Miranda Alliance	AGER
3	Supervisory Regulation	STP Counsel e Miranda Alliance	AGER
4	Quality of Service Procedure Manual	AGER 2016/2017	AGER

The legal revision concluded that the applicable to the Self-production Activity Regulation has “insurmountable” inaccuracies, which is why the consultants recommend its profound revision and a new framework. The same can be said for the Grid Connection Procedures Manual, the Supervision Regulation and the SEN Supervision Manual⁸

Component 2 Promotion of investment in mini/small-hydro through appropriate catalytic financial incentives for project investors.

As indicated in section 4.2.1, component 2 was redesigned once the decision was taken not to pursue the financial support mechanism to support the private investment and identified that the major water basins were under concession. With that in mind, the following key deliverables were achieved under this component.

Together with DGRNE, a set of actions were carried out, namely construction/rehabilitation of the new DGRNE building, printers, various office materials, installation of a photovoltaic system in the building with a capacity of 8kW, dissemination of the Framework Law on Water Resources (Law 7/2018), preparation of 6 regulations for the implementation of the Law, preparation of the Statute of the National Water Institute (INA) - Entity created under Law 7/2018, the rehabilitation of 12 hydrological stations and 9 meteorological stations, as well as the preparation of 4 River Basin Management Plans (Manuel Jorge, Abade, Io Grande, Banzu and Papagaio). Various training and capacity building actions in the field of GIS,

⁸ Entrega e Apresentação da Conclusão Final dos Trabalhos, AFC Energie Telecom Consulting LDA, ST, 28th of March 2022.

Renewable Energy and others, as well as participation in technical meetings, consultation workshops and validation of documents.

Within component 2 the table below summarises the current scenarios for both mini hydropower and Photovoltaic energy promoted by the project and its partners (mainly AfDB and UNIDO) and in line with the Government’s priorities as set by the PTSE. It is important to highlight that this information comes from the desk review of all the technical reports produced which have enabled the evaluation team to conclude that although the scope of the component considerably changed from its original design it serve its purpose and generated necessary technical and environmental feasibility studies needed for the Government to actually finance together with the international community or via PPAs with the private promoters the construction of the hydroelectrical power plants. The following tables present the key information generated via the studies carried out with the project:

Table 87 Hydroelectric Energy Production Analysis

Hydroelectric Energy Production								
Location	Funding institution of the Study	Whatershed	Area (km2)	Initial Cost of the Project (USD)	Cost USD/kWh	Power (MW)	Energy (GWh/year)	Status
Santa Luzia	UNDP	Manuel Jorge	6,288	7.500.000,00	0,12	1,376	6,08	
Mato Cana	UNDP	Abade	30,675	25.000.000,00	0,32	1,859	7,17	
Claudino Faro	UNDP	Abade	22,770	18.500.000,00	0,21	1,979	8,07	
Pagué	AFDB	Papagaio	1,9	5.748.540,00		0,6	2,55	

Table 98 Photovoltaic Energy Production Analysis

Photovoltaic Energy Production						
Location	Funding Institution	Initial Cost of the Project (USD)	Cost USD/kWh	Power (kWp)	Energy (GWh/year)	Status
Santo Amaro (BAD)	BAD	1.270.349,00	5,91	1500	3,001	
Santo Amaro (PE)	Projecto Energia	509.293,00		540		
DGRNE	Projecto Energia	200000		85	0,108	
MIRN	Projecto Energia			89,1		

Legend:

Project not Implemented	Information not available in the report
Ongoing	Study conducted

The legend above indicates the current status of the different projects. For example, Santa Luzia Hydroelectric plant, the project conducted the technical and financial feasibility setting the ground for future investment. In blue we see that the study was conducted but the project is not yet implemented. Important to highlight that the agreement reached within the framework of the PTSE was that the Energy Project was to carry out the feasibility studies for then AfDB or other financial partners to actually implement them. Therefore, the Energy Project was instrumental in setting the ground for future investment in renewable energy.

Within component 3 Integrated land use, sustainable forest management and natural resource management provide social benefits and sustain environmental services at the watershed level.

Four Integrated Watershed Management Plans were elaborated in a participatory manner laying the ground for sustainable land and forest planning at the watershed levels. The four watersheds are Papagaio and Bazu, Manuel Jorge, lô Grande and Abade. The plan is to update them every 10 years. The question remains whether the Government has the resources to implement the activities proposed.

At the level of the Directorate of Forests and Biodiversity (DFB), reforestation actions were carried out in a first phase in the community of Claudino Faro. For forest restoration (70ha) the following species were used; mulberry, watermelon, shelcia, aguimilina etc. In the second phase (100ha) achieved successful results as there were more species of cidrela odorata, alcácia, gogo, mulberry tree and aguimilina in the communities of Claudino Faro, Bernardo Faro and Santa Adelaide. All these communities are part of the key water basins planned in the original project document. These species were planted in the communities with the aim of maintaining shade control and also in the long term to have quality wood for construction and as a value source of potential income for the communities. These actions counted on the involvement of the owners of the respective plots and the Community Leaders. Likewise, awareness-raising actions were carried out in the communities, as well as training and capacity building for DFB technicians. The practice of Non Timber Forest Products (NTFPs) has also been implemented in the communities. The Forestry Law was updated (although not yet approved). On the other hand, the forest monitoring process was developed, in addition to the involvement of the project in the commemoration of important dates (International Day of Forests, among others). There were 170 hectares of reforested areas in São Tomé near the Abade and Manuel Jorge river basins in the communities of Bernardo Faro, Claudino Faro and Santa Adelaide and two nursery production centres were built.

Forest monitoring has been implemented, as well as the promotion of Non-Timber Forest Products (NTFP) as alternative income generating activities to improve livelihoods in the communities of the Contador, Lembá and Abade river basins, around 100 beneficiaries, 50% of whom were women.

They benefited from training, and participated in work meetings, workshops for document analysis and validation, and specific regulations for application in the energy sector.

At the level of the Directorate of Agriculture and Rural Development, terrace planting and practices of Sustainable Management of Agricultural Land (GSTA) were carried out, Implementation of the Plan for Sustainable Management of Agroforestry Land (GSTA), in the communities of the Manuel Jorge river basin: namely: Saudade, Bom sucesso Macambarará and Boa Esperança. Within the framework of the campaign launched by the Government "BOMU XIMIÁ PA NON BÊ QUÂ CUMÉ" as support for the Government's contingency plan in the face of the COVID 2019 pandemic period, the project provided 200,000 matabalas seedlings and strengthened the Directorate of Agriculture and Rural Development with means for implementation and monitoring at country level. Capacity building of more than 300 farmers in different techniques of Sustainable Agricultural Land Management were also provided, involving also CADR. The following tables provide detail in terms of actual numbers of beneficiaries per community, sex-disaggregated and the areas projected for reforestation vs the actual hectares that were reforested. This information was gathered from the analysis of the planning documents designed jointly with the Directorate of Agriculture and Rural Development and the PMU and the review of their annual reports to PMU and UNDP. As can be observed below, in certain communities, the reforestation targets were not met. This applies both to the Island of Saô Tomé and the island of Principe.

Table 19 Reforestation component Analysis

Planting activity in the identified communities/Reforestation							
Communities	# of Beneficiaries	Survival rate	Participation by gender		Reforested Area	Reforestation Projected Area	Total Cost USD
Santa Adelaide	20	92%	Male	91,9%	20ha	20ha	76,900
			Female	92,09			
Bernardo Faro	40	94%	Male	94,8%	20ha	40ha	
			Female	93%			
Claudino Faro	40	89,6%	Male	84,7%	20ha	40ha	
			Female	83,5%			
Príncipe	22				13ha	16ha	14.500,00

Table 10 SLFM Phase I Analysis

SLFM I								
Area	District	Activities Undertaken	Communities	Watershed	Terraces	Beneficiaries	Current Situation	Trainings
10,6 ha	Mé Zochi	Construction of agricultural terraces Production of organic compost	Bom Sucesso Macambará Famalicão Saudade São Carlos Quinta das Flores Milagrosa Pedroma	Rio Abade Rio Manuel Jorge	135	41 beneficiários (29M/12F)	67,4% being used	185 farmers (140M/45F)

During the evaluation mission, the team was able to visit two of the communities, namely, Bom Sucesso and Saudade and it was observed that indeed, most of the terraces are still operational and community farmers producing greater volumes of products with greater economic benefits. It would have been very interesting for the project and the Directorate to actually measure the change comparing the business as usual and the production after the terraces were installed. The farmers interviewed have the numbers and are very clear about the advantages.

Table 110 SLFM Phase II Analysis

SLFM II					
Districts	Activities Undertaken	# of plants	Area (.ha)	Beneficiaries	Survival (%)
Cantagalo	Matabala plantation	79.094	20	194 115 M/79 F	81,49%
Lembá		15.650			
Lobata		25.560			
Me-Zochi		35.460			
Água-Grande		4.500			

Within component 4 Outreach programme and dissemination of project experience/best practices/lessons learned for replication throughout the region/among SIDS countries.

This component can be sub-divided into three sub-components. Namely, to communicate about sustainable use of natural resources and production of renewable energy; capacity development of key stakeholders to monitor and document project experiences and produce project materials to disseminate knowledge.

During the last years of implementation this component focused on the following deliverables:

- Elaboration and implementation of the Communication Strategy for Forest Management. The implementation of the Communication Strategy for Sustainable Forest Management has made significant progress during 2021 and has relied on the good participation of the Directorate of Forestry and Biodiversity. Activities in course by the company TELA DIGITAL MEIA Group have already launched through the Media the hymn "non sa ôbô", awareness posters of the general

campaign, etc. The cooperation protocol with the NGO ALISEI has been productive in terms of dissemination of the actions of the two projects (Energy Project and TRI Project) at the level of Forests and biodiversity. This is a good example of project's coordination to make better use of the available resources. Worth highlighting that the design of the strategy took a long time since the ToR were elaborated in 2018 and to date, the strategy is now under implementation. As can be seen in table 23 and Annex 11, the campaign has conducted a baseline study which was conducted between February and March 2022. During the meeting with the communications company responsible for the campaign information on the different indicators, such as target audience reached, etc was requested but not yet provided.

- During the course of the years, the project did carry out several trainings focusing on the energy, water and forest sectors. For example, technicians were sent to Benim for a technical training with the idea to replicate the knowledge gained, training of trainers. Also, a training took place in Cape Verde together with UNIDO to bring trainers to STP. The PMU was also trained in Portugal. In 2021 the Project focused its energy on the elaboration and implementation of the National Training Plan for the Energy Sector for planning and managing the energy transition. At the time of the evaluation, the plan has been drawn up, and a tender has been launched to recruit an educational institution to implement it. It is expected in the first phase of implementation, to train more than 150 technicians of the different key institutions of the electricity sector in various areas of training with a focus on fiscal and customs incentives, pricing and tariffs, contracts for purchase and sale of energy, trade relations, policy and planning, etc., around renewable energy.
- Communication and marketing of the Energy Project. This activity was carried out by a national consultancy whose contract was initiated at the end of 2020 with the objective of disseminating the successes achieved in the four components of the project. Some dissemination tools were produced, including graphic posters and published on the social networks page (facebook) created by the project, roll-up, outdoor, among other tools for advertising the actions of the project. However, this activity was interrupted with the aim of being restructured to better meet the dissemination of project activities.

Table 121 Communication Baseline Study for the Sustainable Management of Forest Ecosystems in STP

Communities		Nº interviewed	% interviewed	Nº interviewed - gender		% interviewed gender		Dates
São Tomé	10 rural communities	518	66,9%	Male	233	Male	45%	From 08/02/2022 to 01/03/2022
				Female	284	Female	54,8%	
Príncipe	2 urban areas	256	33,1%	Male	125	Male	48,8%	
				Female	131	Female	51,2%	

In general terms, component 4 focused on capacity building through trainings to communities, beneficiaries, Ministry Technicians during the life of the project and worked on dissemination of project results and best practices using social media (facebook and website) and has recently launched the Communication Strategy for Sustainable Forest Management which is still ongoing. The evaluation team considers that the overall communication/dissemination objective was partly achieved since there is no evidence of it reaching the region or other SIDS countries as it was expected.

The evaluation concludes that the effectiveness of the project is **Moderately Satisfactory (MS)**

4.3.4 Efficiency

Efficiency is a measure of how economically the resources and inputs (funds, expertise, time, etc.) are converted to results. It is most commonly applied to the input-output link in the causal chain of an intervention. The project executed 72% (\$3,854,173 U.S.) of the total budget allocated to the 4 components (\$5,373,194 U.S.)⁹

Table 132 Budget Execution by Component

Total Project Budget (ProDoc)		% of total Project Budget assigned to each component	Executed
Component 1	\$ 472,500	110%	\$ 517,591
Component 2	\$ 1,326,660	54%	\$ 720,283
Component 3	\$ 3,137,784	68%	\$ 2,126,773
Component 4	\$ 100,000	190%	\$ 190,143
PMC (GEF)	\$ 236,250	124%	\$ 299,204
	\$ 5,273,194		\$ 3,853,995

The amount executed includes all Combined Delivery Reports (CDR) for 2016, 2017, 2018, 2019, 2020, 2021 and the first quarter of 2022. Also, the prodoc added \$100,000 from UNDP Trac resources. These have not been included in the analysis since they were not reported in the CDRs. As it can be observed in table 24, greater emphasis, after the project re-structuring, was placed on components 2 and 4. This change in the budget is justified in a note to file from 23rd November 2020 shared with the evaluation team where it is stated that “the budget requires adjustments beyond the 10% threshold to Components 2 and 4” and “there is a significant budget still available in Component 3 given the limited extension of activities related to sustainable land and forest management as well as the non-realization of the financial mechanism”. Therefore, resources were reassigned to components 2 and 4. From the analysis of the CDR it is clear that component 4 required more financing. Component 2, although shows a 54% expenditure has the majority of the purchase orders as commitments. If these commitments turn to real expense, then the percentage delivered would increase considerably. This cannot be evaluated as this time.

The project efficiency has been rated “**Moderately Satisfactory (MS)**” for the following reasons:

Total budget expenditure adds up to 72%.

⁹ Not including outstanding NEX advances, undepreciated fixed assets and commitments for \$1,344,352 U.S Energy PIMS 4602

For the remaining available resources at the time of the terminal evaluation, \$1,519,021 U.S, UNDP reported the following:

Table 143 Balance & commitments

Concept	Amount in USD	%
Balance	1,519,021	100%
Outstanding NEX advances	40,251.49	2.6%
Undepreciated Fixed Assets	15,804	1%
Commitments	1,288,297	84.8%
Balance	74,668	4.9%

The commitments reported account for 84.4% of the outstanding balance. If the Project manages to close these commitments and the outstanding NEX advances it'd mean that the project could in fact reach 98.5% of the budget executed.

4.3.5. Overall Project Outcome Rating

The following table summarises the evaluation team ratings for relevance, effectiveness, efficiency and provides an overall project outcome rating.

Table 24 Overall Project Outcome Rating

Assessment of Outcomes	Rating
Relevance	HS
Effectiveness	MS
Efficiency	MS
Overall Project Outcome Rating	MS

Overall Project Outcome Rating is Moderately Satisfactory.

4.3.6. Progress to Impact GEF Core Indicators

As reflected in Annex 10 GEF Core Indicators and indicated in section 4.1, the set targets per GEF core indicators were very ambitious. The GEF core indicators are to be monitored, specifically, during the mid and terminal evaluation. The MTR kept the targets set during the design phase although at that time the project had been re-designed after the November 2017 joint mission. The terminal evaluation team has used the actual numbers reported by the PMU and used Government counterparts reports to the project in terms of number of hectares of SLFM in terms of terraces built, planted, hectares reforested, number of hectares under watershed management plans, etc providing the accurate numbers reached through the implementation of the project.

4.3.7 Sustainability: financial, socio-economic, institutional framework and governance, environmental

The GEF M&E Policy 2010 adopts the following definition of sustainability: the likely ability of an intervention to continue to deliver benefits for an extended period of time after completion; projects need to be environmentally as well as financially, institutionally and socially sustainable. The GEF Guidelines establish four areas for considering risks to sustainability: financial, institutional, socio-political and environmental.

Financial:

The financial sustainability of the project has two components. The potential rate of return on potential private sector investments and EMAE's actual and future financial sustainability to be able to pay the investors by means of an updated tariff. On the first matter, the Government and financial partners like AfDB and WB are working on improving EMAE's current losses and poor technical performance although it seems from interviews conducted that a few years must go by, and a lot of capacity building and support is still required for EMAE to improve its performance. On the second, 50% of EMAE's costs are currently covered by the tariff. The other 50% is currently being covered at the State's expense which in turn is requesting the funds, or part of the funds, from the international community. This percentage has been increasing over the past years. In this regard, AGER's view is that the tariff needs to be upgraded but the consumer should not be imposed to pay for the inefficiencies of the system.

Based-on the information presented at the time of the TE, the rating for financial sustainability is **Moderately Unlikely in the short term.**

Socio-political:

The project had two thematic components. The first, the promotion of renewable energy and the second, the sustainable use of land and forests to guarantee water resources for the hydroelectric power plants. The key aspect for socio-political sustainability related to the electric sector is the tariff to be paid by the public. As per the conversations held with AGER, the tariff is extremely low at this time and hasn't been upgraded since 2007. This implies that if its increased and the population's salaries remain low, it will be very difficult for low to middle income earners to be able to pay. This would of course affect EMAE's financial sustainability and capacity to return on the investment. Regarding the second component, it would make perfect sense to improve land and forest management. The Government technicians interviewed from Forestry and Agriculture Directorate see the great potential of the actions undertaken but do lack, mainly, financial resources to escalate the programmes and effectively monitor the plantations and continuously support the beneficiaries. There is a strong dependency on project's budgets to finance field work. On the other hand, the farmer's interviewed expressed their interest of continuous support and explained how their received greater revenues from the sale of the different vegetables or the NTFPs.

