



National child project under the GEF Africa Mini-grids Program Somalia

Part I: Project Information

Name of Parent Program

GEF-7 Africa Minigrids Program

GEF ID

10470

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

CBIT No

NGI No

Project Title

National child project under the GEF Africa Mini-grids Program Somalia

Countries

Somalia

Agency(ies)

UNDP

Other Executing Partner(s)

UNDP CO in Somalia

Executing Partner Type

GEF Agency

GEF Focal Area

Climate Change

Taxonomy

Climate Change, Focal Areas, United Nations Framework Convention on Climate Change, Paris Agreement, Nationally Determined Contribution, Climate Change Mitigation, Renewable Energy, Energy Efficiency, Technology Transfer, Financing, Influencing models, Strengthen institutional capacity and decision-making, Convene multi-stakeholder alliances, Transform policy and regulatory environments, Deploy innovative financial instruments, Demonstrate innovative approach, Stakeholders, Civil Society, Community Based Organization, Private Sector, SMEs, Individuals/Entrepreneurs, Capital providers, Large corporations, Financial intermediaries and market facilitators, Local Communities, Beneficiaries, Type of Engagement, Consultation, Information Dissemination, Partnership, Participation, Communications, Public Campaigns, Behavior change, Education, Awareness Raising, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Gender-sensitive indicators, Women groups, Gender results areas, Knowledge Generation and Exchange, Access to benefits and services, Participation and leadership, Capacity Development, Capacity, Knowledge and Research, Knowledge Exchange, Knowledge Generation, Enabling Activities, Learning, Adaptive management, Theory of change, Indicators to measure change, Innovation

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 2

Climate Change Adaptation

Climate Change Adaptation 0

Submission Date

6/19/2021

Expected Implementation Start

4/1/2022

Expected Completion Date

3/31/2026

Duration

48In Months

Agency Fee(\$)

294,853.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCM-1-1	Promote innovation and technology transfer for sustainable energy breakthroughs for decentralized power with energy usage	GET	3,276,147.00	171,450,000.00
Total Project Cost(\$)			3,276,147.00	171,450,000.00

B. Project description summary

Project Objective

Supporting access to clean energy by increasing the financial viability, and promoting scaled-up commercial investment, in low carbon mini grids in Somalia, with a focus on cost reduction levers and innovative business models

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
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Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 1: Policy and regulation	Technical Assistance	Outcome 1: Stakeholder ownership in a national mini-grid delivery model is advanced, and appropriate policies and regulations are adopted to facilitate investment in low-carbon mini-grids	<p>1.1. An inclusive national dialogue to identify mini-grid delivery models is facilitated, clarifying priority interventions for an integrated approach to off-grid electrification.</p> <p>1.2. Mini-grid DREI techno-economic analyses carried out to propose most cost-effective basket of policy and financial de-risking instruments and contribute to AMP Flagship Report on cost reduction.</p> <p>1.3. Mini-grid policies and regulations, including tariff model and incentives, are operationalized through digital transformation support, in collaboration with the authorities and other development partners.</p>	GET	614,425.00	1,525,211.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 2: Business Model innovation with private sector	Investment	Outcome 2: Innovative business models based on cost reduction operationalized, with strengthened private sector participation in low-carbon mini grid development	2.1. Pilots developed using innovative business models through calls for proposals based on lessons learned from the operationalization of the SREF under ESRES2 and the results of the geospatial mapping under SEAP.	GET	1,595,096.00	159,765,846.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 2: Business Model innovation with private sector	Technical Assistance	Outcome 2: Innovative business models based on cost reduction operationalized, with strengthened private sector participation in low-carbon mini grid development	<p>2.2. Public programmes (apprenticeships , certificates, university programs) to develop competitive, skilled labor market in the design, O&M, and management of solar and hybrid mini-grids, including technical training on the utilization of online tools for performance monitoring, consumption tracking and billing.</p> <p>2.3. Support provided to establish, grow and capacitate national industry associations for private sector developers and ESPs.</p>	GET	383,244.00	251,183.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 3: Scaled-up financing	Technical Assistance	Outcome 3: Financial sector actors are ready to invest in a pipeline of low-carbon mini-grids and concessional financial mechanisms are in place to incentivize scaled-up investment	<p>3.1. Design support, including development of operational guidance, for a complementary funding instrument through which the diaspora and small investors can participate in existing financing mechanisms that have been introduced by other development partners to facilitate finance for vetted mini-grid projects.</p> <p>3.2. Domestic financial sector capacity building on business and financing models for mini-grids.</p>	GET	266,378.00	333,640.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 4: Digital, Knowledge Management (KM) and Monitoring and Evaluation (M&E)	Technical Assistance	Outcome 4: Digital and data are mainstreamed, across stakeholders, into local mini-grid market development. Increased knowledge, awareness and network opportunities in the mini-grid market and among stakeholders, including benefitting from linkages to international good practice	<p>4.1. A project Digital Strategy is developed and implemented, including linkages to and following guidance from, the AMP Regional Project.</p> <p>4.2. Mini-grids digital platform implemented to run tenders and manage data from pilot(s), and to support mini grids scale-up and cost-reduction.</p> <p>4.3. A Quality Assurance and Monitoring Framework (QAMF) for measuring, reporting and verification of the sustainable development impacts of all mini grid pilot(s) supported, including GHG emission reductions, is adopted and operationalized based on standardized guidance from the AMP Regional Project.</p>	GET	260,997.00	1,374,120.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
				Sub Total (\$)	3,120,140.00	163,250,000.00
Project Management Cost (PMC)						
		GET	156,007.00		8,200,000.00	
		Sub Total(\$)	156,007.00		8,200,000.00	
		Total Project Cost(\$)	3,276,147.00		171,450,000.00	

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
GEF Agency	UNDP	Grant	Investment mobilized	750,000.00
Recipient Country Government	Ministry of Energy and Water Resources (MoEWR)	In-kind	Recurrent expenditures	3,500,000.00
Donor Agency	World Bank	Grant	Investment mobilized	157,200,000.00
Donor Agency	SIDA	Grant	Investment mobilized	10,000,000.00
Total Co-Financing(\$)				171,450,000.00

Describe how any "Investment Mobilized" was identified

UNDP CO in Somalia will support the project with USD 750,000 from its annual core resources, including USD 400,000 for materials and goods contribution to the pilot project. In addition, the UNDP CO screened the ongoing projects by other development partners in Somalia and identified projects by the WB and SIDA. Letters were obtained from the partners to indicate how their project's contribution to the development of the mini-grid sector in Somlia and support the overall objective of the AMP in Somalia. Both World Bank and SIDA cofinancing are investment mobilized through partnerships. Specifically, the WB contributions will help addressing capacity gaps and provide support for improving electricity infrastructure to promote low carbon clean energy options in Somalia. This contribution is directly contributing to Components 1 and 3 of the project. The SIDA contributions will strengthen the energy sector by fostering multilateralism to empower the private sector engagement. This contribution is contributing to both components 2 and 3 of the project.

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)
UNDP	GET	Somalia	Climate Change	CC STAR Allocation	3,276,147	294,853
Total Grant Resources(\$)					3,276,147.00	294,853.00

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount (\$)

100,000

PPG Agency Fee (\$)

9,000

Agency	Trust Fund	Country	Focal Area	Programmin g of Funds	Amount(\$)	Fee(\$)
UNDP	GET	Somalia	Climate Change	CC STAR Allocation	100,000	9,000
Total Project Costs(\$)					100,000.00	9,000.00

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	0	29577	0	0
Expected metric tons of CO ₂ e (indirect)	0	891000	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)				
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)		29,577		
Expected metric tons of CO ₂ e (indirect)		891,000		
Anticipated start year of accounting		2021		
Duration of accounting		20		

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
Solar Photovoltaic select		2.12		<input type="checkbox"/>
Energy Storage select		3.30		<input type="checkbox"/>

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		33,335		
Male		33,335		
Total	0	66670	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Part II. Project Justification

1a. Project Description

The proposed strategy in this Project Document builds upon the strategy presented in the Concept Note for this project. It continues to be aligned with the GEF focal area on Climate Change Mitigation (CCM-1-1) targeting the promotion of innovation and technology transfer for sustainable energy breakthroughs for de-centralized renewable power with energy usage. The project is also aligned with the UN's Sustainable Development Goals (SDGs) and contributes to achieving SDG-7 which identifies electricity as an essential ingredient for lifting people out of poverty, improving health, boosting educational levels, reducing gender inequities, and enabling sustainable economic development. The project also contributes to achieving SDG-13 by contributing to integrating climate change measures into national policies, strategies, and planning, and SDG-5 by utilizing all project activities as opportunities to promote diversity and gender-balance to help achieve gender equality and empower women and girls.

