# READINESS & PREPARATORY SUPPORT

**PROPOSAL TEMPLATE** 



Proposal title: Building institutional capacity for a renewable energy

and energy efficiency investment programme for Sao

Tome and Principe

Country: Sao Tome and Principe

Ministry of Planning, Finance and Blue Economy
National designated authority: (previously Ministry of Economy and International

Cooperation)

Implementing Institution: United Nations Industrial Development Organization

(UNIDO)

Date of first submission: 25 June 2020

Date of current submission /

version number

25 November 2021 / V5



#### How to complete this document?

This document should be completed by National Designated Authorities (NDA) or focal points with support from their Delivery Partners where relevant. Once completed, this document should be submitted to the GCF by the NDA or focal point via the **online submission system**, accessible through the Country Portal of the GCF website.

Please be concise. If you need to include any additional information, please attach it to the proposal.

If the Delivery Partner implementing the Readiness support is not a GCF Accredited Entity for project Funding Proposals, please complete the Financial Management Capacity Assessment (FMCA) questionnaire and submit it prior to or with this Readiness proposal. The FMCA is available for download at the <u>Library</u> page of the GCF website.

#### Where to get support?

If you are not sure how to complete this document, or require support, please send an e-mail to countries@gcfund.org.

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#### Note: Environmental and Social Safeguards and Gender

Throughout this document, when answering questions and providing details, please make sure to pay special attention to environmental, social and gender issues, particularly to the situation of vulnerable populations, including women and men. Please be specific about proposed actions to address these issues. Consult Annex IV of the Readiness Guidebook for more information.

# 1. SUMMARY

1.1 Country submitting the proposal	Country name:	Sao Tome and Principe
	Name of institution representing NDA or Focal Point:	Ministry of Planning, Finance and Blue Economy <sup>1</sup> (previously Ministry of Economy and International Cooperation)
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1.2 Date of initial submission	25 June 2020	
1.3 Last date of resubmission	25 November 2021	Version number V.5
1.4 Which institution will implement the Readiness and Preparatory Support project?	<ul><li>□ National designated authority</li><li>□ Accredited entity</li><li>⋈ Delivery partner</li></ul>	
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<sup>&</sup>lt;sup>1</sup> Ministério do Planeamento, Finanças e Economia Azul (MPFEA)

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## 1.5 Title of the Readiness support proposal

# Building institutional capacity for a renewable energy and energy efficiency investment programme for Sao Tome and Principe

# 1.6 Type of Readiness support sought

Please select the relevant GCF Readiness objective(s) below (click on the box – please refer to Annex I and II in the Guidebook):

- ☑ II. Strategic frameworks
- ☐ III. Adaptation planning
- □ V. Knowledge sharing and learning

# 1.7 Brief summary of the request

The Directorate-General for Natural Resources and Energy (DGRNE)<sup>2</sup> of the Ministry of Infrastructure, Natural Resources and Environment (MOPIRNA)<sup>3</sup> and the National Designated Authority (NDA) at the Ministry of Planning, Finance and Blue Economy (MPFEA), are partnering with the United Nations Industrial Development Organization (UNIDO) to implement a GCF Readiness proposal.<sup>4</sup> The provided support will be coordinated with the National Climate Change Committee (NCCC) at the Directorate-General for Environment (DGE) in MOPIRNA, which is tasked to overlook the national climate adaptation and mitigating efforts.

The Readiness support will strengthen the capacities of the Government and private sector to implement an enabling policy and regulatory framework, which will attract climate finance, foreign direct investment (FDI) and private participation in the renewable energy (RE) and energy efficiency (EE) sector. The Readiness support will result in the formulation of a paradigm-shifting investment program, which is directed to achieve the climate mitigation targets in the Nationally Determined Contribution (NDC) and will unlock other economic and social cobenefits through the reduction of fossil fuel imports.

The GCF Readiness support will help to overcome existing supply-side and demand-side barriers for the RE&EE market uptake. These barriers are related to institutional capacity, policy and regulation, knowledge management, qualification, entrepreneurship, as well as access to finance and technology. The main direct beneficiaries of the support are DGRNE/MOPIRNA, the NDA, other institutional players, such as the National Water and Electricity Company (EMAE), 5 the General Regulatory Authority (AGER), 6 the Autonomous Region of Principe (RAP), as well as the domestic private sector.

The GCF Readiness proposal applies a holistic approach and focuses on a paradigm-shift of the entire energy sector. It builds on past and ongoing readiness activities, closes gaps, complements and/or up-scales existing support. Past readiness approaches in the RE&EE sector have been rather fragmented and uncoordinated. Past efforts have been solely focused on the electricity sector and existing barriers for RE&EE were not addressed in a coherent way across sectors. Over the past ten years, STP does not count any measurable progress regarding RE&EE expansion.

The GCF Readiness grant will provide support for institution building, baseline reports and data management, regulations and standards, trainings, as well as

<sup>&</sup>lt;sup>2</sup> Direção Geral dos Recursos Naturais e Energia (DGRNE)

<sup>&</sup>lt;sup>3</sup> Ministério das Obras Públicas, Infraestruturas, Recursos Naturais e Ambiente (MOPIRNA)

<sup>&</sup>lt;sup>4</sup> Ministério do Planeamento, Finanças e Economia Azul (MPFEA)

<sup>&</sup>lt;sup>5</sup> Empresa de Água e Electricidade (EMAE)

<sup>&</sup>lt;sup>6</sup> Autoridade Geral de Regulação (AGR)

<sup>&</sup>lt;sup>7</sup> Região Autónoma do Príncipe (an autonomous administrative division which covers the island of Principe)

business and investment plan development. It will strengthen the technical and institutional capacities of DGRNE/MOPIRNA to become an executing entity of international climate finance in the energy sector. DGRNE is expected to attain the status of a delivery partner for GCF Readiness proposals.

Regarding RE, the focus lies on the development and enforcement of regulations, incentives and practical documents, which aim to reduce risks for private participation, project finance and FDI. The Readiness grant will provide support for the practical application of regulations regarding the integration of the proposed pipeline of utility-scale IPPs in the area of small hydro power (SHP) and PV. Moreover, it will provide capacity building for the utility on smart grid management and storage. In addition, a regulation and practical procedures for small-scale RE auto-producers (net-metering), isolated rural mini-grids and solar-thermal use will be developed. In the area of EE, the focus lies on baseline studies, the development and enforcement of standards and regulations in the area of appliances (lighting, air conditioning, and refrigeration), commercial electricity losses, low-carbon transport (e.g. fuel and vehicle standards) and efficient cooking.

Qualification and knowledge management are important areas of intervention. Onsite and online trainings on above mentioned key issues will be provided. To particularly address the constraints of the local private sector, an entrepreneurship facility will offer business plan/model development support to local RE&EE businesses and start-ups. Knowledge exchange on best practices island solutions, primarily with the Portuguese speaking SIDS, will be facilitated through the Global Network of Regional Sustainable Energy Centres (GN-SEC).

A national RE&EE investment plan and program will be formulated and will inform a concept to be submitted to the GCF Project Preparation Facility (PPF) or another main window (e.g. Simplified Approval Process Pilot Scheme).

# Th1.8 Total requested amount and currency

USD 999,991

# 1.9 Implementation period

36 months36 months

# 1.10 Is this request a multiple-year strategic Readiness implementation request?

☐ Yes

⊠ No

For more information on how a country may be eligible to access Readiness support through this modality, please refer to **Annex IV** of the **Readiness Guidebook**.

# 1.11 Complementarity and coherence of existing readiness support

All activities under the proposed Readiness grant will be fully in line with the country program. Since 2016, the STP NDA is participating in the structured GCF Dialogues. This has enhanced the understanding of GCF specific features and modalities, and increased competencies of many stakeholders. However, despite the initial support, the country is currently not benefiting from GCF support to the maximum extent. It has currently no accredited direct access entity (DAE) and counts only one local delivery partner. There is particular need for local delivery partners and DAEs with expertise in the relevant technical fields (e.g. energy, transport). Moreover, STP has difficulties to develop targeted and well-formulated concept notes and project documents (also due to the English language requirements).

The proposed support builds on the activities and achievements of the ongoing GCF Readiness program "NDA Strengthening and Country Programming Support for Sao Tome and Principe". The initial Readiness grant helped the NDA to become fully operational and gave the Project

Administration Fiduciary Agency (AFAP)<sup>8</sup> the opportunity to exercise the role as a delivery partner. AFAP is an autonomous body under the supervision of MPFEA, responsible for the fiduciary management of projects, funded by the World Bank (WB). It has no energy mandate per se, but is currently managing the implementation of the WB funded rehabilitation project for the electricity sector.

The proposed Readiness support will also seek coordination with the starting GCF Readiness proposal "Reduce Sao Tome and Principe's vulnerability to climate change impacts by strengthening the Country's capacity to implement an integrated approach to adaptation planning", implemented by the Government in partnership with the United Nations Environment Programme (UNEP). Synergies between both GCF Readiness proposals will be created through the NDA and the NCCC. However, so far, the NCCC coordination was rather limited. Since recently, also the NDC Partnership provides a forum for cross-sectoral coordination in STP. The readiness will take advantage to this platform to further create synergies.

Past readiness support in the area of climate mitigation, incl. the promotion of RE&EE, has been rather fragmented and only focused on the electricity sector and some RE aspects. The main providers of grants and concessional finance in this context are:

- the World Bank (WB) with its "STP Power Sector Recovery Project", 2016-2024
- UNDP-GEF with its "Promotion of Environmentally Sustainable and Climate-Resilient Grid Isolated Grid Based Hydroelectric Electricity through an Integrated Approach in Sao Tome and Principe" project, 2015-2021 (ending in March)
- UNIDO-GEF with its "Strategic program to promote renewable energy and energy efficiency investments in the electricity sector of São Tomé and Príncipe", 2019-2023
- the African Development Bank (AfDB) with its "Energy Transition and Institutional Support Programme", 2020-2024

The GCF Readiness grant will be implemented in close cooperation with the UNIDO-GEF project. It aims to create an enabling environment for RE&EE investments by promoting combined interventions in the areas of policy and regulation, qualification and certification, as well as technology demonstration and investment promotion. Most of the activities are focused on pre-investment support for utility-scale RE projects. The available budget for interventions in the areas of RE&EE policy, regulation and qualification is very limited. The Readiness grant will focus on the latter and provide up-scaling support. The GCF Readiness implementation will benefit from the already established local execution modality with DGRNE/MOPIRNA.

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<sup>&</sup>lt;sup>8</sup> Ministério das Finanças, Comércio e Economia Azul (actual MPFEA)

## 2. SITUATION ANALYSIS

#### Baseline situation and scenario

As Small Island Developing State (SIDS) and Least Developed Country (LDC), located in Central Africa, Sao Tome and Principe faces specific challenges in relation to its size, remoteness from large markets, as well as dependence on imports and a small number of economic sectors. The mainly agricultural economy is highly vulnerable to natural and external shocks. Like other SIDS, it is significantly affected by climate change and the current economic downturn due to the COVID-19 crisis.

Climate change adaption and mitigation is high on the agenda of the Government, particularly the National Designated Authority (NDA) at the Ministry of Planning, Finance and Blue Economy (MPFEA) and Directorate-General for Natural Resources and Energy (DGRNE)<sup>9</sup> and the Directorate-General for Environment (DGE) in the Ministry of Infrastructure, Natural Resources and Environment (MOPIRNA).<sup>10</sup> In the Nationally Determined Contribution (NDC) of 2015 and the 3<sup>rd</sup> National Communication on Climate Change (NCCC) of 2019, the country has established ambitious climate change mitigation targets for the energy sector.

The established low-carbon energy scenario in the 3<sup>rd</sup> NCCC aims at a reduction of 95 kt of CO2 equivalent in 2030 in comparison to the business-as-usual scenario. In 2012, around 80% of the emissions were related to the energy sector (incl. transport) and the remaining 20% to agriculture and waste. Due to CO2 sequestration in the land use and forest change (LULUCF) sector the STP net balance of emissions remains negative. For example, in the electricity sector the NDC aims at 47% renewable energy penetration by 2030, mainly based on run-off-river micro/small hydro power (without major dam structures)<sup>11</sup> and solar PV.

According to other assessments (e.g. UNIDO, WB/AFAP), this figure might be a bit higher or lower. This will be verified during the GCF Readiness support implementation (see activities related to data management). For example, according the STP Least-Cost Power Development Plan (LCPDP), the 50% renewable energy scenario by 2030 would lead to a reduction of around 700 kt CO2 equivalent between 2018 and 2035.

The 3<sup>rd</sup> NCCC and its technical needs assessment (TNA) suggest thirteen concrete RE&EE mitigation actions. They cover a broad range of areas, including grid-connected utility scale and distributed RE systems, rural minigrids, as well as EE with regard to appliances, cooking, transmission/distribution and transport.

Figure 1: Proposed energy related mitigation actions in the 3rd NCCC

Proposed energy related mitigation action potential in relation to the BAU scenarion		emission reduction
Proposed mitigation actions	Reduction	on potential
Main network connected power plants (14 MW)	27,730	t CO2 equivalent
Solar PVs (12 MW)	9,860	t CO2 equivalent
Mini-hydro power plant connected to the main grid (2 MW)	4,000	t CO2 equivalent
Isolated mini-hydro plant (2 MW)	6,460	t CO2 equivalent
Efficient LED home lighting	8,000	t CO2 equivalent
Biodigestors	14,768	t CO2 equivalent
Efficient LED street lights	810	t CO2 equivalent
Bulb Replacement	2,566	t CO2 equivalent
More efficient power grid	1,500	t CO2 equivalent
More efficient gasoline cars	200	t CO2 equivalent
More efficient diesel cars	260	t CO2 equivalent
Stove Replacement	15,771	t CO2 equivalent
Onshore wind power plant (3MW)	3,750	t CO2 equivalent
Total reduction potential	95,675	t CO2 equivalent

<sup>&</sup>lt;sup>9</sup> Direção Geral dos Recursos Naturais e Energia (DGRNE)

<sup>&</sup>lt;sup>10</sup> Ministério das Obras Públicas, Infraestruturas, Recursos Naturais e Ambiente (MOPIRNA)

<sup>&</sup>lt;sup>11</sup> Identified new or colonial micro/small hydro power sites in STP follow usually a run-off-river design without major dam structures. Some of the micro-sites might be eligible for the simplified approval process (SAP) of GCF.

There are various interrelationships and co-benefits <sup>12</sup> between climate mitigation, resilience/adaptation and other policy objectives. Climate action is an important contribution to the Vision 2030 "São Tomé e Príncipe 2030: the country we need to build", which aims to transform the country into a climate-resilient and low-carbon island hub for blue economy business, financial services and tourism, benefitting from the growing regional market of the Economic Community of Central African States (ECCAS). ECCAS is currently increasing its efforts to promote climate and sustainable energy action regionally. An ECCAS Centre for Renewable Energy and Energy Efficiency is under development. <sup>13</sup> Other important regional initiatives are the Banque de Développement des États d'Afrique Centrale (BDEAC) and the Programme d'Électrification de l'Afrique Centrale (PEAC).

The success of the Vision 2030 highly depends on a power sector reform and a transformational shift of the entire energy system from a nearly complete fossil fuel import dependency to a low-carbon renewable energy and energy efficiency scenario. The dependency on fossil fuel imports for energy generation and transportation questions the macro-economic stability of the country and hampers the productivity of key island industries. Supporting the transition towards renewable energy will free-up scarce hard currency resources for social and economic development (e.g. education, health care, transportation, export diversification, business development) and climate change adaptation.

A good indicator for the possible savings is the fossil fuel debt, which has become a major concern of the Government in STP. The National Fuel and Oil Company (ENCO) has accumulated USD 150 million debt to Angola's Sonangol. Recently, a joint repayment schedule has been agreed. The debt reaches the total required investment to achieve the envisaged national renewable electricity targets of 50% by 2030. The levelized cost of electricity (LCOE) for the identified grid-connected small hydro power and PV projects is significantly lower than the diesel alternative. The renewable energy scenario remains more cost-effective, even if potential grid adaptation and storage costs are considered. The scenario will allow the utility to work increasingly line with the cost-recovery principle and will reduce the need to increase the consumer tariffs.

However, so far, no reliable calculations on the monetary saving potential of the renewable energy scenario on macro-economic level have been undertaken. The national savings depend highly on how the projects are implemented and financed (e.g. public, IPPs, FDI, commercial or concessional finance). More insights are expected from a low-carbon energy scenario modeling, currently undertaken by the Government in partnership with UNIDO through the Low Emissions Analysis Platform (LEAP). The modeling looks at the entire energy system and a time horizon until 2050. Through various assessments, the GCF Readiness proposal will further strengthen the data basis for climate change mitigation and adaptation planning. Climate mitigation and adaptation actions will make key island industries (e.g. water supply, agriculture, food processing, tourism, fishery and the wider blue economy) more productive.

Currently, the country has one of the highest power generation costs in Sub Sahara Africa. The power sector remains subsidized, and consumer tariffs are not cost-reflective, affecting the macro-economic stability of the country. The national utility is not able to recover its costs. Moreover, the country faces challenges resulting from an outdated transmission and distribution system and a generation mix highly dependent on costly diesel. As a result, electricity supply is characterized by frequent power cuts and load shedding, forcing businesses and essential social service providers to run on diesel generators. Still more than 20% of the population in remote and rural areas has no access to reliable electricity services. A majority of the population has no access to sustainable cooking services and relies on traditional biomass and charcoal. This particularly impacts women who spend disproportionately more time than men to collect fuel and for the preparation in the cooking space where they are affected by indoor pollution.

Like in many SIDS, also in STP exists a close interrelationship between climate mitigation and resilience/adaptation action. Climate Change has already visible effects. The accelerating pace of sea level rise is already causing severe coastal degradation and salinization, increased incidence of flash floods, decrease in rainfall and consequent decrease in river flows, more intense extreme weather events and a highly variable climate. Such impacts can jeopardize development initiatives aimed at alleviating poverty and fostering sustainable development and building a more resilient nation, as provided in the Vision 2030.

## Business as usual scenario and barriers to climate change mitigation

In a business as usual (BAU) scenario, it is uncertain that the country will be able to implement the climate change mitigation scenario and mobilize the required public and private finance. In the absence of additional changes in the policy and regulatory framework, the energy related GHG emissions will increase further. So far, none of the thirteen proposed energy related mitigation actions in the 3<sup>rd</sup> NCCC have been implemented.

<sup>&</sup>lt;sup>12</sup> Sustainable development co-benefits as defined in the GCF mitigation and adaptation performance measurement framework and the GCF investment framework

<sup>&</sup>lt;sup>13</sup> Developed through a joint ECCAS-UNIDO partnership, <a href="https://www.gn-sec.net/ceseco">https://www.gn-sec.net/ceseco</a>

There has been no significant measurable progress regarding the RE&EE integration over the past decade. The RE baseline remains limited to colonial run-off-river micro/small-hydro power stations, of which only one is partly functional, and small solar PV applications for rural households and productive uses (e.g. irrigation for agriculture, telecommunication and conservation of fish). The baseline regarding EE is low and largely unknown. Past readiness support in the RE&EE sector in STP was rather fragmented and uncoordinated. These efforts have been focused solely on the electricity sector and existing barriers for RE&EE were not addressed in a coherent way and across sectors. The impact of these scattered interventions has been very limited.

In STP the uptake of the RE&EE technology market is hindered by a broad range of demand-side and supplyside barriers, which need to be addressed simultaneously. These are related to institutional capacity, policy and regulation, knowledge management, qualification, entrepreneurship, as well as access to finance and technology. The market introduction of new RE&EE technology products, services and business models requires specific pull and push actions directed to overcome demand (consumers of products and services) and supplyside (suppliers of products and services) barriers.

The existing constraints are well analysed in several reports, including the 3<sup>rd</sup> NCCC<sup>14</sup> and the *Renewable Energy and Energy Efficiency Baseline Report on Sao Tome and Principe* (UNIDO), the *National Status Report on Renewable Energy and Energy Efficiency of Sao Tome and Principe* (ALER, UNIDO) and the *Baseline and Needs Assessment on the Centre for Renewable Energy and Energy Efficiency for Central Africa (UNIDO, ECCAS).* The needs for technology transfer were studied in detail in the technology needs assessment (TNA) of the 3<sup>rd</sup> NCCC. A detailed description of the barriers is also provided in the summary table of the next section.

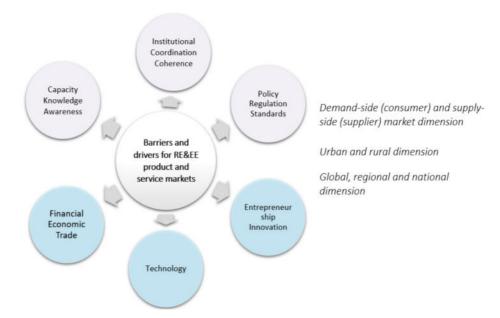


Figure 2: Demand and supply-side barriers for RE&EE product and service markets<sup>15</sup>

## Past and ongoing international readiness support for energy related climate change mitigation

The GCF support will establish strong links to the ongoing climate mitigation readiness support of other international partners, such as WB, AfDB, UNDP and UNIDO.