From the policy perspective the sustainability is rated as **Moderately Likely** mostly for the uncertainty surrounding the STP Policy environment.

Institutional:

Given the advances and the dedication of the partners as mentioned, the challenges are surmountable justifying a ranking of **Moderately Likely** from the institutional perspective.

Environmental:

The environmental sustainability is embedded in the project's objective which seeks to generate renewable energy for the country and to guarantee sufficient water resources for the hydroelectric potential of STP. Even if the Government's strategy changes to photovoltaic energy, this does not change. Nevertheless, the sustainability is based, besides the quality of the environmental studies conducted, the company's involved in the construction of the plants environmental reliability ought to be taken into consideration. There are permanent temporary and permanent impacts from such construction works that are important to measure and properly remediate.

The ranking of the environmental sustainability is **Likely** to reflect the possibilities that now exist thanks to the project.

The Overall ranking for Sustainability is **Moderately Likely**.

Table 155 Sustainability Assessment Summary

Sustainability	Rating
Financial	MU
Socio-political	ML
Institutional framework and governance	ML
Environmental	L
Likelihood of Sustainability: Moderately Likely	
(HL) Highly Unlikely; (U) Unlikely; (ML) Moderately Likely; (L) Likely; (HL) Highly Likely	

4.3.8. Country ownership

At the level of implementation of the Project "Promotion of environmentally sustainable and climate-resilient grid/isolated grid-based hydroelectric electricity through an integrated approach in Sao Tome and Principe", it can be considered that there was national approval in the design and implementation phase, both by the Government and the respective national authorities, as well as by the implementation partners who were involved in an articulated manner.

The energy sector is without doubt of vital importance to the country and to the Government and is aligned with the strategies of "Least Cost Development" and the Nationally Determined Contributions (NDC-STP) in which it is stated that the country assumes its formal commitments in terms of mitigation, in measures to reduce greenhouse gas emissions and adapt to the harmful effects of climate change, increasing its resilience and economic and social development. With its update, this commitment and the engagement of the country in reducing the emissions of these gases through the production of 50% renewable energy injected into the national electricity grid by 2030 is reaffirmed, which is in line with the fulfilment of Goal 7 of the International Agenda for Sustainable Development.

In terms of implementation with the changes that were made in the project's Prodoc, it was found that it was necessary to create an enabling and favourable environment for private investment in renewable energy, which continues to be extremely relevant to facilitate the functioning of other sectors and facilitate the socio-economic development of the country.

4.3.9 Gender Equality and women's empowerment

The United Nations System has been giving its continuous collaboration in promoting the empowerment of women and the improvement of gender relations in Sao Tome and Principe. Gender Equality and Equity, in order to harmonize the understanding and methods of intervention of development actors on gender issues and thus maximize the effectiveness of interventions in favour of gender equality and equity in STP.

Thus, gender equality is recognized as an important development tool, as it represents a strategy to achieve a sustainable economy, that is, to increase economic efficiency and improve other development results in the social and political sphere of the country.

Overall, it is verified that an important gender segregation persists in relation to professional activities, and that many of the female employment niches are not necessarily profitable, socially valued or secure. It is verified in the case of the categories of "Service and Sales Workers" and "Unskilled Workers", in which the majority of women are included, is of an essentially informal nature.

According to the III NATIONAL STRATEGY FOR GENDER EQUALITY IN SAO TOME AND PRINCIPE 2019 -2026, according to national statistics, women have less access to employment than men. For every 100 women in employment, there are 162 men. With regard to unemployment, for every 69 men, there are 100 unemployed women. Regarding the situation in profession, it is verified that in general, men are more numerous percentually than women in almost all the modalities of professional situation.

In Sao Tome and Principe, in the areas of Water, Sanitation, Energy, Management of Natural Resources, Preservation of Ecosystems and Biodiversity and Climate Change, the participation of women in professional activities of these domains is limited. Notwithstanding this attribute and the successive challenges that have been given to the energy sector.

The project did not initially consider gender equality or women's empowerment, according to the descriptions of the PRODOC, it can be seen that the focus was on energy production from the investment of independent producers, without taking into account the gender aspect in the field of energy. However, during implementation and also due to the requirements of the funder, greater attention started to be paid to this indicator (gender in the project).

This aspect was observed in the attendance registry of the events, workshops, ateliers and in the training and capacity building sessions that facilitated a considerable increase in the number of female participations. The same was observed in the implementation of project activities such as the Enhancement of Non-Timber Forest Products (NFP) where beekeeping activities were developed, experimental breeding of terrestrial whelks and increasing agricultural and forestry rows with 100 beneficiaries where 50% of these are women and some also in the Sustainable Land Management (GSTA).

On the other hand, the involvement and appropriation of women was also evident in the communication and awareness-raising sessions and dissemination of the project, and the Project Management Unit itself included the participation of women, which served to drive various actions.

4.3.10. Cross Cutting Issues

As indicated above, gender is an important cross cutting issue that is should constantly be integrated in project activities. Additionally, the project activities mainstreamed other UNDP priorities such as improved governance through proper legislative framework (Component 1), human rights through proper monitoring of the Safeguards, capacity development (Component 2, 3), and knowledge management (Component 4).

4.3.11. GEF Additionality

The GEF-approved CEO endorsement Request presented a thorough analysis of the Business-As-Usual scenario and estimate of the GEF incremental argument. The baseline scenario correctly linked to persistent barriers as described in Section 3.3. The CEO Endorsement Request includes a detailed description of the Business-As-Usual Scenario and plausibly defined the GEF Additionality (see Annex 5: Global Environment Benefit of SLFM activities). Annex 5 presents the baseline scenario in terms of GHG emissions and the project scenario. As indicated in Annex 10, the number of hectares achieved in terms of SLFM and reforestation did not achieve the expected numbers in the prodoc nor was the project able to measure the GHG sequestered due to lack of a forest inventory. The Progress to Impact with respect to the Project's Impact or Objective Level indicators is presented in Section 4.3.5.

The GEF Core indicator worksheet updated at TE is provided in Annex 10.

4.3.12. Catalytic/Replication Effect

The Energy project has a number of constructs that have replication potential. Component 4 is on knowledge management, including increased knowledge of effective strategies and tools for improving agricultural productivity of commodities in ways that do not involve conversion of forested land, and uptake and replication of lessons learned. The project developed workshops, webinars, training reports, blog articles and resources published in the project's facebook page and newsletters. Also, the project has an ongoing communication campaign under Component 4. Unfortunately, the evaluation team has not been able to evaluate its potential impact nor its catalytic or replication effect since it has not yet concluded nor was the team provided with monitoring data. Several products that increased knowledge of the factors constituting an enabling environment for the adoption of reduced-deforestation commodity production, improve the design and future implementation of strategies and tools for sustainable production of commodities as well as the continuous training received by farmers and communities on best practices.

With the legal framework approved with the rules and regulations and guidelines and if EMAE manages to cut down the operational losses to guarantee return on investment, the initiative will move into the replicability stage.

Agriculture and Livestock management practices piloted in Component 3 can be taken to scale if their potential for returns to cover the cost of capital is established and incentives, financial mechanisms or development assistance is provided.

4.3.13. Social and Environmental Standards

The PMU together with UNDP CO and under the supervision of the RTA have monitored through the PIR the status and changes on the social and environmental standards. It is important to highlight that the monitoring is conducted following the PIMS 4602 STP MFA SESP attached to section H or I of the PIR format. No progress was described for the 2017 to 2019 PIRs. 2020 PIR highlighted the existence of potential new environmental risks associated with the rehabilitation of the MHPP Papagaio in the Island

of Principe since the project site is located in a Biodiversity Reserve. The mitigation measure proposed and which the project did carry out was the elaboration of a full ESIA of the project which does take into consideration the potential risks to biodiversity through the ESMF. In 2021, the PIR reported the same risk to biodiversity and that organizations like BirdLife International had reached out to UNDP CO and expressed their concerns. To ensure that the risk was fully mitigated, in December 2020, UNDP CO hired a safeguard's specialist to provide additional support to the firm Aqualogus hired to conduct the Papagaio ESIA. Therefore, the project only reported a potential risk on the Island's biodiversity. Nothing was reported in terms of social standards.

The evaluation team considers that the PMU and UNDP CO together with the RTA have properly monitored the environmental and social safeguards as per the original document and identified new ones as they arose during project implementation.

5. CONCLUSIONS, RECOMMENDATIONS, LESSONS LEARNED

5.1 Conclusions

Project Design:

- The project architecture was solid and innovative although too ambitious at the time. It followed lessons learned from GEF-4 that supported the promotion of market approaches to renewable energy technologies and energy production with an emphasis on policy development and regulatory frameworks. GEF-5 was to boost investment in renewable energy by promoting investment. This is what was proposed but the project design failed to recognize the weaknesses of the legal / regulatory framework in place.
- The assumptions lacked depth of analysis. Greater emphasis on the assumptions could have detected design flaws and direct the project focus to another direction.
- The project, aligned to GEF-5 priorities proposed to focus on investment of renewable energies adding an innovative approach including land and forest sustainable management to guarantee water resources for the mini/small grid/off-grid hydroelectrical power plants.
- The targets set for key indicators placed a heavy burden on the first year of implementation making it very difficult to achieve, especially the legal / regulatory component as well as the construction / rehabilitation of a hydroelectrical power plant.
- Some of the key indicators proposed didn't take into consideration national data available or capacities to monitor them, for example, tCO2 sequestered during the 20 years lifetime. The targets set were very ambitious and implied complex monitoring schemes not in place in country.
- The project's governance structure proposed at design stage follows the typical UNDP-GEF structure with an overall project board to meet on a yearly basis and a more operational steering committee. This also placed a heavy burden on Government staff with limited time and resources. The proposed structure proved to be ineffective.
- A strategic communication function is critical to policy development and must be strategically included in any project with policy design. The communications strategy focused on dissemination of good practices and lessons learned more directly linked to Component 3 and lacked a continuous communication effort in relation to policy development.

Project Effectiveness, Efficiency, Relevance:

- The project executed 72% of its budget by March 2022 for \$3,854,173 of \$5,373,194. At the time of the TE, the project had \$1,288,297 committed in purchase orders; \$40,251 as outstanding NEX balance and \$15,804 as undepreciated fixed assets. Total execution could increase to 97% once purchase orders are closed although it will require considerable follow-up by UNDP CO.
- The project budget was revised to adapt to the new focus proposed by CT-PTSE together with the donor community when the re-programming exercise was conducted in 2017. The PMU nor UNDP monitored co-finance It lost interest when the project was re-programmed. Nonetheless, they managed to obtain sizeable parallel funding from AfDB, UNIDO and the World Bank.
- UNDP-GEF resources used as de-risking tool for investment by carrying out the necessary technical and environmental feasibility studies required.
- Relevance: According to STP's 2021 NDC, the energy sector is the highest emitter of GHG emissions. The country is committed to reducing its emissions by 27% compared to BAU by 2030 while intending to increase renewable energy production from 26 to 47 MW. To accomplish these goals, the NDC proposes the installation of PV solar plants, installation of domestic solar PV, construction of isolated mini-grid plants and connected hydroelectrical power plants to the main network. The Government intends to achieve 100% access to energy by 2030 and to do so, is implementing the Least Cost Development Plan proposing to increase the share of renewable energy by 50% by 2030.
- The main outputs achieved by the project are perfectly aligned to the Government's objectives with tangible products but also laying the ground for future investment.
- Effectiveness: Since the project was designed between 2013-2015, the energy sector in STP changed. This meant that part of the overall objective, including stimulating investment into renewable energies from the private sector, had to be re-programmed. Two major implementation challenges came to light forcing the project's reprogramming.
- The re-programming exercise took place under the umbrella of the CT-PTSE aligning the different projects activities to the Government's Least Cost Development Plan and identifying great cooperation potential between donors, government institutions and the private sector. Greater emphasis was placed on developing policies and regulations, technical and administrative frameworks to de-risking private sector investments; focus on rehabilitation of one existing micro-hydro powerplant and carry out additional solar PV installations and diesel hybridization of Santo Amaro in partnership with AfDB and UNIDO.
- This exercise implied the revision of several outputs from the results framework although the indicators were not altered nor the targets. This made monitoring quite pointless since there was no direct correlation between the outputs, indicators and targets set.
- GEF tracking tool indicators and targets were not used to effectively monitor progress due to its complexity and impossibility to measure them. The tracking tool was left as it was during inception by MTR although the TE evaluators have adjusted them to reality.
- The Project Board met very few times. There is only evidence of one meeting held in 2017. The Board was effectively substituted by the CT-PTSE bringing together other donors to the table under the umbrella of the Government's Least Cost Development Strategy which proved to be highly efficient. It was the Government's intention to articulate all actor's interests and objectives

to achieve more with the available resources, increasing the level of achievement in the Renewable Energy arena.

- The MTR recommendations were implemented and taken into consideration strengthening the PMU, reshaping component 4 and formalizing the CT-PTSE as the Project's Board and a donor's coordination platform.
- EMAE's participation in the project has been marginal. Its participation is seen as a critical factor to achieve the PTSE specially because of its inherent weaknesses.
- UNDP has gone beyond mere supervision to actively support project implementation assisting the Government to legally relinquish the concessions given in tow of the country's water basins and constantly adapting to more effectively support the Electricity Transformation Programme.
- In terms of key results per component, the following can be highlighted: Under component 1, the project has made considerable progress in terms of legal framework and regulations to attract private investment into the country although four of the documents were not deemed technically solid and should be further revised. Nonetheless, progress has been made and the Government now has greater clarity as to what are the key pieces of legislation required to effectively manage the system and in due time attract private investment.
- In relation to component 2, the project completed all technical and financial viability studies as well as ESIA's for 4 small hydroelectrical plants and 3 photovoltaic projects. There is also an agreement with AfDB to finance one mini hydroelectrical plant for 0.6 MW and one solar PV installation and diesel hybridization at Santo Amaro as well as residential solar panel installations at DGRNE and MIRN.
- Component 3 was over dimensioned. Part of the resources were used to cover additional costs for components 2 and 4. The IWMP are considered as very pertinent planning tools and all reforestation activities, terracing and NTFP had great acceptance by the Communities.
- The Government has a total budgetary dependency on international development projects which hinders replication and monitoring activities.
- Component 4 was intended to capture and disseminate best practices for replication throughout the region. The project was successful disseminating locally but not regionally and carried out an extensive capacity building exercise extended through the years reaching large number of beneficiaries in terms of renewable energy but also in terms of sustainable land and forest practices.

Sustainability:

- Financial: The Government's PPA with private promoters make it impossible for funding institutions to like AfDB and World Bank to fund the projects since it goes against their banking procedures.
- EMAE's current managerial weaknesses and the system losses make it difficult, at this stage, to ensure the investors return. The revision of the tariff is key to ensure EMAE's capacity to return on the investment without further depleting government funds and increasing national debt.

5.2 Recommendations

- When designing new project documents, create a national thematic checklist to ensure key

assumptions are considered. This checklist ought to consider if the necessary laws and regulations are in place to promote private investment? Can the project achieve what is set for in the given time frame? Is it realistic what the project is seeking, is it achievable in the given time frame and budget?

- Ensure the design process includes both national GEF and EMAE focal points from the start to ensure viability of the measures proposed but also feasibility both financial and technical.
- Make sure to use attainable indicators and be conservative when setting targets. It is better to say, when evaluating progress, that the target has been achieved or greatly achieved than having to say that it was over-dimensioned.
- When there is a change in the logical framework at the output level make sure to adapt the set indicators and targets to make sure the M&E process is still valid. Communicate the change to the donor and adapt the tracking tools accordingly.
- Continue using the CT-PTSE as the coordination and planning space for further development assistance in the renewable energy sector.
- In order to see and evaluate the impact of a communication campaign it has to start implementation well before project end.
- Ensure sufficient M&E resources from the start of the project to effectively communicate good practices and lessons learned. A specialized human resource on M&E within the PMU could have ensured proper dissemination.
- Policy and legal regulations require an average of 3 to 4 years from design to enactment. This process requires extensive consultations and ought to be designed jointly with the pertinent institutions. The consultants hired to design laws, rules and regulations would benefit from working directly with the institutions. This would facilitate and fast track the validation process.
- Although the project has been completed, it is recommended that the project's executing partners with other interested agencies attempt to document the results of the National Training Plan for the Energy Sector for planning and managing the energy transition to further use and disseminate.
- When working with farmers on SLFM and NTFP carry out an initial baseline study to determine production, types of crops, market value, etc. This would indeed help to determine the economic value added of the proposed systems and crops. The farmers have the information but no one has asked them.
- Strategic Communications must be included when policy outcomes are called for to support the policy enactment and approval process by effectively communicating key messages with key government and non-governmental actors. Like any outcome, these must be correctly estimated for effort, costs, human resources and budget.
- Consider producing brief 1 minute video "newscasts" that can be shared via whatsapp, email, or Instant messaging to decision-makers. Key decision-makers are more likely to watch a 1 minute video than read a 2 page memo. This type of strategy can both lobby and reinforce demand for policies and can add to the effectiveness of other communications strategies employed.

5.3 Lessons learned

- The desire to fit a project to donor's requirements and priorities makes designers sometimes lose perspective of national context and realities.
- A greater analysis of the assumptions might have prevented the re-structuring exercise conducted and subsequent changes as reflected in the AWP.
- A full size project with a 4 to 5 year life-time needs to properly balance the activities and help efficient project implementation.
- Target setting ought to be validated nationally and ensure accountability.
- To push a renewable energy project forward that involves the private sector investment needs to bring on board EMAE and AGER from the very beginning. It is key to engage them more pro-actively.
- It is preferable to update the entire logframe when re-programming than leaving the original indicators linked to new outputs since it turns the monitoring process more complex and loses its purpose.
- In a country the size of STP, joint steering committees makes total sense. It is a good opportunity to bring other actors to the table and improve coordination efforts.
- Production processes ought to be accompanied by evidence. SLFM needs to bring hard data in terms of crops, yields, revenues which will help to make a convincing case.
- Policy development takes a long time. When key players are not involved from the start and consultants do not work directly under their umbrella, it is hard to get the documents validated.