The project's title has not been changed during PPG development. The objective, components, and outcomes have been updated by the AMP Regional Project team for all countries participating in the AMP. Furthermore, some of the proposed outputs have been rephrased to enhance their clarity and specificity, while new outputs have been introduced to address specific challenges identified during PPG development. The following table presents a summary of the changes proposed to the project outputs from the Concept Note to the CEO ER.

Table 1: Summary of changes between Concept Note and CEO ER

Changes to project design during PPG development	Justification for change
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Changes to project design during PPG development	Justification for change
<p>The objective statement and the wording of components, outcomes and indicators have been updated by the AMP Regional Project for all countries participating in the programme:</p> <p>Objective in Concept Note: Supporting access to clean energy by increasing the financial viability and promoting scaled-up commercial investment in mini-grids in Somalia.</p> <p>The new objective: <u>Supporting access to clean energy by increasing the financial viability, and promoting scaled-up commercial investment, in low-carbon mini-grids in Somalia, with a focus on cost-reduction levers and innovative business models.</u></p> <p>Component 1: Policy and Regulation The new outcome: <u>1. Stakeholder ownership in a national mini-grid delivery model is advanced, and appropriate policies and regulations are adopted to facilitate investment in low-carbon mini-grids.</u></p> <p>Component 2: Mini-grid Project and Business Model Innovation with Private Sector Engagement The new outcome: <u>2. Innovative business models based on cost reduction operationalized, with strengthened private sector participation in low-carbon mini-grid development mini-grids.</u></p>	<p>UNDP has developed a revised Harmonized Results Framework for AMP National Child Projects based on the set of components, outcomes and outputs included in the Program Framework Document (PFD) and national child project Concepts approved by the GEF Council in December 2019.</p> <p>The AMP Harmonized Results Framework (AMP) is an evolution from the PFD/Concept phase results framework and reflects the most updated thinking and guidance provided to national project design teams during the Project Preparation Grant (PPG) Phase for 1st round national child projects (Jan 2020 ? Jun 2021). All changes are explained in further below. However, the basic thinking around these changes is explained as follows:</p> <p>? Objective: the objective has been adjusted to better reflect the program?s focus on cost-reduction.</p> <p>? Component/Outcome 1. Changes made to emphasize on the importance of having governments make an informed (and sufficiently socialized) decision as to the Delivery Model they will pursue for the development of their local mini-grid market, as well as the need for developing a certain set of regulations in accordance with a given delivery model.</p> <p>? Component/Outcome 2. Changes made to emphasize opportunity, in working with MG developers, for AMP to in particular include a focus on supporting inclusivity, i.e. working with domestic or under-represented MG developers (i.e., not just the large international actors).</p> <p>? Component/Outcome 3. Given the prevalence of early markets in both 1st and 2nd round countries, changes were made to emphasize opportunity for AMP to in particular work on capacity building for (i) the domestic financial sector in assessing MG investment opportunities, and (ii) MG developers to create a pipeline of accessible investment opportunities. Both these areas can provide significant value in preparing the market for scale-up.</p> <p>? Component/Outcome 4: Changes made to reflect UNDP?s views of digitalization and data as increasingly important and key to AMP. All national child projects will include a digital strategy in component 4; this strategy will then guide various other outputs on data which can be spread across the other components. Considerable support and linkages on data from the regional project to each national child project are included in the program?s design.</p>

Changes to project design during PPG development	Justification for change
<p>Reference to <i>?solar PV-battery mini-grids?</i> in the results framework and other sections has been changed to either <i>?low-carbon mini-grids?</i> or <i>?solar and hybrid mini-grids?</i>.</p>	<p>The changes reflect the focus of the project strategy on hybridization, i.e. providing solar PV-battery components while maintaining the existing diesel systems for backup.</p>
<p>A new output is added: <u><i>1.1. An inclusive national dialogue to identify mini-grid delivery models is facilitated, clarifying priority interventions for an integrated approach to off-grid electrification.</i></u></p>	<p>This additional output take the long-term sustainability of the mini-grid sector into focus by initiating a national dialogue to assess and reach consensus on the selected model(s).</p>
<p>Reference to <i>?AMP Flagship Report on cost reduction?</i> is added to Output 1.1. to become: 1.2. Mini-grid DREI techno-economic analyses carried out to propose most cost-effective basket of policy and financial de-risking instruments <u><i>and contribute to AMP Flagship Report on cost reduction.</i></u></p>	<p>The change aims to strengthen and emphasize the role of DREI in AMP, where the Regional Project will now produce a key flagship report on cost-reduction using the DREI methodology drawing from DREI analyses and content generated across all AMP national Child Projects.</p>

Changes to project design during PPG development	Justification for change
<p>Developing a regulatory framework is replaced with an output tackling operationalization of existing regulations through digital transformation:</p> <p>Output in Concept Note: 1.2. A mini-grid regulatory framework, including tariff model and incentives is developed (complementary to WB & DfID initiatives).</p> <p>The new output: <u>1.3. Mini-grid policies and regulations, including tariff model and incentives, are operationalized through digital transformation support, in collaboration with the authorities and other development partners.</u></p> <p>The change is accompanied by an increase of \$30,000 of the allocated budget for Component 1.</p>	<p>There are several policies and regulations that have been developed by the authorities in Somalia and Somaliland, with support from development partners, but they have not been operationalized. The mini-grid market in Somalia continues to function in an environment of informal regulations. Therefore, it is proposed that the AMP focuses on the operationalization of existing policies and regulations instead of attempting to develop a new complementary framework.</p> <p>The focus on digital transformation is in line with the reported challenges reported by stakeholders in relation to performance monitoring and consumption tracking.</p>

Changes to project design during PPG development	Justification for change
<p>Capacity building for public officials is included in a new output tackling institutional capacity building:</p> <p>Output in Concept Note: 1.4. Capacity building provided to public officials (regulator, ministries) specifically to design procurement/tender processes that incorporate cost-reduction levers and innovative business models.</p> <p>The new output: <u>1.4. Institutional setup for rural electrification assessed and supported, and institutional capacity building provided on technical, managerial, and regulatory issues.</u></p> <p>The change is accompanied by an increase of \$20,000 of the allocated budget for Component 1.</p>	<p>The institutional capacity has been identified as one of the bottlenecks for operationalizing previously developed policies and regulations, and sustaining the work on donor-funded projects. There were several bodies identified as involved in mini-grid development, but no clear arrangement for consolidating the effort of the different partners involved in renewable energy and/or mini-grid development. Therefore, developing an institutional setup is proposed to support the Government manage and promote mini-grid development efforts during the project's lifetime and afterward. The proposed output also includes capacity building activities for public officials as part of the institutional capacity building effort.</p>
<p>Reference to ?Somaliland Quality Control Commission (SQCC)? is added to Output 1.3. to become:</p> <p>1.5. Quality standards for solar and hybrid mini-grid components domesticated, and institutional capacity of Somali Bureau of Standards (SBS) <u>and Somaliland Quality Control Commission (SQCC)</u> strengthened.</p>	<p>SBS serves the Somalia Government and its member states. This Bureau has just been established and is not yet operational. SQCC is the organization responsible for providing standardization, measurement, and conformity assessment services in Somaliland. Therefore, the output has been changed to include both organizations in the institutional capacity building activities.</p>

Changes to project design during PPG development	Justification for change
<p>Reference to ?the results of the geospatial mapping by SEAP? is added to Output 2.1. to become:</p> <p>2.1. Pilots developed, including on productive use/innovative appliances, using innovative business models through calls for proposals based on lessons learned from the operationalization of the SREF under ESRES2 <u>and the results of the geospatial mapping under SEAP.</u></p>	<p>The change reflects the decision to implement hybrid projects without productive use and rely on two approaches for site selection. The first being an evaluation of the previously shortlisted projects and ESPs by the ESRES2 team under SREF Window-1. The second is the result of the geospatial mapping by SEAP. The combination of the two approaches aims to support the AMP team build upon previous and ongoing work by development partners to find the most suitable location for the AMP pilot(s) and the best use of GEF investment funds.</p>