Project Title	Donor	Local counterparts	Project duration	Budget
STP Power Sector Recovery Project (World Bank ID P169196)	World Bank	AFAP, EMAE, AGER	2016 - 2024	USD 12,000,000

Table 1: Overview on ongoing mitigation projects in the energy sector of STP

<sup>14</sup> See chapter 5.5

<sup>&</sup>lt;sup>15</sup> Findings of UNIDO based on project experiences in LDCs and SIDS

Promotion of Environmentally Sustainable and Climate-Resilient Grid Isolated Grid Based Hydroelectric Electricity Through an Integrated Approach in Sao Tome and Principe (GEF ID 5334)	UNDP	DGRNE/MOPIR NA and EMAE	2013-2021 (closes in March)	USD 5,274,544
Strategic program to promote renewable energy and energy efficiency investments in the electricity sector of São Tomé and Príncipe (GEF ID 9897)	UNIDO	DGRNE/MOPIR NA EMAE, AGER, RAP	2019 - 2023	USD 1,575,571
The Energy Transition and Institutional Support Programme (African Development Bank - AfDB)	AfDB	EMAE, AFAP, DGRNE/MOPIR NA	2020-2024	USD 14 million

The GCF Readiness grant builds on the existing partnership between DGRNE/MOPIRNA and UNIDO in the context of the Global Environment Facility (GEF) funded project "Strategic program to promote renewable energy and energy efficiency investments in the electricity sector of São Tomé and Príncipe", which is being implemented between 2019 and 2023. By pooling funds and human resources with the GEF project, the Readiness support can be delivered more effectively and with higher impact for the benefit of the country. The GEF project approach puts already strong emphasis on building the technical and administrative capacities of DGRNE/MOPRINA. More information on the GEF project is available in the table below.

## Additionality of the GCF Readiness grant

international donor activities have not

The following table below provides a detailed description of the existing barriers for RE&EE deployment, the status of international readiness support and the proposed additional GCF readiness activities. In contrast to the fragmented past efforts, it applies a holistic approach and focuses on a paradigm-shift of the entire energy sector. It builds on past and ongoing readiness activities, closes gaps, complements and/or up-scales existing support. These gaps exist, particularly in the EE sector and with regard to distributed and rural RE dimension (e.g. net-metering, mini-grids, solar thermal, bioenergy).

Table 2: Barriers, status of readiness support and GCF Readiness support

Barriers	Status of Readiness support by international partners	Proposed GCF Readiness support
Lack of institutional coordination and c DGRNE/MOPIRNA has limited capacities to coordinate and implement national climate mitigation efforts in the energy sector in close coordination with the other institutional players and the private sector. Currently, DGRNE/MOPIRNA does not have the ability to implement climate finance in line with international fiduciary standards.	Recently, there have been positive developments to strengthen the overall coordination role of DGRNE, in the area of RE&EE and climate change mitigation. UNDP has supported DGRNE to move to a new office building and to develop a revised organigram, reflecting the priority on climate change mitigation	The GCF proposal builds on the fragmented past and ongoing climate mitigation support in the energy sector. It will strengthen:  o the fiduciary standards and policies and processes of DGRNE/MOPIRNA to become an implementer of climate
Due to various reasons, the international support to the newly created DGRNE has been limited in the past. Moreover, there was some "brain drain" as expert staff left the institution to work for international partners in the sector. For a more effective cooperation on climate change mitigation issues, the NDA also requires additional climate mitigation and energy expertise.  The cross-sectoral coordination on energy issues has been insufficient and only focused on traditional electricity issues in the past. Other aspects, including EE, rural energy for productive uses, clean cooking or transport have not got sufficient attention. Moreover,	and RE&EE.  UNIDO is supporting DGRNE through the GEF funded project "Strategic program to promote renewable energy and energy efficiency investments in the electricity sector of São Tomé and Príncipe", which is being implemented between 2019 and 2023. To ensure local ownership and capacity development of DGRNE, UNIDO is applying a "twinning" approach, which is based on "peer to peer" learning and gives gradually more and more responsibilities to DGRNE. To determine the gaps with regard to fiduciary standards, policies (incl. gender mainstreaming) and	finance projects and delivery partner for GCF Readiness support in the short term.  the ability of DGRNE and the NDA to formulate and implement a paradigm-shifting RE&EE investment program, which goes beyond the electricity sector.  the role of DGRNE to effectively attract and coordinate private participation and foreign direct investment in the RE&EE sector (e.g. IPPs).  the technical ability of DGRNE, other institutional players (e.g. EMAE, NDA, AFAP, AGER)

UNIDO has recently

procedures,

and the private sector to

been harmonized sufficiently, which has led to a duplication of efforts and/or double financing.

There is also a need to improve the coordination on climate change mitigation and adaptation efforts through the National Climate Change Committee (NCCC) at the Directorate-General for Environment (DGE) in MOPIRNA. The coordination has been limited in the past.

Currently, DGRNE/MOPIRNA does not have the technical ability to design and enforce a conducive framework for RE&EE in coordination with other institutional players, such as the National Water and Electricity Company (EMAE), the General Regulatory Authority (AGER), and the Autonomous Region of Principe (RAP).

Moreover, DGRNE is currently not benefitting to the maximum extent from the sustainable energy and climate related programmes of the Economic Community of Central African States (ECCAS). DGRNE is hardly participating in the regional meetings and coordination. The same is true for the energy cooperation of Portuguese speaking countries under the Community of Portuguese Language Countries (CPLP), facilitated by the Renewable Energy Association for Lusophone countries (ALER).

undertaken an institutional capacity assessment of DGRNE/MOPIRNA (through KPMG).

the coordination address challenges, UNIDO has supported the establishment of the Strategic Platform on Energy, which provides a space for regular cross-sectoral coordination and harmonization of donor activities. Under the platform, technical committees for RE&EE were established. They review technical documents and regulations and build cross-sectoral synergies. Recently, also the Coordination Committee for the Electricity Sector Transformation Program (CC-PTSE) was established under the leadership of the Prime Minister's Office.

Simultaneously, also the NDC Partnership has started to contribute to cross-sectoral coordination in STP through a consolidated donor response regarding climate change mitigation and adaptation. The starting GCF Readiness support of UNEP regarding national climate change adaption planning, foresees to strengthen the coordinative role of the NCCC.

Under the Global Network of Regional Sustainable Energy Centres (GN-SEC) program, UNIDO is supporting ECCAS in the development of the Central African Centre for Renewable Energy and Energy Efficiency (CEREEAC), which will also provide services to Sao Tome and Principe. The centre will support the implementation of important regional policies, such as the ECCAS/CEMAC White Paper on Energy and the ECCAS Regional Energy Policy Strategic Document. Currently, ECCAS and UNIDO are undertaking a regional RE&EE baseline and needs assessment. The report covers also STP (the document is attached to the GCF Readiness submission). STP has expressed interest to host the centre in Sao Tome, apart from other ECCAS Member States.

- enforce RE&EE regulations, standards and practical procedures.
- cross-sectoral coordination by organising review meetings on key RE&EE documents under the Strategic Platform on Energy and the CC-PTSE.
- donor harmonisation and coordination under the Strategic Platform and CC-PTSE, in coordination with the NDC Partnership and the NCCC.
- the role of DGRNE within CPLP/ALER and regional RE&EE programs of ECCAS and the newly established CEREEAC.
- institutional knowledge by producing baseline reports and assessments in areas, which got limited or no attention in the past (e.g. EE standards, commercial losses, distributed and decentralised RE, clean cooking, efficient transport, ocean energy).

A detailed description of the GCF Readiness support is available in the logical framework and Theory of Change (ToC).

#### Lack of a coherent RE&EE policy, regulatory and incentive framework

There exists no national energy policy, which covers the entire sector. The framework remains fragmented, partly contradictory and not conducive for RE&EE market development, private sector participation and foreign direct investment. Energy policy and regulation covers mainly the grid-connected electricity market, as well as the petroleum sector.

Generally, the Government has expressed its commitment to upscale the use of RE&EE in various energy and climate policies and declarations. For the

Currently, the Government is closing the policy gap and is developing the National Renewable Energy Action Plan (NREAP) and National Energy Efficiency Action Plan (NEEAP) with the support of the UNIDO/GEF project. The well-integrated policies will consider urban and rural contexts, the electricity and heat dimensions, and important cross-sectoral policies (e.g. climate mitigation/adaptation, trade, education, research, buildings, transport, tourism, health, agriculture, fishery and other blue economy sectors). The action plans will include

The GCF Readiness support will provide support for the implementation of the NREAP and NEEAP. It will focus on the formulation and enforcement of specific regulations, incentives and practical procedures, which aim to reduce risks for private participation (e.g. IPPs, PPPs, auto-producers), project finance (equity, concessional and non-concessional finance) and FDI. The support includes the following:

electricity sector a 50% goal by 2030 was set (53% in Sao Tome and 50% in Principe). The feasibility of this vision was confirmed by the Least-Cost Power Development Plan (LCPDP), which was developed for EMAE with support of the WB under the power sector recovery project. Apart from the grid-connected RE ones, the Government has not adopted any other RE or EE target.

The currently fragmented legal and regulatory framework leaves it uncertain, how the envisaged RE&EE market uptake can take place. Thus, there is no general law on energy, rather several pieces of legislation focused on the various forms of energy. The framework covers mainly the electricity and petroleum sectors, and is only partially enforced. The RJSE highlights RE, EE and the role of Independent Power Producers (IPPs). However, investment risks remain high due to a lack of enforcement and the non-existence of fiscal and non-fiscal policy instruments (e.g. obligations, net-metering, rural concessions, public procurement, tax and duty exemptions), as well as practical technical procedures and modalities.

This has led to major delays regarding the realization of grid-connected RE projects, promoted by IPPs and foreign direct investors (e.g. PV, solar, SHP). The sale prices for electricity to the utility are not regulated by AGER and there are no standard purchase agreements. This has become an urgent issue, as several IPP projects are proposed for realization.

Also, the market segment of distributed RE systems (e.g. auto-producers) and rural mini-grids is characterized by uncertainty. The rural energy dimension remains largely unregulated. No netmetering system exists and there are no incentives for the use of solar-thermal systems. The latter has an important role in mitigating urban peak hours and to satisfy warm water needs in the expanding tourism sector. Solar dryers are common practice in the cacao sector. Theoretically, the law allows rural and peri-urban industrial IPPs bioenergy) to generate electricity for selfconsumption and injection into the grid (max. 40%). The law also includes simplified authorizations for small-scale producers up to 150 kW in isolated settlements. So far, these regulations have been not really implemented.

Despite the high technical and commercial electricity losses (around 40%) and escalating urban peak loads, the country has no EE standards for generation and transmission/distribution, industrial use, buildings, lighting and appliances and cooking in place. Similarly, the area of land transport lacks of a coherent regulatory framework, which includes low-carbon options such as vehicle and fuel standards, biofuels or electric vehicles. The annual work plans of the Government "Grandes Opções do

quantifiable and feasible overall targets and sub-targets (by sector, thematic area and/or technology) by 2030 and 2050.

WB is leading the efforts regarding a power sector and tariff reform, which includes the restructuring of EMEA and AGER. A tariff study was developed with the support of the WB and a new tariff scheme is suggested. However, due to the significant impact of the reform on consumer tariffs, no political decision was taken, up to now. Since the suggested tariff scheme will introduce cost-recovery, the currently low tariffs will increase significantly. A tariff scheme will need to balance carefully between the real generation costs (currently mainly diesel) and the ability to pay of certain population groups. This is politically a highly sensitive question. A tariff reform, based on the principles of cost-recovery, would significantly increase the attractiveness of RE&EE investments. In the STP context, such tariffs can be an important driver of energy efficiency improvements and energy saving. Moreover, the simultaneous reduction of fossil fuel subsidies combined with costreflective tariffs can be a major driver to get more cost-effective RE generation capacity on-line. This will in turn impact positively on the consumer tariffs.

Moreover, there are efforts to address the fragmented legal and regulatory framework regarding the integration of utility-scale RE projects of AfDB and UNDP. Through a closing GEF funded project, UNDP is supporting the development of a technical and administrative procedures manual for IPP grid integration. Moreover, a guiding document, explaining the roles and responsibilities of the different institutions was developed.

The establishment of a guarantee risk mitigation instrument for SHP has finally not worked out due to the remaining regulatory challenges and other barriers (e.g. high preinvestment costs). The recently started, Energy Transition and Institutional Support Programme, led by AfDB, includes also some readiness support regarding the integration of utility-scale projects.

- Technical assistance for the practical application of the RE legislation regarding the pipeline of utility-scale IPP projects in the area of solar PV and SHP;
- Strengthening of the technical capacities of the utility on smart grid, storage and SHP management;
- A net-metering regulation, practical guidelines and model templates for small-scale renewable energy autoproducers in urban and rural contexts (e.g. SHS, prosumers, mini-grids);
- A regulation and practical guidelines for the introduction of solar-thermal applications in key industries;
- MEPS for three appliances (lighting, air conditioning, refrigeration);
- A regulation to reduce commercial electricity losses;
- Regulations for vehicle emission standards and vehicle imports. This will also include the dimension of electric vehicles in key sectors (e.g. high-end tourism);

A detailed description of the GCF Readiness support is available in the logical framework. *Plano*" just speak about the need to establish an EE program. The area of efficient cooking is not addressed.

The coherence and cross-sectoral coordination (incl. climate change) remains limited and leads sometimes to conflicting policies and regulations following different interests. For example, the non-cost recovering electricity tariffs and the existing fossil fuel subsidies make it difficult for RE technologies to compete, although most of them have better economics than diesel-based generation.

There are no specific duty, tax and investment incentives for RE (apart from the general ones). RE&EE solutions are not considered systematically in crosscutting sector policies (e.g. transport, agriculture, food processing, tourism, fishery, manufacturing). The current energy and industrialization policies and fiscal and non-fiscal incentives remain blind with regard to the promotion of sustainable domestic energy entrepreneurship and innovation. There exists no support instruments and incentives for sustainable energy entrepreneurs and start-ups. Even basic RE&EE products and services remain imported.

#### Lack for knowledge and data

Low-carbon energy (electricity) planning requires a reliable energy data system and the ability to use specialized modelling tools. Currently, DGRNE does not have such planning capacity and software. To prepare for the scenario of high RE penetration, EMAE needs to increase its planning skills regarding smart grids and storage.

Moreover, the institutional capacities regarding (sex-disaggregated) data collection, management and analytics are very weak. Currently, STP has no functional energy information system and data network comprising public and private stakeholders. DGRNE is currently not able to provide a reliable energy balance and no comprehensive GIS based RE potential mapping is available. The database is very weak, when it comes to EE, rural energy, cooking or transport.

On institutional level, there is need to strengthen the knowledge base at all levels. There is significant lack of knowledge with regard to development and enforcement RE&EE policy, regulation, standards incentives. Up to now, many aspects of the "Regime Jurídico do Setor Elétrico" (Legal Regime of the Electricity Sector -RJSE) known as "Lei de Bases do Sector Elétrico" (Basic Electricity Sector Law), approved in 2014, have not been implemented, what is hindering RE progress. Currently, AGER does not have the skills base to fulfil its role as regulator for the electricity sector, including the enforcement of potential RE incentives.

In support of energy planning, UNIDO is currently helping the Government to establish a digital energy information system and a reliable energy balance. UNIDO, ALER and STP have released the STP RE&EE Status Report on 20 November 2020. It was presented during a webinar and includes relevant baseline data in in Portuguese and English. UNDP is currently supporting the development of a RE resources atlas. Since there is currently no data for ocean energy available, the GCF Readiness grant will support further investigations in this regard.

Generally, most of the activities of international partners have been focused on the power-sector and tariff reform, the restructuring of EMAE and AGER, as well as (pre-)investment support for grid adaptations or utilityscale RE projects (new or rehabilitations). There is not much attention on the development of knowledge products on relevant RE&EE issues. Apart from some assessment reports, there is hardly information available in Portuguese. This remains a major bottleneck for policy makers and the local private sector. There have been no relevant trainings on RE&EE planning and appraisal tools.

UNIDO facilitates knowledge transfer and south-south exchange on best practice between STP and other Portuguese speaking SIDS under the GN-SEC program, its GEF funded The GCF support follows-up on the past and ongoing readiness activities in STP. It will enhance:

- o energy planning capacities of DGRNE, EMAE, AGER, RAP and others, by strengthening the energy information system and establishing an energy data network; this includes support for the collection of reliable energy data for the INDC GHG energy emission reduction scenario;
- the knowledge base of key players, by developing baseline reports and assessments in areas, which have not got much attention in the past (e.g. EE standards, commercial losses, distributed and decentralised RE, clean cooking, efficient transport, ocean energy, electric storage);
- knowledge through manifold trainings (see below) and technical review meetings under the National Sustainable Energy Platform;
- knowledge transfer from other Portuguese speaking SIDS under the GN-SEC and CPLP/ALER framework.

A detailed description of the GCF Readiness support is available in the logical framework and Theory of Change.

In some technology areas, the knowledge gaps are very significant. This is particularly true for all forms of EE (buildings, appliances, lighting, industrial, transport, technical and commercial grid losses, energy saving), distributed urban RE, rural RE mini-grids for productive uses, as well as clean cooking. The knowledge on some RE technologies and business models is very limited. This is particularly true for SHP, bioenergy (incl. waste to energy), wind power, solar thermal, ocean energy technologies and the expanding field of digital energy solutions (smart grids). All institutional players require better skills to appraise the quality, feasibility and value creation potential of RE&EE projects, proposed by private investors and international partners. This includes the introduction and application of quality standards for the development and operation of RE projects (e.g. SHP, solar thermal, minigrids).

energy portfolio and within the established cooperation with CPLP/ALER. Many of the envisaged activities regarding the tariff reform, RE&EE, efficient transport and clean cooking have started in Cape Verde more than ten years ago.

#### Lack of qualification and certification framework for RE&EE products and services

In STP exists no qualification, certification and accreditation framework for sustainable energy products and services (incl. quality infrastructure). There is a lack of training courses and educational programs focusing on RE&EE (e.g. higher education, vocational training). There exists hardly a track-record of implemented RE&EE trainings in STP.

The capacities of the main institutional and private players in the energy sector remain very weak, particularly with regard to RE&EE aspects. This includes key stakeholders, which are working in important cross-sectors (e.g. transport, construction).

In the past, most capacity building efforts (mainly through WB funded power sector recovery project) were directed to the restructuring of EMAE, the reduction of technical grid losses and the envisaged power sector and tariff reform. These activities are still ongoing. The capacity support has been mainly focused on general issues and not RE&EE per se. In the context of the tariff reform, the WB is also providing support for the restructuring of AGER.

Specific training activities have been conducted in the context of donor-funded projects such as the Solar Schools project implemented by the NGO "TESE" in 2011 with support from DGRNE, the Ministry of Education and the University of Science of Lisbon, that aimed at increasing access to quality education for children and adults, particularly women, from off-grid rural areas grid through the installation of PV systems in schools with ongoing adult literacy courses.

There is limited technical capacity to design, evaluate, install and operate ongrid and off-grid RE systems (including hybrids and mini-grids). Moreover, there exists very little experience in business

To assess the RE&EE capacity building needs of the main institutional players and the private sector, UNIDO is currently supporting the Government to develop a capacity needs assessment, which will provide the basis for a RE&EE qualification and certification framework in STP. This is being undertaken in partnership with the Centre for Renewable Energy and Industrial Maintenance (CERMI) in Cape Verde. GCF Readiness training activities will be based on this assessment.

Moreover, partly with GEF support, UNIDO has developed an online building program capacity Sustainable Energy Solutions for SIDS". The program is free of charge and available in Portuguese. The program can be accessed through: https://training.gn-sec.net/. It includes nine online modules, which describe analyse and the following technologies and energy issues: Solar Photovoltaic, Solar Thermal and technologies, Ocean Energy Bioenergy, Energy Efficiency and Thermal Optimization in buildings, Mini-grids and Energy Storage in Insular Power Systems, E-mobility and an overview on Energy, Climate Change Mitigation and Resilience in island regions. Learning takes place in an e-learning platform and delivery can be done either in self-study or through trainers.

The GCF support builds on past and ongoing readiness activities. It will strengthen:

- the capacities of the main institutional players and the private sector, by providing online and on-site training in line with the identified gaps (e.g. smart grid and storage, EE standards, clean cooking, project cycle management and finance);
- the capacities of the utility and private sector to develop, install, operate and finance SHP stations by providing ISO certified SHP guidelines and tailored training;
- the capacities of sustainable energy entrepreneurs and start-ups, by providing business development support through a dedicated entrepreneurship facility;
- south-south cooperation on common sustainable energy issues and solutions under the CPLP/ALER and GN-SEC framework.

models, operating models and tariff setting schemes for RE based (hybrid) mini-arids. Sustainable energy energy entrepreneurs. service companies (ESCOs) and RE service companies (RESCOs) are nearly nonexistent. The technical capacities of the utility and the regulator to deal with sustainable energy are weakly developed and mainly focused on conventional solutions (e.g. diesel generators). This explains also the poor of colonial hydropower servicing stations.

There is little capacity with regard to the SHP design, operation and maintenance. In rural areas the capacity and knowledge barriers are even more severe. There is very poor awareness of RE (hybrid) mini-grids and other RE solutions with the potential to promote productive uses in agri-business or fishery (e.g. water pumping, ice production). Local customs at ports and airports have only very weak capacities to check EE and labelling standards.

#### Financial and business-related barriers

Access to affordable project and corporate finance continues to be a challenge for the uptake of the RE&EE product and service market in STP. Due to the small size of even utility-scale RE projects, it is not easy to attract private equity and commercial or concessional finance. Often, projects remain below the minimum financing threshold. This is further complicated due to a lack of available risk mitigation instruments (e.g. quarantees) and insurance products.

The local financial sector is at infant stages and interest rates remain high, particularly for more risky infrastructure projects. Due to the small market size, geographic isolation, high risks and regulatory uncertainty, it is difficult to attract private participation, foreign direct investment and international finance. The investment costs of utility-scale projects are usually higher in small island states (transport, logistics). It is difficult to mobilize public finance to cover the required adaptations in the distribution grids and/or energy control systems. The internalization of these costs, makes the investment less attractive.