6. ANNEXES

Annex 1. Terms of Reference

Terms of Reference for ICs and RLAs through GPN ExpRes

Date: 08.12.2021

Assignment title: Terminal Evaluation for UNDP-Supported GEF-Financed Projects

Unit: Portfolio CESA, Economic Growth and Environmental Sustainability

Assignment Type: TE International Consultant (Project Evaluator)

Type of Contract: Individual Contract

Languages Required: Portuguese and English

Category: Climate change and environment

Location: Home-based and São Tomé and Príncipe

Starting Date: as soon as possible after contract signature

Duration of Initial Contract: 35 working days

Expected Duration of Assignment: December 2021 – February 2022 (35 working days)

1. INTRODUCTION

In accordance with UNDP and GEF M&E policies and procedures, all full- and medium-sized UNDP-supported GEF-financed projects are required to undergo a Terminal Evaluation (TE) at the end of the project. This Terms of Reference (ToR) sets out the expectations for the TE of the *full-sized* project titled ***Promotion of environmentally sustainable and climate-resilient grid-based hydroelectric electricity through an integrated approach in Sao Tome and Principe (PIMS 4602)*** implemented through UNDP CO Sao Tome e Principe. The project was initiated in 2016 and is now at its final year of implementation, after a 15-month no-cost extension request from the Government of Sao Tome and Principe was approved by the Executive Coordinator of the UNDP-Global Environmental Finance in November 2020. The TE process must follow the guidance outlined in the document ‘Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects’ (http://web.undp.org/evaluation/guideline/documents/GEF/TE_GuidanceforUNDP-supportedGEFfinancedProjects.Pdf)

2. PROJECT BACKGROUND AND ORGANIZATIONAL CONTEXT

The world is currently facing the COVID-19 pandemic, which is affecting people everywhere and impacting global and local economic activity and transport systems, as well as causing unprecedented disruptions to daily life that undercut the societal fabric of opportunities for human interaction¹⁰.

This project sought to introduce an integrated energy and ecosystems-based approach to grid/isolatedgrid-based mini/small hydro-electricity generation in Sao Tome and Principe. It aimed to achieve this target by introducing a conducive regulatory framework and by establishing a financial support mechanism that will attract investors and facilitate private sector participation in increasing the share of hydropower electricity generation and renewable energies in the country.

In addition, in order to ensure the availability of hydro resources for electricity generation (and irrigation

¹⁰ ₁ Guidance Note: Good practices during COVID-19. OECD/DAC and IEO/UNDP, April 2020.

for job creation), the project had an integrated watershed management approach that aimed at integrating innovative participative methods of natural resource management with community livelihoods improvement in a sustainable way and within a landscape approach. This was to be achieved through watershed level land use planning and implementation of community forests, and income generating activities through non-wood forest products and ecosystem-based services for rural communities. This landscape approach was designed to be sustained by a financial mechanism between the private hydroelectricity producers and the upstream communities, based on the maintenance of environmental services (water supply regulation).

Expected outcomes and associated outputs were:

Outcome 1: Streamlined and comprehensive policy and legal/regulatory framework for private sector investment in on-grid/isolated-grid mini/small hydro electricity generation and for integrated watershed management.

Output 1.1.: Appropriate policy and legal/regulatory framework established and operational, for (A) energy sector and for (B) integrated watershed management.

Output 1.2.: Technical report on grid capacity requirements to enable feed-in for grid-connected mini-hydro systems followed by development of an updated grid code.

Output 1.3: Established procedures and standardized PPAs for the introduction of a transparent procurement process in the selection/award of hydro sites by private developers.

Output 1.4: Setting up of a one-stop shop for issuance of construction licenses and permits to hydropower developers.

Output 1.5: Standardized environmental methodology developed for evaluating hydropower projects, and economic and financial evaluation methodology for calculating small hydropower tariffs to be paid to IPPs.

Output 1.6: Capacity developed within EMAE, local banks and key national actors such as Ministry of Public Works, Infrastructure, Natural Resources and Environment to appraise mini/small-hydro projects for development.

Output 1.7: Increased national and local capacity to coordinate institutions for inter-sectoral SLM approach and to implement integrated resources management at the watershed level.

Outcome 2: Promotion of investment in mini/small-hydro through appropriate catalytic financial incentives for project investors.

Output 2.1: Financial Support Mechanism (FSM) established and capitalized to support private investment in grid/isolated-grid- connected mini/small-hydro.

Output 2.2: MOU signed with Central Bank of Sao Tome and Principe setting out the objective, funding mechanism and administration rules regarding its participation as fiduciary agent of the FSM.

Output 2.3: Financial and other incentives to be provided to project developers.

Output 2.4: Reports on financial closure with identified investors.

Output 2.5: Report on completion of construction of at least 4 MW of on-grid/isolated-grid hydropower commissioned at various sites by end of project.

Outcome 3: Integrated land use, sustainable forest management and natural resource management provide social benefits and sustain environmental services at the watershed level.

Output 3.1: Each specific IWMP includes a water & carbon monitoring scheme which provides information on carbon stocks and on the water flows upstream of the hydroelectricity production.

Output 3.2: Integrated managed lands in watershed include a CF managed effectively for sustainable resource conservation.

Output 3.3: New methods and techniques of agroecology (conservation farming practices) reduce

lands degradation in watershed.

Output 3.4: Watershed lands function to provide resources, alternative incomes and sustainable environmental services.

Output 3.5: Community trusts for re-investment of energy proceeds into community lands conservation are established and implemented.

Outcome 4: Outreach programme and dissemination of project experience/best practices/lessons learned for replication throughout the region/among SIDS countries.

Output 4.1: National Plan to implement outreach/promotional activities targeting domestic (and international) investors.

Output 4.2: Capacity development of MPWINRE /EMAE and MAPRD to monitor and document project experience.

Output 4.3: Published materials (including video) and informational meetings with stakeholders on project experience/best practices and lessons learned.

Timeframe

This project was approved for a duration of 5 years by the Global Environment Facility (GEF), commencing August 2016 and terminating in December 2020. A 15-month no-cost extension was granted, and the new project closing date is March 31st, 2022.

Management Arrangements

The project is being executed on NIM modality by on NIM modality by the Directorate General of Natural Resources DGRNE of the Ministry of Public Works, Infrastructures, Natural Resources and Environment (MOPIRNA). Please refer to Section 4 of the Project Document for details on the Management Arrangements of the Project.

3. TE PURPOSE

The TE will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the “Guidance for conducting terminal evaluations of UNDP-supported, GEF-Financed Projects”. Results of this Terminal Evaluation will be used by key stakeholders (such as GEF, UNDP, local government, etc.) to be replicated by other projects or by other countries, improving their implementation in future programs. The TE report will assess the achievement of project results against what was expected to be achieved and draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming. The TE report promotes accountability and transparency and assesses the extent of project accomplishments.

4. TE APPROACH & METHODOLOGY

The TE report must provide evidence-based information that is credible, reliable and useful. The TE team will review all relevant sources of information including documents prepared during the preparation phase (i.e. PIF, UNDP Initiation Plan, UNDP Social and Environmental Screening Procedure/SESP) the Project Document, project reports including annual PIRs, project budget revisions, lesson learned reports, national strategic and legal documents, and any other materials that the team considers useful for this evidence-based evaluation. The TE team will review the baseline tracking tools submitted to the GEF at the CEO endorsement and the terminal tracking tools that must be completed before the TE begins. The TE team is expected to follow a participatory and consultative approach ensuring close engagement with the Project Team, government counterparts (the GEF Operational Focal Point), Implementing Partners, the UNDP STP Country Office, the Regional Technical Advisor, direct beneficiaries and other stakeholders.

Engagement of stakeholders is vital to a successful TE. Stakeholder involvement should include interviews with stakeholders who have project responsibilities, including but not limited to organizations and persons listed below; executing agencies, senior officials and task team/component leaders, key experts and consultants in the subject area, Project Board, project beneficiaries, academia, local government and CSOs, etc (See Annex H).

The specific design and methodology for the TE should emerge from consultations between the TE team and the above-mentioned parties regarding what is appropriate and feasible for meeting the TE purpose and objectives and answering the evaluation questions, given limitations of budget, time and data. The TE team must use gender-responsive methodologies and tools and ensure that gender equality and women's empowerment, as well as other cross-cutting issues and SDGs are incorporated into the TE report.

The final methodological approach including interview schedule and data to be used in the evaluation must be clearly outlined in the TE Inception Report and be fully discussed and agreed between UNDP, stakeholders and the TE team. The final report must describe the full TE approach taken and the rationale for the approach making explicit the underlying assumptions, challenges, strengths and weaknesses of the methods and approach of the evaluation.

5. DETAILED SCOPE OF THE TE

The TE will assess project performance against expectations set out in the project's Logical Framework/Results Framework (see Annex A). The TE will assess results according to the criteria outlined in the Guidance for TEs of UNDP-supported GEF-financed Projects (http://web.undp.org/evaluation/guideline/documents/GEF/TE_GuidanceforUNDP-supportedGEFfinancedProjects.pdf).

The Results Framework provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of relevance, effectiveness, efficiency, sustainability and impact. Ratings must be provided on the following performance criteria. The completed table must be included in the evaluation executive summary.

The Findings section of the TE report will cover the topics listed below. A full outline of the TE report's content is provided in Annex C.

The asterisk “(*)” indicates criteria for which a rating is required.

Findings

i. Project Design/Formulation

- National priorities and country driven-ness
- Theory of Change
- Gender equality and women's empowerment
- Social and Environmental Standards (Safeguards)
- Analysis of Results Framework: project logic and strategy, indicators
- Assumptions and Risks
- Lessons from other relevant projects (e.g. same focal area) incorporated into project design
- Planned stakeholder participation
- Linkages between project and other interventions within the sector
- Management arrangements

Project Implementation

- Adaptive management (changes to the project design and project outputs during implementation)
- Actual stakeholder participation and partnership arrangements

- Project Finance and Co-finance
- Monitoring & Evaluation: design at entry (*), implementation (*), and overall assessment of M&E (*)
- Implementing Agency (UNDP) (*) and Executing Agency (*), overall project oversight/implementation and execution (*)
- Risk Management, including Social and Environmental Standards (Safeguards)

iii. Project Results

- Assess the achievement of outcomes against indicators by reporting on the level of progress for each objective and outcome indicator at the time of the TE and noting final achievements
- Relevance (*), Effectiveness (*), Efficiency (*) and overall project outcome (*)
- Sustainability: financial (*), socio-political (*), institutional framework and governance (*), environmental (*), overall likelihood of sustainability (*)
- Country ownership
- Gender equality and women's empowerment
- Cross-cutting issues (poverty alleviation, improved governance, climate change mitigation and adaptation, disaster prevention and recovery, human rights, capacity development, South-South cooperation, knowledge management, volunteerism, etc., as relevant)
- GEF Additionality
- Catalytic Role / Replication Effect
- Progress to impact

Main Findings, Conclusions, Recommendations and Lessons Learned

- The TE team will include a summary of the main findings of the TE report. Findings should be presented as statements of fact that are based on analysis of the data.
- The section on conclusions will be written in light of the findings. Conclusions should be comprehensive and balanced statements that are well substantiated by evidence and logically connected to the TE findings. They should highlight the strengths, weaknesses and results of the project, respond to key evaluation questions and provide insights into the identification of and/or solutions to important problems or issues pertinent to project beneficiaries, UNDP and the GEF, including issues in relation to gender equality and women's empowerment.
- Recommendations should provide concrete, practical, feasible and targeted recommendations directed to the intended users of the evaluation about what actions to take and decisions to make. The recommendations should be specifically supported by the evidence and linked to the findings and conclusions around key questions addressed by the evaluation.
- The TE report should also include lessons that can be taken from the evaluation, including best practices in addressing issues relating to relevance, performance and success that can provide knowledge gained from the particular circumstance (programmatic and evaluation methods used, partnerships, financial leveraging, etc.) that are applicable to other GEF and UNDP interventions. When possible, the TE team should include examples of good practices in project design and implementation.
- It is important for the conclusions, recommendations and lessons learned of the TE report to incorporate gender equality and empowerment of women.

The TE report will include an Evaluation Ratings Table, as shown below:

TOR Table 2: Evaluation Ratings Table for Promotion of environmentally sustainable and climate resilient grid-based hydroelectric electricity through an integrated approach in Sao Tome and Principe

Monitoring and Evaluation (M&E)	Rating ¹¹
M&E design at entry	
M&E Plan Implementation	
Overall Quality of M&E	
Implementation & Execution	Rating
Quality of UNDP Implementation/Oversight	
Quality of Implementing Partner Execution	
Overall Quality of implementation/execution	
Assessment of outcomes	Rating
Relevance	
Effectiveness	
Efficiency	
Overall Project Outcome Rating	
Sustainability	Rating
Financial resources	
Socio-political/economic	
Institutional framework and governance	
Environmental	
Overall Likelihood of Sustainability	

6. TIMEFRAME

The total duration of the TE will be approximately 35 *working days* over a time period of 8 *weeks* starting on December 30th, 2021. The tentative TE timeframe is as follows:

Timeframe	Activity
Dec 10-29, 2021	Selection of TE consultant
Dec 30, 2021	Preparation period for TE Consultant (handover of documentation)
January 5, 2022	Document review and preparation of TE Inception Report
Jan 12, 2022	Finalization and Validation of TE Inception Report; latest start of TE mission
Jan 13-26, 2022	TE mission: Virtual stakeholder meetings, interviews, etc
Jan. 27, 2022	Mission wrap up meeting & presentation of initial findings; earliest end of TE mission
Jan 28-Feb 02	Preparation of TE draft report
Feb 03, 2022	Circulation of draft TE report for comments
Feb 11, 2022	Incorporation of comment on draft TE report into Audit Trail & finalization of TE report
Feb 22, 2022	Expected date of full TE completion

Options for site visits should be provided in the TE Inception Report.

¹¹ Outcomes, Effectiveness, Efficiency, M&E, Implementation/Oversight & Execution, Relevance are rated on a 6-point scale: 6=Highly Satisfactory (HS), 5=Satisfactory (S), 4=Moderately Satisfactory (MS), 3=Moderately Unsatisfactory (MU), 2=Unsatisfactory (U), 1=Highly Unsatisfactory (HU). Sustainability is rated on a 4-point scale: 4=Likely (L), 3=Moderately Likely (ML), 2=Moderately Unlikely (MU), 1=Unlikely (U)

7. TE DELIVERABLES

#	Deliverable	Description	Timing	Responsibilities
1	TE Inception Report	TE Consultant clarifies objectives, methodology and timing of the TE	No later than 2 weeks before the TE mission: December 17, 2021	TE Consultant submits inception report to Commissioning unit and project management
2	Presentation	Initial Findings	End of TE mission: January 07 2022	TE Consultant presents to Commissioning Unit and project management
3	Draft TE Report	Full draft report (using guidelines on report content in ToR Annex C with annexes)	Within 3 weeks of end of TE mission: January 17, 2022	TE Consultant submits to Commissioning Unit; reviewed by RTA, project Coordinating Unit, GEF OFF
4	Final TE Report* + Audit Trail	Revised full report and TE Audit trail in which the TE details how all received comments have (and have not) been addressed in the final TE report (see template in ToR annex H)	Within 1 week of receiving comments on draft report: February 04, 2022	TE Consultant submits both documents to the Commissioning Unit.

*All final TE reports will be quality assessed by the UNDP Independent Evaluation Office (IEO). Details of the IEO's quality assessment of decentralized evaluations can be found in Section 6 of the UNDP Evaluation Guidelines.¹²

8. TE ARRANGEMENTS

The principal responsibility for managing the TE resides with the Commissioning Unit. The Commissioning Unit for this project's TE is the UNDP Sao Tome and Office. The Commissioning Unit will contract the evaluators.

The Project Team will be responsible for liaising with the TE consultant to provide all relevant documents, to include an itinerary of the confirmed stakeholder interviews.

9. TE TEAM COMPOSITION

¹² Access at: <http://web.undp.org/evaluation/guideline/section-6.shtml>
Energy PIMS 4602

The Terminal evaluation shall be carried out by a team of international (1) and local (1) consultants. The International Consultant will be considered as the team leader and will have the overall responsibility for the conduct of the evaluation exercise as well as quality and timely submission of reports (inception, draft, final etc). The International Consultant will be accountable to UNDP for the delivery results on this assignment. The consultant shall have prior experience in evaluating UNDP-GEF financed projects.

The evaluator cannot have participated in the project preparation, formulation and/or implementation (including the writing of the project document), must not have conducted this project's Mid-Term Review and should not have a conflict of interest with the project's related activities.

The selection of an International Consultant for the role of evaluator will be aimed at maximizing the overall qualities in the following areas:

Education

- Master's degree in Environmental Sciences, Climate Change, Renewable energy, Natural resources management, or other closely related field.

Experience

- Relevant experience with results-based management evaluation methodologies;
 - Experience applying SMART indicators and reconstructing or validating baseline scenarios;
 - Competence in adaptive management, as applied to Climate Change
 - Proven experience evaluating GEF projects;
 - Experience working in Africa, especially in SIDS countries;
 - Experience in relevant technical areas for at least *10 years*;
 - Demonstrated understanding of issues related to Climate Change ; experience in gender responsive evaluation and analysis;
 - Project evaluation/review experiences within United Nations system will be considered an asset.
 - Excellent communication skills;
 - Demonstrable analytical skills;
- #### Language
- Fluency in written and spoken English and Portuguese.