Changes to project design during PPG development	Justification for change
<p>Capacity building for winning bidders is replaced with an output tackling the establishment of academic certification programmes for solar and hybrid mini-grids:</p> <p>Output in Concept Note: 2.2. Capacity of winning tender bidders (private sector developers) strengthened to develop and implement innovative business models and cost-reduction levers.</p> <p>The new output: <u>2.2. Public programmes (apprenticeships, certificates, university programs) to develop competitive, skilled labor market in the design, O&M, and management of solar and hybrid mini-grids, including technical training on the utilization of online tools for performance monitoring, consumption tracking and billing.</u></p> <p>The change is accompanied by an increase of \$30,000 of the allocated budget for Component 2.</p>	<p>The technical capacity of local operators was identified as one of the major obstacles facing mini-grid development in Somalia and Somaliland. Development partners have been keen on including training workshops and internship programs in their project activities. In addition, they adopted different strategies to overcome the capacity issue, such as engaging suppliers in system design and construction to ensure knowledge transfer and quality assurance, standardizing the system design for the O&M to become relatively straightforward, etc. The purpose of changing the description of this output is to institutionalize the process of knowledge production and transfer on mini-grids in a way that helps ensure the sustainability of the capacity building activities performed under the AMP. It also aims to emphasize specific technical capacities that were noted during PPG consultations as a major challenge for achieving efficient operation of mini-grids and a main reason for the elevated tariff ranges. The development of public programmes also aims to allow for gender mainstreaming in rural electrification plans and will be used to promote and encourage female participation in the mini-grid sector.</p>

Changes to project design during PPG development	Justification for change
<p>A new output is added: <u>2.3. Support provided to establish, grow and capacitate national industry associations for private sector developers and ESPs.</u></p> <p>The change is accompanied by an increase of \$20,000 of the allocated budget for Component 2.</p>	<p>SEA exists and is operational in Somaliland, but there are no similar bodies operating in Somalia. The presence of such associations aims to facilitate the interaction between the public and private actors in relation to mini-grid development. These associations will also serve as a proper entry point for new developers and investors interested in exploring suitable opportunities and creating partnerships to bid on new tenders.</p>
<p>Reference to 'new pooled fund' has been replaced with 'funding instrument', and reference to 'previous and ongoing initiatives by other development partners' is added to Output 3.1. to become: 3.1. Design support, including development of operational guidance, for a <u>complementary funding instrument through which</u> the diaspora and small investors can participate in <u>existing financing mechanisms that have been introduced by other development partners to facilitate finance for</u> vetted mini-grid projects.</p> <p>The change is accompanied by a reduction of \$100,000 of the allocated budget - to be diverted to new outputs proposed under Components 1 and 2.</p>	<p>The need for design support to develop innovative financing mechanisms and instruments to promote the shift to solar and hybrid mini-grids continues to be relevant to the baseline at the PPG stage. However, similar initiatives have been ongoing by other development partners, including the establishment of the Grant Facility in Somalia, and the financing of systems through SREF Window-1 in Somaliland. Besides, the WB is presently implementing a project involving geospatial mapping of Somalia's off-grid energy. The ToRs for consultants include the identification of suitable locations for mini-grid projects and proposing a financial model for their implementation. Therefore, there is no evidence to suggest the need for a new pooled fund. Instead, the output focuses on supporting the design of a funding instrument through which the diaspora and small investors can engage with the financing mechanisms designed by other development partners to facilitate finance for mini-grid development.</p>

Changes to project design during PPG development	Justification for change
<p>Outcome 4 in Concept Note: 4. Convening, dissemination, tracking (knowledge management).</p> <p>The new outcome: <u>4. Digital and data mainstreamed, across stakeholders, into local mini-grid market development. Increased knowledge, awareness and network opportunities in the mini-grid market and among stakeholders, including benefitting from linkages to international good practice.</u></p> <p>The following are the new outputs:</p>	<p>The Outcome and Outputs on Knowledge Management and Monitoring and Evaluation (M&E) have been revisited to reflect the updated objectives and components as presented in the AMP Harmonized Framework.</p>
<p><u>4.1. A project Digital Strategy is developed and implemented, including linkages to and following guidance from, the AMP Regional Project.</u></p>	<p>The change was made to establish a clear link via an output between the national child projects and the regional child project. At the same time, this output was created to reflect the importance of each national child project developing, with support from the regional project, a strategy to harness the opportunities around digitalization in the mini-grids sector.</p>
<p><u>4.2. Mini-grids digital platform implemented to run tenders and manage data from pilots, and to support mini-grids scale-up and cost-reduction.</u></p>	<p>Change made to include a digital platform which will provide key functionality for the projects in terms of acting as the (i) national digital convening platform for key stakeholders (public/private), (ii) providing ongoing data gathering and M&E on mini-grids, including linking to the AMP regional project and (iii) acting as the mechanism for tenders for mini-grid developers/sites.</p>

Changes to project design during PPG development	Justification for change
<p>4.3. A Quality Assurance and Monitoring Framework (QAMF) for measuring, reporting and verification of the sustainable development impacts of all mini-grid pilots supported, including GHG emission reductions, is adopted and operationalized <u>based on standardized guidance from the AMP Regional Project.</u></p>	<p>The change was made to establish a clear link via an output between the national child projects and the regional child project. The latter will provide support for standardizing the Quality Assurance and Monitoring Framework (QAMF) that national 'child' project pilots will use to report back on relevant performance indicators ? providing visibility for program-wide AMP results and case studies and contributing to close knowledge gaps in the sector.</p>
<p><u>4.4. M&E and Reporting, including (i) Conducting inception workshop and preparing report, (ii) Ongoing M&E, (iii) Mid-term Review (MTR), and (iv) Terminal Evaluation (TE).</u></p>	<p>The change was made to establish a clear link via an output between the national child projects and the regional child project.</p>
<p><u>4.5. Engage with the AMP Regional Project, including, but not limited to, via (i) Participating in Communities of Practice (CoPs), and (ii) Capturing and sharing lessons learnt.</u></p>	<p>This change was made following UNDP guidance to reflect M&E activities in the Results Framework.</p>

Changes to project design during PPG development	Justification for change
<p>The indicator targets are slightly above than as expected at the PFD, but indicators 6 and 11 have decreased.</p>	<p>Decrease in Indicator 11. The reason for the decrease in indicator 11 (number of direct beneficiaries) is that at CEO ER stage, the number of connections per kW of installed Solar PV capacity has been revised downwards. At PIF stage, it was assumed that a 50 kWp Solar PV minigrid could serve 10,000 people (2,000 household connections); that is, an average of 40 residential connections per kW of installed Solar PV capacity. At CEO ER stage, a system configuration has been estimated to serve an indicative market that includes residential, social, and commercial/PUE users. Based on the system sizing formulas used, instead of 40 connections, 6.35 connections can be served per kW of installed Solar PV capacity. An explanation of the system sizing formulas used has been added to Annex 12 and the excel spreadsheet with the calculations has been uploaded to the portal.</p> <p>Decrease in Indicator 6. GHG Emissions reductions estimated at PIF stage were 45,202 tCO₂e over the 20 years of the Solar assets lifetime. This is a function of a number of updated assumptions that are now used in the PPG's more rigorous GEB methodology, including capacity factors, system design, and minimal concessionality assumptions. This causes total estimated annual renewable generation from Minigrid pilots to be approximately 29% lower at CEO ER stage (1,996 MWh/year) than at PIF stage (2,888 MWh/year).</p>

1a. Project Description.

1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description);

Since 1991, Somalia has been witnessing decades of conflict and instability. In 2018, the Somali population was estimated to be 13 million, of which roughly 60% are nomadic and semi-nomadic pastoralists.[1] Latest revisions of the UN population prospects projects that the population of Somalia could more than double in the next 30 years to close to 35 million in 2050 (United Nations 2019). Furthermore, the Somali economy relies heavily on financial remittances from its sizeable diaspora, accounting for 1 to 1.6 billion US dollars per year. The environment and natural capital underpins Somalia's sustainable development and have been the basis for livelihoods and wellbeing of the population for generations. However, the country's natural resources are under huge pressure, degradation, and pollution due to inappropriate uses and overexploitation, conflicts, and climate change

impacts such as recurrent drought, floods, and cyclones. Some of the key environmental issues include land degradation and deforestation mainly from unsustainable charcoal, pollution (water, air), unsustainable waste management and biodiversity loss.