As explained before, the uncomplete policy and regulatory framework is a hindering factor. The existing non-cost recovery tariff structure and the fossil fuel subsidies in STP distort the market and delay the amortization times of usually more attractive RE&EE investments in comparison to the diesel alternative. Due to the non-effectiveness of the liberalization and unbundling in the power sector, it is still difficult for IPPs to invest.

The situation is even more difficult in the small scale RE sector and other areas

There has been no measurable progress regarding the integration of RE into the electricity grid of STP over the past decade. Only recently, some progress regarding the development of a pipeline of utility-scale RE projects (mainly grid-connected PV and SHP) has been achieved. Up to now, only one rehabilitation of a colonial SHP project is under implementation with support of WB/EIB. Other developments are still in the early stage. Currently, there is no investment plan for the entire RE&EE sector.

In a coordinated manner, UNDP, WB, AfDB and UNIDO are currently supporting the development of various feasibility studies for utility-scale PV and SHP projects, which are included in the Least-Cost Power Development Plan (LCPDP). By considering the long up-front times of SHP developments and installations, it is obvious that some of these projects will still take time. Therefore, the focus is currently on grid-connected PV IPPs, which can be implemented faster, but come with issues of intermittency and storage.

On the background of the dispute regarding the fossil fuel debt to Angola, the Council of Ministers, approved Decree-Law No. 1/2020 in February 2020. The law foresees the commencement of negotiations with the proposed IPPs CISAN consortium, Solo Solar Energy, AGNA and EDP Renewables. However, there are still many open questions regarding the terms and quality of the proposals. Unclear is

Through its enabling activities, the GCF Readiness support will play an important role to reduce barriers for the attraction of project and corporate climate finance and private participation in the RE&EE sector. In this context, close cooperation with the already active DFIs in STP is required. The Readiness support will include:

- the development of a National Sustainable Energy Investment Plan, which goes beyond the utility-scale dimension and builds the investment/business case for all relevant RE&EE areas (e.g. EE, distributed and rural RE, cooking, transport);
- the development of a National Investment Program in the form of a PPF (or similar) request to the GCF. It will bundle RE&EE investment opportunities for concessional finance and build a bridge to foreign direct investors and existing international/regional risk mitigation instruments;
- the reduction of investment risks by improving the policy, regulatory and incentive framework for REⅇ
- the reduction of sustainability risks for investments by building capacities of local key stakeholders to operate and maintain RE&EE systems.

such as EE and/or clean cooking. These areas have not got any support in the past, and no investment case and business models were developed. Small-scale financing instruments and modalities are unknown in STP (e.g. micro-credits, energy contracting, digital payment models).

The same situation exists on the corporate financing side. Local sustainable energy entrepreneurs are usually very small businesses in the installation and servicing sector and struggle to get access to financing to expand the business. There is hardly any local manufacturing and assembling of RE&EE products ongoing. Even basic equipment remains imported, what impacts negatively on the local value creation of the energy transition in terms of jobs and turn-over. Moreover, technology areas, which usually generate more primary and secondary jobs, have not got much attention in the past (e.g. distributed PV, solar thermal, clean cooking, bioenergy).

Regulatory or practical barriers do not allow to develop viable business models (e.g. net-metering, mini-grids). No special exemption is made for RE producers, so they are subject to the usual taxes as any other company. Within the customs framework, there is no specific distinction between the importation of goods or products for the generation of energy in comparison with other consumer goods or equipment. The RE&EE industry is not sufficiently organized. The associations are weak and there are no cleantech clusters.

Moreover, due to weak R&D infrastructure and spending, the link between innovation entrepreneurship is weak. Both are grounded in the application of scientific research. Science and technology are a major catalyst for the creation of innovative products and services. Innovation and entrepreneurial activities need the right mix of: education and training, research and development, applied science and technology, as well as financing.

also, which impact the COVID-19 crisis has on the ability to invest.

For many of these developments, it is still not clear how the projects and interrelated grid adaptations costs are finally financed. There would be need for bundling and involvement of risk mitigation instruments, which are currently not available. Moreover, the developments depend on readiness support to improve the regulatory and policy framework, as well as capacity building (e.g. SHP, storage).

Under the GEF project, UNIDO is currently assisting the Government to establish an entrepreneurship facility, which would provide services for business development to sustainable energy entrepreneurs and start-ups. This support will be up-scaled through the GCF Readiness support.

There could be an interesting niche for the GCF to provide concessional finance to the RE pipeline. The projects are small but of paradigmshifting nature for the country. Such projects have high transaction costs and remain often below the required minimum investment volume of financiers and development banks. Moreover, the integration micro/small hydro power and PV projects comes with grid adaptation and/or storage costs, which cannot be internalized by IPPs and are difficult to be covered by the utility and Government.

#### Alignment with national/regional policies

The GCF Readiness support builds on:

- various climate assessments and plans: Third National Communication on Climate Change (STP, 2019),
   INDC (2015), National Strategy for Adaptation to Climate Change (SNACC, 2007) and the National Adaptation Programme of Action (NAPA, 2007)
- o general STP policies: National Development Plan (2017-2021), National Sustainable Development Plan 2020 to 2024 (draft version)
- STP energy, climate and environmental legislation: Legal Framework of the Electricity Sector (RJSE) –
  Decree-Law No. 26/2014, special and transitional regime for the acquisition of energy from renewable
  sources was approved Decree-Law No. 1/2020, Law No.10/99 Basic Law on Environment, 2012,
  Decree No.13/2012 on the creation of the National Committee for Climate Change;

# 3. LOGICAL FRAMEWORK

Outcomes	Baseline	Targets	Outputs	Activities (brief description)	Deliverables
Outcome 1.2 Direct access applicants and accredited entities (DAEs) have established capacity to meet and maintain the GCF's accreditation standards; and accredited DAEs have the capacity to develop a pipeline of projects and effectively implement GCF-	Limited technical and institutional capacity of DGRNE/MOPIRNA and the NDA to coordinate and implement private participation, foreign direct investment and climate finance in the RE&EE sector Weak national mechanisms to coordinate across sectors and harmonize international support directed towards climate change mitigation and RE&EE.  Only low-quality energy data and analytics for reliable low-carbon energy planning	DGRNE/MOPIRNA executes first climate mitigation funding (at least USD 0,5 million) in the RE&EE sector and receives the status of a delivery partner for GCF Readiness proposals in the short-term (until the end of this Readiness request)  DGRNE/MOPIRNA and the NDA have increased staff capacity, knowledge and skills to coordinate and implement private participation, foreign direct investment and climate finance in the RE&EE sector	Output 1.2.1 DGRNE/MOPIRNA develops and enforces updated fiduciary standards, policies and procedures in line with the requirements of GCF and other donors. The NDA will receive continued support to participate in GCF dialogues and activities  This includes policies on gender equality, environmental and social safeguards (ESS), antimoney laundering and terrorist financing	Activity 1.2.1a Identify gaps regarding the qualification of DGRNE/MOPIRNA as delivery partner for GCF Readiness in the short-term (by end of this Readiness support) and DAE in the long-term (beyond this Readiness request)  Activity 1.2.1b Update fiduciary standards, policies and procedures in DGRNE/MOPIRNA (incl. policy on gender y, environmental and social safeguards anti-money laundering and terrorist financing) and ensure the qualification as delivery partner for Readiness proposals is met	Deliverable 1.2.1a Gap analysis Deliverable 1.2.1b Updated fiduciary standards and documented status as delivery partner for the GCF Readiness program
funded activities	available	(see also trainings under 1.2.2, 1.2.3 and 1.3.2)  Strengthened institutional mechanisms ensure quality	Output 1.2.2 The administrative and technical staff of DGRNE/MOPIRNA has the capacity to apply the updated fiduciary standards and policies	Activity 1.2.2a Provide training on finance, administration, procurement and other GCF policies (incl. gender equality, anti-money laundering and terrorist financing) – at least 40%	Deliverable 1.2.2a Training materials, list of participants and training certificates of staff (at least 40% women)
		assurance and cross- sectoral coherence of energy and climate mitigation/adaption proposals (see also 1.2.4).	(incl. the one on gender equality) Experts from the NDA, DGE and AFAP will participate in the trainings. Further technical	women participation is envisaged; Activity 1.2.2b Provide training on general project cycle management and related quality frameworks (e.g. logical framework, evaluation criteria);	Deliverable 1.2.2b Training materials, list of participants and training certificates of staff (at least 40% women)
		Quality data for scenario	training will be provided under 1.3.1, 1.3.2 and other outputs.	(at least 40% women participation is envisaged);	Deliverable 1.2.2c FMCA questionnaire and annexes

		development and planning is provided through the upgraded national energy information system and the fully functional network of		Activity 1.2.2c Support DGRNE/MOPIRNA to submit to the GCF the FMCA questionnaire and relevant annexes	submitted (incl. feedback of at least 40% women)
		data/statistical focal points (see also 1.2.5 and 1.3.1)	Output 1.2.3 A program for young climate professionals is developed and implemented by DGRNE/MOPIRNA and the NDA in cooperation with international partners	Activity 1.2.3a Develop and present the documents (incl. job profiles) for the young climate professionals and twinning program to international partners to seek support  Activity 1.2.3b Hire two (2) young RE&EE professionals at DGRNE and the NDA through an open competition	Deliverable 1.2.3a Documents (incl. job profiles) for the young climate professionals and twinning program (at least 40% women participation is envisaged) Deliverable 1.2.3b Selection results and contracts with two (2) young professionals (women candidates will be highly recommended)
			Output 1.2.4 Regular meetings of the NCCC, NSEP, CC-PTSE and NDC Partnership are coorganized by DGRNE/MOPIRNA in coordination with the NDA, DGE and AFAP	Activity 1.2.4a Organise meetings on climate relevant RE&EE mitigation issues organized, involving a broad range of national, cross-sectoral and international stakeholders	Deliverable 1.2.4a Minutes of NDC Partnership and NSEP meetings (at least 40% women participation is envisaged)
			Output 1.2.5 Upgraded energy information system with climate and gender relevant RE&EE data and verification of the GHG emission reduction scenario in the 3 <sup>rd</sup> NCCC	Activity 1.2.5a Upgrade energy information system with relevant RE&EE data and verification of GHG emission reduction data in the 3 <sup>rd</sup> NCCC Assessments indicate that the estimated emission reduction for the 50% RE electricity scenario in the NCCC is too low.	Deliverable 1.2.5a Upgraded energy information system with verified RE&EE, gender and climate data.
Outcome 1.3 Relevant country stakeholders (which may include executing entities, civil	No national mechanism and lack of capacities to collect and process quality low-carbon energy data.  Insufficient technical skills of experts in the main	National network of data focal points, coordinated by DGRNE, is fully operational and has sufficient capacity At least 150 experts of the	Output 1.3.1 National network for energy data collection established and 30 focal points are trained on relevant quality, climate and gender aspects.	Activity 1.3.1a Organise a training workshop on climate and gender sensitive RE&EE data collection in line with the established indicators (at least 40% women participation is envisaged)	Deliverable 1.3.1a Training materials, list of participants and training certificates Deliverable 1.3.1b List of contacts of data focal points

society organizations and private sector) have established adequate capacity, systems and networks to	institutional players (e.g. DGRNE, EMAE, AGER, AFAP, NDA, RAP), the private and financial sectors, to plan, appraise and implement RE&EE policies, regulations and projects.	main institutional players, the private and financial sectors, received training on RE&EE priority issues and the application of related tools	Collected data will be made available for climate change scenario development. The activity will be implemented in partnership with REN-21	Activity 1.3.1b Establish network of data collection focal points (involving youth and at least 40% women).	
support the planning, programming and implementation of GCF-funded activities			Output 1.3.2 At least 150 experts of the main institutional players, the private and financial sectors receive training on RE&EE priority issues and the application of related tools	Activity 1.3.2a Organise a training on energy and climate scenario planning and modelling by making use of tools such as LEAP (GHG emission modelling based on the scenario in the 3rd NCCC) - (at least 40% women participation is envisaged)	Deliverable 1.3.2a Training materials, list of participants and training certificates of staff (at least 40% women)  Deliverable 1.3.2b Training
			At least 40% of women participation in the trainings is envisaged. At least 40% of the participants shall be from local energy businesses and the	Activity 1.3.2b Organise a training on the application of RE policy and legislation in the context of the upcoming IPP projects (at least 40% women participation is envisaged)	materials, list of participants and training certificates of staff (at least 40% women)  Deliverable 1.3.2c Training
			financial sector (e.g. banks).	Activity 1.3.2c Organise a training on RE&EE project appraisal and finance by making use of tools such as RETScreen and HOMER (at least 40% women participation is	materials, list of participants and training certificates of staff (at least 40% women)
				envisaged) Activity 1.3.2d Organise an online training on RE characteristics and economics (at least 40% women participation is envisaged)	Deliverable 1.3.2d Training materials, list of participants and training certificates of staff (at least 40% women)
				Activity 1.3.2e Organise a training on unconscious bias and mainstreaming gender into energy policy and project planning and implementation (at least 40% women, and 40% men participation is envisaged)	Deliverable 1.3.2e Training materials, list of participants and training certificates of staff (at least 40% women/men)
				Activity 1.3.2f Organise a training on smart grid and storage management, incl. digitalization aspects particularly targeting experts of EMAE, DGRNE,	Deliverable 1.3.2f Training materials, list of participants and training certificates of staff (at least 40% women)

				RAP (at least 40% women participation is envisaged)	
Outcome 2.2 GCF recipient countries have developed or enhanced strategic frameworks to address policy gaps, improve sectoral expertise, and enhance enabling environments for GCF programming in low-emission investment	The baseline regarding EE is largely unknown an there are no national targets or standards in place. This includes high impact areas, such as lighting and appliances, as well as land transport.  The knowledge base and capacities of the main institutional players and the private sector regarding the enforcement of EE standards and practices are weakly developed.	Baseline/situation reports on EE for appliances (lighting, air conditioning, refrigeration), clean cooking, land transport and commercial grid electricity losses are available  Standards and verification systems for efficient appliances (lighting, air conditioning, refrigeration), vehicle emission standards and imports are drafted and proposed for adoption  A regulation for electricity theft is developed and awareness campaign implemented	Output 2.2.1 Minimum performance standards (MEPS) and verification system for three (3) appliances (lighting, air condition, refrigeration) are adapted from best practice and enforcement support is provided	Activity 2.2.1a Develop a baseline report on the three (3) standards in line with best practice examples Activity 2.2.1b Adapt existing MEPS for lighting, air conditioning and refrigeration to the situation and language context of STP. Activity 2.2.1c Establish an implementation, verification and monitoring system Activity 2.2.1d Organise relevant technical committee and validation meetings as required (at least 40% women participation is envisaged) Activity 2.2.1e Organise two (2) training workshops for 40 key stakeholders (e.g. ports) to enforce the MEPS (at least 40% women participation is envisaged)	Deliverable 2.2.1a Baseline report on the three (3) standards and relevant data to be disseminated through the energy information system  Deliverable 2.2.1b MEPS for lighting, air conditioning and refrigeration  Deliverable 2.2.1c Implementation, verification and monitoring system  Deliverable 2.2.1d Agendas, meeting minutes and lists of participation  Deliverable 2.2.1e Training materials, agendas, list of participants and training certificates (at least 40% of women participation is envisaged)
		At least 100 experts of the relevant institutional players and the private sector have received training regarding the enforcement of standards and versification systems for appliances, vehicle emission standards and imports, as well as clean cooking  South-south knowledge transfer on EE issues with	Output 2.2.2 A Baseline report on efficient cooking appliances is developed and includes recommendations for implementation  The baseline will consider best practice examples from other SIDS, which have successfully switched from traditional biomass burning and charcoal to more efficient alternatives (e.g. improved cook-stoves, LPG).	Activity 2.2.2a Develop a baseline report on efficient cooking appliances for urban, rural and industrial needs. The baseline report will analyse the current use of traditional firewood and charcoal for cooking purposes.  Activity 2.2.2b Organise relevant technical committee and validation meetings as required (at least 40% women participation is envisaged with involvement or gender focal points and stakeholders)	Deliverable 2.2.2a Gender responsive baseline report on efficient cooking appliances and relevant data to be disseminated through the energy information system  Deliverable 2.2.2b Agendas, meeting minutes and lists of participation (at least 40% women)

other Portuguese speaking SIDS is institutionalized (e.g. Cape Verde)	Gender dimensions will be a key aspect in the baseline report.	Activity 2.2.2c Facilitate knowledge exchange with lusophone SIDS on best clean cooking practice in a joint webinar form in cooperation with ALER/CPLP and ECREEE (at least 40% women participation is envisaged)  Activity 2.2.2d Organise a training workshop on production and use of clean cooking appliances for 30 cross-sectoral experts (at least 40% women participation is envisaged)	Deliverable 2.2.2c Agenda, presentation, meeting minutes and list of participation in the webinar (at least 40% women)  Deliverable 2.2.2d Training material, agenda, list of participants and training certificates (at least 40% of women participation is envisaged)
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Output 2.2.3 Regulations for Activity 2.2.3a Develop a baseline Deliverable 2.2.3a Gender vehicle emission standards and report and recommendations for lowresponsive baseline report on imports are drafted, validated by carbon land transport (incl. analysis of low-carbon land transport; the NDA and key Ministries with the vehicle fuel economy in STP); relevant data to be disseminated relevant mandates through energy information Activity 2.2.3b Support the draft of a system regulation for vehicle emission Deliverable 2.2.3b Draft standards and imports, submit it for regulations for vehicle emission standards and imports and The baseline report to be validation to the NDA and key Ministries with relevant mandates prepared will provide guidance on the cost-effectiveness and official validation received from the NDA and key Ministries with mitigation potential of various Activity 2.2.3c Organise relevant relevant mandates options, including electric mobility. 16 It will include an technical committee and validation meetings as required (at least 40% Deliverable 2.2.3c Agendas, Meeting minutes and lists of analysis of the existing vehicle women participation is envisaged) participation fuel economy in STP and will recommend low-carbon policy Deliverable 2.2.3d Agenda, options, including the promotion of electric mobility and Activity 2.2.3d Facilitate SIDS-SIDS presentation, meeting minutes and list of participation in the knowledge exchange on efficient integrated power systems. transport legislation and electric webinar (at least 40% women) mobility in a joint webinar form in cooperation with ALER/CPLP, Deliverable 2.2.3e Training material, agenda, list of ECREEE, CCREEE and PCCREE participants and training certificates (at least 40% of Activity 2.2.3e Organise one training workshop on the enforcement of women participation is envisaged) standards for vehicle emissions and imports for 30 cross-sectoral experts (at least 40% women participation is envisaged)

			Output 2.2.4 A regulation to reduce commercial electricity losses is developed and a gender-sensitive awareness campaign on electricity theft is implemented Gender will be considered throughout the implemented activities. Women are an important target group the management of energy saving measures on household level and work.	Activity 2.2.4a Develop a baseline report on commercial electricity losses (considering gender aspects) Activity 2.2.4b Develop and propose for approval a regulation on electricity theft (considering gender aspects) Activity 2.2.4c: Develop and implement a gender-sensitive awareness campaign on electricity theft in partnership with EMAE and AGER	Deliverable 2.2.4a a gender responsive baseline report on commercial electricity losses Deliverable 2.2.4b Regulation on electricity theft Deliverable 2.2.4c: Video and brochure material of the campaign
Outcome 2.4 Strategies for transforming and attracting private sector investment for low emissions and resilience developed and being used	Fragmented and weakly enforced policy, regulatory and incentive framework conducive for private participation, FDI, as well as project and corporate finance in the RE sector.  Lack of practical experience of DGRNE, EMAE and AGER with the application of the RE legislation for the proposed utility-scale IPP pipeline projects in the area of SHP and solar PV.  Lack of regulation, fiscal and non-fiscal incentives for distributed (e.g. net-	Enhanced practical and legal experience of DGRNE, EMAE and AGER with the implementation for utility-scale IPPs in the area of SHP and solar PV is available Regulations and practical guidelines for RE autoproducers (net-metering), rural mini-grid operators and solar-thermal users are available A new entrepreneurship facility provides incubation and mentoring support for business plan development to ten (10) RE&EE	Output 2.4.1 A regulation and practical guidelines for the introduction of solar-thermal applications in the tourism, health and relevant industrial sectors (e.g. agriculture, food production) are available and introduced to key stakeholder groups.  This activity is of significant rural relevance for the promotion of hygiene to prevent the spread of diseases such as COVID-19. Gender dimensions will be considered in the guidelines.	Activity 2.4.1a Conduct a baseline study, listing and analysing existing regulations, and develop a practical guidelines on solar thermal applications in close coordination with EMAE and AGER Activity 2.4.1b Organise a training workshop on the application of solar thermal applications for 30 experts - (at least 40% women participation is envisaged)	Deliverable 2.4.1a Gender responsive baseline study, list of existing regulations and practical guidelines on solar thermal applications Deliverable 2.4.1b: Training materials, list of participants and training certificates (at least 40% of women participation will be envisaged)
	metering) and decentralized rural RE solutions (e.g. minigrids), as well as solar thermal use.  Lack of fiscal and non-fiscal incentives and incubation support for local RE&EE	entrepreneurs and start-ups (at least 40% to women entrepreneurs) Increased capacity of 60 experts in EMAE, private and financial sectors to plan, operate and finance SHP	Output 2.4.2 The existing RE legislation for utility-scale IPPs, net-metering and rural mini-grids is implemented in practice and further developed	Activity 2.4.2a Conduct a grid-stability study with recommendations for smart grid and storage management (incl. options for digitalization).  Activity 2.4.2b Provide legal advisory support for the implementation of IPP	Deliverable 2.4.2a Grid-stability study Deliverable 2.4.2b Legal advisory documentation for IPP implementation Deliverable 2.4.2c Net-metering regulation and practical

innovatio  Lack of trutility and to apply of SHP plan and oper and environment and control safeguar Lack of the gradient and and per and environment and control safeguar the	con.  sechnical skills of the d the private sector quality standards for nning, installation ration (incl. social ironmental rds).  saseline data g the exploitation of nergy technologies in	plants and solar thermal systems in line with established guidelines/standards Baseline and pre-feasibility data on potential ocean energy project sites e.g. wave, tidal, SWAC, OTEC, floating PV) is available	Output 2.4.3 Ten (10) domestic RE&EE entrepreneurs and startups received incubation support for the development of strategic, studies, business plans and business models. It is envisaged that at least 40% of the support will go to women entrepreneurs  The support will be provided by a RE&EE entrepreneurship facility established by DGRNE/MOPIRNA in partnership with UNIDO and initial GEF funding. The supported businesses will be selected through a competitive call launched in coordination with the STP Chamber of	pipeline projects to mitigate risks for the Government and investors Activity 2.4.2c Support the drafting of a regulation and practical guidelines for auto-producers (net-metering) and rural mini-grids  Activity 2.4.3a Develop the required documents (application guidelines, appraisal framework, templates) for the call for proposal of the entrepreneurship facility, considering a gender-responsive approach. Activity 2.4.3b Implement the call, capacity building and mentoring activities Activity 2.4.3c Organise a business-to-business event and structural dialogue in partnership with CCIAS and the banking sector  It shall be noted that there is no fund flow to companies. Entrepreneurs will receive training and mentoring support.	guidelines for RE auto-producers and mini-grids  Deliverable 2.4.3 a gender responsive support policy, appraisal framework and templates for the call Deliverable 2.4.3b Call documents, received applications, evaluated proposals, documented capacity building and mentoring support Deliverable 2.4.3c Photos and documents of the business-to-business event and structural dialogue
			Commerce (CCIAS).  Output 2.4.4 Guidelines for micro/small hydropower (SHP) development, installation, operation and financing <sup>17</sup> are available and introduced to relevant institutions and the private sector	Activity 2.4.4a Translate in Portuguese existing guidelines for micro/small hydropower (SHP) development, installation and operation and make them available free of charge to EMAE, project developers and financiers Activity 2.4.4b Organise a training workshop for at least 30 experts on	Deliverable 2.4.4a Practical SHP guidelines available in Portuguese and disseminated through the energy information system  Deliverable 2.4.4b Training materials, list of participants and