10. EVALUATOR ETHICS

The TE team will be held to the highest ethical standards and is required to sign a code of conduct upon acceptance of the assignment. This evaluation will be conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluation'. The evaluator must safeguard the rights and confidentiality of information providers, interviewees and stakeholders through measures to ensure compliance with legal and other relevant codes governing collection of data and reporting on data. The evaluator must also ensure security of collected information before and after the evaluation and protocols to ensure anonymity and confidentiality of sources of information where that is expected. The information knowledge and data gathered in the evaluation process must also be solely used for the evaluation and not for other uses without the express authorization of UNDP and partners.

11. PAYMENT SCHEDULE

- 20% payment upon satisfactory delivery of the final TE Inception Report and approval by the Commissioning Unit
- 40% payment upon satisfactory delivery of the draft TE report to the Commissioning Unit
- 40% payment upon satisfactory delivery of the final TE report and approval by the Commissioning Unit and RTA (via signatures on the TE Report Clearance Form) and delivery of completed TE Audit Trail

Criteria for issuing the final payment of 40%¹³:

- The final TE report includes all requirements outlined in the TE TOR and is in accordance with the TE guidance.
- The final TE report is clearly written, logically organized, and is specific for this project (i.e. text has not been cut & pasted from other TE reports).
- The Audit Trail includes responses to and justification for each comment listed.

12. APPLICATION PROCESS¹⁴

Recommended Presentation of Proposal:

- Letter of Confirmation of Interest and Availability** using the [template¹⁵](#) provided by UNDP;
- CV** and a **Personal History Form (P11 form¹⁶)**;
- Brief description of **approach to work/technical proposal** of why the individual considers him/herself as the most suitable for the assignment, and a proposed methodology on how they will approach and complete the assignment; (max 1 page)
- Financial Proposal** that indicates the all-inclusive fixed total contract price and all other travel related costs (such as flight ticket, per diem, etc), supported by a breakdown of costs, as per template attached to the [Letter of Confirmation of Interest template](#). If an applicant is employed by an organization/company/institution, and he/she expects his/her employer to charge a management fee in the process of releasing him/her to UNDP under Reimbursable Loan Agreement (RLA), the applicant must indicate at this point, and ensure that all such costs are duly incorporated in the financial proposal submitted to UNDP.

All application materials should be submitted to the following email address ONLY: BidsSTP@undp.org indicating the following reference “International Consultant for Terminal Evaluation of “**Promotion of environmentally sustainable and climate-resilient grid-based hydroelectric electricity through an integrated approach in STP**”, by December 02nd 2021 at 5pm GMT. Incomplete applications will be excluded from further consideration.

Criteria for Evaluation of Proposal: Only those applications which are responsive and compliant will be evaluated. Offers will be evaluated according to the Combined Scoring method – where the educational background and experience on similar assignments will be weighted at 70% and the price proposal will weigh as 30% of the total scoring. The applicant receiving the Highest Combined Score that has also accepted UNDP’s General Terms and Conditions will be awarded the contract.

Criteria	Weight	Max. point
Technical competence	70%	100

¹³ The Commissioning Unit is obligated to issue payments to the TE team as soon as the terms under the ToR are fulfilled. If there

is an ongoing discussion regarding the quality and completeness of the final deliverables that cannot be resolved between the Commissioning Unit and the TE team, the Regional M&E Advisor and Vertical Fund Directorate will be consulted. If needed, the Commissioning Unit’s senior management, Procurement Services Unit and Legal Support Office will be notified as well so that a decision can be made about whether or not to withhold payment of any amounts that may be due to the evaluator(s), suspend or terminate the contract and/or remove the individual contractor from any applicable rosters. See the UNDP Individual Contract Policy for further details:

https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=//UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Individual%20Contract_Library/Individual%20Contract%20Policy.docx&action=default

¹⁴ Engagement of evaluators should be done in line with guidelines for hiring consultants in the POPP

<https://popp.undp.org/SitePages/POPPRoot.aspx>

¹⁵

<https://intranet.undp.org/unit/bom/psu/Support%20documents%20on%20C%20Guidelines/Template%20for%20Confirmation%20of%20Interest%20and%20Submission%20of%20Financial%20Proposal.docx>

¹⁶ http://www.undp.org/content/dam/undp/library/corporate/Careers/P11_Personal_history_form.doc

Educational qualifications: Master in Energy, Environmental Sciences, Engineer or any related field	10	
Review of previous Reports submitted with recent experience in results based management evaluation methodologies and applying SMART indicators	10	
Experience in carrying out GEF UNDP Terminal Evaluations related to climate change and /or renewable energy	20	
Experience in relevant technical areas for at least 10 years	15	
Experience working in Africa, especially in SIDS countries	10	
Fluency in written and spoken English and Portuguese	5	
Financial (Lower Offer/Offer*100)	30%	100
Total Score	Technical score * 70% + Financial Score *30%	

13. TOR ANNEXES

- ToR Annex A: Project Logical/Results Framework
- ToR Annex B: Project Information Package to be reviewed by TE team
- ToR Annex C: Content of the TE report
- ToR Annex D: Evaluation Criteria Matrix template
- ToR Annex E: UNEG Code of Conduct for Evaluators
- ToR Annex F: TE Rating Scales
- ToR Annex G: TE Report Clearance Form
- ToR Annex H: TE Audit Trail

Annexes are available upon request.

Annex 2. Guidelines and Rating Scales for The Terminal Evaluation

The TE assessed qualitative markers for adaptive management, safeguards, sustainability and others according to the criteria outlined in the Guidance for TEs of UNDP-supported GEF-financed Projects¹⁷ and with consultation to the following GEF guidance¹⁸ on Monitoring including but not limited to the following:

- Environmental and Social Safeguards (SD/PL/03)¹⁹ and Guidelines²⁰
- Gender Equality Policy (SD/PL/02)²¹ and Guidelines²²
- Stakeholder Engagement (SD/PL/01)²³ and Guidelines²⁴
- Principles and Guidelines for Engagement with Indigenous Peoples (GEF/C.42/Inf.03/Rev.1)²⁵
- Minimum Fiduciary Standards (GA/PL/02)²⁶.

17 UNDP-GEF. Guidance for TEs of UNDP-supported GEF-financed Projects

18 Global Environment Facility. June 2019. Policy on Monitoring, GEF/C.56/03/Rev.01 URL:

https://www.thegef.org/sites/default/files/documents/gef_environmental_social_safeguards_policy.pdf ; accessed 02 February 2021.

19 Global Environment Facility. GEF/C.54/11/Rev.02 URL: http://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.54.11.Rev._02_Results.pdf ; accessed 02 February 2021.

20 _____ . December 2019. Guidelines on GEF’s Policy on Environmental and Social Safeguards.

GEF/SD/GN/03 URL:

https://www.thegef.org/sites/default/files/documents/guidelines_gef_policy_environmental_social_safeguards.pdf ; accessed 02 February 2021.

21 Global Environment Facility. November 2017. Policy on Gender Equality URL:

https://www.thegef.org/sites/default/files/documents/Gender_Equality_Policy.pdf ; accessed 22 January 2021.

22 _____ . June 2017. Guidelines on Gender Equality. URL:

https://www.thegef.org/sites/default/files/documents/Gender_Equality_Guidelines.pdf; accessed 22 January 2021.

23 _____ . November 2017. Policy on Stakeholder Engagement. GEF/SD/PL/01. URL:

https://www.thegef.org/sites/default/files/documents/Stakeholder_Engagement_Policy_0.pdf; accessed 26 January 2021.

24 _____ . December 2018. Guidelines on the Implementation of the Policy on Stakeholder Engagement.

URL: https://www.thegef.org/sites/default/files/documents/Stakeholder_Engagement_Guidelines.pdf ; accessed 26 January 2021.

25 _____ . October 2012. Principles and Guidelines for Engagement with Indigenous Peoples. URL:

https://www.thegef.org/sites/default/files/publications/Indigenous_Peoples_Principle_EN.pdf accessed 19 January 2021.

26 _____ . December 2019. Minimum Fiduciary Standards for GEF Partner Agencies. GEF/GA/PL/02. URL:

https://www.thegef.org/sites/default/files/documents/gef_minimum_fiduciary_standards_partner_agencies_2019.pdf ; accessed 05 February 2021.

Monitoring & Evaluation Ratings Scale

Rating	Description
6 = Highly Satisfactory (HS)	There were no shortcomings; quality of M&E design/implementation exceeded expectations
5 = Satisfactory (S)	There were minor shortcomings; quality of M&E design/implementation met expectations
4 = Moderately Satisfactory (MS)	There were moderate shortcomings; quality of M&E design/implementation more or less met expectations
3 = Moderately Unsatisfactory (MU)	There were significant shortcomings; quality of M&E design/implementation was somewhat lower than expected
2 = Unsatisfactory (U)	There were major shortcomings; quality of M&E design/implementation was substantially lower than expected
1 = Highly Unsatisfactory (HU)	There were severe shortcomings in M&E design/implementation
Unable to Assess (UA)	The available information does not allow an assessment of the quality of M&E design/implementation.

Implementation/Oversight and Execution Ratings Scale

Rating	Description
6 = Highly Satisfactory (HS)	There were no shortcomings; quality of implementation/execution exceeded expectations
5 = Satisfactory (S)	There were no or minor shortcomings; quality of implementation/execution met expectations.
4 = Moderately Satisfactory (MS)	There were some shortcomings; quality of implementation/execution more or less met expectations.
3 = Moderately Unsatisfactory (MU)	There were significant shortcomings; quality of implementation/execution was somewhat lower than expected
2 = Unsatisfactory (U)	There were major shortcomings; quality of implementation/execution was substantially lower than expected
1 = Highly Unsatisfactory (HU)	There were severe shortcomings in quality of implementation/execution
Unable to Assess (UA)	The available information does not allow an assessment of the quality of implementation and execution

Outcome Ratings Scale - Relevance, Effectiveness, Efficiency

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

Development Objective Rating

Rating	% Achievement of Results Framework targets (average)
Highly Satisfactory (HS)	100%
Satisfactory (S)	80 – 99
Moderately Satisfactory (MS)	60 – 79
Moderately Unsatisfactory (MU)	40 – 59
Unsatisfactory (U)	20 – 39
Highly Unsatisfactory (HU)	Below 20%

Implementation Progress Rating

Rating	% Achievement of annual workplan targets (average)
Highly Satisfactory (HS)	100
Satisfactory (S)	80 – 99
Moderately Satisfactory (MS)	60 – 79
Moderately Unsatisfactory (MU)	40 – 59
Unsatisfactory (U)	20 – 39

Highly Unsatisfactory (HU)

Below 20%

Sustainability Ratings Scale

Ratings	Description
4 = Likely (L)	There are little or no risks to sustainability
3 = Moderately Likely (ML)	There are moderate risks to sustainability
2 = Moderately Unlikely (MU)	There are significant risks to sustainability
1 = Unlikely (U)	There are severe risks to sustainability
Unable to Assess (UA)	Unable to assess the expected incidence and magnitude of risks to sustainability

Traffic lights color Rating Scale

Completed	On track for completion	Completion unlikely
-----------	-------------------------	---------------------

Annex 3. Terminal Evaluation Matrix

Evaluative Criteria Questions	Evaluative Criteria Sub-questions	Project Indicators	Sources of Info.	Methodology	Main Contact
Relevance: How does the project relate to the main objectives of the GEF Focal area, and to the environment and development priorities at the local, regional and national level?					
Was the project intervention aligned with GEF priorities and the environment and development priorities and strategies at the local, regional and national level in the three target countries?	Did the project adapt throughout implementation to the evolving priorities and agenda at the local, regional and national level in the three target countries? To what extent?	Analysis of Results Framework: project logic and strategy, indicators	Project documentation; GEF-6 programming directions; national policies and/or strategies; UNDP CPD; UNDAF/UNSDCF; relevant stakeholders.	DR KII	UNDP M&E
	How were such priorities impacted by the outbreak of the COVID-19 pandemic?	Social and Environmental Safeguards Risk Management, including Social and Environmental Standards	Annual Work Plans 2020 2021	KII DR	UNDP/PMU
	How have country strategies evolved, especially in lieu of post COVID-19 economic stimulus	Analysis of Results Framework: project logic and strategy, indicators	Annual Work Plans 2019 2021	DR KII	UNDP/PMU
	What was the level of stakeholder engagement in the design of the project	Analysis of the representativity of stakeholder groups in the design of the project.	Project document KIIs	DR KII	UNDP EAs
Effectiveness: Project Strategy and Design: Was the project design effective in producing the expected results					
Was the Project Strategy effective in responding to the stated problems?	Was the Theory of Change validated by the results of the project?	Validated link between policy, standards, and avoidance of deforestation. Validated impact between demand, transaction, production and tools	Prodoc	DR, KIIs	UNDP
Was the internal logic of the project validated?	Did the achievement of the Outcomes contribute to the	Outcome indicators	M&E system	DR, KIIs	PMU

Evaluative Criteria Questions	Evaluative Criteria Sub-questions	Project Indicators	Sources of Info.	Methodology	Main Contact
	achievement of the Project Objective?				
	Were the components sufficient to realize the project objective?	Revision of ToC	M\$E System documents Debriefing of missions	DR KIIs	PMU Site Visits
	Were there other opportunities or options for achieving the project objective?	BTOR	PIRs KIIs	DR KIIs	
Effectiveness: Progress Towards Results: To what extent have the expected outcomes and objectives of the project been achieved?					
Did responsible government authorities, along with private sector & civil society organizations, build consensus and reduce conflict related to target energy production and growth due to UNDP's intervention?	What was the role of the project partners in engaging Private sector, and CSO?	# of private sector, civil society, and donor organizations newly connected and engaged in broad-based dialogue under national and sub-national platforms	Project Reports; Beneficiaries Response,	EE KII	CSO GOV
	Has UNDP aligned other programs to support dialogue for energy generation in country?	Planned and Actual stakeholder participation and partnerships	Project Reports and informants Responses	KII DR	PMU/UNDP
Was practical alignment achieved among the above stakeholders, with following implementation of public and private investments and other actions related to energy generation?	Are the different stakeholders satisfied with the practical alignment achieved and formalized between the Government and donors?	# of agreements / contracts signed for construction/rehabilitation of hydroelectric plants	Contracts / agreements/BTOR	KII	PMU / UNDP
	To what extent all different stakeholders feel that their interests were taken into	# of laws and regulations	Decrees	KII DR	PMU / Ministry

Evaluative Criteria Questions	Evaluative Criteria Sub-questions	Project Indicators	Sources of Info.	Methodology	Main Contact
	consideration in the development of national legislation and regulations?				
	To what extent did watershed sustainable management plans lead to concrete actions related to the improved sustainability of target commodity production and ensuring water availability for energy production?	# of concrete measures agreed upon with local communities	Project Reports KI Reponses	KII DR	Forestry Directorate
Did national and subnational policies, regulations, and programmes related to <u>energy generation and water/forest practices</u> improve due to UNDP's intervention? To what extent?	How many priority policies and regulations have been drafted and proposed?	# of approved laws and regulations	National policies and/or strategies; project documentation; relevant stakeholders.	KII DR	PMU / UNDP
Did the country's energy matrix changed or increased its share of renewable hydropower thanks to the project's interventions?	How many MWp have been established thanks to the project	# of new MWp generated thanks to the project by either hydro or solar power	Prefeasibility studies	DR	PMU
Are the country's main watershed better understood and its resources conserved or sustainably used thanks to the project's interventions?	Does the local population have now better tools to work the land and thus, for example, avoid deforestation?	# of reforested hectares # of farmers actively promoting sustainable agricultural practices	PIR; partners reports	DR Site visits	PMU/UNDP; GOV
Does the general public have greater understanding of the need for sustainable use of forests and watershed conservation?	Does the public have an increased understanding of the values promoted by the projects?	# of national and local communication campaigns # of capacity building exercises and beneficiaries trained	PIR; partners reports	DR Site visits	PMU/UNDP; GOV
Effectiveness: Project Implementation and Adaptive Management					
Were the management structures effective in planning and coordination for an achieving project Outcomes?	Was the monitoring and evaluation function effective in supporting integration of data, information and lessons learned to facilitate decision-making?	Monitoring & Evaluation: design at entry (*), implementation (*), and overall assessment of M&E (*) Proposed theoretic documents on expected effects over Value Chain (experiences)	Baseline M&E plans Reports List of organizations participating action plans, interview responses	SUR KII DR	

Evaluative Criteria Questions	Evaluative Criteria Sub-questions	Project Indicators	Sources of Info.	Methodology	Main Contact
		Adaptive management changes to the project design and project outputs during implementation)			
Was there stability, and establishment of a productive workplace and environment?	How were the upstream, downstream and lateral lines of communication?	Responsiveness to downstream users' needs. Provision of materials upstream for decision-making Productive relationships with project partners.	Quality of relationships	AWP, PIR, KIIs	
Efficiency: Was the project implemented efficiently, in line with international and national norms and standards?					
Was the project implemented efficiently, in line with international and national norms and standards?	Were the project's assets efficiently (inputs to outputs) deployed within the indicated timeframes? Was there consistency in deployment?	Budget execution per quarter per component.	Quarterly budget execution totals by component. Interviews with Administrative staff.	DR, KIIs	PS UNDP
	Did the project efficiently leverage co-financing??	The amount of cofinancing leveraged v. the amount proposed.	Project documentation; relevant stakeholders.	DR, KIIs	UNDP M&E
Were there other opportunities or options for achieving the project objective?	Do the outcomes of the program represent value for money? To what extent is the relationship between inputs and outputs timely, cost-effective and to expected standards?				
Sustainability: To what extent are there financial, institutional, socio-political, and/or environmental risks to sustaining long-term project results?					
To what extent are there financial, institutional, socio-political, and/or environmental risks to sustaining long-term project results?	What is the likelihood of financial and economic resources not being available once the GEF assistance ends?	Financial and overall likelihood Alignment of project deliverables with national priorities for next planning cycle	Project documentation; relevant stakeholders; any external sources as relevant.	KII DR	UNDP
	Are there any social or political risks that may jeopardize sustainability of project outcomes?	SOCIAL POLITICAL	Country socio-economic reports Palm oil sustainability	KII	UNDP