Somalia's current GHG emissions are relatively low, estimated at 53.70 MtCO₂eq which represents less than 0.03% of the total global GHG emissions. The Agriculture, Forestry, and Land-use sectors are the major contributors to Somalia's emissions. World Bank data for 2016 indicate that the GHG emissions from liquid fuel consumption in Somalia is about 645 ktCO₂eq. Key challenges to effective management of the natural resources include lack of and weak policy and regulatory frameworks, weak institutional arrangements, inadequate capacities, lack of public awareness and information and lack of financial resources to the management of resources. Poverty in Somalia is directly linked to the state of the environment and natural resources, with the use of extremely unsustainable land management practices, which exacerbate the ongoing adverse effects of drought on land productivity, further deepening the state of poverty.

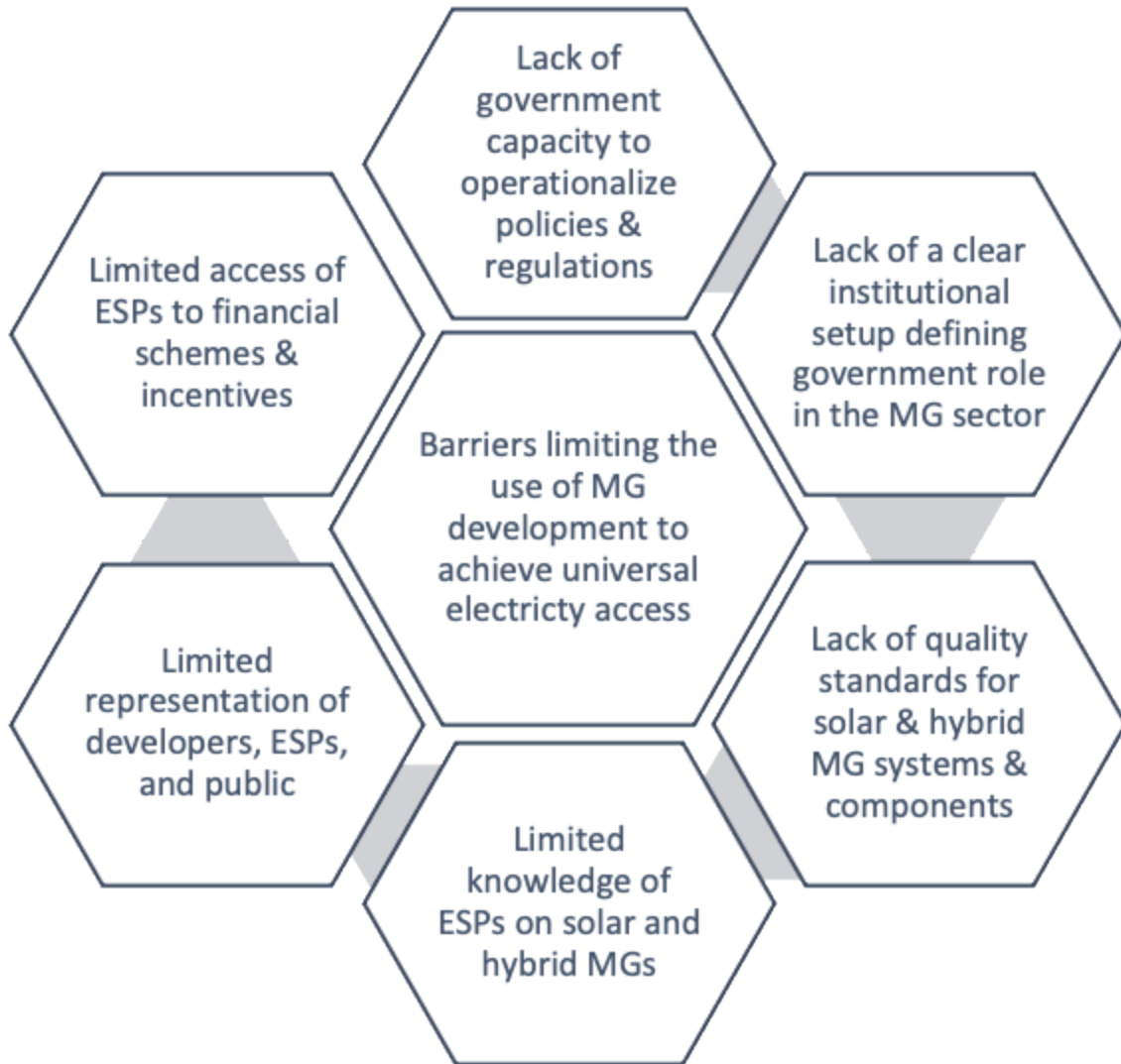
At the time of developing this document, it was reported that all regions of Somalia neither have national grids, nor is there the infrastructure to develop one in the near future. However, the country has a dynamic and highly entrepreneurial private sector that has filled the void of government institutions, including a large base of Electricity Service Providers (ESPs). However, these vital energy service providers have limited access to finance from commercial and government banks since with the impression minigrids systems are quite relatively unknown or risky. Also, foreign-based distributors and manufacturers perceive a high risk to doing business in Somalia and rarely offer credit to local suppliers. This leaves businesses largely self-financed and limits their ability to grow and scale-up including adoption of innovative models such as Pay As You Go (PAYG). In terms of energy sources, about 90% of electricity generation relies exclusively on diesel mini grids that are normally zoned with each ESP building, owning, and operating the generation, transmission, distribution, maintenance, and tariff collection. The consumption of diesel at this magnitude results in domestic air pollution and an increase in GHG emissions.

In urban cities, the free-market business model results in reduced prices for end-users due to private companies competing to offer their customers the best price possible for their services/products. However, a lack of competition in the rural electrification sector in Somalia leads to the fact that tariffs applied in rural areas are among the highest in the world, reaching 1 USD/kWh in some areas making it unaffordable for the majority of a population combating poverty. Although the consultation with national stakeholders in the public sector revolved around the need to drive down tariffs and the desire to apply formal regulations and limit the present informality of the mini-grid sector, the parties were also commendably understanding of the root causes of tariff irregularity and aware of diverse nature of ESPs and the variation in generation costs from one location to another. Hence, government parties expressed no desire in following an approach that would lead to the enforcement of uniform tariffs. Alternatively, they are interested in playing a regulatory role to: (1) work towards an inclusive increase in energy access rates through integrating mini grids in rural electrification plans, (2) manage the provision of subsidies such that tariffs become more affordable to the poor and vulnerable communities, and (3) support ESPs with the shift to renewable sources as a way of driving down the operating costs, hence driving down the tariffs paid by end-users. In Somaliland, the responsibility of

these interventions is set as the mandate of ERC, once operational. In Somalia, MoEWR continues to be the main public entity in charge of mini-grids' regulations, with no independent regulatory authority.

In addition to unaffordable tariffs, consumption tracking and tariff collection present another challenge to ESPs and end-users. In major cities, the ESPs charge kWh based tariffs to end-users. However, stakeholders and development partners reported that there is a common use of a two-meters setup, where ESPs provide users with a meter at the time of connecting them to the mini-grid, while end-users purchase and install a second meter to ensure the readings from the ESPs' meter are accurate. In rural areas, metering is less common. Instead, end-users and ESPs agree to a fixed fee to supply electricity during morning hours, and another for the evening hours. In terms of payment, methods may vary from one location to another, but mobile coverage is reported to be relatively good in all regions of Somalia, and there is heavy reliance on mobile money for electricity bill payment and other purposes. Data on mobile coverage and usage of mobile money applies to urban cities and rural areas alike.

Previous and ongoing interventions by the authorities and development partners encountered common barriers that ought to be taken into consideration during the design of new interventions. On the demand side, the main barrier facing users is the inability to pay the high tariffs offered by ESPs for electricity. On the supply side, the following figure presents the barriers identified during PPG development as contributing to the government's inability to utilize solar and hybrid mini grid development as an approach towards driving down tariffs and achieving universal electricity access.