 $<sup>^{17}\</sup>underline{\text{https://www.unido.org/our-focus-safeguarding-environment-clean-energy-access-productive-use-renewable-energy-focus-areas-small-hydro-power/shp-technical-guidelines}$ 

	the application of the SHP guidelines of key stakeholders in the sector (incl. banks and financers) - (at least 40% women participation is envisaged)	training certificates (at least 40% women)
Output 2.4.5 A potential assessment on the use of energy within the blue eco vision of the country (e.g. tidal, SWAC, OTEC, floating to the country (e.g. tidal, SWAC, oten and tidal, swach, other is developed, incl. pre-feat data gathering on potential currently, not all these technologies are commerciand still in the stage of technology demonstration. However, it can be expect that many of them are entinto industrial up-scale the ten years.	technology options undertaken  yave, nomy paye, nig PV) sibility I sites.  Activity 2.4.5b Collect pre-feasibility data on potential sites  Activity 2.4.5c Facilitate a SIDS-SIDS knowledge exchange on ocean energy in the form of a joint webinar in cooperation with ALER/CPLP, SIDS DOCK and the GN-SEC organized	Deliverable 2.4.5a Baseline study with technology options  Deliverable 2.4.5b Pre-feasibility data on potential sites  Deliverable 2.4.5c Agenda, presentation, meeting minutes and list of participation in the webinar (at least 40% women)

Outcome 4.5 An increase in the proportion of PPF requests and funding proposals approved as a result of Readiness and Preparatory Support

Limited ability of the Government and the private-sector to raise affordable public, commercial and concessional finance for small-scale RE&EE island projects from local and international sources (no bundling of projects and investment opportunities)

Unreliable domestic guarantees and difficulties to access international risk mitigation instruments hinder the incoming of FDI and private participation in RE&EE sector

Limited capacity of DGRNE/MOPIRNA to bundle and structure RE&EE funding proposals, appealing to international partners, providing grants and/or concessional finance (incl. the GCF)

A National Sustainable Energy Investment Plan and Program is developed and a concept note is submitted to the GCF Project Preparation Facility (PPF) or another financing window (e.g. Simplified Approval Process Pilot Scheme)

The concept note will take into account potential involvement of regional risk mitigation instruments.

Output 4.5.1 A National Sustainable Energy Investment Plan based on real project and feasibility data is developed and presented to interested developers, financiers and investors.

The investment plan will include gender-relevant considerations and focus on RE&EE projects/programs with high relevance and engagement opportunities for women and women entrepreneurs in STP (e.g. productive uses, household energy, clean cooking).

Activity 4.5.1a Collect relevant gender-aggregated data on feasible and viable investment cases and business models

Activity 4.5.1b Support the formulation and adoption of a National Sustainable Energy Investment Plan (NSEP)

Activity 4.5.1c Present the NSEP to developers, financiers and investors at various events (40% women representation is envisaged). At least 3 presentations will focus on investment opportunities with high relevance for women and women entrepreneurs in STP.

Deliverable 4.5.1a Collected data and analytics

Deliverable 4.5.1b National Sustainable Energy Investment Plan (NSEP)

Deliverable 4.5.1c Communications and prepared presentations for developers, financiers and investors

Output 4.5.2 A National Sustainable Energy Investment Programme in the form of a concept note will be developed and submitted to the GCF Project Preparation Facility (PPF) or another financing window (e.g. Simplified Approval Process Pilot Scheme) by a GCF accredited entity. The programme will consider gender aspects.

Activity 4.5.2a Prepare a draft concept note on the National Sustainable Energy Investment Program

Activity 4.5.2b Pre-discuss the draft concept note with GCF and integrate comments received

Activity 4.5.2c Formally submit the request to the GCF

Deliverable 4.5.2a Concept note and submitted request to GCF

Deliverable 4.5.2b Prediscussed concept note with incorporated comments of GCF

Deliverable 4.5.2c Formal submission documents to GCF

## 4. THEORY OF CHANGE

Goal/Impact: The GCF Readiness support will contribute to the expansion of the RE&EE technology market in STP. This will lead to GHG emission reduction and increased resilience. The climate mitigation scenario established in the NDC and 3<sup>rd</sup> NCCC has important co-benefits. <sup>18</sup> The expected fossil fuel import savings and reduced energy costs, will make the overall economy more resilient and key island industries more competitive, in line with the established Vision 2030 of the country. Major fossil fuel spending reductions can be assumed, when looking at the accumulated debt of STP to Angola, currently amounting to USD 150 million. It exceeds the total initial investment in grid-connected SHP and/or solar PV projects required to achieve the established 50% RE electricity target by 2030.

Goal statement: The GCF Readiness support will build the capacities of the Government and private sector to implement an enabling policy and regulatory framework, which will attract climate finance, foreign direct investment (FDI) and private participation in the RE&EE sector. The support will lead to the formulation of a paradigm-shifting RE&EE investment programme, which will build the foundation for future GCF and climate finance operations. The investment programme will be directed to achieve the climate mitigation targets in the NDC. Through the provided GCF Readiness support, the Government will be better prepared to implement the thirteen energy related mitigation actions in the 3<sup>rd</sup> NCCC, the NREAP and NEEAP.

Target groups/beneficiaries: The main direct beneficiaries (target groups) of the Readiness support are DGRNE/MOPIRNA, the NDA and other institutional players in the energy sector, such as the National Water and Electricity Company (EMAE), 19 the General Regulatory Authority (AGER), 20 the Autonomous Region of Principe (RAP), as well as domestic businesses and banks active in the RE&EE sector. 21 The final beneficiaries are energy consumers, which will benefit from the increased availability of reliable, affordable and sustainable energy products and services. The readiness support will be gender-responsive.

Holistic approach and complementarity: Past readiness support in the RE&EE sector in STP was rather fragmented and uncoordinated. These efforts have been focused solely on the electricity sector and existing barriers for RE&EE were not addressed comprehensively and across sectors. The impact of these scattered interventions has been very limited. Over the past ten years, STP has had not no measurable advances regarding renewable energy (RE) and energy efficiency (EE).

Contrary to this, the GCF Readiness proposal applies a holistic approach and focuses on a paradigm-shift of the entire energy sector. It builds on past and ongoing readiness activities, closes gaps, complements and/or upscales existing support. These gaps exist particularly in the EE sector and with regard to the distributed and rural RE dimension (e.g. net-metering, mini-grids, solar thermal, bioenergy). The experience in other SIDS indicates, that a holistic approach, stimulating various changes simultaneously, tend to be more effective to accelerate the energy transition. Due to the small energy systems, the financial resource requirements for such readiness support are limited.

The introduction of new technology products, services and business models in STP, requires specific pull and push actions directed to overcome demand (consumers of products and services) and supply-side (suppliers of products and services) barriers. These barriers are related to institutional capacity and coordination, policy and regulation, knowledge and awareness, qualification and certification, entrepreneurship and innovation, access to finance and technology.

<sup>&</sup>lt;sup>18</sup> Sustainable development co-benefits as defined in the GCF mitigation and adaptation performance measurement framework and the GCF investment framework

<sup>&</sup>lt;sup>19</sup> Empresa de Água e Electricidade (EMAE)

<sup>&</sup>lt;sup>20</sup> Autoridade Geral de Regulação (AGR)

<sup>&</sup>lt;sup>21</sup> Região Autónoma do Príncipe (an autonomous administrative division which covers the island of Principe)

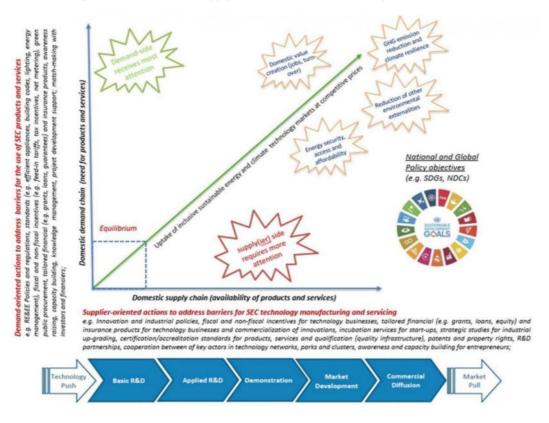
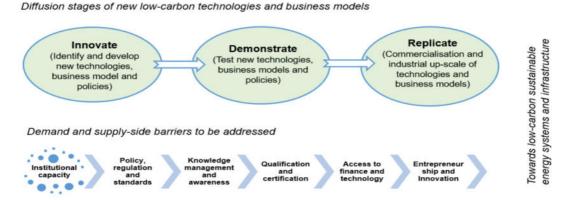


Figure 3: Demand and supply-side RE&EE market development actions<sup>22</sup>

Outcomes/outputs: The proposed Readiness grant will help to overcome existing supply-side and demand-side barriers for the market uptake of RE&EE products and services. To strengthen the capacities of the main institutional players and the private sector to rapidly absorb climate finance in the RE&EE sector, the GCF proposal will provide support for institution building, baseline reports and data management, regulations and standards, trainings, as well as business and investment plan development. The activities are closely interrelated and together they build a robust foundation for future GCF or climate finance interventions. The sustainability of these interventions, relies to a large extend on local capacities and business models.

Figure 4: Market introduction of new RE&EE technologies, products and services<sup>23</sup>



<sup>&</sup>lt;sup>23</sup> Empresa de Água e Electricidade (EMAE)

<sup>&</sup>lt;sup>23</sup> Autoridade Geral de Regulação (AGR)

<sup>&</sup>lt;sup>23</sup> Região Autónoma do Príncipe (an autonomous administrative division which covers the island of Principe)

<sup>&</sup>lt;sup>23</sup> Lugmayr M. (UNIDO) based on practical experience on project and policy level

Activities related to institution building: The Readiness grant will strengthen the technical and institutional capacities of DGRNE/MOPIRNA to become an executing entity of international climate finance in the energy sector. DGRNE is expected to become a delivery partner for GCF Readiness proposals in the short-term (until the end of this Readiness request) and a direct access entity (DAE) in the long-term. Simultaneously, the energy and climate change mitigation expertise of the NDA will be strengthened. The support includes also the strengthening of fiduciary standards, policies and processes of DGRNE/MOPIRNA. UNIDO will support the process and contribute with its institution-building experience regarding technology centres, such as the *Network of Cleaner Production Centres* and the *Global Network of Regional Sustainable Energy Centres*. <sup>24</sup> Currently, UNIDO is also supporting the establishment of the ECCAS Centre for Renewable Energy and Energy Efficiency, in which STP intends to have a significant role.

Activities related to energy/climate data: The Readiness support will strengthen national capacities regarding gender-sensitive energy data collection, management and analytics. This includes the creation of a network of data focal points and trainings on planning and appraisal tools (e.g. LEAP). These activities will target a broad range of key stakeholders (statistics, ministries, utility, regulator, provincial authorities), which are involved in energy data collection and management, including the private sector, which has relevant market data on energy technologies and price dynamics. Moreover, gender aspects will be considered in the design of the data network and relevant trainings. This will ensure the selection of gender-relevant indicators, as well as sex-disaggregated data. The GCF will contribute also to the collection of baseline data through the development of several baseline reports (e.g. efficient transport, energy standards and losses, cooking).

Activities related to renewable energy: Regarding RE, the focus lies on the development and enforcement on specific regulations, incentives and practical documents/standards, which aim to reduce risks for private participation (e.g. IPPs, PPPs, auto-producers), project finance (equity, concessional and non-concessional finance) and FDI. These activities will complement and upscale past and ongoing readiness support provided by the WB, AfDB, UNIDO and UNDP particularly for the electricity sector and RE utility-scale integration. In this area, the Readiness grant will support DGRNE, AGER and EMAE on the enforcement of the existing IPP legislation and attached issues related to smart grid management and storage (e.g. SHP management, battery). The latter includes support for the use of guidelines/standards for SHP development and operation, to be applied by the utility and private sector. Complementary, a regulation and practical procedures for small-scale auto-producers (net-metering), isolated rural mini-grids and solar-thermal use will be developed. Finally, the Readiness support will also look into frontier technologies and generate baseline data on the ocean energy potential.

Activities related to energy efficiency: In the area of EE, the focus lies on baseline studies and the development and enforcement of standards and regulations in the area of appliances (lighting, air conditioning, and refrigeration), commercial electricity losses, low-carbon transport (e.g. fuel and vehicle standards) and efficient cooking. So far, nearly no readiness support was provided in this area. Knowledge and capacities need to be strengthened in all areas and across various key stakeholders and sectors, participating in the enforcement. To have more impact, these activities will be closely coordinated and cofunded through the ongoing GEF funded UNIDO project. The activity will also benefit from the lessons learned of the Energy Efficient Lighting and Appliances (EELA) project currently implemented by UNIDO in partnership with SACREEE<sup>25</sup> and EACREEE<sup>26</sup> under the Global Network of Regional Sustainable Energy Centres (GN-SEC) in Eastern and Southern Africa. A similar program is currently implemented by ECREEE in Cape Verde. The activity will also benefit from the practical experiences with MEPS in Cape Verde.

Activities related to capacity building: Qualification and training are an important work stream throughout all outcomes/outputs. On-site and online trainings will be provided in the following areas: characteristics and economics of RE&EE, low-carbon energy and climate scenario planning and modelling, and SHP development and operation, storage and smart girds, clean cooking, efficient appliances and lighting, project appraisal and finance, clean cooking and gender. The main target groups for these trainings are the main institutional players involved in the enforcement of RE&EE regulation, as well as the private sector. At least 40% women participation is envisaged.

Activities directed towards the private sector: Most of the proposed GCF Readiness activities aim to reduce the risk for private participation and FDI in the RE&EE sector, as well as building capacities of local energy entrepreneurs. The local private sector will benefit from most of the trainings implemented. To particularly address the constraints regarding the local supply of RE&EE products and services, an entrepreneurship

<sup>&</sup>lt;sup>24</sup> www.gn-sec.net

<sup>&</sup>lt;sup>25</sup> www.sacreee.org

<sup>&</sup>lt;sup>26</sup> www.eacreee.org

facility will provide business plan/model development support to local RE&EE businesses and start-ups (mainly through trainings). This will include structured dialogue with the domestic/international financial sector on (affordable) project and cooperate finance possibilities for the RE&EE sector. Call for proposal will be organized in partnership with local associations and international partners, such as ALER and/or ARE. At least 40% women participation is envisaged.

Activities related to south-south cooperation: Knowledge exchange on best practice island solutions, primarily with the Portuguese speaking SIDS, will be facilitated by UNIDO through its energy team in the field, the Global Network of Regional Sustainable Energy Centres (GN-SEC) and the established cooperation with CPLP/ALER. For example, Cape Verde has implemented a number of the envisaged readiness activities (e.g. tariff reform, RE&EE regulations, standards) already some years ago. Knowledge transfer from Barbados through the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE)<sup>27</sup> and the BLOOM Clean Tech Cluster<sup>28</sup> in Bridgetown will be organized on electric mobility and solar-thermal use. Barbados is one of the few SIDS with high solar-thermal and electric vehicles coverage.

Activities related to pipeline development: Based on the other activities, a national RE&EE investment plan will be developed, which includes a pipeline of projects and sheds light on opportunities for various forms of climate finance. A concept for an investment program, which will bundle concessional investment opportunities, will be developed and submitted in the form of a concept to the GCF Project Preparation Facility (PPF) or another main window. One interesting field for such a request could be costs for grid adaptation in the context of the RE utility scale integration.

Cross-cutting areas: The promotion of gender equality and the empowerment of women (GEEW) and innovation will be also considered as important cross-cutting areas (see further information under 6.5). Digital technologies and related innovative business models will be considered in technical studies and policies and the potential application of future-oriented ocean energy technologies will be studied further.

Inputs: In the NDC and 3<sup>rd</sup> NCCC the Government has set ambitious climate mitigation targets and the TNA has identified thirteen priority actions in the field of RE&EE. The GCF Readiness support builds on the partnership between DGRNE/MOPIRNA and UNIDO in the context of the Global Environment Facility (GEF) funded project "Strategic program to promote renewable energy and energy efficiency investments in the electricity sector of São Tomé and Príncipe", which is being implemented between 2019 and 2023. The Readiness request will build on baseline activities supported by the GEF and focus on the closure of gaps and up-scaling. It will follow-up on key actions identified in the NREAP and NEEAP. It will also establish a strong link to the ongoing energy programs and projects supported by the WB, AfDB and UNDP. Close coordination with the efforts of the NDC Partnership will be created.

Enforcing drivers/risks: Major co-drivers for climate mitigation in the energy sector are national concerns regarding the accumulating fossil fuel debt (subsidies) and uncertain oil price projections, the need to replace/expand generation capacity and the availability of RE&EE potentials with better economics than the diesel alternative. Another factor are the expanding international climate markets, which offer opportunities to raise project finance for climate mitigation at favourable terms. The risks are further described in the respective section.

<sup>&</sup>lt;sup>27</sup> www.ccreee.org

<sup>&</sup>lt;sup>28</sup> http://www.bidc.org/bloom

Goal

To expand RE&EE technology market leads to GHG emission reduction and increased resilience through reduced fossil fuel spending and energy costs for households and key island industries (contributes to the targets in NDC/NCCC, Vision 2030, NREAP and NEEAP)

Goal Statement IF Sao Tome and Principe enforces a conducive policy, regulatory and qualification framework for RE&EE, THEN market development, climate finance and private participation in the RE&EE sector will be attracted BECAUSE practical knowledge and skills for the application of RE&EE solutions are strengthen and fed into an investment plan directed towards climate change mitigation

Outcomes

Outcome 1.2 Direct access applicants and accredited entities (DAEs) have established capacity to meet and maintain the GCF's accreditation standards; and accredited DAEs have the capacity to develop a pipeline of projects and effectively implement GCF-funded activities

Outcome 1.3 Relevant country stakeholders (which may include executing entities, civil society organizations and private sector) have established adequate capacity, systems and networks to support the planning, programming and implementation of GCF-funded activities

Outcome 2.2 GCF recipient countries have developed or enhanced strategic frameworks to address policy gaps, improve sectoral expertise, and enhance enabling environments for GCF programming in low-emission inventment. Outcome 2.4 Strategies for transforming and attracting private sector investment for low emissions and resilience developed and being used. Outcome 4.5 An increase in the proportion of PPF requests and funding proposals approved as a result of Readiness and Preparatory Support.

Outputs

Output 1.2.1 DGRNE/MOPIRNA develops and enforces updated fiduciary standards, policies and procedures in line with the requirements of GCF and other

Output 1.2.2 The administrative and technical staff of DGRNE/MOPIRNA has the capacity to apply the updated fiduciary standards and policies (incl. the one on gender equality)

Output 1.2.3 A program for young climate professionals is developed

Output 1.3.1 National network for energy data collection established and 30 focal points are trained on relevant quality, climate and gender aspects.