Evaluative Criteria Questions	Evaluative Criteria Sub-questions	Project Indicators	Sources of Info.	Methodology	Main Contact
	Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Institutional	Project Finance and Co-finance	reports Beef sustainability reports Market reports on Palm oil, beef	EE KII	PS
	Is sufficient public / stakeholder awareness and participation support available for the long-term objectives of the project?	Stakeholders Engagement		KII EE DR	UNDP
	Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future?	Institutional framework and governance		KII	UNDP
	Was a Gender Approach mainstreamed through all relevant project activities in a qualitative way? Did the project contribute to advancing gender equality and women's empowerment?	Cross referencing inclusion of gender aspects in all components and products; Gender disaggregated data. Execution/Performance against Gender Mainstreaming Plan	PIR, M&E data, Gender Mainstreaming Plan		
Gender equality and women's empowerment					
Was a gender approach mainstreamed through all relevant project activities in a qualitative way? To what extent?	Did the project contribute to advancing gender equality and women's empowerment within its sphere of possibilities?	Cross referencing inclusion of gender aspects in all components and products; Gender disaggregated data. Execution/Performance against Gender Mainstreaming Plan	PIR, M&E data, Gender Mainstreaming Plan		PS CSO

Evaluative Criteria Questions	Evaluative Criteria Sub-questions	Project Indicators	Sources of Info.	Methodology	Main Contact
Impact					
<p>Was the Theory of Change validated by the results of the project?</p> <p>Are there indications that the project has contributed to, or enabled progress toward reduced environmental stress and/or improved ecological status?</p>	<p>Was the Theory of Change validated by the results of the project?</p> <p>Are there indications that the project has contributed to, or enabled progress toward reduced environmental stress and/or improved ecological status?</p>	<p>Contributions to changes in policy/legal/regulatory frameworks, including observed changes in capacities (awareness, knowledge, skills, infrastructure, monitoring systems, etc.) and governance architecture, including access to and use of information (laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc.);</p>	<p>PIR, M&E data, WP Plan Baseline M&E plans Reports plans, interview responses</p>	<p>KII DR</p>	

Annex 4: List of Documents Reviewed

#	Item (electronic versions preferred if available)	
1	Project Identification Form (PIF)	y
2	UNDP Initiation Plan	
3	Final UNDP-GEF Project Document with all annexes	y
4	CEO Endorsement Request	y
5	UNDP Social and Environmental Screening Procedure (SESP) and associated management plans (if any)	y
6	Inception Workshop Report	y
7	Mid-Term Review report and management response to MTR recommendations	y
8	All Project Implementation Reports (PIRs)	y
9	Progress reports (quarterly, semi-annual or annual, with associated workplans and financial reports)	17, 18, 19
10	Oversight mission reports	y
11	Minutes of Project Board Meetings and of other meetings (i.e. Project Appraisal Committee meetings)	y
12	GEF Tracking Tools (from CEO Endorsement, midterm and terminal stages)	y
13	GEF/LDCF/SCCF Core Indicators (from PIF, CEO Endorsement, midterm and terminal stages); for GEF-6 and GEF-7 projects only	y
14	Financial data, including actual expenditures by project outcome, including management costs, and including documentation of any significant budget revisions	y
15	Co-financing data with expected and actual contributions broken down by type of co-financing, source, and whether the contribution is considered as investment mobilized or recurring expenditures	y
16	Audit reports	y
17	Electronic copies of project outputs (booklets, manuals, technical reports, articles, etc.)	y
18	Sample of project communications materials	y
19	Summary list of formal meetings, workshops, etc. held, with date, location, topic, and number of participants	y
20	Any relevant socio-economic monitoring data, such as average incomes / employment levels of stakeholders in the target area, change in revenue related to project activities	
21	List of contracts and procurement items over ~US\$5,000 (i.e. organizations or companies contracted for project outputs, etc., except in cases of confidential information)	y
22	List of related projects/initiatives contributing to project objectives approved/started after GEF project approval (i.e. any leveraged or “catalytic” results)	y
23	Data on relevant project website activity – e.g. number of unique visitors per month, number of page views, etc. over relevant time period, if available	
24	UNDP Country Programme Document (CPD)	y
25	List/map of project sites, highlighting suggested visits	
26	List and contact details for project staff, key project stakeholders, including Project Board members, RTA, Project Team members, and other partners to be consulted	y
27	Project deliverables that provide documentary evidence of achievement towards project outcomes	y

Annex 5. Semi-structure Interview Questionnaire

Guía de entrevista semi-estructurada para socios (entrevistas a socios de gobierno, ONGs, Sociedad Civil, Sector Privado, comunidades)

Fecha	
Entrevistados	
Nombre	
Posición	
Dirección	
Tel.	
Mail	

Introducción:

- ✓ Agradecer entrevistado/participante por su disponibilidad para la entrevista.
- ✓ Presentarse brevemente.
- ✓ Brevemente introducir el objetivo principal de la evaluación y como vamos a recopilar la información.
- ✓ Preguntar si el participante/entrevistado tiene alguna pregunta específica o alguna duda antes de empezar la entrevista.
- ✓ Dejar claro que toda la información recopilada será estrictamente confidencial.

Parte I: información General

1. Por favor explique brevemente el trabajo de su organización y su relación con el proyecto STP Energia

Nota: Importante aquí saber exactamente con quién estamos hablando: ¿Es un representante del Gobierno directamente implicado en la ejecución del proyecto? ¿Un representante de otro Proyecto colaborador del Proyecto? ¿Un miembro de una ONG? ¿Sector privado? Dependiendo de la naturaleza de la colaboración, se deben adaptar las preguntas para hacerlas más específicas.

Información Importante:

- ¿Socio desde cuando?
- ¿Qué tipo de relación tiene con el proyecto?
- ¿Hay algún tipo de evidencia de la relación, un acuerdo de entendimiento?

Parte II: Estrategia del Proyecto

2. Por favor explicar brevemente si considera que el Proyecto con sus 4 componentes (Marco regulatorio para promover la inversión privada en energía renovable y la gestión integrada de las cuencas; promoción de la inversión en pequeñas centrales hidroeléctricas mediante incentivos financieros catalíticos para los inversores;

Uso integrado del suelo, gestión sostenible del bosque y gestión de los recursos naturales que aportan beneficios sociales y mantienen servicios ambientales al nivel de cuencas y el intercambio de experiencias y buenas prácticas para la replicabilidad en países SIDS) está bien diseñado y alineado con las prioridades nacionales

(ver si hay alineamiento con la Estrategia Nacional de Desarrollo, etc)

3. Participó usted o alguien de su unidad / organización en el proceso de formulación del proyecto? Por favor describa el proceso

(n/a con algunos socios o actores)

4. ¿Cree usted que el Proyecto ha considerado las externalidades potenciales (ambientales, económicas o políticas en el diseño del proyecto?)

5. ¿Cree usted que el Proyecto ha considerado todos los riesgos posibles?

Nota: Hacer referencia a los riesgos identificados (1. Inestabilidad institucional – alta rotación de personal; 2. Procedimientos burocráticos y anti-corrupción obstaculizan los procedimientos; 3 Política: a corto plazo la visión económica de las políticas públicas con la limitada sensibilización fomenta prácticas incompatibles con la protección de la BD; 4. Regulatorio: incertidumbre legal sobre el sector forestal y la limitada visibilidad relacionada con el contenido de la futura ley forestal; 5. Cambio Climático).

6. ¿Cree usted que los indicadores de resultados y productos están bien diseñados? ¿Se pueden medir?

7. ¿Cree usted que el proyecto ha generado o puede generar efectos de desarrollo beneficiosos para el país o podría catalizarlos en el futuro (eg. Generación de ingresos, reducción de emisiones de Gases de efecto invernadero) de manera que se deberían incluir en el marco de resultados?

•

•

•

•

Parte III: Avance hacia los resultados

8. ¿En qué medida el Proyecto apoya a su Ministerio/Secretaría/Organización al logro de sus resultados? Explicar brevemente.

9. ¿Se han logrado las metas de finales para cada resultado o producto? ¿Qué cree que ha funcionado excepcionalmente bien y por qué?

10. ¿Cuáles cree usted que han sido los principales obstáculos, así como factores facilitadores para el logro de los resultados? Por favor explicar

11. ¿Ha logrado el Proyecto tener una estrategia de socios apropiada? ¿Se debería sumar a algún otro socio o actor clave al proceso? Por favor explicar

Parte IV: Implementación del proyecto y Gestión Adaptativa

12. Cree usted que la estructura y organización del Proyecto son los adecuados (oficina central, apoyo del PNUD)? ¿Dispone el proyecto de suficiente equipo humano y técnico y recursos para lograr los resultados?

Nota: En caso de no saberlo, preguntar si ha sido informado/a de cambios en el proyecto y si ha podido incidir o transmitir inquietudes en las distintas instancias de coordinación

13. ¿Han habido cambios sustantivos en el proyecto? ¿Ha sido capaz el proyecto de adaptarse a dichos cambios?

14. ¿Cómo ha sido la coordinación entre actores? ¿Han funcionado los distintos comités de coordinación? (junta directiva, comité coordinación nacional) ¿Se puede mejorar?

(n/a para ciertos actores)

PARA GOBIERNO

15. ¿Cree usted que ha habido duplicidad de esfuerzos con otros proyectos?

16. ¿Cómo han afectado los diversos cambios políticos al logro de los resultados?

17. ¿Apoyan los gobiernos locales los objetivos del proyecto? ¿Tienen un papel activo en la toma de decisiones?

18. Tienen los gobiernos locales poder de decisión en relación con la gestión integrada de las cuencas, la reforestación, la identificación de alternativas productivas para las comunidades?

19. Una vez concluido el proyecto, tienen las comunidades locales la capacidad para gestionar el proceso?

-
-

20. ¿Han aportado los diferentes socios al co-financiamiento? ¿Cómo se le está dando seguimiento?

21. ¿Ha participado usted o la organización a la que representa en el monitoreo del proyecto? ¿Cree que ha sido efectivo? ¿Se puede mejorar? ¿Sabe si se están utilizando datos nacionales, estadísticas, información generada a nivel nacional?

Parte V: Sostenibilidad

22. ¿Una vez concluya el Proyecto y el apoyo financiero del FMAM, podrá el Gobierno seguir impulsando esta iniciativa?

23. El proceso de inversión privada en la generación de energía renovable y la gestión integrada de las cuencas es costoso y complejo. ¿Cree usted que los productos generados por el Proyecto y la capacidad fortalecida de las partes responsables es suficiente para seguir promoviendo la generación de energía renovable en el país?

24. ¿Hay nuevos riesgos a tomar en cuenta para la sostenibilidad del proyecto? (por ejemplo, inestabilidad política, de mercado). ¿qué medidas se podrían tomar para mitigar dichos riesgos?

Muchas gracias!

¿Tiene algún otro comentario, algo que añadir?

Annex 6. Stakeholder List

Activity	List of stakeholders	Contact person (in person meetings)	Contact person (via zoom)	Local communities involved
Project Management	PNUD	Adérito Santana, Assistente da Representante Residente Maria Teresa Mendizábal, Programme Officer Arielle Theodora GUIADEM KOUEMEGNE Consultant Economic Growth and Environmental Sustainability Unit		
COMPONENT 1				
Elaboração do Plano de Gestão Integrada da Bacias hidrográficas nas zonas de intervenção (Papagaio e Banzu na RAP e Abade em S.tomé)	Direção de Água /DGRNE	Argentino Vangente contacto: 9910119 Chicher Pires Diogo Contacto. 9983518	vangente58@hotmail.com - chicherpires@hotmail.com	Papagaio e Banzu na RAP e Abade
Elaboração do Plano de Gestão Integrada da Bacias hidrográficas nas zonas de intervenção (Manuel Jorge e Iô Grande)		Argentino Vangente contacto: 9910119 Chicher Pires Diogo Contacto. 9983518	vangente58@hotmail.com - 9910119 chicherpires@hotmail.com - 9983518	Manuel Jorge e Iô Grande
Rehabilitation of 12 Hydrological stations		Director Jose Bastos Contacto: 9910812	jbastos81@hotmail.com	07/03

Assistência técnica-jurídica ao Governo na revisão para aprovação dos regulamentos do sector elétricos já elaborados	MIRN + AFC	Leonel Wagner Contacto:9904703 mailto:nelito28@yahoo.com Faustino Neto Contacto: 9903530	Leonel Wagner nelito28@yahoo.com Cândido Gonçalves barrosogoncalves@enerpower.pt Faustino Neto faustinoneto58@gmail.com	04/03
Reglamento relaciones comerciales; reglamento de ligação y acceso a redes; contrato modelo para productores de energía y contrato modelo para clientes de EMAE	AFC			Validado por AGER Y consolidado apto. Falta la promulgación por parte del Gobierno
Relatório técnico das características das redes electricas - Elaborar o Manual de Procedimentos técnicos e administrativos para a conexão à rede de operadores privados de energias provenientes de todas as fontes de energias renováveis	AGER/EMAE	Maria Mendes Contacto: 9830058	maria.mendes@ager.st emae@emae.st	Consultoría en stand by hasta que esté finalizada la de la cartografía
Regulamento de Fiscalização para o SEN; - Manual de Fiscalização para o SEN- Guia de		Maria Mendes	maria.mendes@ager.st emae@emae.st	Se hizo un taller de validación pero No ha sido validado.

investidor em Energias Renováveis - Regime jurídico para auto-produção por fontes renováveis				Documento no funcional. Ager comentó y sigue activa
Normas de Segurança Centros de produção de eletricidade, Subestações e Postos de transformação		Maria Mendes	maria.mendes@ager.st emae@emae.st	La han lanzado hace poco.
Cartografia da rede BT & MT de SEN				No ha concluido pq la institución vinculada al plan de ordenamiento del territorio pide compensación financiera por dar la cartografía base que precisa para hacer su estudio. Se podría arreglar con una solicitud de AGER quien sea del gob para pedir los datos. Pidieron el tramo pq los drones atacados por halcones.
COMPONENT 2				
EVTE de C7, C12, C13 e C15 do Least cost Development Plan	UGP+DGRNE	Director Jose Bastos Contacto: 9910812	jbastos81@hotmail.com	07/03
EMAE		Dr. Celestino Andrade, Diretor Geral EMAE Eng. Dimaneio Vera Cruz, Diretor de Electricidade		07/03

Co-financiamento para construção de uma central fotovoltaica de 1 MW – Santo Amaro	Diretor Energia + AfDB + UNIDO	Gabriel Makengo + Anders Pedersen	gabrymakengo@gmail.com-9856655 a.pedersen@afdb.org	
Estudos de viabilidade para a produção solar em telhados nas cidades	GPU-CREE + UGP	Belizardo Neto + Rafael Robillard	belyneto28@gmail.com nelitowagner28@gmail.com rafael.robillard@undp.org	
Financiamento da instalações fotovoltaicas de 0,5 MW no telhado dos edifícios públicos	Enviroearth + MIRN + DGRNE	Leonel Wagner Alexis Yannis	Alexis LEMETAIS A.LEMETAIS@enviroearth.fr Yannis VARKAS Y.Varkas@enviroearth.fr	
COMPONENT 3				
GSTA Training em Benim	Direcção das Florestas e Biodiversidade Direcção de Agricultura e Desenvolvimento Rural	Adilson da Mata Contacto: -9928560 Armando Monteiro Contacto: -9093344 Wandeley Paixão Contacto: 9857720	adilmata77@hotmail.com kizo85@hotmail.com	
Promoção de PFNL como atividades alternativas de geração de renda para a melhoria dos meios de subsistência das comunidades Lembá,				Ponta Furada Roça Lembá Generosa

Ponta Furada and Generosa	Direção das Florestas e Biodiversidade + ONG ALISEI	Rogerio Tozzo Giovanna Maserati Contacto: 9984577	rtozzo.mi@alisei.org + gmaserati@hotmail.it	Claudino Faro Bernardo Faro Santa Adelaide
Promoção de PFNL como atividades alternativas de geração de renda para a melhoria dos meios de subsistência das comunidades das bacias de Abade e Manuel Jorge				
Projecto de Emergência à Intensificação durável e Diversificação da Produção Agrícola- Incrementação da produção de Matabala	Direcção de Agricultura e Desenvolvimento Rural	Armando Monteiro Contacto: -9093344	kizo85@hotmail.com	
Reflorestação e recuperação de áreas degradadas em São tomé e na RAP	Direção das Floresta e Biodiversidade Departamento Regional das Florestas e da Biodiversidade	Adilson da Mata Contacto: -9928560 Júlio Mendes Contacto: 9929214 Alfredo Delgado Contacto: 9999376	adilmata77@hotmail.com mpmendes120@gmail.com fredome115@hotmail.com	Santa Adelaide Claudino Faro Bernardo Faro Pincaté,
Seguimento e monitoramento das áreas reflorestadas	Direção de Agricultura e desenvolvimento rural	Armando Monteiro Contacto: -9093344	kizo85@hotmail.com	
GSTA/Terraceamento			kizo85@hotmail.com	