Barriers to achieving universal electricity access through mini-grid development in Somalia

2) the baseline scenario and any associated baseline projects,

Despite clear challenges prohibiting the authorities from assuming control over service provision, the Government in Somalia and Somaliland have been developing policies and regulations which could shape their aspired intervention in energy sectoral planning, including interventions to regulate the service delivery and tariff levels in the mini-grid sector. The most relevant developments to this project are summarized below:

- National Energy Policy (2018) and the Somali Electricity Bill (2020):
 - o The policy was developed by the Ministry of Energy and Water Resources (MoEWR). It presents the overall plan for the energy sector.
 - o The Electricity Bill is more focused, containing an outline for the legal direction of the electricity and identify the relevant authorities which will govern the sector ? both have been drafted and awaiting cabinet approval.

- Somaliland Energy Policy (2010) and the Somaliland Electrical Energy Act (2016):
 - o The policy was developed by the Ministry of Energy and Minerals (MOEM), in collaboration with Adventist Development and Relief Agency (ADRA) as part of the Somaliland Energy Policy Dialogue.
 - o The Act was developed a few years later, emphasizing the need to establish the Energy Regulatory Commission (ERC) for Somaliland, to provide a framework for energy investment and consumer protection.

Supporting national efforts, several development partners engaged in energy-related projects in Somalia, including:

- Energy Security and Resource Efficiency in Somaliland (ESRES), financed by FCDO (formerly DFID),
- Somali Electricity Access Project (SEAP), financed by the World Bank, and
- Growth, Enterprise, Employment and Livelihoods (GEEL), and Power Africa Initiative, financed by USAID.

As part of their implementation, the above projects developed and operated of the following financing mechanisms:

- Somalia Off-Grid Solar Grant Facility (?SOGSGF? or ?Grant Facility?): SEAP project helped the establishment of this Grant Facility, to be managed by the Government of Somalia with the goal of providing grant capital to Somali distributors of IEC certified products. The Facility is not yet fully operational, and there were no project examples to study during PPG development. However, the Government recently published a call for proposals for private banks and financial services companies to apply for undertaking consultancy services constituting the role of Grant Facility Manager.

- Somaliland Renewable Energy Fund (SREF): Launched by ESRES2 in April 2019, SREF was designed to support renewable energy and energy efficiency projects and activities through dedicated ?funding windows?. Window 1 facilitated FCDO?s investment in hybridization projects, mandating applicants to commit to financing at least 30% of the total project costs. The co-finance by ESPs is formalized by a Bank Guarantee, issued before signing the Grant Agreement with ESRES, which is one of the de-risking measures put in place to ensure the social return of the project is maintained during operation. A second de-risking measure adopted by ESRES2 was the Triangular Model for release of funds, i.e. the

Grant Agreement is entered between ESRES and ESPs, the latter issues purchase orders directly to suppliers and issues invoices to ESRES. ESRES then makes the transfers directly to the suppliers, not to the ESPs. Through this model, ESRES reduces the donor's exposure to local financial risks, and increase the comfort and confidence of the suppliers by eliminating the risk associated with transactions involving local counterparts in high-risk countries, hence, encouraging the interest of recognized suppliers in the Somali market.

3) the proposed alternative scenario with a description of outcomes and components of the project;

As discussed, Somalia is one of the countries which has no infrastructure for grid electricity and the baseline is characterized by the dominance of private-owned diesel mini-grids and remarkably high tariffs. The objective of the AMP in Somalia is to support access to clean energy by increasing the financial viability, and promoting scaled-up commercial investment, in low-carbon mini-grids in Somalia, with a focus on cost reduction levers and innovative business models?. The project strategy corresponds to the unique nature of the energy sector in Somalia, and the AMP's concentration on clean energy, by focusing on digital transformation and institutionalization of ongoing initiatives to expand the adoption of solar PV technologies, and promote hybridization as a financially viable path to driving down tariffs and reducing GHG emissions. This is achieved through supporting the Government on the national and sub-national levels with: (1) operationalizing existing mini-grid policies and regulations through digital transformation, including performing techno-economic analyses, designing tools for tariff calculation, and supporting the institutional capacity building of the mini-grid public sector; (2) implementing a pilot project to showcase the benefits of hybridization and remote telemetry of performance monitoring and consumption tracking, as well as establishing and capacitating mini-grid industry associations to encourage and strengthen private operators and developers, and introducing academic programs to build private sector capacity to design, operate, maintain and manage solar and hybrid mini grids; (3) assessing previous and ongoing financing schemes to develop operational guidance and offer training support to stakeholders in the domestic financial sector; and (4) running an effective Monitoring and Evaluation (M&E), Quality Assurance (QA) and Knowledge Management (KM) systems to oversee and guide project implementation.

As such, the project consists of four components, with two outcomes under each component:

Component 1. Policy and regulation

As discussed in the previous section, the authorities have been developing policies and regulations in an attempt to gain relative control on the energy sectoral planning, and therefore, have the ability to utilize mini grid development to increase clean energy access rates. Taking into consideration the obstacles presented, the level of informality, and a challenging political context, the market development of mini-grids in Somalia is quite remarkable. Hence, the AMP engages with the existing private operator mini-grid delivery model, presenting digital transformation as a non disruptive

intervention that capitalizes on the work done by other stakeholders and development partners to elevate the cost-reduction leverage of ongoing and future interventions. This component aims to ensure that the policy and regulatory environment in Somalia is enabling and supportive of the shift to solar and hybrid mini-grids for electricity generation. It starts with conducting DREI techno-economic analyses to propose suitable tariff structures and financial de-risking instruments, then moves to supporting digital transformation to online tools and platforms for performance monitoring, consumption tracking, and tariff calculation, as ways of facilitating the operationalization of existing policies and regulations of relevance to clean energy and mini-grid sector development.

The AMP is well positioned to deliver the required support for the government to move ahead with its plans. Hence, Component 1 is designed to focus on facilitating a national dialogue on minigrid delivery models for the effective rollout of existing policies, a DREI analysis to systematically identify investment risks and public instruments to address this, and to support the institutional setup for their adoption. Using these approaches, and building on existing policies, the objective of AMP Somalia is to establish a comprehensive policy and regulatory regime, around a clear minigrid delivery model, which will ensure full financial and commercial sustainability for the asset's lifetime. The DREI analysis, to be carried out during implementation, will assess the latest status of issues raised in GEF SEC comment, namely financial/physical impacts (under DREI, this is assessed under 'counterparty risk?'), disposal of batteries (under DREI, this is assessed under 'hardware risk?'), and demand fluctuations (under DREI, this is captured under system sizing barriers in 'developer risk'). Where latest policies are assessed to be inadequate, they will be addressed.

The digitalization of site selection is already ongoing through the SEAP project, where the team is conducting a geospatial mapping exercise to support the authorities and project developers with having more insight into the market status and the locations with high investment potential. Internationally recognized online tools, such as Odyssey, already exist and are available for purchase or registration. Under the AMP, an online tool will be selected and adopted to support the government to get better visibility on the sector and take steps towards regulating what is currently a largely informal industry. The tool will assist with greenfield site development by layering additional data on existing and updateable geospatial maps. The proposed tool complements SEAP's database by adding data on potential counterparts in each location, baseline capacities and tariffs, the potential for productive uses, as well as other socio economic details. This 'pipeline support' would channel ESPs through the site selection process and be integrated into the process for applying for a license. Existing sites or those newly built under the program will also be monitored using the same online tool. This would offer the developers, investors, and public authorities the chance to obtain near live data stream for M&E, regulatory oversight, and ongoing GHG mitigation data. The integration of on site remote telemetry on generation assets would allow technical performance data to be collected and installing smart meters would provide transparency on tariffs and site economics. In combination, the quality of energy services being delivered will be monitored using standardized indicators such as the ESMAP Tiers of Service.