Output 1.3.2 At least 150 experts of the main institutional players, the private and financial sectors receive training on RE&EE priority issues and the application of related tools

Output 2.2.1 Minimum performance standards (MEPS) and verification system for three (3) appliances (lighting, air condition, refrigeration) are adapted from best practice and enforcement support is provided

Output 2.2.2 A Baseline report on efficient cooking appliances is developed and includes recommendations for implementation

Output 2.2.3 Regulations for vehicle emission standards and

Output 2.4. 1 A regulation and practical guidelines for the introduction of solar-thermal applications in the tourism, health and relevant industrial sectors (e.g. agriculture, food production) are available and introduced to key stakeholder groups

Output 2.4.2 The existing RE legislation for utility-scale IPPs, net-metering and rural minigrids is implemented in practice and further developed

Output 4.5.1 A National Sustainable Energy Investment Plan based on real project and feasibility data is developed and presented to interested developers, financiers and investors

Output 4.5.2 A National Sustainable Energy Investment Program in the form of a concept note will be developed and submitted to the GCF Project Preparation Facility (PPF) or another financing window (e.g. Simplified Approval Process Pilot

and implemented by DGRNE/MOPIRNA and the NDA in cooperation with international partners

Output 1.2.4 Regular meetings of the NCCC, NSEP, CC-PTSE and NDC Partnership are co-organized by DGRNE/MOPIRNA in coordination with the NDA, DGE and AFAP

Output 1.2.5 Upgraded energy information system with climate and gender relevant RE&EE data and verification of the GHG emission reduction scenario in the 3rd NCCC

imports are drafted, validated by the NDA and key Ministries with relevant mandates

Output 2.2.4 A regulation to reduce commercial electricity losses is developed and a gendersensitive awareness campaign on electricity theft is implemented

Output 2.4.3 Ten (10) domestic RE&EE entrepreneurs and startups received incubation support for the development of strategic, studies, business plans and business models. It is envisaged that at least 40% of the support will go to women entrepreneurs

Output 2.4.4 Guidelines for micro/small hydropower (SHP) development, installation, operation and financing are available and introduced to relevant institutions and the private sector

Output 2.4.5 A potential assessment on the use of ocean energy within the blue economy vision of the country (e.g. wave, tidal, SWAC, OTEC, floating PV) is developed, incl. pre-feasibility data gathering on potential sites

Scheme) by a GCF accredited entity

Inputs

- Country program and STP Least-Cost Power Development Plan (LCPDP)
   NDC and 3rd NCCC 3rd (technical needs assessment TNA)
   Deliverables and lessons-learnt from GEF-UNIDO project "Strategic program to promote renewable energy and energy efficiency investments in the electricity sector of STP",
- Actions identified in the NREAP and NEEAP
- Deliverables from ongoing readiness projects

Barriers

- Lack of institutional capacity and cross-sectoral coordination
- Lack of a coherent RE&EE policy, regulatory and incentive framework
   Lack for knowledge and data
   Lack of qualification and certification framework for RE&EE products and services
- Financial and business-related barriers

#### Assumptions:

Risks:

- Availability of vast renewable energy resources (e.g. PV, SHP), which are highly competitive in comparison to diesel generation; High impact and attractiveness (and short amortization times) of energy efficiency improvements due to high energy costs;
- Commitment of the Government to the increase of RE&EE and reduction of fossil fuel subsidies:
- Commitment of the Government to a power sector and tariff reform towards increased sustainability and cost-recovery;

#### Assumptions and risks

- Commitment of DGRNE/MOPIRNA to strengthen internal policies and technical capacities with regard to RE&EE and climate mitigation;
   Continued interest of the private sector to invest RE&EE projects and business models;
- Reduced commitment of the Government to RE&EE and the reduction of fossil fuel subsidies due to changing priorities (e.g. elections, resistance of interest groups) Significant fossil fuel price reductions impact on the competitiveness and attractiveness of REⅇ
- Resistance of interest/lobby groups benefitting from fossil fuel value change Unchanged low electricity consumer tariffs lower the interest in RE technologies, EE improvements and energy saving:
- Lack of commitment to the power sector and tariff reform towards increased sustainability and cost-recovery, as well as abolishment of fossil fuel subsidies; Reduced commitment of DGRNE/MOPIRNA to RE&EE advancements and internal reforms (e.g. fiduciary standards);
- Implementation delays due to weak capacities of DGRNE/MOPIRNA and COVID-19 lockdowns;
- COVID-19 might reduce foreign direct investment in the RE&EE sector and/or impact negatively on financing terms (e.g. interest rate increase, higher guarantee expectations); Low participation rates of suitable women candidates due to lack of interest, inadequate project activity or missing qualified female population within the i.e. engineering sector;
- Climate extremes might impact RE&EE planning and implementation. Generally, undertaken climate change adaptation assessments and plans do not show significant impacts;

# 5. BUDGET, PROCUREMENT, IMPLEMENTATION AND DISBURSEMENT PLAN

#### 5.1 Budget plan

The budget plan is attached as annex.

#### 5.2 Procurement plan

The procurement plan is attached in the annex.

#### 5.3 Implementation Plan

The implementation plan is attached in the annex.

#### 5.4 Disbursement schedule

The disbursement plan is attached in the annex.

#### ☑ Readiness Proposal that falls within a Framework Agreement with the GCF

Disbursements will be made in accordance with and subject to Clause 4 "Disbursement of Grants" and Clause 5 "Use of Grant Proceeds by the Delivery Partner" of the Framework Readiness and Preparatory Support Grant Agreement entered into between GCF and UNIDO dated 3 December 2018 as amended by the Side Letter dated 30 July 2020. The Delivery Partner is entitled to submit 2 request(s) for disbursement each year and an Interim Request for Disbursement within 30 days of approval by the GCF of a proposal, which must be in accordance with the Framework Agreement."

# 6. IMPLEMENTATION ARRANGEMENTS AND OTHER INFORMATION

### 6.1 Implementation arrangements

The Readiness support will be implemented by UNIDO as the nominated delivery partner in close coordination with DGRNE/MOPIRNA, the NDA and other important institutional players (e.g. EMEA, AGER, AFAP). UNIDO will lead the implementation of the proposed program, including the fiduciary management. Up to now DGRNE has not executed significant climate funds. Development partners provide usually services to DGRNE but stay with the financial and technical management. As delivery partner, UNIDO will take full responsibility for the implementation of the readiness activities.

#### Applied twinning approach:

UNIDO will apply a strong ownership-oriented "twinning" approach, which will engage gradually more and more responsibilities to the DGRNE/MOPIRNA. This approach is characterized by the principles of genuine partnership, shared responsibilities and execution, flexibility, institution-to-institution peer learning and mentoring. UNIDO will apply the "twinning" methodology developed for the creation of technology centres under the Global Network of Regional Sustainable Energy Centres (GN-SEC). This is fully in line with the renewed focus of the GCF Readiness Program on peer-to-peer learning and other sustainable institution building approaches. The approach is particularly recommended for LDCs, where stand-alone trainings for potential delivery partners or DAEs are usually not sufficient. The "twinning" approach is of technical nature and does not include transfer of funding and delegation of procurement authority to DGRNE/MOPIRNA. The funding will be directly operated by UNIDO in line with its established rules and procedures. DGRNE will provide increasing implementation support to UNIDO. DGRNE will not be procured/contracted by UNIDO. UNIDO has full responsibility for procuring consultants and all other tasks, such as monitoring and evaluation.

<sup>&</sup>lt;sup>29</sup> Defined as institutional peer to peer learning

<sup>30</sup> www.gn-sec.net

As explained in the proposal, the technical capacities of DGRNE to plan and implement complex technical operations, as included in the GCF proposal (e.g. EE standards for vehicles and electric appliances, small hydro, smart grids), are very limited. Therefore, the "twinning" approach will ensure "learning by doing", for example when it comes to the preparation of technical documents, terms of reference for complex procurements, evaluation of bids and the management of consulting assignments. UNIDO will involve the local staff at DGRNE and the NDA in these activities as much as possible. This will ensure "joint learning" and sustainable capacity building. It is envisaged, that after the GCF Readiness support, DGRNE can handle such complex technical operations without UNIDO involvement. All formal procurement processes will be fully handled by UNIDO in line with its rules and procedures and not DGRNE/MOPIRNA. Also, all financial transactions will be done by UNIDO to contractors (e.g. consultancy companies) and not DGRNE. The twinning approach will ensure sustainability of readiness activities as well as capacity building of DGRNE/MOPIRNA for future projects. DGRNE will provide increasing implementation support to UNIDO.

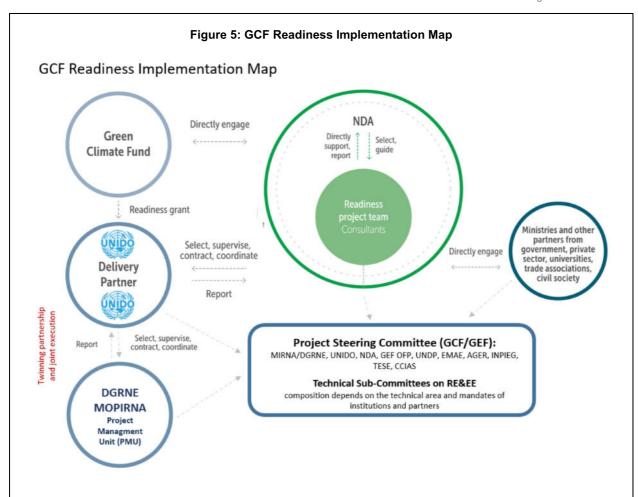
The main peer will be UNIDO. In addition, a broad range of international and regional "non-profit" peers will be involved in the execution of the activities. This will ensure transfer of knowledge and best practice. South-South cooperation with other Portuguese speaking SIDS is an important component (particularly Cape Verde). Some of the mentioned partners are ALER/CPLP (exchange with Portuguese speaking islands/countries), ECREEE (in Cape Verde), SACREEE and EACREEE (particularly regarding energy efficiency standards), CERMI (capacity building), the International Centre for Small Hydro Power (ICSHP) regarding SHP guidelines/training. STP will benefit from the GN-SEC work regarding the development and enforcement of regional standards of efficient appliances and lighting (EELA) for Eastern and Southern Africa. The readiness support will also benefit from the upcoming new ECCAS Centre for RE&EE, which is currently developed by UNIDO.

From the very beginning, UNIDO focus will lie on strengthening the financial, administrative and technical capacities and skills of DGRNE/MOPIRNA and the NDA (see activities under objective 1). The GCF Readiness support can build on already established "twinning" execution structures and funding of the GEF funded project "Strategic program to promote RE&EE investments in the electricity sector of São Tomé and Príncipe". The project is being implemented by DGRNE/MOPRINA with technical and fiduciary support of UNIDO between 2019 and 2023 and has a budget of USD\$ 1.5 million. This will allow the pooling of resources for the implementation of technical activities, which will finally lead to higher cost-efficiency and impact.

UNIDO is currently signing a first smaller funding contract with the Ministry in the context of the GEF Project. The contract will cover the costs of the PMU and part of the technical activities. More complex activities are still operated directly by UNIDO. Gradually, depending on the progress and quality of the technical and financial reporting, UNIDO will delegate more responsibilities, including the management of funds, to DGRNE. This will be done in line with the established project document and annual work plans subject to the approval of the Program Steering Committee (PSC).

#### Project implementation and execution:

The day-to-day activities of the project will be executed through the established Project Management Unit (PMU) in DGRNE/MOPIRNA and in close coordination with the NDA. The Readiness support will make use of the implementation structure and PMU already established under the GEF project. Overall supervision will be provided by a Project Steering Committee (PSC). The PSC will adopt the annual work plans and budgets, as well as monitor the progress of the Readiness support. The Readiness intervention will make use of the already established PSC for the GEF Project and will include the participation of the NDA in STP. This will promote coherence between GCF and GEF activities as recommended by the strategic evaluation of the Readiness Program. The PSC will establish flexible sub-committees when there is need to review technical documents or regulations.



All procurements, financial operations and contractual services will be undertaken by UNIDO in line with its rules and procedures. The overall progress reporting stays within the responsibility of UNIDO in close coordination and strategic guidance from the NDA. UNIDO will be responsible for overall financial management and procurement of goods and services under this proposal and all such financial management and procurement will be compliant with the Framework Readiness and Preparatory Support Grant Agreement entered into force between GCF and UNIDO on 3 December 2018 as amended by the Side Letter dated 30 July 2020"

UNIDO financial management, procurement actions and operational services will be carried forward in accordance with UN regulations, rules, policies and procedures. All final Intellectual Property Right (IPR) of project deliverables will have ownership by UNIDO and DGRNE/MOPIRNA. All third party IPR will comply with the Framework Readiness and Preparatory Support Grant Agreement entered into force between GCF and UNIDO on 3 December 2018 as amended by the Side Letter dated 30 July 2020. More specifically, in accordance with Clause 16.03, UNIDO will ensure that "the Services provided do not violate or infringe any industrial property or intellectual property right or claim of any third party".

Furthermore, project due diligence on Anti-Money Laundering / Countering the Financing of Terrorism (AML-CFT) will be carried out according to UNIDO policies on Financial Disclosure and Declaration of Interests (DGB/(M).118), Business Sector Partnerships (DGB/2017/07), and Fraud Awareness and Prevention (DGB/(M).94). These policies, combined with UNIDO's Investigation Guidelines (DGAI.19) and Internal Control Framework (DGB/(M).119), ensure compliance with relevant UN Charter and Security Council Resolutions.

In compliance with UNIDO full cost recovery mechanism, all costs arising from the execution of the project shall be recovered by the project. Direct Service Costs (DSC) are costs for services that are rendered to deliver specific programme/project inputs such as:

- 1. Procurement services (staff costs for procurement of services, equipment and supplies for a specific project or programme managed by procurement division)
- 2. Treasury and payments services (staff costs for travel advance and expense report processing, payroll processing, settlement of invoices)

These Direct Service Cost are considered eligible as they are:

• Directly attributable to the grant project and arise as a direct consequence of its implementation;

• Necessary for carrying out the grant project and comply with the principles of sound financial management, in particular economy, efficiency and effectiveness;

DSC are reported as part of the standard financial reporting as per the Technical Cooperation Reporting Guidelines endorsed by UNIDO member states. For more details, please refer to the Procurement Plan.

## 6.2 Implementation and execution roles and responsibilities

The day-to-day activities will be executed by the established of a joint GCF/GEF Project Management Unit (PMU) in DGRNE/MOPIRNA in close coordination and with backstopping of the UNIDO team in HQs and the field. This will lead to cost-reductions and synergies between both funding sources, and finally to more impact and scale. The National Project Coordinator (funded by the GEF) will take also responsibility of the GCF project. The GEF funded team comprises also a technical assistant and an administrative expert. The cost-sharing arrangement and the peer-to-peer institution building support require some flexibility.

To have sufficient capacity for the implementation of the GCF proposal, two young professionals will be recruited, one joining the existing team in DGRNE, and one joining the NDA. The latter will allow the NDA to strengthen its energy expertise (see output 1.3.1). Moreover, with GCF support another administrative assistant will be hired. In total, the GCF/GEF PMU team at DGRNE and the NDA will comprise one National Program Coordinator, one technical assistant, two young professionals and two administrative assistants. In addition, administrative processes will be supported by the infrastructure of DGRNE/MOPIRNA and NDA. The project car is being provided by DGRNE/MOPIRNA.

## Profiles of the DGRNE team

The National Program Coordinator has the below profile. The expert is responsible for the overall coordination and implementation of the project activities in close coordination with the UNIDO Project Manager and his team at UNIDO HQs and in Cape Verde (will support the implementation of the outputs under outcome 1.2, 1.3, 2.2, 2.4 and 4.5):

- Master degree in energy, economics or social science
- A minimum of 7 years practical work experience in technical and/or managerial positions in the electricity sector of STP:
- Track-record of activities and projects in renewable energy and energy efficiency,
- Demonstrated knowledge regarding key aspects of the renewable energy and energy efficiency in the STP context (e.g. project development and operation, policy and regulatory framework, qualification);
- Well-established contact network to key stakeholders of the national energy/electricity sector;
- Experience in dealing with and international development partners, incl. United Nations, is a requirement;
- Fluent in Portuguese and working knowledge in English;

The technical assistant has the below profile and will support the implementation of the outputs under outcome 1.2, 1.3, 2.2, 2.4 and 4.5. The assistant will support the overall coordination and implementation of the project activities in close coordination with the UNIDO Project Manager and the team at UNIDO HQs and in Cape Verde:

- Master degree in energy, economics or social science
- 5 years of work experience in the renewable and/or energy efficiency sector of STP
- Track-record of activities and projects in renewable energy and energy efficiency
- Experience with energy policy and regulatory frameworks is a strong advantage
- Fluent in Portuguese and working knowledge in English

The young professionals located at DGRNE will have the following profile below and will support the implementation of the outputs under outcome 1.2, 1.3, 2.2, 2.4 and 4.5:

- Master degree in energy, economics or social science
- 3 years of work experience in the energy sector of STP, preferable renewable energy and energy efficiency
- Track-record of activities and projects in sustainable energy, climate and environment
- Fluent in Portuguese and working knowledge in English

The young professional located at the NDA will have the following profile below and will support particularly the implementation of the outputs under outcome 1.2, 1.3, 2.2. The expert will act as interface to DGRNE and energy issues. Moreover, in the joint meeting with the GCF regional team on 9 April 2021, it was agreed that the expert will support the NDA also on general GCF and climate issues:

- Master degree in energy, climate change, economics or social science
- 5 years of work experience regarding climate change mitigation/adaptation issues
- Work experience in the renewable energy and/or energy efficiency sector is an asset

- Track-record of activities and projects related to climate change mitigation/adaption
- Fluent in Portuguese and working knowledge in English

The two administrative assistants have the following profile below. They will assist in the implementation of the of the outputs under outcome 1.2, 1.3, 2.2, 2.4 and 4.5 in administrative view and will provide assistance for procurements, transactions, the organization of events and workshops. One of the assistants will demonstrate good knowledge of accounting practices:

- Secondary school
- Certifications in administration and accounting are a strong added value
- At least 5 years of work experience on administrative/accounting issues in the public sector, preferable experience with project implementation
- Fluent in Portuguese and working knowledge in English

Other operational costs (also of the GCF project) will be covered mainly by the GEF funded project. The National Project Coordinator works under the supervision of the Director of DGRNE and the UNIDO Project Manager and his team in HQs. The team will provide technical support and backstopping as required. For more complex procurements, the UNIDO team in HQs will take technical leadership in close coordination with the PMU team. DGRNE will benefit from the vast experience of the Project Management Team with "twinning" institution-building approaches applied under the Global Network of Regional Sustainable Energy Centres (GN-SEC). An international UNIDO senior hydro power consultant (funded through the GEF) and UNIDO's International Centre for Small Hydro Power (ICSHP) will provide advice on small hydro projects and issues. Most of the future investments will go into the SHP sector. DGRNE and EMAE require external SHP expertise and capacity building. UNIDO can also tap into ad-hoc expertise of other energy consultants in HQs.

Additional backstopping will be provided through a UNIDO sustainable energy expert located in Cape Verde and the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), which was established by UNIDO. To facilitate joint learning and exchange on common energy issues and solutions, UNIDO has established south-south cooperation between the Portuguese speaking Sao Tome and Principe, Cape Verde and Guinea Bissau under its GEF funded portfolio. This cooperation is institutionalized with the Renewable Energy Association for Lusophone countries (ALER) of the Community of Portuguese Language Countries (CPLP) and ECREEE. Regular meetings and activities are organized. Moreover, regarding capacity building issues, UNIDO cooperates with the Centre for Renewable Energy and Industrial Maintenance (CERMI) in Cape Verde, which provides vocational training to lusophone countries in line with the established curricula. The UNIDO team combines sustainable energy, procurement and finance expertise.

## Selected profiles of the UNIDO team in HQs and the field

The UNIDO Project Manager in UNIDO HQs (and his team) oversees the GCF/GEF project implementation and provides technical assistance/advisory for the implementation of the outputs under outcome 1.2, 1.3, 2.2, 2.4 and 4.5. Moreover, he creates synergies with the lusophone activities under the GN-SEC and the ongoing process regarding the establishment of the ECCAS Centre for RE&EE, where STP will be part of. He has the following qualifications:

- Master degrees in renewable energy technologies and political science
- 15 years of work experience in renewable energy and energy efficiency in development cooperation
- 10 years of "twinning" experience in building technology centres in developing countries
- Demonstrated energy work experience in SIDS
- Energy policy and project finance experience
- Portuguese and English language skills

The UNIDO Sustainable Energy Expert (located in Cape Verde) will provide backstopping to the DGRNE team in Sao Tome and Principe and assist in the implementation of the south-south cooperation activities included under outcome 1.2, 1.3, 2.2, 2.4 and 4.5. The expert is already recruited and fulfils this function already under the GEF project. She has the following qualifications:

- Master degree in renewable energy technologies
- 10 years of work experience in renewable energy and energy efficiency
- Track-record of activities and projects in renewable energy and energy efficiency
- Work experience in Cabo Verde or other lusophone SIDS in Africa
- Energy policy and project finance experience
- Portuguese and English language skills

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<sup>31</sup> www.gn-sec.net

The part-time senior hydro power expert has the following profile and will assist DGRNE in quality assurance of small hydro power related activities (outputs 2.4.4 and 4.5.1). The expert is fulfilling this role already under the GEF project:

- Individual hydro power consultant;
- At least 15 years of relevant work experience in international consulting on hydro power;
- Work experience in Sub-Saharan Africa;
- Proven track-record in the elaboration of (pre-)feasibility studies on small hydro power projects and hydro power sector development
- Fluent in English

An experienced UNIDO Clean Tech Incubation Expert will take leadership in the implementation of the incubation program (output 2.4.2). The expert needs to be recruited in line with UNIDO rules and procedures (ISA modality). The expert has the following qualifications:

- Master degree in economics or clean technologies
- 5 years of work experience in the promotion of entrepreneurship and innovation
- Track-record of provided incubation support and mentoring to businesses and start-ups
- Demonstrated knowledge of incubation methodologies
- Work experience in lusophone countries is an asset
- Portuguese and English language skills

The UNIDO Fiduciary Standards Expert (and his team) will provide institution building support to DGRNE/MOPIRNA (output 1.2.1 and 1.2.2). The work will particularly address the improvement of fiduciary standards and internal rules and procedures and aims at the qualification of DGRNE/MOPIRNA to implement GCF Readiness support in future. The work will be guided by the institutional capacity assessment, undertaken by UNIDO with KPMG. The qualifications of the expert are as follows:

- Master degree in a relevant academic discipline
- 5 years of work experience with procurement and financial management issues and processes related to technical cooperation projects in developing countries
- 5 years of experience in advising counterparts in developing countries on the implementation of fiduciary standards
- Experience with renewable energy and energy efficiency projects and institutions
- Fluent in English

## Gender mainstreaming:

It is envisaged that 40% of the project teams in DGRNE and UNIDO are female. Gender-sensitive recruitment will be practiced at all levels where possible, especially in selection of project staff to ensure diversity in team composition. Gender will be an important consideration in recruitment documents. Furthermore, existing staff will be trained on how to promote GEEW and their awareness raised regarding unconscious bias.