Formação em GSTA	Direção de Agricultura e desenvolvimento rural	Armando Monteiro Contacto: -9093344		
Seguimento e monitoramento das áreas reflorestadas e e aplicadas a GSTA com a intervenção projeto nos últimos 3 anos				Bom Sucesso
COMPONENT 4				
Implementação de campanha geral da estratégia de comunicação para gestão sustentável das Florestas	Direção das Floresta e Biodiversidade Teladigital	Adilson da Mata Contacto: -9928560 Kaktya	adilmata77@hotmail.com kdaragao@gmail.com - 9958971	
Implementação do Plano de formação Nacional para as instituições do sector de energia no âmbito do programa de transição energético	IPB + Alguns alunos UGP	Luis Frolen 9950137 Aderito Cravid Contacto: 9961864 Selby Ramos Contacto: 9830140 Belizardo Neto Contacto: 998 46 98	frolen@ipb.pt crauid1@gmail.com selby.ramos@ager.st belyneto28@gmail.com	
Capacity building of UGP in Braganca/ Portugal	IPB	Belizardo Neto Contacto: 998 46 98	belyneto28@gmail.com	

Capacity building of National Institutions cofinanced with UNIDO in Mucumbli	Prrojecto Unido+Projecto Energia	Gabriel Maquengo Contacto: 9856655	gabrymakengo@gmail.com	
Communication and Marketing of Energy project	Muala	Jorceline Contacto: 9966005	grupomuala@gmail.com	

Annex 7. Mission Agenda

Team: Missão Consultor Internacional- Terminal Evaluation

Data	Observação	Time	ATIVIDADE	LOCAL	OBJETIVO
28.02.2022	Direção das Florestas e da Biodiversidade	09h30 – 10h30	Encontro com o Diretor das Florestas e da Biodiversidade	Direção das Florestas e da Biodiversidade	Avaliação do Projeto Energia
	Direção de Energia	11h00-12h00	Encontro com o Diretor de Energia da DGRNE	Sala de Reuniões da DGRNE	Avaliação do Projeto Energia
	Direção Geral dos Recursos Naturais e Energia	15h00-16h00	Encontro com o PNUD/UGP e DGRNE	Sala de Reuniões da DGRNE	Apresentação da missão e diálogo sobre o Projeto
01. 03.2022	Direção da Agricultura	08h00 – 12h00	Vista as comunidades	Bom Sucesso/ Saudade /Macambrara Mé- Zochi	Visitar as comunidades beneficiárias de Gestão Sustentável de Terras Agrícolas (GSTA) de modo a averiguar o impacto das ações desenvolvidas, com acompanhamento de um Técnico da Direção de Agricultura (Monte Verde – 9880592)
	GCF	15h00 – 16h00	Encontro com o Ponto Focal da GEF	Direção Geral do Ambiente	Avaliação do Projeto Energia
02. 03.2022	ONG Alisei	08h00 – 14h00	PFNL – ONG ALISEI Reflorestação	Cantagalo	Verificar as actividades no âmbito dos PFNL /Centros de transformação /Apicultura / Criação de Buzio Comunidades de Santa Adelaide/Claudino Faro /Bernardo Faro

	Governo (MIRN)	15h00- 16h00	Encontro com o Assessor do Ministro das Infraestruturas e Recursos Naturais	Sala de Reuniões do Ministério das Infraestruturas e Recursos Naturais	Avaliação do Projeto Energia
03.03.2022	AGER	09h00 – 10h00	Encontro com a Presidente da AGER	Gabinete da Presidente da AGER	Avaliação do Projeto Energia
	Secretárias Regionais das Infraestruturas e da Economia	15h30 – 16h30	Abordagem via zoom com as autoridades regionais - Secretária Regional das Infraestruturas e Desenvolvimento Sustentável (Ana Alice) - Departamento Regional das Florestas e da Biodiversidade (Júlio Mendes e Alfredo Delgado)	Via Zoom	Avaliação do Projeto Energia
04.03.2022	ONG ALISEI	08h00 – 14h00	PFNL – ONG ALISEI	Lembá	Verificar as actividades no âmbito dos PFNL /Centros de transformação /Apicultura / Criação de Búzio Comunidades Roça Lembá /Ponta Furada
	Direção Geral dos Recursos Naturais e Energia	15h00 – 16h00	Encontro com o Diretor Nacional do Projeto	Gabinete do Diretor Geral (DGRNE) DGRNE	Avaliação do Projeto Energia
05.03.2022	Avaliação dos Planos de Bacias Hidrográficas	07:30 - 15h00	Vista as Bacias Hidrográficas de Iô Grande e Manuel Jorge	Iô Grande, Abade e Manuel Jorge	Avaliação do Projeto Energia
07.03.2022	EMAE	09h00 – 10h00	Encontro com o Diretor Geral da EMAE e Diretor de Eletricidade	Sala de Reuniões da EMAE	Avaliação do Projeto Energia

	AFAP	10h30 – 11h30	Encontro com o Conselheiro Técnico da AFAP e Consultor de Regulamentos	Faustino Neto	Avaliação do Projeto Energia
08.03.2022	DGRNE/UGP	09h00- 10h00	Encontro com a Unidade de Gestão do Projeto Energia	(UGP- Projeto Energia) Belizardo Neto Dudene Lima Cláudia Neves Edilísio Benguela	Avaliação do Projeto Energia
	AGER	10h00 – 11h00	Encontro com o Ponto Focal do Projeto na AGER	Selby Ramos	Avaliação do Projeto Energia
	EMAE	11h00 – 12h00	Encontro com o Ponto Focal do Projeto na EMAE	Adérito Cravid	Avaliação do Projeto Energia

Annex 8: UNEG Code of Conduct for Terminal Evaluation Consultants

Evaluators/Consultants:

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

Evaluation Consultant Agreement Form

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

Name of Evaluator: Guido Fernández de Velasco

Name of Consultancy Organization (where relevant): _____

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

Signed at Barcelona, Spain (Place) on April 3rd 2022 (Date)



Signature: _____

Annex 9. Results Framework Analysis

	Objective and Outcome Indicators	2017 Reprogramming	Baseline ⁸	Mid-term Target ⁹²⁷	End of Project Target	2022 Execution level and evaluation at end of project	Evaluation of Results Achieved
Project Objective: To assist the Government in addressing the barriers to significantly increase grid/isolated-grid-connected mini/small hydropower capacity and to sustainably manage the watershed.	Objective Indicator 1: Framework in place to enable the private sector to invest in grid/isolated-grid-based mini/small hydropower generation		GHG emissions in the electricity generation sector has increased from 79,080 tons in 1998 to 101,480 tons in 2005	NA	Hydro-electricity generation of 51,921 MWh, resulting in direct reduction of 137,200 tCO ₂ over the 5 year-FSP. Subsequent generation of 15,871 MWh/year and reduction of 874,200 tCO ₂ over the remaining life of the plants.	The project has made considerable progress in terms of legal framework and regulations to attract private investment into the country.	S
	Objective Indicator 2: Hydro-electricity generation reduction of tons of CO ₂ over the 5 year FSP life cycle. Subsequent generation MWh/year and reduction of CO ₂ over the remaining lifetime of the plants		The present contribution of of hydropower in the electricity generation mix of the country was a mere 8% in 2013, No investment taking place in the grid/non-grid-connected mini hydropower sector	NA	Estimated cumulative indirect GHG emission reduction of 4.8 million tCO ₂ by 2035 on the basis of a conservative policy scenario and a GEF causality factor of 80%	The project has completed all technical and financial viability studies for 4 small hydroelectrical plants and 3 photovoltaic projects. There is an agreement with AFDB to finance one hydroelectrical plant (Papagaio) for 0,6 MW and 0,5 MW (UNDP) and 1,2 MW (AFDB) at Santo Amaro. DGRNE and MIRN additional 1,7 MW. No calculation of CO ₂ reduction done to date.	MS
	Objective Indicator 3: Three Integrated Watershed Management Plan (IWMPs) are adopted, and 23,000 ha are under SLFM practices		No IWMPs are yet developed in the country. No lands restoration techniques implemented in STP. A loss of approx. 1,515 tCO ₂ /year in the 6,000 ha of forest in the project sites		At least 3 IWMPs for project sites have been developed, adopted by communities and under implementation. 10,000 ha of lands under good management practices. At least 144,000 tCO ₂ during the 20 years lifetime. At least 35,000 tCO ₂ sequestered during the 20 years lifetime. Additional income-generating opportunities for the local economy through the creation of some 200 jobs for the operation and maintenance of the hydro power stations and 6,995 inhabitants from 58	4 IWMPs elaborated by the project and technically validated (Papagaio and Banzu, Manuel Jorge, Iô Grande and Abade). Plan to update them every 10 years. These are comprehensive planning tools adapted to local context.	S

²⁷ The Prodoc Results Framework does not provide Mid Term Targets, only end of project targets.

					communities in sustainable forests and land management.		
--	--	--	--	--	---	--	--

⁸ Baseline, mid-term and end of project target levels must be expressed in the same neutral unit of analysis as the corresponding indicator. Baseline is the current/original status or condition and need to be quantified. The baseline must be established before the project document is submitted to the GEF for final approval. The baseline values will be used to measure the success of the project through implementation monitoring and evaluation.

⁹ Target is the change in the baseline value that will be achieved by the mid-term review and then again by the terminal evaluation.

	Objective and Outcome Indicators	2017 Reprogramming	Baseline ⁸	Mid-term Target ⁹ 28	End of Project Target	2022 Execution level and evaluation at end of project	Evaluation of Results Achieved
Component 1: To formulate and introduce a streamlined and comprehensive policy and legal/regulatory framework for private sector investment in on-grid/isolated-grid mini/small hydro electricity generation and for integrated watershed management.	<p>Outcome 1: Streamlined and comprehensive policy and legal / regulatory framework for private sector investment in on-grid/isolated-grid mini/small hydro electricity generation and for integrated watershed management.</p> <p>Outcome Indicator 1: Frameworks finalized and available for consultation by potential investors and by watershed stakeholders</p>	Not modified	Not available	NA	To be completed within 12 months of project initiation and approved by Government early Year 2	Appropriate regulatory legal framework for the development of renewable energy. It covers all the regulations that are now presented to the Government on how they should be implemented. Manuals of procedures and technical documents such as an investor's guide, hydrographic basin plans, technical studies. Some two technical documents are more comprehensive and include all renewable energies, such as solar (incentive systems). The project's bet is that it be approved before the 2022 elections, which could delay. 11 documents that the prefecture will have ministerial approval.	S
	<p>Output 1.1: Appropriate policy and legal/regulatory framework established and operational, for (A) energy sector and for (B) IWM</p> <p>Output Indicator 1.1: Energy Policy Document guiding private sector investment in hydropower drafter and operative; Forestry Management Master Plan updated and validated, legal texts for CF designed and validated, IWMP framework designed, specific safeguards validated</p>	Not modified	Not available	NA	To be completed within 12 months of project initiation and approved by Government early Year 2	The Energy legal component was achieved to the extent possible by the project. Nonetheless, the forestry Law was elaborated by the project but not yet approved by the Government due to political interests. TRI project run by FAO is expected to update certain chapters.	MS

²⁸ The Prodoc Results Framework does not provide Mid Term Targets, only end of project targets.

	<p>Output 1.2: Technical report on grid capacity requirements to enable feed-in for grid-connected mini-hydro systems followed by development of an updated grid code.</p> <p>Output Indicator 1.2: Present grid code updated to ensure safe and secure switching in and out of hydropower stations, without disruption and quality of electricity supplied</p>	1.2 Defining capacity requirements for the grid to enable feed-in for grid-connected alternative energy production systems by private operators	Not available	NA	To be completed within 12 months of project initiation and approved by Government early Year 2	Electric grid characteristic manual to allow connection of operators from all renewable sources (ATI) still in progress. The technical coordination through the Technical Committee for the Energy Transition (Ministry, project coordinators) was important and they held action adjustment meetings (7th meeting) which allow the level of progress of the activities and the inter-relation of activities. From there came UNDP to carry out a technical study of Papagaio for later the financing of ADB.	MS
	<p>Output 1.3: Established procedures and standardized PPAs for the introduction of transparent procurement process in the selection/award of hydro sites by private developers</p> <p>Output Indicator 1.3: Standardized bidding documents for sites and PPAs drafted, and approved by Government authorities:</p>	Output 1.3: Standardized procedures and PPAs established for the introduction of a transparent procurement process in the selection/award of investors in energy production from all renewable energy sources	Not available	NA	To be completed within 11 months of project initiation and approved by Gov by end of year 1. competitive bidding for sites/concession areas completed by end of year 1. PPAs for at least 4MW of mini-hydro capacity signed by end 2nd year	Government signed with 3 companies but without project intervention. Manuals ready. Thus, the manuals do exist but are not being used for all potential contracts with the private sector.	MS

	<p>Output 1.4: Setting up of a one-stop shop for issuance of construction licenses and permits to hydropower developers.</p> <p>Output Indicator 1.4: One-stop shop is established and operational. Information brochure and website are available</p>	<p>Output 1.4: Existing one-stop shop with capabilities for document review and issuance of construction and operation permits to investors in energy production from all renewable energy sources</p>	Not available	NA	All construction licenses and permits are issued within 4-6 months of submission of documents	<p>It did not happen. The process was designed to have EMAE run the one-stop shop. Nonetheless, it is a concessionaire and the process is inappropriate. There wasn't clarity at the time as to who would guide the process. APCI indicated they were to do this since apparently the gov already had it.</p>	HU
	<p>Output 1.5: Standardised environmental methodology developed for evaluating hydropower projects, and economic and financial evaluation methodology for calculating small hydropower tariffs to be paid to IPPs.</p> <p>Output Indicator 1.5: Standardized methodologies developed</p>	<p>Output 1.5: Sustainable tariffs for investments in energy production in isolated rural networks defined</p>	Not available	NA	To be completed within 10 months	<p>It was not done as such, but the level of the institutions was evaluated, and more work was done on training at the Dir DGRNE and Energy level, for example, the Evora training protocol on renewable energies and a protocol was established. At the level of AGER, EMAE and regional secretary of Principe, training in Coimbra marketing and energy regulation. At the forest and agriculture level, they trained on agroforestry techniques in Benim and a replica was made (trainer of trainers and also in Principe). Capabilities increased so that when the country has the right context they can assess energy projects. IPB (Portuguese University) can create a comprehensive system of all laws and regulations that facilitate investment. Also Training for Energy Transition that covers all aspects directly and indirectly linked to the process.</p>	S

	<p>Output 1.6 Capacity developed within EMAE, local banks and key national actors such as Ministry of Public Works, Infrastructure, Natural Resources and Environment to appraise mini/small hydro projects for development</p> <p>Output Indicator 1.6: Proposed installed capacities/number of projects appraised for development</p>	Not modified	Not available	NA	<p>4MW of projects evaluated by Gov staff by end of year 1.</p> <p>Six Gov staff trained during first 12 months of projects</p>	<p>Within the Energy Transition Technical Committee it was clear that the EMAE capacity building component is led by the WB project.</p>	U
	<p>Output 1.7 Increased national and local capacity to coordinate institutions for inter-sectoral SLM approach and to implement integrated resources management at the watershed level</p> <p>Output Indicator 1.7: Number of staff belonging to DG Agriculture and Forestry, and key representatives of the five chamber districts and the Regional Delegation of Principe trained on SLFM Protocol for institutional cooperation between above institutions agreed and in place. A coordinated inter-sectoral database for SLFM at the watershed level is in place</p>	Not modified	Not available	NA	<p>At least 50% of the staff is strained.</p> <p>To be completed within 10 months of project initiation and applied by Gov thereafter.</p> <p>To be completed within 18 months of project initiation and applied by Gov thereafter.</p>	<p>All SLM actions were coordinated in annual retreats with Forests, Agriculture, DGRNE and Energia, EMAE, Regional Secretariat of Environment, Agriculture and actions were coordinated, and field work was planned. There is uncertainty about national appropriation of the inter-institutional coordination after the life of the project. The project did do considerable training both at the institutions responsible for SLM as well as with local stakeholders.</p>	S
<p>Component 2: To promote investment in mini/small hydro through appropriate catalytic financial incentives for project investors.</p>	<p>Outcome 2: Promotion of investment in mini/small hydro through appropriate catalytic financial incentives for project investors</p> <p>Outcome Indicator 2: Document outlining incentives drafted, approved and available to investors</p>	Not modified	no comprehensive document available at the present time	NA	<p>To be completed within 12 months of project initiation and applied by Gov thereafter</p>	<p>At the investors level the project did work on the legal and regulatory frameworks necessary to promote renewable energy production at the national level. The project did also coordinate with other donors, ie, AFDB, to invest on specific hydropower stations and photovoltaic plants (Papagaio and Santo Amaro)</p>	S