The text box below demonstrates how the AMP integrates digitalization as one of the drivers of mini-grid market development, where digital platforms can be used for performance monitoring as well as for tendering, noting that there may be opportunities for procurement of the digital platform to be

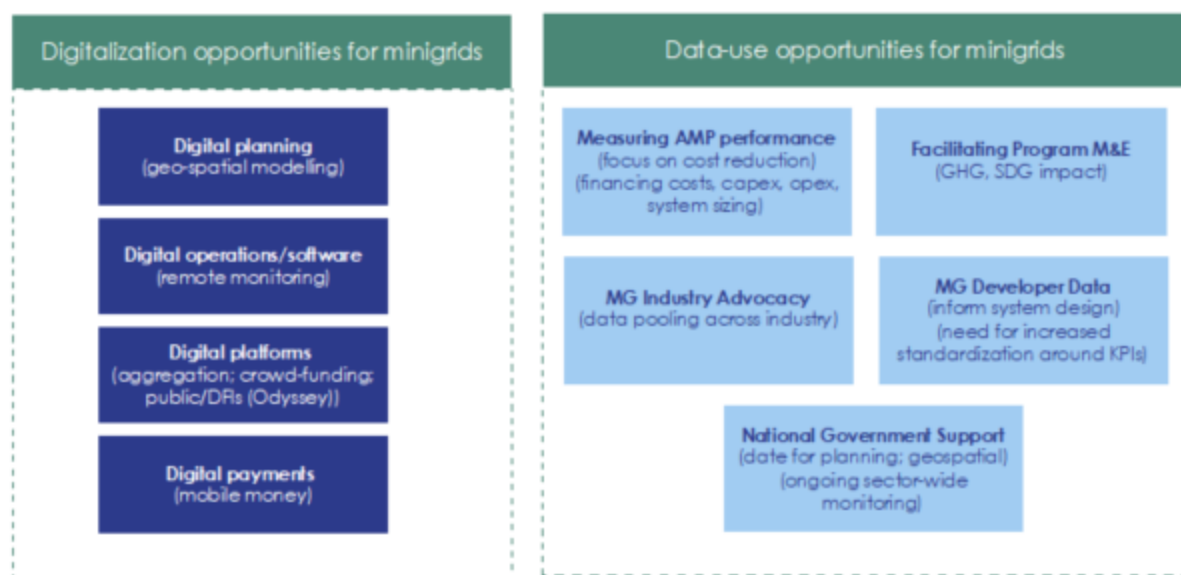
coordinated with the AMP Regional Project given that both the AMP in Somalia and the AMP Regional Project are following a Direct Implementation Modality (DIM).

Digital technologies and solutions are fundamental to enabling off-grid electrification. In fact, the emergence of a viable solution to electrify remote and isolated communities relies strongly on certain digital technologies such as the *remote monitoring* of minigrad operations and the use of *digital money* to collect customers' payments. The Figure below provides an initial categorization of the digital and data opportunities for minigrads under the AMP.

Digital opportunity for minigrads. It's increasingly clear that digital is a key entry point across minigrad market development. The Figure below shows different categories of digital solutions in the minigrad sector: (i) digital planning, (ii) digital operations, (iii) digital aggregation platforms, and (iv) digital payments. In common to all these is the potential of digital technologies to be used by policy makers, financiers or minigrad developers - to lower minigrad costs, reduce risks, and address barriers.

Data use opportunity for minigrads. Many opportunities around digitalization are related to leveraging the large amount of data generated by minigrad projects to surface actionable insights, learning and optimization to consolidate business models and technical solutions for scaling-up minigrads. For instance, the use of operational performance information from existing systems to forecast demand and design future minigrad can help avoid a very common pitfall of many minigrad systems - being significantly oversized and hence not financially viable.

Digital and data opportunities for minigrads in the AMP



The potential for using data and digital tools and solutions to add value at various stages of the minigrads value chain is largely untapped. With enhanced capacity, **minigrad developers** could streamline their operations through smart remote control of their assets and potentially reduce operations and maintenance costs by about 15% to 30% (*) through reduced site visits, labor and component replacement costs. **Government stakeholders** could leverage digital solutions for remote planning, to streamline licensing, monitor quality of service and broadly improve sector oversight. However, data quality is not always available for these purposes, and government stakeholders often lack the necessary technical expertise. While data could be a tremendously valuable asset in the minigrad sector, this potential that remains largely underexplored due to the lack of standardization and common data reporting protocols and the fact that this sector is still very nascent and relatively fragmented.

Opportunities across the Program, and with the AMP regional project. The AMP provides a unique opportunity to establish a single set of metrics and guidelines for data collection, and use them to collect data from minigrad investment projects across different national projects which the AMP Regional Project can then aggregate, derive insights from, and share and disseminate knowledge with participating AMP countries and with the broader minigrads sector in Africa. At the same time, the link between the regional project and the total of eighteen (18) national child projects provides a unique 'distributed' opportunity across Africa for AMP to mainstream the use of digital tools and solutions for minigrads cost-reduction.

(*) AMMP Technologies. "Reducing the cost of operations and maintenance for remote off-grid energy systems." September 2018.

In addition, Component 1 tackles two ingredients that are crucial for the longevity of the proposed tools and instruments. The first is the need for improved institutional setup to enhance the potential for positive government-led interventions in the mini-grid sector. The second is the need for quality standards for system components to enhance the efficiency of solar and hybrid mini-grid operation. The proposed digitalization measures do not have to be a legal requirement on the first day of their adoption, especially since the public authorities have limited capacity for law enforcement and that their adoption is already in the best interest of ESPs and end-users. Effort towards encouragement and incentives is deemed more suitable for the Somali mini-grid market than immediate enforcement. Therefore, the AMP will focus on enhancing the institutional setup in two ways. The first constitutes creating linkages between different government bodies, refining the role of each in the mini grid sector, and investing in the institutional capacity building of the public officials working in the relevant entities. The second involves the participation in the Communities of Practice (CoPs), led by the AMP Regional Project, which will allow for regional-level cooperation and knowledge sharing. In time, this will strengthen the ability of public parties to respond to the changes in the market and follow the lead of countries with comparable features.

Furthermore, these institutional capacity building activities will involve promoting the benefits of database keeping, performance monitoring, and consumption tracking to ESPs and end users as an alternative to focusing on developing new regulations or relying on government capacity for law enforcement. For example, becoming a licensed ESP could be part of the eligibility criteria required to apply for finance from existing and future financing schemes. Other indirect incentives can be achieved through potential collaboration between the AMP in Somalia and other local initiatives. These can target end-users who could potentially apply social pressure on ESPs for the latter to obtain the license, i.e. the authorities could partner with one of the projects promoting the use of energy efficient light bulbs to start a campaign where the appliances can be purchased at a discounted price for end-users connected to a licensed ESP. Similarly, the installation of measurement equipment and smart meters does not have to be introduced to the Somali market as a mandate, formalized by regulations with penalties for non-compliance. Instead, a step-wise approach to market regulation can be adopted, where positive promotion and subsidization strategies could be put in place to encourage the voluntary shift to digital models. Examples include engaging donor agencies that offer green certificates for GHG reductions encouraging ESPs to not only shift to solar and hybrid mini-grids, but also to monitor their diesel consumption and total generation before and after the shift. Other examples include collaborating with development partners with funds dedicated to promoting smart metering, and providing financial and non-financial incentives through periodical publications on the performance of ESPs in the different regions, extending the competition presently existing in major cities and focused primarily on tariff levels, to be on the national level and focusing on tariff levels, GHG emissions, consumer satisfaction, and overall efficiency. Once reporting is the normal practice for ESPs, introducing regulations is expected to be easier and more effective.

Outcome 1: Stakeholder ownership in a national mini-grid delivery model is advanced, and appropriate policies and regulations are adopted to facilitate investment in low-carbon mini-grids

Output 1.1. An inclusive national dialogue to identify mini-grid delivery models is facilitated, clarifying priority interventions for an integrated approach to off-grid electrification.

Output 1.2. Mini-grid DREI techno-economic analyses carried out to propose most cost-effective basket of policy and financial de-risking instruments and contribute to AMP Flagship Report on cost reduction.

Output 1.3. Mini-grid policies and regulations, including tariff model and incentives, are operationalized through digital transformation support, in collaboration with the authorities and other development partners.

Output 1.4. Institutional setup for rural electrification assessed and supported, and institutional capacity building provided on technical, managerial, and regulatory issue.

Output 1.5. Quality standards for solar and hybrid mini-grid components domesticated, and institutional capacity of Somali Bureau of Standards (SBS) and Somaliland Quality Control Commission (SQCC) strengthened.

Component 2. Business Model innovation with private sector engagement

This component focuses on innovative ways for increasing private sector engagement in the shift from diesel mini-grids to solar and hybrid mini-grids. The work with developers and ESPs will come in three ways: demonstration, capacity building, and representation. For demonstration purposes, pilot projects will be implemented to showcase the benefits of hybridization and digital transformation. For capacity building, the AMP in Somalia plans to institutionalize knowledge production in the mini-grid sector by establishing a one-year academic programme dedicated to solar and hybrid mini-grid education. As for representation, the project will support the establishment and capacitation of industry associations for mini-grid developers and ESPs to ensure knowledge sharing among private sector actors and continuous engagement with the authorities in decision-making processes.