## **External contractors:**

Many of the envisaged baseline reports, standards and regulations, as well as trainings, will be contracted to external contractors or individual consultants, hired in line with UNIDO rules and procedures. Therefore, the focus lies on consulting companies or knowledge institutions rather than individual consultants. Many of the assignments are complex and require a team of local and/or international experts covering various knowledge areas. In many cases, the knowledge is locally not available. To ensure involvement of local expertise, consulting assignments will require the employment of local experts and the inclusion of sufficient budget for such experts. This is also necessary due to the current COVID-19 crisis and the rather limited market of energy experts with Portuguese language skills. UNIDO will make this an eligibility requirement in procurements. This will ensure international knowledge transfer to the local level. Potential knowledge transfer from other Portuguese speaking SIDS (e.g. Cape Verde) will be given a particular consideration. Specifically, the following activities and products will be contracted to consulting companies or institutions (further information is available in the procurement plan 5.2):

Activities and deliverables contracted to external consulting companies or institutions	Output
Baseline, standards and verification system for minimum performance standards (MEPS) for three (3) types of appliances are developed (lighting, air conditioning, refrigeration) & implementation of two trainings	Output 2.2.1
Baseline report on efficient cooking & execution of on-site training and online webinar	Output 2.2.2

Baseline report on low-carbon land transport (vehicle fuel economy) & regulation on emission and import vehicle standards & on-site training	Output 2.2.3
Baseline report & regulation on commercial grid losses & awareness campaign	Output 2.2.4
Baseline study, regulation and practical guidelines for solar thermal use & on-site training	Output 2.4.1
Grid-stability study & legal advice for RE IPPs & regulation for net-metering and mini-grids	Output 2.4.2
Translation of UNIDO SHP guidelines & implementation of on-site training, which were developed by the International Center on Small Hydro Power (ICSHP).	Output 2.4.4
Technical baseline study on the use of ocean energy potentials within the blue economy vision of the country (e.g. wave, tidal, SWAC, OTEC, floating PV)	Output 2.4.5
National Sustainable Energy Investment Plan (NSEIP)	Output 4.5.1
7 on-site trainings in cooperation with various institutions or trainers (US\$ 15,000 each)	Output 1.3.1 & Output 1.3.2

## 6.3 Risks and mitigation measures

Risk category	Specific risk(s) / Risk(s) description	Probability of occurrence (low, medium, high)	Impact level (low, medium, high)	Mitigation action(s)	Entity(ies) responsible to manage the risk(s)
Political risk	Reduced commitment of the Government to RE&EE and the reduction of fossil fuel subsidies due to changing priorities (e.g. elections);	Low	High	The GCF/GEF project includes a number of elements to address this risk. Firstly, it is well integrated in the local political context and DGRNE/MOPIRNA. The project builds on broad partnerships and local ownership. The PMU is located in the DGRNE and has direct access to policymaking and makers. The strong partnership with DGE and NDA will be an additional asset. Secondly, the project applies a strong participatory approach, through the established RE&EE committees under the Strategic Platform on Energy and a project steering committee including governmental representatives. All relevant documents of the GCF project are brought to the attention to the committees, which include cross-sectoral experts from various ministries and key stakeholders of the RE&EE sector.  Thirdly, the project is closely coordinated with other international	UNIDO/DGRNE and NDA

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				partners promoting the RE&EE agenda in STP (AfDB, UNDP, UNEP, WB, and UNIDO). All are working in the same direction, which will strengthen the argument towards RE&EE. By joining funding and human resources with the GEF project, the GCF Readiness support will have more political leverage.	
Political risk	Resistance of interest/lobby groups benefitting from fossil fuel value change;			The project includes various awareness raising, knowledge management and capacity building activities, which will sensitize the main target groups and the wider population (e.g. EE campaign).	
				It will inform decision-makers and the wider public on the value chains and economics of renewable energy technologies, which are more competitive than diesel-based generation. It is possible to make sustainable profit, which does not question the macroeconomic stability of the country (as in the case of diesel generation).	
				The pressure to switch to more cost-effective RE&EE is very high. The fossil fuel debt has become a tremendous concern of the Government, as the Government of Angola has started to question preferential terms and requests for pay-back.	
Political risk	Unchanged no-cost recovery electricity consumer tariffs lower the interest in RE technologies, EE improvements and energy saving; lack of commitment to the power sector and tariff reform towards increased sustainability and cost-recovery, as well as abolishment of fossil fuel subsidies; if fossil fuel subsidies are not reduced it will be difficult for RE to	High	Medium	The PMU is located in the DGRNE and has direct access to policy-making and makers. The involvement of relevant international partners (WB, AfDB, UNIDP and UNIDO) in the reform efforts will mitigate the risk. GCF Readiness support intervention will build on the argument that a quick uptake of RE&EE will lower the generation costs in the mid-term. This will contribute to the inclusiveness of the	UNIDO/DGRNE, AfDB, UNIDO, WB/AFAP

	compete (under a without-fossil fuel subsidy scenario most available RE technologies have better economics);			future consumer tariff scheme under development.	
Institutional risk	Reduced commitment of DGRNE/MOPIRNA to RE&EE advancements and internal reforms (e.g. fiduciary standards);  Continued climate and RE&EE ambition of DGRNE/MOPIRNA and readiness to strengthen internal policies and technical capacities; lack of cooperation willingness of important cross-sectors (e.g. transport)	Low	High	The PMU team created in DGRNE will ensure progress in close coordination with the NDA; the applied UNIDO "twinning" approach based on joined learning and gradual transfer of responsibilities will ensure evolutionary progress; Cross-sectoral dialogue will be ensured through regular meetings of the NDC Partnership and the NSEP. DGRNE will provide increasing implementation support to UNIDO. DGRNE will not be procured/contracted by UNIDO. UNIDO has full responsibility for procuring consultants and all other tasks, such as monitoring and evaluation.	UNIDO/DGRNE, NDC Partnership
Economic risk	Significant fossil fuel price reductions impact on the competitiveness and attractiveness of REⅇ	Low	Medium	The project includes a broad range of activities related to knowledge management, awareness raising and capacity building. Through these activities, the knowledge base of key target groups and the wider population on the benefits of RE&EE will be strengthened. Also, in case fossil fuel prices are lowering, renewable energy technologies such as PV or SHP will still be the more economic choice in comparison to diesel generation. The same is true for energy efficiency improvements. The time of amortization might be longer but the benefits remain.	UNIDO/DGRNE/NDA and other energy institutions (e.g. EMAE, AGER)
Economic risk – COVID 19 downturn			Medium	The provided GCF Readiness support will make the economy of STP more resilient towards external shocks such as climate change or COVID-19. Climate mitigation means also decreasing fossil fuel spending over generations. From	UNIDO/DGRNE, DNE

				the very beginning the GCF Readiness support will focus on enabling activities directed to mitigate the risk for project finance and private participation. To harness possibilities of concessional finance close cooperation with AfDB/WB will be developed. Moreover, it is the intention to develop a GCF PPF (or similar request to one of the main GCF financing windows)	
Prohibited practices	Money laundering, terrorist financing, and other prohibited practices	Low	Low	UNIDO has several protocols in place to ensure that the contracted entity is the one, which receives and implements the funds. The internal controls were described in-detail in the review sheet to the GCF.	UNIDO
Project execution delays and accountability challenges, including the impact of COVID-19 prevention measures	Up to now DGRNE has not implemented major climate funded projects. There is the danger that contracted activities get delayed or funding is not used in line with the project document and international fiduciary standards. The technical capacities of local experts are limited. Also, the current COVID-19 crisis might cause delays.	Medium	Medium	To address this risk, UNIDO is applying a "twinning" modality. To ensure project progress from the very beginning, UNIDO will execute parts of the more complex technical activities directly in close coordination with the PMU, the NDA and private sector contractors. This flexible approach will allow risk control, progress and "learning by doing".  UNIDO has a wellestablished local ownership-based execution structure as the GEF activities are implemented through a local team in DGRNE. Therefore, no major coordination and communication problems are expected due to COVID-19. This has been also the experience over the past months. The situation of STP has improved. Currently, there is no major lockdown situation.  Moreover, UNIDO has established southsouth backstopping through its energy team in Cape Verde and in ECREEE. There are currently no major restrictions to travel	DGRNE/UNIDO

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				from CV to STP. Therefore, the project can be executed even if there is no travel from Vienna. Besides, under the GEF project the travel is kept to a minimum.	
Gender Risk	Resistance against or lack of interest in, the project activities from stakeholders, especially with regard to the active promotion of gender equality.  Low participation rates of suitable women candidates due to lack of interest, inadequate project activity or missing qualified female population within the i.e. engineering sector.	Low	Medium	This programme will pursue thorough a gender responsive intervention and ensure stakeholder involvement at all levels, with special regard to involving women. Specific training will be organized to sensitize and raise the awareness of the stakeholders. Following UNIDO ESSP and gender policy requirements, the gender mainstreaming action plan will be applied to mitigate this risk.	DGRNE/UNIDO
Climate change Risks	Climate extremes might impact RE&EE planning and implementation. For example, reduced river flow might impact the sustainability and viability of SHP stations. Extreme weather events might impact the energy infrastructure. Generally, undertaken climate change adaptation assessments and plans do not show significant impacts.		Low	Under the NCCC, DGRNE/DGE and UNIDO will establish a close coordination with the GCF Readiness proposal of UNEP on climate change adaptation. Synergies and the area of potential climate change impacts on RE&EE infrastructure will be discussed and synergies will be created.	DGRNE/UNIDO/UNE P/DGE/NCCC

## **6.4 Monitoring**

The monitoring of the project will be conducted in accordance with the Framework Readiness and Preparatory Support Grant Agreement entered into force between GCF and UNIDO on 3 December 2018 as amended by Side Letter dated 30 July 2020). A periodical project monitoring, evaluating, and reporting process will be set up by UNIDO in line with its organizational rules and regulations and in close coordination with DGRNE/MOPIRNA and the NDA. The system will allow to systematically assess the results achieved as readiness activities and deliverables are completed.

The M&E plan will include specific, measurable, achievable, relevant, and time-bound indicators that will be used to assess the timeliness and effectiveness of the project's implementation. The basis for the M&E plan will be the logical framework and the established indicators. For the high-level objectives, relevant data from the NDC, 3<sup>rd</sup> NCCC and other assessments will be reconfirmed. Where necessary, additional baseline data will be collected. The system will be harmonized with the established M&E framework under the GEF project. The monitoring of progress will be ensured by the joint GEF/GCF PSC, which approves the annual work plans and budgets, as well as the progress reports. An evaluation of the Readiness support will be undertaken by an independent local consultant at the end of the support duration.

Moreover, an internal communication plan will be set-up between project team members, i.e. UNIDO personnel, DGRNE/MOPIRNA, and the NDE. External reporting processes to the NDA and GCF will also be agreed upon. The detailed M&E plan, with a clear structure and set of project milestones, will be developed in the inception phase of the project. Moreover, the M&E plan will include utilization of the 'Readiness Interim Progress Report' based upon an agreed schedule, comparing against the work plan, budget, and agreed targets. Throughout the project, UNIDO will assess and propose potential revisions or adaptations to activities and milestones to manage project scope in relation to future implementation success.

Upon completion of all activities and outputs, evaluation forms will be completed by the (i) NDA about overall satisfaction level with the technical assistance service provided; (ii) the lead implementer about the knowledge and learning gained through delivery of technical assistance; At project end, UNIDO will prepare and submit the 'Readiness Completion Report' to the NDA and GCF.

The overall monitoring and evaluation of the project implementation will be the responsibility of UNIDO, in line with its organizational rules and regulations. At project end, a completion report by UNIDO will be submitted to the NDA and GCF. All monitoring and evaluation tools and documents, such as the monitoring plan, progress reports, final evaluation report, and thematic evaluations (e.g. training needs assessment), will include gender dimensions, and report with respect to an established baseline for gender related targets. When data collection or assessments are conducted, gender dimensions will be considered. This will include in particular collection of sex-disaggregated data.

## 6.5 Other Relevant Information

## Sustainability, use of local capacities and SIDS-SIDS knowledge exchange

The applied Readiness "twinning" approach, based on local ownership and capacity building, is expected to create long-term impacts and sustainability. Moreover, the Readiness grant will directly support the development of RE&EE policies and regulations, which will have long-term impacts and GHG emission reduction effects (e.g. standards for appliances and lighting, fuel and vehicle standards, net-metering, solar thermal regulation) once enforced.

Moreover, there will be emphasis on building capacities of and business opportunities for local energy entrepreneurs and businesses in STP. Complex consulting assignments will always include international and domestic experts. Knowledge management will be ensured through the energy information system currently established with support of the GEF project, and to be up-graded with GCF support. The first time, STP will have such an information system and also a network of energy data focal points. Moreover, all generated information will be disseminated through the Global Network of Regional Sustainable Energy Centres (GN-SEC) library.<sup>32</sup>

The information will be also disseminated through the ECCAS Centre for Renewable Energy and Energy Efficiency, which is currently under development with the support of UNIDO. Through other ongoing projects UNIDO will facilitate knowledge exchange with other SIDS, such as Cape Verde, Guinea Bissau and Barbados.

## Gender mainstreaming

UNIDO's mandate to promote inclusive and sustainable industrial development (ISID) relies on the advancement of gender equality and the empowerment of women. UNIDO addresses gender inequalities in industry and harnesses women's full potential as economic agents of change and leaders thereby transforming economies and generating inclusive growth. One of the guiding principles of the project will be to ensure that both women and men are provided equal opportunities to lead, participate in, and benefit from the project (UNIDO Gender Policy 2019). UNIDO has extensive experience in promoting and achieving gender sensitive impact, even in countries where gender inequality is systemic. A guiding principle of the project will be to ensure that both women and men are provided equal opportunities to lead, participate in, and benefit from the project.

In particular, attention will be paid to:

- A desk gender review of Sao Tome and Principe has been conducted to develop this proposal, however a more in-depth gender analysis will be conducted during the inception phase and also include the development of a gender mainstreaming action plan to operationalize the gender mainstreaming activities. The gender analysis will also include the identification of the differentiated needs and roles of women and men with respect to the capacity building interventions.
- Efforts will be made to promote equal participation of women and men in training activities and events, both at managerial and technical levels, as participants and facilitators. Based on the gender analysis the gender related targets (e.g. 40% of women participants) will be revisited and amended to reflect the baseline, if required. For instance, by striving for equal representation of women and men on the side of project counterparts, stakeholders and beneficiaries.
- A gender expert will be part of the implementers team.

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<sup>32</sup> www.gn-sec.net

- Consider gender dimensions in all decision-making processes (this will be considered but will not be limited to efforts to achieve gender balance/ representation in such processes). Also, at the level of activity implementation, efforts will be made to consult with stakeholders promoting gender equality and women's empowerment (GEEW) issues, such as gender focal points, and associations that foster GEEW. This is especially relevant in policy review and formulation as well as for capacity building activities
- When data collection or assessments are conducted, gender dimensions will be considered. This can include sex-disaggregated data collection, etc.
- Ensure gender-sensitive recruitment at all levels where possible, especially in selection of supporting staff. Gender responsive TORs will be used to mainstream gender in the activities of consultants and experts. In cases where the project does not have direct influence, gender-sensitive recruitment will be encouraged. Furthermore, whenever possible existing staff will be trained and their awareness raised regarding gender issues. Special efforts will be made to promote equal participation of women and men, both at managerial and technical levels, as consultants, staff and subcontractors.
- Make robust efforts to ensure that women-led enterprises are given the equal opportunity to lead, participate in and benefit from the project activities.

Relevant women entrepreneurs, associations and gender focal points will be involved in all proposed readiness activities. The readiness activities will deliberately mobilize interest from women entrepreneurs by targeting the involvement of their associations in the process. This will be done by taking into consideration the cultural context of the country.

## Risk mitigation regarding AML/CFT

Risks concerning AML/CFT were properly identified and mechanisms and controls put in place to mitigate those risks within the readiness program, according to our obligations to the GCF under the Framework Agreement and GCF AML/CFT Policy. There are no United Nations Security Council (UNSC) restrictive measures on Sao Tome and Principe.

## Start date for project implementation

After the approval of the Grant, a notification letter will be sent by the GCF to NDA with copy to the Delivery Partner. The date of such notification by the GCF will be treated as the start date for project implementation. From that date, the end date of implementation will be calculated considering the total duration of the project as presented in the approved proposal.

## Whistle-blower protection program

UNIDO has policies for financial disclosure and whistle-blower protection in place. The Office of Ethics and Accountability is responsible for the review, development and implementation of ethics-related policies, procedures and practices. UNIDO has also an online reporting tool to report wrongdoing to the Internal Oversight Division (IOD): <a href="https://www.unido.org/overview-report-wrongdoing/how-report-wrongdoing-or-adverse-environmental-and-social-impacts">https://www.unido.org/overview-report-wrongdoing/how-report-wrongdoing-or-adverse-environmental-and-social-impacts</a>

## READINESS & PREPARATORY SUPPORT



## BUDGET, PROCUREMENT & IMPLEMENTATION PLAN

## **Readiness Grant Budget Preparation Guidelines**

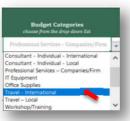
This file contains three specific planning tools to complete the supplementary information required when submitting a proposal for Readiness Programme support (including for NAP/adaptation planning):

- Budget plan and accompany Budget notes
- Procurement plan
- Implementation plan

## The following considerations are important when completing the budget:

- 1. Before preparing the Readiness and budget, procurement, and implementation plans, please read the full guidance contained in the Readiness Programme Guidebook, specifically Part III Section 5
- 2. You can select the appropriate budget categories from the dropdown list in the budget plan:
- $3.\ {
  m To}$  insert additional rows, right click on the row number below where you wish to insert the new row and choose INSERT.
- 4. Additional budget categories may be added by manually typing them on the Budget Category sheet. :
- 5. The Budget Notes sheet should be used to record explanations, further details or cost breakdowns for individual lines

# Bidget Categories Analo Visual & Printing Adult Free Commitmet - Individual - International Commitmet - Individual - International Commitmet - Individual - Local Professional Services - Companies/Firm IT Degigneest Office Supplies Travel - Local Workshopy/Training



## **Project Management Cost:**

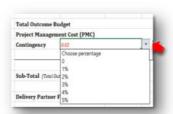
Project management costs (PMC) are the direct administrative costs incurred to execute a project. They should cover only incremental costs incurred due to the GCF contribution. In most cases, these costs are directly related to the support of a dedicated project management unit which manages the day to day execution related activities of the project.

## General Principles for PMC costs:

- 1. The percentage of PMC financed by GCF should not be more than the percentage share of the overall budget financed by GCF
- 2. PMC budget thresholds: Up to 7.5 per cent of total activity budget.
  - > PMC exceeding 7.5 per cent for the readiness (including NAPs) proposals, and PPF proposals, up to \$ 3 million will require detailed documentation and justification supporting the entire PMC budget.
  - > The PMC should be shown as a separate component in the project budget. A detailed breakdown of PMC should be provided by budget category.
  - > Indicative list of eligible project management costs:
    - > Project staffing and consultants: Project manager, Project Assistant, Procurement personnel, Finance personnel & Support/admin. Personnel
    - > Other direct costs: Office equipment, Mission related travel cost of the PMU, Project management systems and information technology, Office supplies, Audit cost

## Contingency:

- 1. Select the appropriate % of Contingency Budget from the dropdown list :
- 2. Contingency budget for unforeseen costs arising during the project implementation should not be included in the outcome budget separately.
- 3. Contingency budget must be used for any unforeseen programme (output level) cost that is unrelated to implementation/service fee.
- 4. Any use of contingency must be reported to and agreed by the GCF Secretariat in writing in advance provided with justifications that are acceptable to the GCF
- 5. If by the end of the grant implementation period, you have not spent Contingency, you may not increase the scope of the project or make any other expenditures using the Contingency.