	<p>Output 2.1 Financial Support Mechanism (FSM) established and capitalized to support private investment in grid/isolated grid connected mini/small hydro</p> <p>Output Indicator 2.1: FSM within the Central Bank of Sao Tome and Principe established and operationalized</p>	<p>Output 2.1: Principe Island hydroelectric inventory study</p>	<p>Not available</p>	<p>NA</p>	<p>To be completed within 12 months of project initiation and applied by Gov thereafter</p>	<p>The Principe Island Hydroelectric Inventory was concluded in 2017</p>	<p>HS</p>
	<p>Output 2.2 MOU signed with Central Bank of STP setting out the objective, funding mechanism and administration rules regarding its participation as fiduciary agent of the FSM.</p> <p>Output Indicator 2.2: MOU drafted, finalized and signed with Central Bank of STP.</p>	<p>Output 2.2: Memorandum of Understanding (MOU) signed with the African Development Bank, defining the purpose and the rules of administration of a joint investment fund in the renewable energy sector in Principe Island</p>	<p>Not available</p>	<p>NA</p>	<p>To be completed within 12 months of project initiation and applied by Gov thereafter</p>	<p>There is no proof of a formal Agreement between UNDP and ADB for the financing of Papagaio of 600 Kw although there is strong evidence of joint collaboration in line with the Project's Technical Committee. In Santo Amaro, the economic technical study for PV of 2 MW was carried out.</p>	<p>S</p>
	<p>Output 2.3 Financial and other incentives to be provided to project developers.</p> <p>Output Indicator 2.3: Incentives provided by Gov to project developers approved and operationalized</p>	<p>Output 2.3: Defined Hydropower investment incentives for future private investors</p>	<p>Not available</p>	<p>NA</p>	<p>To be completed within 12 months of project initiation and applied by Gov thereafter</p>	<p>This is within the legal package and regulations presented to the Government in March 2022. In yellow because is under approval.</p>	<p>S</p>
	<p>Output 2.4 Reports on financial closure with identified investors.</p> <p>Output Indicator 2.4 Documents on financial closure for at least 4MW of hydro drafted and finalized with investors</p>	<p>Output 2.4: Defined models and agreements for sustainable management of energy production systems, involving the community and EMAE</p>	<p>Not available</p>	<p>NA</p>	<p>To be completed within 12 months of project initiation</p>	<p>It did not advance. It was changed since there was no investors from the start in the basins and therefore it could not be defined. The watershed management plan takes into account productive activities, conservation areas and a socio-economic analysis is carried out.</p>	<p>U</p>

	<p>Output 2.5 Report on completion of construction of at least 4 MW of ongrid/isolated-grid hydropower commissioned at various sites by end of project.</p> <p>Output Indicator 2.5 At least 4 MW of hydropower stations constructed and operational, either supplying the grid or isolated mini-grids</p>	Output 2.5 Installed capacity to produce at least 2.5MW of hydroelectric power in-network or isolated grid	No construction is being undertaken at the present time.	NA	At least 4 MW of mini/small hydropower stations constructed by end of project. 15,871 GWh of electricity generated annually at project end.	If the works of all the studies were carried out, they would be more megabytes (7MW). In Santo Amaro, 540 kWp with UNDP-GEF and with AFDB an additional 1700kWPF. Papagaio with AFDB 600kwp. The solar plates in DGRNE and MIRN amount to 174 kwp. By March 2022 the project, together with AfDB, has reached 2.7 MW of PV power.	S
<p>Component 3 Integrated land use, sustainable forest management and natural resource management provide social benefits and sustain environmental services at the watershed level.</p>	<p>Outcome 3 Integrated land use, sustainable forest management and natural resources management provide social benefits and sustain environmental services at the watershed level</p> <p>Outcome Indicator 3.1: Number of ha under SLM practices</p> <p>Outcome Indicator 3.2: Carbon stock enhanced in the forests</p> <p>Outcome Indicator 3.3: CO2 sequestration with tree plantations / forest rehabilitation.</p>	Not modified	<p>No land restoration techniques implemented in STP.</p> <p>A loss of approx. 1,515 tCO2/year in the 6,000 ha of forests in the project sites.</p> <p>No large scale reforestation driven by the GoSTP (private initiative exists, for commercial purpose)</p>	NA	<p>10,000 ha of lands under good management practices.</p> <p>At least an enhancement of 144,000 tCO2 during the 20 years lifetime</p> <p>At least 35,000 tCO2 sequestred during teh 20 yrs lifetime.</p>	<p>73 ha reforested in Santa Adelaide; Bernardo Faro; Claudino Faro and Principe.</p> <p>10,6 ha of terraces (GSTA I) and 20 ha of matabala planted.</p> <p>20 ha of PFNL.</p> <p>The targets for this outcome were readjusted to national reality and conditions. Thus the evaluators consider the outcome to be Moderately Satisfactory and achieved to the extent possible.</p>	MS
	<p>Output 3.1 Each specific IWMP includes a water & carbon monitoring scheme which provides information on carbon stocks and on the water flows upstream of the hydroelectricity productions</p> <p>Output Indicator 3.1 Carbon & Water flows indicators in selected watersheds: enhancement of carbon stocks, reduced water deficiency, reduced erosion, increased sediment retention, increased dry season stream flows.</p>	Not modified	No comprehensive monitoring scheme exists at the present time	NA	At least 3 monitoring schemes providing sets of monthly data in each watershed.	The 4 IWMP account for water resources at the specific basin level although these do not include water & carbon monitoring schemes. The carbon issue was not accounted for since there is no baseline at the national level. The IWMP are not under implementation.	U

	<p>Output 3.2 Integrated managed lands in watershed include a CF managed effectively for sustainable resource conservation</p> <p>Output Indicator 3.2 # of ha of secondary forest covered by participative management plans</p>	Not modified	0 ha	NA	At least 6,000 ha of Community Forests established and covered by a management plan in the country	The 4 IWMP add up to 6,100 ha. The target, in terms of number of hectares, has been met. The challenge remains in the actual implementation of the plans.	S
	<p>Output 3.3 New methods and techniques of agroecology reduce lands degradation in watershed.</p> <p>Output Indicator 3.3.1 # of farmers trained on good practices</p> <p>Output Indicator 3.3.2. Increased yield for main crops under SLM</p>	Not modified	No training	NA	<p>At least 4,000 farmers trained.</p> <p>At least 20% of yield increase for main crops under SLM</p>	1000 farmers in Sao Tome. There is no specific data on increased yields monitored although interviewed farmers did indicate that they have increased production and thus obtained greater revenues. Although the indicator does not measure land degradation per se the evaluation team has proof of trainings and qualitative data regarding increased yields	S
	<p>Output 3.4 Watershed lands function to provide resources, alternative incomes and sustainable environmental services</p> <p>Output Indicator 3.4.1 # of reforested/forest rehabilitated.</p> <p>Output Indicator 3.4.2 # of ecological perimeters established.</p> <p>Output Indicator 3.4.3 % of increase of household incomes</p>	Not modified	Not available	NA	<p>At least 7,000 ha are reforested/rehabilitated.</p> <p>At least 50 ha of EP under sustainable management.</p> <p>20% increase in household incomes.</p>	The total reforestation accounts for 73 ha and there is no data on % of increased household incomes although farmers informed of increased production due to terraces and plants provided by the project. Important to highlight that the targets were reviewed in 2017 and agreed upon the different key stakeholders during annual retreats.	MS
	<p>Output 3.5 Community trusts for re-investment of energy proceeds into community lands conservation are established and implemented</p> <p>Output Indicator 3.5 Amount of money (usd) collected every year in the Community Trust</p>	Not modified	No benefit sharing scheme established	NA	At least 100,000 usd collected every year from the 3rd year of project	The community trust was not considered to be feasible and thus not put into place.	HU

Component 4 To formulate an outreach programme and document/disseminate project experience/best practices/lessons learned for replication throughout the region/among SIDS countries.	Outcome 4 Outreach programme and dissemination of project experience/best practices/lessons learned for replication throughout the region/among SIDS countries. Outcome Indicator 4. Outreach programme formulated. Project experience compiled, analysed and disseminated.	Not modified	Lack of sufficient information to pursue programme.	NA	Increased awareness among stakeholders in place to promote and develop the market for on-grid/isolated-grid mini/small hydro	In general terms the project did and continues to promote renewable energy as well as sustainable land management and forest conservation through different campaigns and constant online communication.	S
	Output 4.1 National Plan to implement outreach/promotional activities targeting domestic (and international) investors Output Indicator 4.1 Plan available and operationalized	Output 4.1 Designed and implemented Communication and advocacy strategy to promote the efficient use of energy and the sustainable use of forests	No such plan available	NA	Completed within 18 months of project initiation.	Communication strategy for the sustainable management of forests. Communication at the national level. Communication of the project was made with Muala consultancy. The project, in terms of energy efficiency and renewable energy, focused on capacity building at the technical level within the ministries.	S
	Output 4.2 Capacity development of MPWINRE/EMAE and MAPRD to monitor and document project experience Output Indicator 4.2 Capacity development material prepared. Data on project experience compiled	Not modified	No capacity development programme. None at present time.	NA	6 Government staff trained by the end of project. Completed within 6 months of project end	Training from Benin, training of trainers, forest rangers, for example. Training with the Industrial Center for Renewable Energies in Cape Verde together with UNIDO to bring trainers to STP. UGP was also trained on project management in Portugal.	MS
	Output 4.3 Published materials (including video) and informational meetings with stakeholders on project experience/best practices and lessons learned. Output Indicator 4.3 Project experience and best practices compiled, published and available on website.	Not modified	Lack of information on best practices and lessons learned.	NA	Completed within 6 months of project end	They have a facebook page updating activities developed by the project. Muala produced videos of various project activities, interviews with farmers. facebook energy project.	S

Assessment of progress in achieving results

6	Highly Satisfactory (HS)	The objectives/results set for the end of the project are expected to be achieved or exceeded without major shortfalls. Progress towards achieving the objectives/results can be presented as a "good practice".
5	Satisfactory (S)	Most of the objectives/results set for the end of the project are expected to be achieved with only minor shortcomings.
4	Moderately	Most of the objectives/results set for the end of the project are expected to be achieved but with significant

	Satisfactory (MS)	shortcomings.
3	Moderately Unsatisfactory (MU)	Most of the objectives/results are expected to be achieved by the end of the project but with significant shortcomings.
2	Unsatisfactory (U)	Most of the objectives/results set for the end of the project are not expected to be achieved.
1	Highly Unsatisfactory (HU)	The mid-term objectives/results have not been achieved and none of the objectives set for the end of the project are expected to be achieved.

End of project target revised from 65.6 million tons CO₂e based on the intensive recalculation process undertaken by the target countries in October 2017, and approved by the GEF Secretariat in November 2017.

Annex 10 GEF Core Indicators

UNDP PIMS 4602 Global (GEFID 5334) FY16 / TE GEF 5 Core Indicator Worksheet

Objective 1: Transfer of Innovative Technologies				
Please specify the type of enabling environment created for technology transfer through this project				
Description	Legend	CEO Endorsement Target	Mid-term results	Terminal results
National innovation and technology transfer policy	Yes = 1, No = 0	0	0	0
Innovation and technology centre and network	Yes = 1, No = 0	0	NA	0
Applied R&D support	Yes = 1, No = 0	0	NA	0
South-South technology cooperation	Yes = 1, No = 0	0	NA	0
North-South technology cooperation	Yes = 1, No = 0	0	NA	0
Intellectual property rights (IPR)	Yes = 1, No = 0	0	NA	0
Information dissemination	Yes = 1, No = 0	0	NA	1
Institutional and technical capacity building	Yes = 1, No = 0	0	NA	1
	Yes = 1, No = 0			
Number of innovative technologies demonstrated or deployed		NA	NA	NA
Please specify three key technologies for demonstration or deployment				
Area of technology 1	Specify type of technology	NA	NA	NA
Type of technology 1		NA	NA	NA
Area of technology 2		NA	NA	NA
Type of technology 2		NA	NA	NA
Lifetime direct GHG emissions avoided	tonnes CO2eq	0	Not reported	Not reported
Lifetime direct post-project GHG emissions avoided	tonnes CO2eq	0	Not reported	Not reported
Lifetime indirect GHG emissions avoided (bottom-up)	tonnes CO2eq	0	Not reported	Not reported
Lifetime indirect GHG emissions avoided (top-down)	tonnes CO2eq	0	Not reported	Not reported

Note: Objective 2; energy efficiency, does not apply to this project

Objective 3: Renewable Energy				
Please specify the type of enabling environment created for technology transfer through this project				

Description	Legend	CEO Endorsement Target	Mid-term results	Terminal results
Heat/thermal energy production	Yes = 1, No = 0	0	0	0
On-grid electricity production	Yes = 1, No = 0	1	1	1
Off-grid electricity production	Yes = 1, No = 0	1	1	1
Policy and regulatory framework	0: not an objective/component 1: no policy/regulation/strategy in place 2: policy/regulation/strategy discussed and proposed 3: policy/regulation/strategy proposed but not adopted 4: policy/regulation/strategy adopted but not enforced 5: policy/regulation/strategy enforced	5	3	3 ²⁹
Establishment of financial facilities (e.g., credit lines, risk guarantees, revolving funds)	0: not an objective/component 1: no facility in place 2: facilities discussed and proposed 3: facilities proposed but not operationalized/funded 4: facilities operationalized/funded but have no demand 5: facilities operationalized/funded and have sufficient demand	5	1	1
Capacity building	0: not an objective/component 1: no capacity built 2: information disseminated/awareness raised 3: training delivered 4: institutional/human capacity strengthened 5: institutional/human capacity utilized and sustained	4	4	4
Installed capacity per technology directly resulting from the project				
Hydro		5,5 MW	0	0
Photovoltaic (solar lighting included)		0	0	0,540 MW
Lifetime energy production per technology directly resulting from the project				
Hydro		365.000.000	NA	NA
Photovoltaic (solar lighting included)		0	0	5,540 MWh
Objective 5: LULUCF				

²⁹ At the time of the TE, a final legal consultancy went over all the laws and regulations prepared during the life of the project. 11 norms and regulations have been prepared for the National Electricity System (SEN) but 10 are still under review by the Government waiting to be promulgated. 1 was determined to be adequate and thus was rejected. 8 technical and guidance manuals were produced. 4 of these are still under review by the Government for approval and promulgation, 2 are to be completed in 2022 and only one is to under promulgation process by DGRNE (investor's guide to renewable energy). Also, 4 documents were assessed to be ineligible for approval.

Lifetime direct GHG emission avoided	tonnes CO2eq	137.200	Not reported	Not reported
Lifetime indirect GHG emission avoided	tonnes CO2eq	874.200	Not reported	Not reported
Lifetime direct carbon sequestration	tonnes CO2eq	3.685.000	Not reported	Not reported
Lifetime indirect carbon sequestration	tonnes CO2eq	4.790.500	Not reported	Not reported

Note: Objective 4 and 6; Transport and Urban Systems and Enabling Activities, do not apply to this project

UNDP PIMS 4602 Global (GEFID 5334)
FY16 / TE
GEF 5 Core Indicator Worksheet
Tracking Tool for SFM/REFF+Projects

PART I - General Data		Please enter your data here	Notes
Project Title	Climate-resilient grid-based hydro electricity through		
GEF ID	5334		
Agency Project ID	4602		
Country	Sao Tome and Principe		
Region	AFR		
GEF Agency	UNDP		
Date of Council/CEO Approval			Month DD, YYYY (e.g., May 12, 2010)
GEF Grant (US\$)	5274544		
Date of Submission of the Tracking Tool			Month DD, YYYY (e.g., May 12, 2010)
Focal Areas	CCM, LD, SFM		Climate Change, Biodiversity, Land Degradation
GEF SFM/REDD-Plus Objectives	1		1: SFM/REDD-Plus 1: Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services 2: SFM/REDD-Plus 2: Strengthen the enabling environment for REDD-Plus
Scale of Project (See Below*)	6		1: Global 2: Regional 3: Sub-Regional/Transboundary 4: National 5: Sub-National - district, provincial 6: Site - landscape, watershed/catchment, river basin (Specify below)
If you selected 6 please specify	Watershed		
Person Responsible for Completing the TT			(Indicate Name, Position, Institution, E-mail)

PART II - PROJECT CONTEXT AND TARGETED IMPACTS

1. Characterization of area in which project is located

a) Areas targeted by project categorized by biome

Category	Project activity (hectares)	Indirect potential* (hectares)
TROPICAL FORESTLAND		
Tropical moist broadleaf and mixed forestland	13000	14391
Tropical dry broadleaf and mixed forestland		
Tropical coniferous forestland		

b) Areas by vegetation/management characteristics targeted by the project.^A

	Project activity (hectares)	Indirect potential* (hectares)
Primary Forest		
Other naturally regenerated forest	13000	14391

c) Areas of ownership/management rights targeted by the project.

		Project activities (hectares)
Private forests	Community managed forests	
	Non-community managed forests	
Federal/State/Other Public	Community managed forests	6000
	Non-community managed forests	7000

2. Socio economic benefits - Characterization of communities and populations that are expected to directly benefit from the project

		Number
Forest-dependent people	Male	3498
	Female	3497
Poor people	Male	2158
	Female	2158
Indigenous peoples	Male	3498
	Female	3497

PART III - PROJECT OUTCOMES			
Core Results (Planned Target)			
SFM/REDD-plus (Core Results and Outcomes)	Indicators	Area (ha)	tonnes CO2eq
Carbon stored in forest ecosystems and emissions avoided from deforestation and forest degradation from this project (Direct lifetime)	Conservation & enhancement of carbon in forests	13000	299000
	Avoided deforestation and forest degradation		
Carbon stored in forest ecosystems and emissions avoided from deforestation and forest degradation from this project (Indirect lifetime)	Conservation & enhancement of carbon in forests	27391	657384
	Avoided deforestation and forest degradation		

PART III – PROJECT OUTCOMES			
Core Results (Planned Target)			
SFM/REDD-plus (Core Results and Outcomes)	Indicators	Area (ha)	tonnes CO2eq
Carbon stored in forest ecosystems and emissions avoided from deforestation and forest degradation from this project (Direct lifetime)	Conservation & enhancement of carbon in forests	13000	299000
	Avoided deforestation and forest degradation		
Carbon stored in forest ecosystems and emissions avoided from deforestation and forest degradation from this project (Indirect lifetime)	Conservation & enhancement of carbon in forests	27391	657384
	Avoided deforestation and forest degradation		

Outcomes (Current Situation)			
	CEO end	Mid term	

<p>1.1: An enhanced enabling environment within the forest sector</p>	<p>Forest Sector Policy/ Regulation Framework *</p>	<p>1: no sector policy/regulation framework in place 2: sector policy/regulation framework has been discussed and formally proposed 3: sector policy/regulation framework have been formally proposed but not adopted 4: sector policy/regulation framework formally adopted by the Government but weak enforcement mechanisms 5: sector policy/regulation framework are enforced</p>	<p>1</p>	<p>3</p>	
<p>1.2: Good forest management practices applied in existing forests</p>	<p>Forest area certified for timber and non-timber forest products</p>	<p>ha</p>	<p>0</p>	<p>0</p>	<p>0</p>
	<p>Area covered by forest management plans</p>	<p>ha</p>	<p>0</p>	<p>90,900</p>	<p>6100</p>
	<p>Restoration/rehabilitation of degraded forests</p>	<p>ha</p>	<p>0</p>	<p>7000</p>	<p>73</p>
<p>2.1: Enhanced institutional capacity to account for GHG emission reduction and increase in carbon stocks</p>	<p>National carbon stock monitoring systems in place (area covered)</p>	<p>0: not an objective/component 1: no action 2: in design phase 3: mapping of forests and other land areas 4: compilation and analysis of carbon stock information 5: implementation of science based inventory/monitoring system 6: monitoring information database publicly available</p>	<p>1</p>	<p>1</p>	<p>1</p>

<p>2.1: Enhanced institutional capacity to account for GHG emission reduction and increase in carbon stocks</p>	<p>National carbon stock monitoring systems in place</p>	<p>0: not an objective/component 1: no action 2: in design phase 3: mapping of forests and other land areas 4: compilation and analysis of carbon stock information 5: implementation of science based inventory/monitoring system 6: monitoring information database publicly available</p>	<p>4</p>	<p>4</p>	<p>1</p>
		<p>6000</p>	<p>6000 ha</p>	<p>6100</p>	<p>6100</p>
<p>2.2: New revenue for SFM created through engaging in the carbon market</p>	<p>Carbon credits generated</p>	<p>Number of credits</p>	<p>0</p>	<p>0</p>	<p>0</p>

Annex 11. Non sa Obô Communication Campaign Baseline analysis

In the general context, interviewees showed a high valuation on the various types of products that the forest offers, such as food, water, housing, money, health and tourism, etc. However, on the island of Príncipe there seems to be a higher valuation of these types of products by the communities. In addition, respondents in Príncipe also demonstrate a better understanding regarding the enforcement of forest regulations in their community as well as their involvement in forest management decisions. Respondents in Príncipe are also more aware of the need to protect and conserve the forest at both an individual and community level.