When discussing the most appropriate design of the AMP pilot project(s) with stakeholders and mini-grid experts, the majority reflected on the widespread use of diesel generators in mini-grids and the lack of greenfield locations, indicating that much investment by ESPs has already been put in these systems. Hence, their recommendation was for the AMP to focus on the promotion of hybridization as a better strategy than introducing new 100% renewable mini-grids, with the following list of identified benefits from hybridization:

- 1) Utilize existing infrastructure for energy generation and distribution;
- 2) Avoid causing disturbance to the economic supply chain for suppliers, ESPs, and O&M technicians;
- 3) Reduce the disruption which a complete shift to solar will cause and the risks associated with a loss of power (as a result of teething problems arising from the installation of an entirely new generation infrastructure);

4) The Levelized Cost of Energy (LCOE) when adding solar (with or without batteries) to an existing fuel-based mini-grid will be much lower than the LCOE when replacing an existing generator with batteries, assuming all existing energy needs will be met - which need to be the case to avoid an irate community;

5) The lower investment required per site will also mean that more sites can be hybridized and therefore more GHG mitigation results realized using the AMP budget;

6) Avoid the risks of alienating the community and incumbent entrepreneurs and the potential categorization of the AMP project as a competitor rather than an ally to ESPs; and

7) Support the ESPs who are keen on hybridizing their mini-grids, and willing to invest in hybridization, but lack the capacity to operate and maintain new technologies and purchase unfamiliar components.

Therefore, the AMP intends to invest in hybridizing existing diesel mini-grids using the incumbent generators as a replacement for the need to invest in large batteries for over-night storage. This approach helps to capitalize on the pre-made investment in diesel generators by ESPs and limits the immediate investment in batteries to small battery banks ? to serve as backup for short-term solar supply interruptions and supply smoothing. Nevertheless, the project design and finance agreement will include a strategy for phasing out diesel at the end of the generators' lifetime.

For the pilot(s) to be a demonstration of other activities undertaken as part of the AMP in Somalia project, the supply of solar PV components will be preceded by the supply of sensors for ESPs to measure their diesel consumption and monitor their electricity generation before implementing the hybridization process. Sample end-users connected to the pilot mini-grid(s) will be supplied with smart meters for consumption tracking. Following the installation and commissioning of the solar components, performance monitoring and consumption tracking activities will continue, creating a comparative dataset for in-depth analysis and further study.

As for the pilot location(s), and as part of the AMP's plan to build upon previous and ongoing projects by other partners, the AMP studied combining two approaches to site selection. The first approach is to build upon the evaluations conducted by the ESRES team for the applicants who submitted bids under SREF Window 1. One example is the Hargeisa Water Agency (HWA) mini-grid project, for which the technical design drawings and detailed budget has been prepared. The second approach is to build upon the results of the geospatial mapping exercise presently being finalized by the WB team under the SEAP project. The result of the mapping, complemented by the DREI techno-economic analyses to be performed by the AMP, will provide a more comprehensive inventorying of the current mini-grid situation in Somalia, better identification of potential future sites, and better estimation of future demand. During the site selection process, the project team will combine the findings from both approaches, along with other Social and Environmental Safeguards (SES) assessments, to decide on the most suitable location(s) for the AMP pilot project(s).

The exact financing mechanism and payment/contractual modality to be used by the UNDP for the release of the GEF investment fund to ESPs and suppliers will be decided at project start. However, the PPG team recommends the adoption of the SREF's Window-1 structure:

- A minimum of 30% co-finance is required from ESPs participating in the AMP pilot(s). The percentage applies to costs associated with hybridization of their diesel mini-grids as well as those associating the digital transformation, i.e. sensors, smart meters, etc.

- A maximum of 20% of the GEF investment fund is directed towards distribution system improvements, adding to it the costs associated with the establishment of new connections which may be required given the system's increased capacity or other retrofitting activities leading to the ESPs ability to generate more electricity than the baseline levels for their diesel mini-grid.

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Outcome 2: Innovative business models based on cost reduction operationalized, with strengthened private sector participation in low-carbon mini-grid development

Output 2.1. Pilots developed using innovative business models through calls for proposals based on lessons learned from the operationalization of the SREF under ESRES2 and the results of the geospatial mapping under SEAP.

Output 2.2. Public programmes (apprenticeships, certificates, university programs) to develop competitive, skilled labor market in the design, O&M, and management of solar and hybrid mini-grids, including technical training on the utilization of online tools for performance monitoring, consumption tracking and billing.

Output 2.3. Support provided to establish, grow and capacitate national industry associations for private sector developers and ESPs.

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Component 3. Scaled-up financing

The competitiveness of solar and hybrid mini-grid development depends on the commercial viability of the system, but also on the funding opportunities available to the private sector players wishing to engage in hybridization or complete shift to renewable sources. The establishment of an innovative financing mechanism and instruments requires undertaking a holistic analysis of the mini-grid sector, how it operates, existing financing mechanisms and gaps, the stakeholders involved, as well as a study of present and expected challenges potentially affecting the scaling up of investment in the mini-grid sector. The following are some of the aspects such study would investigate:

- An analysis of existing national rural development strategy;
- Appetite for engagement with donor programs, private sector lending institutions, and national commercial operators;
- The capacity of national bodies to manage a funding program;
- The extent and favorability of any national mini-grid related policy and regulation;
- The potential for lobbying and policy guidance;
- A general assessment of the extent to which the political ecosystem is supportive of the mini-grid sector;
- Political considerations such as any upcoming elections;
- An assessment of the transparency and corruption of relevant agencies;
- An analysis of any legal implications of various funding models; and
- Examples of any previous successful funding programs managed by the relevant agencies.

Hence, the activities under this component involve conducting this study and assessment of previous and ongoing financing schemes developed by other development partners in Somalia and Somaliland. The activities also include providing operational guidance and training support to ESPs and stakeholders in the domestic financial sector. These activities are designed to complement the effort put in activities under the remaining components aiming to build an enabling environment for mini-grid development with reduced risks on developers, ESPs and financiers. The plan for mobilizing resources from public and private financial institutions envisions that in the presence of a well-defined chain of command on the government side, a recognized body to represent the interests of private parties, and clear operational guidance for financiers and investors, the coordination on mini-grid projects and sectoral development will be facilitated and decision-making processes will be more adaptive to the views of different parties. Furthermore, the digital transformation will also facilitate the engagement of communities and end-users and provide them with proper tools for knowledge sharing. This will lead to more transparency for small investors and the diaspora, leading to higher potential for their engagement in financing mini-grid projects.

Outcome 3: Financial sector actors are ready to invest in a pipeline of low-carbon mini-grids and concessional financial mechanisms are in place to incentivize scaled-up investment

Output 3.1. Design support, including development of operational guidance, for a complementary funding instrument through which the diaspora and small investors can participate in existing financing mechanisms that have been introduced by other development partners to facilitate finance for vetted mini-grid projects.

Output 3.2. Domestic financial sector capacity building on business and financing models for mini-grids.

Component 4. Digital, Knowledge Management (KM) and Monitoring and Evaluation (M&E)

This component aims to ensure that the AMP in Somalia can (1) link-up to KM activities undertaken at the AMP Regional Project level, and (2) comply with UNDP/GEF M&E requirements. In terms of KM, the results of Component 4 activities will feed data and lessons learned to the AMP Regional Project for onward sharing with other participating countries and the mini-grids ecosystem as a whole. There will also be opportunities for these results to be shared directly with other countries through corresponding KM activities built into each national project looking to promote interaction between other AMP national child projects. Hence, the AMP in Somalia will participate in AMP Communities of Practice (CoPs) which will be set-up and managed by the AMP Regional Project. Participation on the part of national child projects will include attending actual in-person workshops, meetings, or training events. In addition, Component 4 explicitly includes the activities required to comply with M&E requirements from both UNDP and GEF.

Outcome 4: Digital and data are mainstreamed, across stakeholders, into local mini-grid market development. Increased knowledge, awareness and network opportunities in the mini-grid market and among stakeholders, including benefitting from linkages to international good practice

Output 4.1. A project Digital Strategy is developed and implemented, including linkages to and following guidance from, the AMP Regional Project.

Output 4.2. Mini-grids digital platform implemented to run tenders and manage data from pilot(s), and to support mini grids scale-up and cost-reduction.