Budget Categories
Audio Visual & Printing
Audit Fee
Consultant - Individual - International
Consultant - Individual - Local
Professional Services – Companies/Firm
IT Equipment
Office Supplies
Travel - International
Travel – Local
Workshop/Training
Evaluation
Other Direct Costs

Indicate additional budget categories

			Detailed	Budget (ir	1 US\$)						Expenditure Plan							
	Outcomes / Outputs	Budget Categories choose from the drop-down list	Unit		Unit Cost	Total Budget	Total Budget (per sub-outcome)	Total Budget (per outcome)	6m	12m	18m	24m	30m	36m	Budget n			
	Output 1.2.1 DGRNE/MOPIRNA develops and enforces updated fiduciary standards, policies and procedures in line with the requirements of GCF and other donors	Consultant - Individual - International	W/Day	30	500.00	15,000.00	,								A1			
		Consultant - Individual - Local	W/Day	30	300.00	9,000.00	28,500.00		12,000.00	12,000.00					A2			
		Audio Visual & Printing	Lumpsum	3	1,500.00	4,500.00			4,500.00						A3			
	Output 1.2.2 The administrative and technical staff of DGRNE/MOPIRNA has the capacity to apply the updated fiduciary standards and policies (incl. the one on gender equality)	Consultant - Individual - International	W/Day	30	500.00	15,000.00									B1			
		Workshop/Training	Lumpsum (e.g. room, coffee, printing)	3	2,300.00	6,900.00	31,200.00		10,400.00	10,400.00	10,400.00				B2			
atcome 1.2 Direct access applicants and accredited entities (DAEs) have established capacity to meet and		Travel - International	Trip	3	2,500.00	7,500.00									В3			
maintain the GCF's accreditation andards; and accredited DAEs have		Travel – Local	Trip (from Principe)	3	600.00	1,800.00		195,000.00							B4			
ne capacity to develop a pipeline of jects and effectively implement GCF- funded activities	Output 1.2.3 A program for young climate professionals is developed and implemented by DGRNE/MOPIRNA and the NDA in cooperation with international partners	Consultant - Individual - Local	W/Months (DGRNE young professional)	30	1,800.00	54,000.00			18,000.00		18,000.00	18,000.00			C1			
		Consultant - Individual - Local	W/Months (NDA young professional)	25	2,200.00	55,000.00	111,400.00		18,333.33		18,333.33	18,333.33			C2			
		Travel – Local	Trip (to Principe)	4	600.00	2,400.00									C3			
	Output 1.2.4 Regular meetings of the NCCC, NSEP, CC-PTSE and NDC Partnership are co-organized by DGRNE/MOPIRNA in coordination with the NDA, DGE and AFAP	Workshop/Training	Lumpsum (technical meeting)	3	2,300.00	6,900.00	6,900.00		2,300.00		2,300.00		2,300.00		D1			
	Output 1.2.5 Upgraded energy information system with climate and gender relevant	Consultant - Individual - International	Lumpsum (int. cons. rates)	30	500.00	15,000.00									D2			
	RE&EE data and verification of the GHG emission reduction scenario in the 3rd NCCC	IT Equipment	Lumpsum	1	2,000.00	2,000.00	17,000.00			8,500.00		8,500.00			D3			
	Output 1.3.1 National network for energy data collection established and 30 focal points are trained on relevant quality, climate and gender aspects	Professional Services – Companies/Firm	Lumpsum (fees and flights of trainers)	1	15,000.00	15,000.00									E1			
		Workshop/Training	Lumpsum (e.g. room, coffee, printing)	1	2,300.00	2,300.00	18,500.00	132,000.00	132,000.00		18,500.00					E2		
		Travel – Local	Trip (from Principe)	2	600.00	1,200.00										E3		
	Output 1.3.2 At least 150 experts of the main institutional players, the private and financial sectors receive training on RE&EE priority issues and the application of related tools	Workshop/Training	Lumpsum	6	2,300.00	13,800.00										F1		
		Professional Services – Companies/Firm	Lumpsum (fees and flights of trainers)	6	15,000.00	90,000.00												F2
		Consultant - Individual - International	W/Day	20	500.00	10,000.00	113,500.00				37,833.33		37,833.33	37,833.33			F3	
		Travel - International	Trip	1	2,500.00	2,500.00									F4			
		Travel – Local	Trip (from Principe)	12	600.00	7,200.00									F5			
	Output 2.2.1 Minimum performance standards (MEPS) and verification system for three (3) appliances (lighting, air condition, refrigeration) are adapted from best	Professional Services –	W/Day	70	700.00	49,000.00												
	practice and enforcement support is provided	Companies/Firm	W/Day	60	300.00	18,000.00			67,000.00						G1			
		Consultant - Individual - International	W/Day	20	500.00	10,000.00									G2			
		Audio Visual & Printing	Lumpsum	1	1,000.00	1,000.00	95,000.00	5,000.00	10,000.00						G3			
		Workshop/Training	Lumpsum (technical meeting)	5	2,300.00	11,500.00					18,000.00				G4			
		Travel - International	Trip	1	2,500.00	2,500.00					,,,,,,,				G5			
		Travel – Local	Trip (from Principe)	5	600.00	3,000.00									G5			
	Output 2.2.2 A Baseline report on efficient cooking appliances is developed and includes recommendations for implementation	Professional Services – Companies/Firm	W/Day (int. cons. rates) W/Day(local cons.	20	700.00	14,000.00				26,000.00					Н1			
			rates)	40	300.00	12,000.00	33,900.00											
tcome 2.2 GCF recipient countries		Consultant - Individual - International	W/Day	10	500.00 2.300.00	5,000.00 2,300.00	33,500.00					<b></b>			H2 H3			
		Workshop/Training	Training	1	2,300.00	2,300.00				)	7,900.00	1	l)		173			

improve sectoral expertise, and enhance enabling environments for GCF	Output 2.2.3 Regulations for vehicle emission standards and imports are drafted and validated by the NDA and key Ministries with relevant mandates	Professional Services –	W/Day (int. cons. rates)	70	700.00	49,000.00		267,000.00							
programming in low-emission investment		Companies/Firm	W/Day(local cons. rates)	70	300.00	21,000.00				70,000.00					1"
		Audio Visual & Printing	Lumpsum	1	1,000.00	1,000.00									12
		Consultant - Individual - International	W/Day	30	500.00	15,000.00	100,100.00								13
		Travel - International	Trip	1	2,500.00	2,500.00					30,100.00				14
		Workshop/Training	(technical meeting)	4	2,300.00	9,200.00									15
		Travel – Local	Trip (from Principe)	4	600.00	2,400.00									16
	Output 2.2.4 A regulation to reduce commercial electricity losses is developed and a gender-sensitive awareness campaign on electricity theft is implemented		W/Day (int. cons. rates)	25	700.00	17,500.00				29,500.00					
		Professional Services – Companies/Firm	W/Day(local cons. rates)	40	300.00	12,000.00				29,500.00					151
		Audio Visual & Printing	Lumpsum	1	5,000.00	5,000.00	38,000.00								J2
		Workshop/Training	Lumpsum (technical meeting)	1	2,300.00	2,300.00	36,000.00				8,500.00				13
		Travel – Local	Trip (from Principe)	2	600.00	1,200.00									J4
Outcome 2.4 Strategies for transforming and attracting private sector investment for low emissions and resilience	Output 2.4.1 A regulation and practical guidelines for the introduction of solar-thermal applications in the tourism, health and relevant industrial sectors (e.g. agriculture, food production) are available and introduced to key stakeholder groups	Professional Services –	W/Day (int. cons. rates)	20	700.00	14,000.00					23,000.00				K1
developed and being used		Companies/Firm	W/Day(local cons. rates)	30	300.00	9,000.00									
		Audio Visual & Printing	Lumpsum	1	1,000.00	1,000.00	26,900.00								к2
		Workshop/Training	Lumpsum (technical meeting)	1	2,300.00	2,300.00						3,900.00			кз
		Travel – Local	Trip (fram Principe)	1	600.00	600.00									K4
	Output 2.4.2 The existing RE legislation for utility-scale IPPs, net-metering and rural mini-grids is implemented in practice and further developed	Professional Services –	W/Day (int. cons. rates)	45	700.00	31,500.00				45,000.00					
		Companies/Firm	W/Day(local cons. rates)	45	300.00	13,500.00				45,000.00					1
		Audio Visual & Printing	Lumpsum	1	1,000.00	1,000.00									L2
		Consultant - Individual - International	W/Day	10	500.00	5,000.00	57,000.00								L3
		Travel - International	Trip	1	2,500.00	2,500.00						12,000.00			L4
		Workshop/Training	(technical meeting)	1	2,300.00	2,300.00									L5
		Travel – Local	Trip (from Principe)	2	600.00	1,200.00									L6
	Output 2.4.3 Ten (10) domestic RE&EE entrepreneurs and start-ups received incubation support for the development of strategic, studies, business plans and business models. It is envisaged that at least 40% of the support will go to women entrepreneurs	Consultant - Individual - International	RE Business development expert/mentoring	100	500.00	50,000.00				16,666.67	16,666.67	16,666.67			М1
		Audio Visual & Printing	Lumpsum	1	3,000.00	3,000.00	62,600.00	214,400.00							M2
		Travel - International	Trip	2	2,500.00	5,000.00					12,600.00				м3
		Workshop/Training	Lumpsum	2	2,300.00	4,600.00									M4
	Output 2.4.4 Guidelines for micro'small hydropower (SHP) development, installation, operation and financing are available and introduced to relevant institutions and the private sector	Professional Services – Companies/Firm	Lumpsum (translation)	1	5,500.00	5,500.00			22,500.00						N1
		Professional Services – Companies/Firm	Lumpsum (fees and flights of trainers)	1	17,000.00	17,000.00			22,000.00						
		Audio Visual & Printing	Lumpsum	1	3,200.00	3,200.00	32,900.00								N2
		Workshop/Training	Lumpsum	1	2,300.00	2,300.00				40 400					N3
		Travel - International	Trip	1	2,500.00	2,500.00				10,400.00					N4
		Travel – Local	Trip (from Principe)	4	600.00	2,400.00									N5
l .			1	L							l	l	l	l	

	Output 2.4.5 A potential assessment on the use of ocean energy within the blue economy vision of the country (e.g., wave, tidal, SWAC, OTEC, floating PV) is developed, incl. pre-feasibility data gathering on potential sites and where possible including a gender dimension	Professional Services –	W/Day	30	700.00	21,000.00			30,000,00					R1			
		Companies/Firm	W/Day	30	300.00	9,000.00	35,000.00		30,000.00								
		Consultant - Individual - International	W/Day	10	500.00	5,000.00					5,000.00			R2			
Outcome 4.5 An increase in the proportion of PPF requests and	Output 4.5.1 A National Sustainable Energy Investment Pfan based on real project and feasibility data is developed and presented to interested developers, financiers and	Professional Services -	W/Day (int. cons. rates)	22	700.00	15,400.00								S1			
funding proposals approved as a result of Readiness and Preparatory	investors	Companies/Firm	W/Day(local cons. rates)	40	300.00	12,000.00	24 650 00			50.00	31,650.00				31,650.00		
Support		Audio Visual & Printing	Lumpsum	1	1,950.00	1,950.00	31,000.00						31,650.00		S2		
		Workshop/Training	Validation meeting	1	2,300.00	2,300.00							S3				
	Output 4.5.2 A National Sustainable Energy Investment Program in the form of a concept note will be developed and submitted to the GCF Project Preparation Facility (PPF) or another financing window (e.g. Simplified Approval Process Pilot Scheme) by a GCF accredited entity	Consultant - Individual - International	W/Day	25	500.00	12,500.00		48,950.00				12,500.00		Т1			
		Travel - International	Trip	1	2,500.00	2,500.00	17,300.00						4,800.00	T2			
		Workshop/Training	Validation meeting	1	2,300.00	2,300.00							4,000.00	Т3			
Total Outcome Budget								857,350.00	232,866.67	246,966.67	208,633.33	159,383.33	7,100.00	854,950.			
		Consultant - Individual - Local	Month (Administrative assistant)	34	540.00	18,360.00	% of PMC requested:	that can be requested:						U1			
		IT Equipment	Laptop and software	3	1,500.00	4,500.00								U2			
		IT Equipment	Phone card/costs (30 months)	3	1,500.00	4,500.00	do not change the formula	do not change the formula						U3			
						5.940.00								L			
		Office Supplies	Lumpsum	1	5,940.00	0,940.00								U4			
		Office Supplies Evaluation	Lumpsum W/Day	30	500.00	15,000.00	64,300.00	64,301.25						U5			
Project Management Cost (PMC) Up to 7.5% of Total Activity Budget				30 1	-,,	.,,,,,,,,,	64,300.00	64,301.25 7.50%									

FOR GREEN CLIMATE FUND SECRETARIAT'S USE ONLY

Breakdown (per budget category)	Total (per budget category)
Audio Visual & Printing	21,650.00
Audit Fee	
Consultant - Individual - International	157,500.00
Consultant - Individual - Local	136,360.00
Professional Services – Companies/Firm	495,400.00
IT Equipment	11,000.00
Office Supplies	5,940.00
Travel - International	27,500.00
Travel - Local	24,000.00
Workshop/Training	71,300.00
Evaluation	15,000.00
Other Direct Costs	16,000.00
0	-
0	
0	
Total Outcome Budget + PMC	981,650.00

Total Outcome Budget		857,350.
Project Management Cost (PMC)	7.5% requested	64,300.
Contingency	0% requested	-

Budget note	Detailed Description
A1	UNIDO international expert assists DGRNE in the development of the required GCF standards, policies and procedures - 30*US\$ 500 per working day (w/d) / Costs related to Activity 1.2.1a and Activity 1.2.1b
A2	Local expert assists the UNIDO international expert in the gap assessment and the development of the GCF standards, policies and procedures - 30*US\$ 300 per working day (w/d) / Costs related to Activity 1.2.1a and Activity 1.2.1b
A3	Printing and design costs for the updated fiduciary standards, policies and procedures to be disseminated within the Ministry / Costs related to Activity 1.2.1a and Activity 1.2.1b
B1	UNIDO international expert conducts training on finance, administration, procurement and other GCF policies (incl. gender equality, anti-money laundering and terrorist financing) / 30*US\$ 500 per working day (w/d) / three on-site trainings are planned and will cover cost of printing / Costs related to the Activities 1.2.2a and 1.2.2b
B2	The proposed budget of USD 6,900 is for three 3-days workshops - standard venue and proceeding costs for such workshops is US\$ 2,300:  Number of people to attend is estimated to 25 people: 2x DGRNE, 2x MOPIRNA, 2x NDA, 2x DGE, 2xAFAP, 3 from key Ministries, 2 from private sector, 2 from financial institutions, 2 from local committees, 2 from academia, 2 from civil society, 2 from international organisation implementing similar projects. The standard budget includes: agenda and document design, 25x agenda and training docs printing (50 -100), 1x banner design and printing (300), venue including lunch, coffee break and technics for video projection and IT support (2,000x3=6,000), transport fee for local attendees (about 5 dollar per participant so 5x25x3= 375), miscellaneous (translation, etc.) (225-300) / Costs related to Activities 1.2.2a & 1.2.2b
В3	UNIDO international expert travel to STP (US\$ 2,500 per trip incl. ticket and per diem in line with UN rules) / Costs related to the Activities 1.2.2a and 1.2.2b
B4	Budget includes travel costs of experts traveling from Principe to Sao Tome by flight (US\$ 600 for ticket and per diem in line with UN rules) / Costs related to the Activities 1.2.2a and 1.2.2b
C1	Recruitment of one young professional to be located at DGRNE (fee US\$ 1,400 per month in line with UNIDO rules and procedures) and the NDA (fee US\$ 2500 per month in line with UNIDO rules and procedures). The expert will support the existing DGRNE team in the implementation of the additional GCF activities; / Costs related to Activity 1.2.3a & 1.2.3b
C2	Recruitment of one young professional to be located at the NDA (fee US\$ 2500 per month in line with UNIDO rules and procedures). Following a joint meeting with the GCF team on 9 April 2021, it was decided that the young expert for the NDA will also cover also general GCF tasks, will have a more experienced and climate change related profile.  / Costs related to Activity 1.2.3a & 1.2.3b
C3	Activities include costs of young experts travelling from Principe to Sao Tome (US\$ 600 per trip incl. ticket and per diem in line with UN rules) / Costs related to Activity 1.2.3a & 1.2.3b
D1	Budget to cover organisation of meetings on climate relevant RE&EE mitigation issues, involving a broad range of national, cross-sectoral and international stakeholders (estimated standard cost for such meetings is US\$ 2,300). / Costs related to Activity 1.2.4a
D2	UNIDO international consultant support for adding new features, models and indicators 30*US\$ 500 per working day (w/d). / Costs related to Activity 1.2.5a
D3 E1	Budget for the IT equipment to upgrade the energy information system / Costs related to Activity 1.2.5a  US\$ 15,000 standard costs for training fees and travel costs of trainers for a workshop; subcontracted to a qualified institution to undertake the training / most probably REN- 21 which has significant experience in data collection systems / Costs related to Activity 1.3.1a
E2	Budget for training workshop on climate and gender sensitive RE&EE data collection and establishment of the focal points network / standard venue and proceeding costs for such workshops is US\$ 2,300 / Costs related to Activity 1.3.1a
E3	Includes travel costs of experts travelling from Principe to Sao Tome US\$ 600 per trip incl. ticket and per diem in line with UN rules. / Costs related to Activity 1.3.1a
F1	Budget includes standard costs for 6 trainings / standard venue and proceeding costs for such workshops is US\$ 2,300 / Costs related to Activity 1.3.2a - Activity 1.3.2b - Activity 1.3.2c - Activity 1.3.2d - Activity 1.3.2e - Activity 1.3.2f
F2	US\$ 15,000 standard costs for training fees and travel costs of trainers; subcontracted to a qualified institution to undertake the training / Costs related to Activity 1.3.2a - Activity 1.3.2b - Activity 1.3.2c - Activity 1.3.2d - Activity 1.3.2f
F3	UNIDO technical experts supporting the contents and implementation of the workshops 20*US\$ 500 per working day (w/d)/ Costs related to Activity 1.3.2a - Activity 1.3.2b - Activity 1.3.2c - Activity 1.3.2d - Activity 1.3.2e - Activity 1.3.2f
F4	Includes one UNIDO international expert travel to STP (US\$ 2,500 per trip incl. ticket and per diem in line with UN rules) / Costs related to Activity 1.3.2a - Activity 1.3.2b - Activity 1.3.2c - Activity 1.3.2d - Activity 1.3.2e - Activity 1.3.2f
F5	Budget includes costs of 2 experts travelling from Principe to Sao Tome per training (US\$ 600 for ticket and per diem in line with UN rules) / Costs related to Activity 1.3.2a - Activity 1.3.2b - Activity 1.3.2c - Activity 1.3.2d - Activity 1.3.2f
G1	Consultancy Company/Institution (involving int. and local experts) assumes an int. rate of US\$700 and local rate of US\$300 per working day - see also procurement plan; profile: at least 7 years of working experience in EE consulting, experience with MEPS in Africa and/or SIDS is a requirement, fluent in English and Portuguese / Costs related to Activity 2.2.1a to 2.2.1e
G2	Quality assurance will be provided by an international UNIDO expert 20*US\$ 500 per working day (w/d) / Costs related to Activity 2.2.1a to 2.2.1e
G3	Budget for printing baseline reports, MEPS and workshop/meeting documentation / Costs related to Activity 2.2.1d and 2.2.1e
G4	Budget includes standard costs of US\$ 2,300 for 3 stakeholder/review meetings and 2 training workshops. / Costs related to Activity 2.2.1d and 2.2.1e
G5	Includes one UNIDO international expert travel to STP (US\$ 2,500 per trip incl. ticket and per diem in line with UN rules) / budget includes costs of 1 expert travelling from Principe to Sao Tome per meeting/training workshop (US\$ 600 for ticket and per diem in line with UN rules) / Costs related to Activity 2.2.1d and 2.2.1e
H1	Consultancy Company/Institution (involving int. and local experts) assumes an int. rate of US\$700 and local rate of US\$300 per working day - see also procurement plan; profile: at least 7 years of working experience in energy consulting, experience with clean cooking solutions in Africa and/or SIDS is a requirement, fluent in English and Portuguese / Costs related to Activity 2.2.2a to 2.2.2d