Residents of the islands have experienced changes in the forest that conditions have worsened over the past 5 years, especially in Sao Tome where, according to respondents, the size of trees, the amount, as well as the forest area has been decreasing. However, in Príncipe, about a third of respondents said that the size of trees, the amount, as well as the forest area has increased, but on the other hand, a third of respondents claim not to be aware of this information.

The interviewees also mentioned that the main problems affecting the forest in São Tomé are: deforestation, charcoal production, fire/burning, lack of reforestation, cutting of wood for construction, lack of employment, climate and natural causes such as drought and pests. On the other hand, in Príncipe, the main problems identified were: deforestation and charcoal production, followed by logging. Other problems less frequently mentioned were: climate and other natural causes, fire/burning, pollution and lack of monitoring.

When describing measures that, in their opinion, should be taken in order to improve the forest in Sao Tome, the main solution mentioned was to plant new trees. Stopping indiscriminate felling of trees, promoting sustainable use of timber and measures to raise awareness and environmental education. Other solutions less frequently mentioned were: more support from the government, investing in training on the environment, stopping charcoal production, improving forest management, more research studies and training, promoting construction of houses without wood, combating fires and burning.

In Príncipe, the main solutions suggested were: promoting sustainable use of wood, planting new trees, stopping indiscriminate logging and conserving the forest. Other solutions less frequently mentioned were: more government support, investing in training on the environment, fighting fires and burning, stopping charcoal production, awareness raising measures and environmental education.

Finally, the positive aspects for the baseline study for Communication strategy were the following: source of information and advice, awareness raising on forest and water protection, incentive to plant new trees, instruct not to cut endemic plants. On the other hand, the lessons learnt were as follows: preserve and value the forest more, make sustainable felling of trees, replant after felling, sensitize others not to destroy and not to set fire to forests.

As a suggestion for the campaign, the following points were highlighted: continue the campaign, disseminate to new communities, new districts and new localities, work in partnership with local associations.

Annex 12: UNDP-GEF TE Audit Trail

To the comments received on (15 June 2022) from the Terminal Evaluation of Promotion of environmentally sustainable and climate-resilient grid/isolated grid-based hydroelectric electricity through an integrated approach in Sao Tome and Principe (UNDP Project PIMS #4602)

The following comments were provided to the draft TE report; they are referenced by institution/organization (do not include the commentator's name) and track change comment number (“#” column):

Institution/ Organization	#	Para No./ comment location	Comment/Feedback on the draft TE report	TE team response and actions taken
UNDP	1	Page 1	Kindly reformulate the project title through out the document to “Promotion of environmentally sustainable and climate-resilient grid/isolated grid-based hydroelectric electricity through an integrated approach in Sao Tome and Principe”	Done throughout the document
UNDP	2	Page 2	Change Annex number from 5 to 6	Done
UNDP	3	Page 8	Include “africa” in the region description	Done
UNDP	4	Page 8	It will be good to be transparent and inform the delays	A footnote has been included next to the completion date of the TE explaining the main reason behind the delay.
UNDP	5	Page 10	Maybe best to provide a short sentence on the justification of the extension.	Added following justification: The extension was justified as follows: “since the project’s design from 2013-2015, the energy sector landscape in STP evolved substantially and achieved several developments, coinciding with major changes in government which produced overall changes in approach to the management of the energy sector. Notably for the project, this has meant that parts of the overall objective, including stimulating investment into renewable energies from the

				private sector, had to be re-evaluated”.
UNDP	6	Page 11	Should be presented as in the guidance (see page 35 of the TE guidance) Explanation needed for the rating scales. For example there are ratings for outcomes, effectiveness, efficiency, M&E, Implementation, Execution and relevance. Then there are sustainability ratings (L/ML/MU/U)	Corrected. New matrix produced as per page 35 of the TE guidance manual.
UNDP	7	12	Examples?	Several outcomes (for example, outcome 1, output 1.1 and 1.2 have as an assumption “Commitment of the various Government Institutions) and outputs present in the logical framework very simple and hollow assumptions that reflect little analysis.
UNDP	8	12	What do you mean by “measured locally”?	Explanation included in paragraph: For example, at the objective level, the second indicator “hydro-electricity generation and the related reduction of tCO ₂ e over the 5 year and the subsequent generation of MWh/year” was not monitored nor reported at all since the project did not manage to build the expected infrastructure over the life of the project. Also, in terms of tCO ₂ from watershed management could also not be measures since the country does not yet have a baseline and therefore it was not feasible for the project to monitor such indicators.
UNDP	9	13	Private sector projects? Sentence remains unclear	“four of the laws and regulations promoted under

				component 1 were not fit for purpose”
UNDP	10	13	Are we not talking about the enhancement of capacity with the training programme	Conclusion on sustainability added: Project counterparts do have greater capacity and preparedness to push forward the renewable energy path set strategically by the Government. This project as well as World Bank and African Development Bank and other UN Agencies projects have invested greatly on numerous trainings in a coordinated manner.
UNDP	11	13	Paragraph added by reviewer: The project mobilized financing with the Rapid Response facility to finance \$200,000 to execute the national energy skill assessment needs done under this GEF project. The RRF was able to execute	The evaluator has no knowledge of such facility and as such can not include the sentence.
UNDP	12	13	Check the numbering	Changed to “2”
UNDP	13	13	Question “gender equality / women’s empowerment?”	Added a new conclusion on gender: Regarding gender , gender equality or women’s empowerment is completely lacking at project design. The project focus was on energy production from the investment of independent producers, without taking into consideration gender considerations. However, during implementation greater attention was placed on to recollect disaggregated data in terms of attendance to events,

				workshops, ateliers and in the training and capacity building sessions.
UNDP	14	13	Impact? Any indications that the project has enabled progress toward environmental stress?	I don't understand the question
UNDP	15	14	Not sure I understand this recommendation.	As indicated on section 5.2, the thematic checklist should cover all key assumptions needed to be considered, for example, legal ownership of the land if construction is to take place, laws and regulations in place to promote private sector investment, etc
UNDP	16	14	In reality, How important is that for the project or the gvt ?	The GEF Focal point ought to be involved from the start since this person has to validate the project idea and ensure alignment between national priorities and GEF operational windows. It came as a surprise to the evaluator the total lack of interest shown by the GEF Focal point in relation to the project.
UNDP	17	14	How are you able to assess that? Grateful to provide tangible recommendations to ensure that next project design (currently happening with the AMP) can take this recommendation.	All major policies, rules and regulations were supposed to be achieved, as per the results framework, by end of year 1. As per all project reviewed and evaluated to date, legal work, from design to enactment, takes between 3 to 4 years. The recommendation has been modified to " Estimate longer timelines when dealing with policy making. Policy and legal regulations require an average of 3 to 4 years from design to enactment".
UNDP	18	14	This is already ongoing, so not sure how this is recommendation.	Recommendation changed to better explain the focus: Replicate the CT-PTSE model as a coordination and planning space to ensure Government, Donors and private sector buy-in and effective coordination for future project designs.

UNDP	19	14	<p>Not sure I understand this one.</p> <p>Do you mean there is a lack of data, hence it is necessary to conduct studies o have baseline analysis , adjust the logframe and to effectively monitor?</p>	<p>Recommendation changed: “Carry out initial baseline analysis regarding SLFM and NTFP production projects to effectively monitor the impact. This would allow to the determine, if any, changes in terms of hectares under production, yield, revenues obtained by beneficiaries, etc.”</p>
UNDP	20	14	<p>Again this recommendation remains to broad. What do you mean concretely with strategic communication. Pls provide details. The government should be the one doing this and not only UNDP.</p>	<p>Recommendation reformulated “Strategic communication to be included when policy outcomes are called for to support the policy enactment and approval process by effectively communicating key messages with Government and Non-Governmental actors”.</p>
UNDP	21	14	<p>I do not understand . Is that an activity of the project that was not done ?</p>	<p>Recommendation reformulated “Current tariff system is not accounting for system inefficiencies and poor management. There is a need to update the tariffs to make return on investment more attractive to the private sector.</p>
UNDP	22	15	<p>Harmonizing on how to write dates.</p>	<p>Done</p>
UNDP	23	15	<p>Ensure to harmonize the way writing Sao Tome and Principe in the whole document.</p> <p>I saw sometimes Sao Tome e Principe. Pls choose and update.</p>	<p>Done throughout the document</p>
UNDP	24	15	<p>Are these the approaches? There are only 3 steps detailed here. How they would be employed to yield data that helped answer the evaluation questions?</p>	<p>Changed to three</p>
UNDP	25	15	<p>You mean Initiation Plan from the PPG?</p> <p>Or are you referring to inception workshop done collaboratively with the gvt ?</p>	<p>Changed to “inception report”</p>
UNDP	26	15	<p>Is there a GEF template to fill in?</p>	<p>Normally yes. It was not provided to the TE team.</p>
UNDP	27	16	<p>what is IA and EA</p>	<p>Implementing Agency / Executing Agency</p>

UNDP	28	16	Proposal of a sentence. Not sure if it is correct. I just presume that this was done.	That is correct.
UNDP	29	16	Check you numbering	Annex 6
UNDP	30	16	Past tensed as this, I presume, has already taken place.	Yes, thank you
UNDP	31	17	? I do not understand this word in this context.	Changed
UNDP	32	17	No Focus group with the relevant donors in the country? Especially with AfDB collaborating closely on this project. Also is it the same list of people you have described in your table in annex 7 ? pls advice.	No. They were not present in the country. An interview was conducted with AfDB and WB. List updated in Annex 6
UNDP	33	18	Key Informants?	yes
UNDP	34	19	Table 6 at p.22 is a list of stakeholders, hard to follow. Pls provide right numbering and information to find the tables.	All tables have been corrected
UNDP	35	20	Pls provide numerotary range.	The information comes from AfDB document. No range provided.
UNDP	36	20	Too bulky. Maybe break in small paragraphs	Done
UNDP	37	24	Presented in a figure would ease the understanding. Here we can't evaluate the outputs, outcomes, intermediate states, intended long-term environmental impact and the causal pathways for the long-term impacts. A ToC should also incorporate a list of assumptions (the IF/THEN paragraph should 'breathe')	The text comes from the Prodoc. Its is very dense. Part of it has been reduced and a figure summarizing the different components attached. No point adding assumptions since these do not really provide any relevant information.
UNDP	37	27	Again, what is "depth"	Grater analysis provided "In a nutshell, the evaluation team considers the assumptions to be very hollow and simple not providing any insight into the different outcomes or outputs. For example, outcome 1 and outputs 1.1 and 1.2 assume that "Commitment of the various Government institutions and project developers" was all that was needed to have in place to ensure the outcome and outputs would be achieved. As it has been demonstrated, the overall conditions were not in place at the time to have such a scheme in place and therefore the assumption should have analyzed

				if the country had the enabling conditions in place to promote private investment at that time”.
UNDP	38	35	No gender responsiveness of project design?	No. Gender equality or women’s empowerment is completely lacking at project design
UNDP	39	42	<p><i>"Total resources required (total project fund)</i></p> <p>This is rather the total resources required by the project. However, there is a discrepancy between the planned cofinanced value and what was actually achieved.</p> <p>Kindly crosscheck this line</p>	Text has been changed.

Annex 13 UNDP-GEF Terminal Evaluation Management Response

Project Title: Promotion of environmentally sustainable and climate-resilient grid/isolated grid-based hydroelectric electricity through an integrated approach in Sao Tome and Principe

UNDP PIMS ID: 4602

GEF ID:5334

Terminal Evaluation Completion Date: 01/08/2022

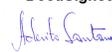
Date of Issue of Management Response: 09/08/2022

Prepared by: Maria Teresa Mendizabal, Portfolio manager CESA 

Contributors: Antonia Daio, ARR Operations and Aderito Santana, ARR Programme

Cleared by: Olaf Juergensen, DRR

DocuSigned by:



657C5F4B1B2C4A0...

DocuSigned by:



AABE89E6E06B4C8...

DocuSigned by:



5ABB402E354C400...

Terminal Evaluation recommendation 1. Thematic checklist to be created at national level to ensure key assumptions are duly considered

Management response:³⁰

Key action(s)	Time frame	Responsible unit(s)	Tracking ³¹	
			Comments	Status ³²
1.1 Create a check list for new projects that contemplates major risks and can be adapted by sectors	30/09/2022	CESA portfolio team		Not initiated

Terminal Evaluation recommendation 2. Design processes include national GEF and EMAE focal points from the start to gain accountability

Management response:

Key action(s)	Time frame	Responsible unit(s)	Tracking	
			Comments	Status
2.1 Develop a stakeholder list by sector and guarantee their involvement in project preparation	30/08/2022	CESA portfolio team	It has been done in for the upcoming GEF-Africa Mini Grid Sao Tome e	completed

³⁰Select one: Fully Accept, Partially Accept, Reject

³¹Status of implementation is tracked electronically in the Evaluation Resource Centre (ERC).

³²Select one: Not initiated, Initiated, Completed, Completed, No longer applicable

			Principe project	
--	--	--	------------------	--

Terminal Evaluation recommendation 3. Use of attainable indicators and conservative target setting. Update logframe indicators and targets to proper monitor project progress				
Management response:				
Key action(s)	Time frame	Responsible unit(s)	Tracking	
			Comments	Status
3.1 New projects indicators require validation from Stakeholders	31/12/2022	CESA portfolio team		Initiated

Terminal Evaluation recommendation 4. Estimate longer timelines when dealing with policy making. Policy and legal regulations require an average of 3 to 4 years from design to enactment.				
Management response:				
Key action(s)	Time frame	Responsible unit(s)	Tracking	
			Comments	Status
4.1 In new projects, estimate 3-4 years for law enactment	31/12/2022	CESA portfolio team		Initiated

Terminal Evaluation recommendation 5. • Continue using the CT-PTSE as the coordination and planning space for further development assistance in the renewable energy sector.				
Management response:				
Key action(s)	Time frame	Responsible unit(s)	Tracking	
			Comments	Status
5.1 UNDP was the initiator of this committee and plays an active part of it.	31/12/2022	CESA portfolio team		completed

Terminal Evaluation recommendation 6. Carry out initial baseline analysis regarding SLFM and NTFP production projects to effectively monitor the impact. This would allow to determine, if any, changes in terms of hectares under production, yield, revenues obtained by beneficiaries, etc.				
Management response:				
Key action(s)	Time frame	Responsible unit(s)	Tracking	
			Comments	Status

6.1 Include baseline studies in next projects, when baseline data does not exist so that changes can be measured	continuous	CESA portfolio team	To be done in all projects when need be	Initiated
--	------------	---------------------	---	-----------

Terminal Evaluation recommendation 7. Strategic communication to be included when policy outcomes are called for to support the policy enactment and approval process by effectively communicating key messages with Government and Non-Governmental actors.

Management response:

Key action(s)	Time frame	Responsible unit(s)	Tracking	
			Comments	Status
7.1 Associate an advocacy campaign to all policy making activities in projects	31/12/2022	CESA portfolio team		Initiated

Terminal Evaluation recommendation 8. Current tariff system is not accounting for system inefficiencies and poor management. There is a need to update the tariffs to make return on investment more attractive to the private sector.

Management response:

Key action(s)	Time frame	Responsible unit(s)	Tracking	
			Comments	Status
8.1 Tariff system has been analyzed with recommendations by the World Bank project	n.a.	n.a.	This will be used for the next energy project	No longer applicable

Annex 14: TE Report Clearance Form

Terminal Evaluation Report for (*Project Title & UNDP PIMS ID*) Reviewed and Cleared By:

Commissioning Unit (M&E Focal Point)

Name: _____

Signature: _____ Date: _____

Regional Technical Advisor (Nature, Climate and Energy)