H2	Quality assurance will be provided by an international UNIDO expert 20*US\$ 500 per working day (w/d) / Costs related to Activity 2.2.2a to 2.2.2d
НЗ	Standard venue and proceeding costs for a training workshop is US\$ 2,300 / Costs related to Activity 2.2.2d
H4	Budget includes standard costs of 1 expert travelling from Principe to Sao Tome for the training workshop / Costs related to Activity 2.2.2d
I1	Consultancy Company/Institution (involving int. and local experts) assumes an int. rate of US\$ 700 and local rate of US\$ 300 per working day - see procurement plan; profile: at least 7 years of working experience in the field of efficient transport, standards for vehicle emissions and standards, experience in Sub Sahara Africa and/or SIDS is a requirement, fluent in English and Portuguese / Costs related to Activity 2.2.3a to Activity 2.2.3e
12	Budget for printing of baseline reports, regulations and relevant documents for the technical committee and validation meetings/webinar / Costs related to Activity 2.2.3a to Activity 2.2.3e
13	Quality assurance will be provided by an international UNIDO expert 30*US\$ 500 per working day (w/d) / Costs related to Activity 2.2.3a to Activity 2.2.3e
14	Includes one travel of a UNIDO international expert to STP (US\$ 2,500 per trip incl. ticket and per diem in line with UN rules) / Costs related to Activity 2.2.3c and Activity 2.2.3e
15	Includes standard venue and proceeding costs for 4 meetings/workshops of US\$ 2,300 per unit / Costs related to Activity 2.2.3c and Activity 2.2.3e
16	Includes travel costs of 4 experts traveling to meetings from Principe to Sao Tome (US\$ 600 per trip incl. ticket and per diem in line with UN rules) / Costs related to Activity 2.2.3c and Activity 2.2.3e
J1	Consultancy Company/Institution (involving int. and local experts) assumes an int. rate of US\$ 700 and local rate of US\$ 300 per working day - see procurement plan; profile: at least 7 years of working experience in the field of EE in transmission and distribution, experience in Sub Sahara Africa and/or SIDS is a requirement, experience in awareness campaigns on electricity theft, fluent in English and Portuguese / Costs related to Activity 2.2.4a to 2.2.4c
J2	Budget for audio-visual campaign on electricity theft (considering gender aspects) and printing material (e.g. documents) / Costs related to Activity 2.2.4a to 2.2.4c
J3	Standard venue and proceeding costs of US\$ 2.300 for one meeting included / Costs related to Activity 2.2.4a to 2.2.4c
J4	Includes travel costs of experts traveling from Principe to Sao Tome (US\$ 600 per trip incl. ticket and per diem in line with UN rules) / Costs related to Activity 2.2.4a to 2.2.4c
K1	Consultancy Company/Institution (involving int. and local experts) assumes an int. rate of US\$ 700 and local rate of US\$ 300 per working day - see procurement plan; profile: at least 7 years of working experience in the field of solar-thermal, experience in Sub Sahara Africa and/or SIDS is a requirement, experience in capacity building for businesses, fluent in English and Portuguese / potential cooperation with the IEA Heating and Cooling Programme and AEE-Intec; / Costs related to Activity 2.4.1a and 2.4.1b
K2	Budget to print baseline report, regulation and training materials / Costs related to Activity 2.4.1a and 2.4.1b
К3	Standard venue and proceeding costs of US\$ 2,300 for a training workshop included / Costs related to Activity 2.4.1a and 2.4.1b
K4	Includes travel costs of experts traveling from Principe to Sao Tome (US\$ 600 per trip incl. ticket and per diem in line with UN rules) / Costs related to Activity 2.4.1a and 2.4.1b
L1	Consultancy Company/Institution (involving int. and local experts) assumes an int. rate of US\$ 700 and local rate of US\$ 300 per working day - see procurement plan; profile: at least 7 years of working experience on technical and legal issues related to electricity generation and transmission, smart grids and storage, net-metering and mini-grids; experience in Sub Sahara Africa and/or SIDS is a requirement, fluent in English and Portuguese / Costs related to Activity 2.4.2a to 2.4.2c
L2	Budget for printing of documents and regulations / Costs related to Activity 2.4.2a to 2.4.2c
L3	Quality assurance will be provided by a int. UNIDO expert 10*US\$ 500 per working day (w/d) / Costs related to Activity 2.4.2a to 2.4.2c
L4	Includes one travel of a UNIDO international expert to STP (US\$ 2,500 per trip incl. ticket and per diem in line with UN rules) / Costs related to Activity 2.4.2a to 2.4.2c
L5	Standard venue and proceeding costs of US\$ 2,300 for one technical validation meeting included / Costs related to Activity 2.4.2c
L6	Includes costs of one expert traveling from Principe to Sao Tome to participate in validation meeting regarding the legislation for auto-producers and mini-grids (US\$ 600 per trip incl. ticket and per diem in line with UN rules) / Costs related to Activity 2.4.2c
M1	UNIDO Clean Tech Incubation expert (see procurement plan) provides business development and mentoring support to the selected businesses - Int. expert(s) 100*US\$ 500 per working day (w/d); profile: at least 5 years of work experience in the promotion of entrepreneurship and innovation, track-record of provided incubation support and mentoring to businesses and start-ups, demonstrated knowledge of incubation methodologies, work experience in lusophone countries is an asset, Portuguese and English language skills / Costs related to Activity 2.4.3a to 2.4.3c
M2	Printing costs for documents related to the calls, mentoring, capacity building and business to business meetings / Costs related to Activity 2.4.3a to 2.4.3c
M3	Includes 2 travels of a UNIDO incubation expert to STP (US\$ 2,500 per trip incl. ticket and per diem in line with UN rules) / Costs related to Activity 2.4.3a to 2.4.3c
M4	Standard venue and proceeding costs of US\$ 2,300 for business to business meeting included / Costs related to Activity 2.4.3c
N1	Strategic partnership with UNIDO ISHP on the translation of the SHP guidelines/standards and implementation of training; / Costs related to Activity 2.4.4a and 2.4.4b
N2 N3	Printing budget for guidelines in Portuguese to be delivered at the training and to the Government / Costs related to Activity 2.4.4a and 2.4.4b  Standard venue and proceeding costs of US\$ 2,300 for the SHP training / Costs related to Activity 2.4.4b
CVI	Sandard Vende and proceduring costs or 052 2,500 for the 5th training? Costs Telated to Activity 2.4.40

N5	Includes costs of 4 experts traveling from Principe to Sao Tome to participate in the training (US\$ 600 per trip incl. ticket and per diem in line with UN rules) / Costs related to
IND	Activity 2.4.4b
	Consultancy Company/Institution (involving int. and local experts) assumes an int. rate of US\$ 700 and local rate of US\$ 300 per working day - see procurement plan; profile:
R1	at least 7 years of working experience in ocean energy potential and the blue economy nexus; experience in Sub Sahara Africa and/or SIDS is appreciated, fluent in English
	and Portuguese;
R2	Quality assurance will be provided by a UNIDO expert 10*US\$ 500 per working day (w/d); Costs related to Activity 2.4.5a to 2.4.5c
	Consultancy Company/Institution (involving int. and local experts) assumes an int. rate of US\$ 700 and local rate of US\$ 300 per working day - see procurement plan; profile:
S1	at least 7 years of working experience with RE and investment plans; experience in Sub Sahara Africa and/or SIDS is appreciated, fluent in English and Portuguese; / Costs
	related to Activity 4.5.1a to 4.5.1c
S2	Budget to print investment plan and relevant documents / Costs related to Activity 4.5.1a to 4.5.1c
S3	Standard venue and proceeding costs of US\$ 2,300 for the validation meeting / Costs related to Activity 4.5.1a to 4.5.1c
T1	UNIDO expert assists the Government in the preparation of a concept note to be submitted to the GCF 25*US\$ 500 per working day (w/d) / Costs related to Activity 4.5.2a to
11	4.5.2c
T2	UNIDO international expert travel to STP (US\$ 2,500 per trip incl. ticket and per diem in line with UN rules); / Costs related to Activity 4.5.2a to 4.5.2c
T3	Includes standard venue and proceeding costs of US\$ 2,300 for the validation meeting; / Costs related to Activity 4.5.2a to 4.5.2c
U1	Salary for an administrative assistant over 34 months (34*US\$ 540)
U2	3 project laptops (3* US\$ 1,500) - one for the administrative assistant, one for the young expert at DGRNE, one for the young expert at the NDA
112	3 project cellphones for the team at DGRNE/NDA (4*US\$ 1,500) - one for the administrative assistant, one for the young expert at DGRNE and one for the young exptert at the
U3	NDA
U4	Various office supplies for the team at DGRNE/NDA (e.g. pens, paper, printer ink, utilities) (1*US\$ 9,940)
U5	Cost of external evaluator (30*US\$ 500 per working day)
	Other direct costs under PMC are related to 25% of project management cost (USD 16,000.00) that will be utilized by UNIDO for direct service costs. Direct Service Costs (DSC)
U6	are DC for services that are rendered to deliver specific programme/project inputs, such as recruitment of personnel, assets management, procurement of services, equipmen
	and supplies, processing of payments etc

## 5.2 Procurement Plan (Annex)

For goods, services, and consultancies to be procured, please list the items, descriptions in relation to the activities in Section 3, estimated cost, procurement method, relevant threshold, and the estimated dates. Please include the procurement plan for at least the first tranche of disbursement requested below and provide a full procurement plan for the entire duration of the implementation period if available at this stage.

İ									
Consultancy Services (most relevant as:	signments)					ı		,	
Contract with Energy Consultancy Company/institution (project team shall include international and local experts)	Baseline, standards and verification system for minimum performance standards (MEPS) for three (3) types of appliances are developed (lighting, air conditioning, refrigeration) & implementation of two trainings	67,000.00	67,000.00 Open tender (UNIDO)		ve EUR 40,000	1-May	2021	1-Jun	-2021
Contract with Energy Consultancy Company/institution (project team shall include international and local experts)	Baseline report on efficient cooking & execution of on-site training and online webinar	26,000.00	Open tender (UNIDO)	belo	w EUR 40,000	1-May-	2021	1-Jun	-2021
Contract with Energy Consultancy Company/institution (project team shall include international and local experts)	Baseline report on low-carbon land transport (vehicle fuel economy) & regulation on emission and import vehicle standards & on-site training	70,000.00	Open tender (UNIDO)	abov	ve EUR 40,000	1-Mar-	2021	1-Apr	-2021
Contract with Energy Consultancy Company/institution (project team shall include international and local experts)	Baseline report & regulation on commercial grid losses & awareness campaign	29,500.00	Open tender (UNIDO)	belo	w EUR 40,000	1-Mar-	2021	1-Apr	-2021
Contract with Energy Consultancy Company/institution (project team shall include international and local experts)	Baseline study, regulation and practical guidelines for solar thermal use & on-site training	23,000.00	Open tender (UNIDO)	belo	w EUR 40,000	4-Mar-	2022	19-Арі	-2022
Contract with Energy Consultancy Company/institution (project team shall include international and local experts)	Grid-stability study & legal advice for RE IPPs & regulation for net-metering and mini-grids	45,000.00	,000.00 Open tender (UNIDO)		ve EUR 40,000	4-Mar-	2021	14-Арі	-2021
Contract with Energy Consultancy Company/institution (project team shall include international and local experts)	Translation of UNIDO SHP guidelines & implementation of on- site training, which were developed by the International Center on Small Hydro Power (ICSHP).	17,000.00	Waiver of competitive bidding	belo	w EUR 40,000	4-Mar-	2021	14-Арг	-2021
Contract with Energy Consultancy Companylinstitution (project team shall include international and local experts)	Technical baseline study on the use of ocean energy potentials within the blue economy vision of the country (e.g. wave, tidal, SWAC, OTEC, floating PV)	30,000.00	Open tender (UNIDO)	abov	ve EUR 40,000	4-Mar-	2021	14-Apr	-2021
Contract with Energy Consultancy Companylinstitution (project team shall include international and local experts)	A National Sustainable Energy Investment Plan (NSEIP) based on real project and feasibility data	27,400.00	Open tender (UNIDO)	belo	w EUR 40,000	1-Aug-	2021	21-Oc	t-2021
Various training institutes or professional trainers	7 on-site trainings in cooperation with various institutions or trainers (US\$ 15,000 each)	105,000.00	Open tender or waiver of competitive bidding	belo	w EUR 40.000	4-Mar-	2022	19-Арг	2022
UNIDO experts in HQ (project manager & team, senior hydro power expert, clean tech incubation expert, fiduciary standards expert) and Cape Verde (sustainable energy expert)	UNIDO experts providing specialised technical expertise for various technical activities (UNIDO roster ISA and project staff)	157,500.00	UNIDO recruitment process	abov	ve EUR 40,000	depending	on activity	depending	on activity
Administrative assistant at DGRNE	Administrative assistant located at DGRNE	18,360.00	UNIDO recruitment process	belo	w EUR 40.000				

Young professional at the NDA	Young RE&EE professional located at the NDA	55,000.00	UNIDO recruitment process	above EUR 40,000	1-Feb-2021	1-Mar-2020
Young professional at DGRNE/MOPIRNA	Young RE&EE professional located at DGRNE/MOPIRNA	54,000.00	UNIDO recruitment process	above EUR 40,000	1-Feb-2021	1-Mar-2020
	Sub-Total (US\$)	\$ 724,760.00				

Other costs						
Workshop/meeting proceeding costs	Venue costs for various validation meetings, workshops and trainings	71,300.00	Straight Expenditure/Fast-Track/Open tender depending on the actual value of procurement	Straight Expenditure = up to EUR 2,000; Fast Track = up to EUR 5,000; Open Tender = above EUR 5,000	depending on activity	depending on activity
International travels	Various international travels	27,500.00	In line with UNIDO travel policy	thresholds for economy/business travel will apply as per the UNIDO travel policy	depending on activity	depending on activity
Local travel costs within Sao Tome and Principe	Various local travels from/to Principe/Sao Tome	24,000.00	In line with UNIDO travel policy	thresholds for economy/business travel will apply as per the UNIDO travel policy	depending on activity	depending on activity
	Printing costs for various baseline reports, regulations and workshops/meetings	21,650.00	Straight Expenditure/Fast-Track/Open tender depending on the actual value of procurement	Straight Expenditure = up to EUR 2,000; Fast Track = up to EUR 5,000; Open Tender = above EUR 5,000	depending on activity	depending on activity
Office supplies	Office equipment	5,940.00	Straight Expenditure/Fast-Track/Open tender depending on the actual value of procurement	Straight Expenditure = up to EUR 2,000; Fast Track = up to EUR 5,000; Open Tender = above EUR 5,000	depending on activity	depending on activity
IT Equipment costs	Laptops and mobile costs	5,940.00	Straight Expenditure/Fast-Track/Open tender depending on the actual value of procurement	Straight Expenditure = up to EUR 2,000; Fast Track = up to EUR 5,000; Open Tender = above EUR 5,000	depending on activity	depending on activity
	Sub-Total (US\$)	\$ 156,330.00	r de la companya de			

Note to the file: As per UNIDO Programme Support Cost Recovery Policy, Direct Service Cost will be applied, in order to cover the costs of procurement services, treasury and payments (approximately 0.9% of total outcome budget).

## 5.3 Implementation Plan (Annex)

Planned duration Milestone (deliverable) Target completion date Activities & Deliverables M25 M26 M27 M28 M29 M30 M31 M32 M33 M34 M35 M3 M1 M2 M3 M4 M5 M6 M7 M8 M9 M10 M11 M12 M13 M14 M15 M16 M17 M18 M19 M20 M21 M22 M23 M24 Reporting Output Activity 1.2.1a Identify gaps regarding the qualification of DGRNE/MOPIRNA as deli-partner for GCF Readiness in the short-term (by end of this Readiness support) and DAE in the long-term (beyond this Readiness request) 1.2.1 DAE in the long-term (beyond this reasoness request).

Activity 1.2.1b Update fluciary standards, policies and procedures in

DGRNE/MOPINA (incl. policy on gender equality, environmental and social safeguara
anti-money laundering and terrorist financing) and ensure the qualification as deliver
partner for Readiness proposals is meet, administration, procurement and other GG

Activity 1.2.2a Provide training on financiar disministration, procurement and other GG

Opticies (incl. gender equality, anti-money laundering and terrorist financing) - at leas

40% women participation is envisaged; 1.2.2 Activity 1.2.2b Training on general project cycle management and related quality frameworks (e.g. logical framework, evaluation criteria)

Activity 1.2.2c Support DGRNE/MOPIRNA to submit to the GCF the FMCA questionr and relevant annews and relevant annexes

Activity 1.2.3a Develop and present the documents (incl. job profiles) for the young 1.2.3 climate professionals and twinning program to international partners to seek support Activity 1.2.3b Hire two (2) young RE&EE professionals at DGRNE and the NDA through Activity 1.2.49 Organise meetings on climate relevant RE&EE mitigation issues organized, involving a broad range of national, cross-sectoral and international 1.2.4 stakeholders

Activity 1.2.5a Upgrade energy information system with relevant RE&EE data and verification of GHG emission reduction data in the 3rd NCCC

Activity 1.3.1a Organise a training workshop on climate and gender sensitive RE&EE data collection in line with the established indicators get least 40% women participati 1.2.5 1.3.1 is envisaged)
Activity 1.3.1b Network of data collection focal points established (involving youth an at least 40% women)
Activity 3.3.28 Organise a training on energy and climate scenario praining
modeling by making use of tools such as LEAP (GHG emission modeling bas
scenario in the 3rd NCCC). (at least 40% women participation is envisaged) 1.3.2 Activity 1.3.2b Organise a training on the application of RE policy and legislation in the context of the upcoming IPP projects (at least 40% women participation is envisaged) Activity 1.3.2c Organise a training on RE&EE project appraisal and finance training by making use of tools such as RETScreen and HOMER (at least 40% women participation is envisaged)
Activity 1.3.2d Organise an online training on RE characteristics and economics (at lea Activity 1.3.20 Urganise an oniner training on the characteristics and economics (at least 40% women participation is envisaged!)

Activity 1.3.2e Organise a training on unconscious bias and mainstreaming gender into energy policy and project planning and implementation (at least 40% women participation is envisaged!)

Activity 1.3.2f Organise a training on smart grid and storage management, incl. digitalization assets particularly targeting experts of EMAE, DGRNE, RAP (at least 40% women participation is envisaged!) Activity 2.2.1a Develop of a baseline report on the three (3) standards in line with be-2.2.1 Activity 2.2.1b Adapt existing MEPS for lighting, air conditioning and refrigeration to the situation and language context of STP Activity 2.2.1c Establish of an implementation, verification and monitoring system Activity 2.2.1d Organise of relevant technical committee and validation meetings as required (at least 40% women participation is envisaged)
Activity 2.1.e Organise two (2) Iraning workshops for 40 key stakeholders (e.g. ports to enforce the MEPS (at least 40% women participation is envisaged)

	Activity 2.2.2a Develop a baseline report on efficient cooking appliances for urban,	П	T	T	Т	Т	Т				<b>\</b> /	1	<u> </u>										Г	Π	Π	Π	Π		<u> </u>		T	T
2.2.2	rural and industrial needs. The baseline report will analyze the current use of traditional firewood and charcoal for cooking purposes	i									X		Χ																			
	Activity 2.2.2b Organise of relevant technical committee and validation meetings as										$\nabla$	abla																				1
	required (at least 40% women participation is envisaged - with involvement or gender focal points and stakeholders	i i									Λ	$\wedge$																				
	Activity 2.2.2c Facilitate knowledge exchange with lusophone SIDS on best clean																			$\bigvee$	abla											
	cooking practice in a joint webinar form in cooperation with ALER/CPLP and ECREEE (at least 40% women participation is envisaged)	i i																		Λ	Λ											
	Activity 2.2.2d Organise of a training workshop on production and use of clean cooking														1	$\setminus$																
	appliances for 30 cross-sectoral experts (at least 40% women participation is envisaged)	i i														Χ																
	Activity 2.2.3a Develop of a baseline report and recommendations for low-carbon land	ΓŤ										\/		1	7																1	1
2.2.3	transport (incl. analysis of the vehicle fuel economy in STP)	l										X			X																	
	Activity 2.2.3b Support the draft of a regulation for vehicle emission standards and imports, submit it for validation to the NDA and key Ministries with relevant mandates																	X		X												
	Activity 2.2.3c Organise of relevant technical committee and validation meetings as required (at least 40% women participation is envisaged)																	X	X													
	Activity 2.2.3d Facilitate SIDS-SIDS knowledge exchange on efficient transport legislation and electric mobility in a joint webinar form in cooperation with ALER/CPLP, ECREEE, CCREEE and PCCREE																									X	$\mathbb{X}$					
	Activity 2.2.3e Organise one training workshop on the enforcement of standards for vehicle emissions and imports for 30 cross-sectoral experts (at least 40% women participation is envisaged)																	X	X													
2.2.4	Activity 2.2.4a Develop a baseline report on commercial electricity losses (considering gender aspects)							X		X																						1
	Activity 2.2.4b Develop and propose for approval a regulation on electricity theft developed and proposed for approval (considering gender aspects)	П									X		X																			
	Activity 2.2.4c: Develop and implement an awareness campaign on electricity theft in partnership with EMAE and AGER													X				X														
2.4.1	Activity 2.4.1a Conduct a baseline study, listing and analysing existing regulations, and develop a practical guidelines on solar thermal applications in close coordination with EMAE and AGER																X		$\times$													
	Activity 2.4.1b Organise a training workshop on the application of solar thermal applications for 30 experts (at least 40% women participation is envisaged)																		X	X												
2.4.2	Activity2.4.2aConductagrid-stabilitystudywithrecommendationsforsmartgridandstoragemanagement(incl.optionsfordigitalization).								X			X																				
	Activity 2.4.2b Provide legal advisory support for the implementation of IPP pipeline projects to mitigate risks for the Government and investors																	X			X											Ī
	Activity 2.4.2c Support the drafting of a regulation and practical guidelines for auto- producers (net-metering) and rural mini-grids																					X	X									
2.4.3	Activity 2.4.3a Develop the required documents (application guidelines, appraisal framework, templates) for the call for proposal of the entrepreneurship facility; considering a gender-responsive approach.													X		X																
	Activity 2.4.3b Implement the call, capacity building and mentoring activities	П		7	1	T																X								X	$\top$	1
	Activity 2.4.3c Organise a business-to-business event and structural dialogue in partnership with CCIAS and the banking sector																					_					X			$\langle$		T
2.4.4	Activity 2.4.4a Translate in Portuguese existing guidelines for micro/small hydropower (SHP) development, installation and operation and make them available free of charge to EMAE, project developers and financiers								X				X																			
	Activity 2.4.4b Organise a training workshop for at least 30 experts on the application of the SHP guidelines of key stakeholders in the sector (incl. banks and financers) - (at least 40% women participation is envisaged)															X	X															I
2.4.5	Activity 2.4.5a Conduct a baseline study on potential ocean energy technology options undertaken												X		X																	

	Activity 2.4.5b Colect pre-feasibility data on potential sites collected									X	X			T						T	T	$\prod$
	Activity 2.4.5c Facilitate a SIDS-SIDS knowledge exchange on ocean energy in the form of a joint webinar in cooperation with ALER/CPLP, SIDS DOCK and the GN-SEC organized										Ì	X	X									
4.5.1	Activity 4.5.1a Collect relevant gender-aggregated data on feasible and viable investment cases and business models												X			$\setminus$						
	Activity 4.5.1b Support the formulation and adoption of a National Sustainable Energy Investment Plan (NSEP) is formulated and its adoption facilitated																$\triangleright$		X		floor	
	Activity 4.5.1c Present the NSEP to developers, financiers and investors at various events (40% women representation is envisaged). At least 3 presentations will focus on investment opportunities with high relevance for women and women entrepreneurs in STP.																				$\bigvee$	
4.5.2	Activity 4.5.2a Prepare a draft concept note on the National Sustainable Energy Investment Program																		X		X	
	Activity 4.5.2b Pre-discuss the draft concept note with GCF and integrate comments received																				X	
	Activity 4.5.2c Formally submit of the request to the GCF																				$\triangle$	