Output 4.3. A Quality Assurance and Monitoring Framework (QAMF) for measuring, reporting and verification of the sustainable development impacts of all mini grid pilot(s) supported, including GHG emission reductions, is adopted and operationalized based on standardized guidance from the AMP Regional Project.

Output 4.4. M&E and Reporting, including (i) Conducting inception workshop and preparing report, (ii) Ongoing M&E, (iii) Mid-term Review (MTR), and (iv) Terminal Evaluation (TE).

Output 4.5. Engage with the AMP Regional Project, including, but not limited to, via (i) Participating in Communities of Practice (CoPs), and (ii) Capturing and sharing lessons learnt.

4) alignment with GEF focal area and/or impact program strategies;

When discussing the most appropriate design of the AMP pilot project with stakeholders and mini-grid experts, the majority reflected on the widespread use of diesel generators in mini-grids and the lack of greenfield locations, indicating that much investment by ESPs has already been put in these systems. Hence, their recommendation was for the AMP to focus on the promotion of hybridization as a better strategy than introducing new 100% renewable mini grids, with the following list of identified benefits from hybridization:

- 1) Utilize existing infrastructure for energy generation and distribution;
- 2) Avoid causing disturbance to the economic supply chain for suppliers, ESPs, and O&M technicians;
- 3) Reduce the disruption which a complete shift to solar will cause and the risks associated with a loss of power (as a result of teething problems arising from the installation of an entirely new generation infrastructure);
- 4) The Levelized Cost of Energy (LCOE) when adding solar (with or without batteries) to an existing fuel based mini-grid will be much lower than the LCOE when replacing an existing generator with batteries, assuming all existing energy needs will be met - which need to be the case to avoid an irate community;
- 5) The lower investment required per site will also mean that more sites can be hybridized and therefore more GHG mitigation results realized using the AMP budget;
- 6) Avoid the risks of alienating the community and incumbent entrepreneurs and the potential categorization of the AMP project as a competitor rather than an ally to ESPs; and

7) Support the ESPs who are keen on hybridizing their mini-grids, and willing to invest in hybridization, but lack the capacity to operate and maintain new technologies and purchase unfamiliar components.

Therefore, the AMP intends to invest in hybridizing existing diesel mini-grids using the incumbent generators as a replacement for the need to invest in large batteries for over-night storage. This approach helps to capitalize on the pre made investment in diesel generators by ESPs and limits the immediate investment in batteries to small battery banks ? to serve as backup for short-term solar supply interruptions and supply smoothing. Nevertheless, the project design and finance agreement will include a strategy for phasing out diesel at the end of the generators? lifetime.

For the pilot to be a demonstration of other activities undertaken as part of the AMP in Somalia project, the supply of solar PV components will be preceded by the supply of sensors for ESPs to measure their diesel consumption and monitor their electricity generation before implementing the hybridization process. Sample end-users connected to the pilot mini-grid will be supplied with smart meters for consumption tracking. Following the installation and commissioning of the solar components, performance monitoring and consumption tracking activities will continue, creating a comparative dataset for in-depth analysis and further study.

5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing;

The baseline of energy sector is mainly dominated with the private operated deliver model. All regions of Somalia neither have national grids, nor is there the infrastructure to develop one in the near future. Nevertheless, the country has a dynamic and highly entrepreneurial private sector that has filled the void of government institutions, including a large base of Electricity Service Providers (ESPs). However, these vital energy service providers have limited access to finance from commercial and government banks since with the understanding of mini-grids systems outside the technical teams is quite limited leading to its perception as a high-risk investment. This is combined with foreign-based distributors and manufacturers perception of Somalia as a high risk country for doing business, especially when it involves offering credit to local suppliers. This leaves businesses largely self financed and limits their ability to scale-up through the adoption of innovative models.

Existing ESPs relies exclusively on diesel mini grids that are normally zoned with each ESP building, owning, and operating the generation, transmission, distribution, maintenance, and tariff collection. Since 2016, initiatives have been implemented for enhancing the role of public institutions, mainly the Ministries of Energy at federal and federal member states level, for coordination, policy frameworks, private sector facilitation, planning for large scale investments to improve energy infrastructure and interaction with the international partners. A national energy policy was approved in 2018, however, the implementation of policy recommendations will depend on external financing, including the funding being secured as part the Africa Mini-grid Project (AMP).

Within the Somali context of private sector led energy service provision and recent government focus on enabling policies, the Somalia AMP, with GEF and UNDP financing, will have substantial incremental benefits, including, direct contributions towards implementation of: (i) policies and regulations; (ii) business model innovation and private sector engagement; and, (iii) innovative finance. The programmatic outputs under each of these areas will systematically address the barriers and investment risks at the national level for renewable energy mini-grids. The mitigation of the underlying investment risks will in turn be beneficial drivers for the competitiveness and financial viability of renewable energy mini grids, reduce hardware and soft costs and increased revenues and economies of scale.

The Global Environment Benefits (GEBs) will be achieved by promoting viable business model for solar mini-grids. Climate change almost universally drives an increased demand for power, whether for cooling, increased pumping of water, other aspects. In terms of energy sources in Somalia, about 90% of electricity generation relies exclusively on diesel mini grids. The consumption of diesel at this magnitude results in domestic air pollution and an increase in GHG emissions, intensifying existing climate risks for vulnerable populations. As the goal of the AMP is to provide affordable clean power to remote areas, the demand for the project outcomes and outputs can only be seen to increase in the face of climate change. With many government resources stretched to cope with other possible impacts of climate change, sustainable mini grids provide a means for sustainable power to reach communities which otherwise may have been without power or would have relied on fossil fuel power with attendant challenges and adverse effects. The project has promising replication potential and aligned with the country's commitment in updated Nationally Determined Contributions (NDC) report of Somalia to pursue a low emission and climate resilient sustainable development pathway. The country has set a target of achieving 30% emissions reductions against the Business-as-Usual scenario estimate of 107.39 MtCO₂e by 2030. To achieve this target, will aim to reduce and avoid its GHG emissions by about 32.40 MtCO₂e relative to the BAU scenario by 2030.

The total cost of the project is **USD 174,726,147**. This is financed through a GEF grant of **USD 3,276,147** administered by UNDP, **USD 750,000** in cash co-financing to be administered by UNDP and additional support of **USD 170,700,000**. The UNDP, as the GEF Implementing Agency, is responsible for the oversight of the GEF resources and the cash co-financing transferred to the UNDP bank account only.

	Amount Year 1 2021/2022	Amount Year 2 2022/2023	Amount Year 3 2023/2024	Amount Year 4 2024/2025	Total (USD)
GEF grant administered by UNDP	\$ 527,120	\$ 1,452,820	\$ 920,916	\$ 375,291	\$ 3,276,147
Grant co-finance by GEF Agency: UNDP	\$ 39,500	\$ 74,000	\$ 324,000	\$ 312,500	\$ 750,000
In-kind co-finance by the Ministry of Energy and Water Resources (MoEWR), Federal Government of Somalia	\$ 875,000	\$ 875,000	\$ 875,000	\$ 875,000	\$ 3,500,000

Grant co-finance by Development Partners: World Bank (WB)	\$ 39,300,000	\$ 39,300,000	\$ 39,300,000	\$ 39,300,000	\$ 157,200,000
Grant co-finance by Development Partners: SIDA	\$ 2,500,000	\$ 2,500,000	\$ 2,500,000	\$ 2,500,000	\$ 10,000,000
Total	\$ 43,241,620	\$ 44,201,820	\$ 43,919,916	\$ 43,362,791	\$ 174,726,147

6) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF);

Climate change almost universally drives an increased demand for power, whether for cooling, increased pumping of water, other aspects. In terms of energy sources in Somalia, about 90% of electricity generation relies exclusively on diesel mini grids that are normally zoned with each ESP building, owning, and operating the generation, transmission, distribution, maintenance, and tariff collection. The consumption of diesel at this magnitude results in domestic air pollution and an increase in GHG emissions, intensifying existing climate risks for vulnerable populations. As the goal of the AMP is to provide affordable clean power to remote areas, the demand for the project outcomes and outputs can only be seen to increase in the face of climate change. With many government resources stretched to cope with other possible impacts of climate change, sustainable mini-grids provide a means for sustainable power to reach communities which otherwise may have been without power or would have relied on fossil fuel power with attendant challenges and adverse effects.

The GEF funds allocated for implementing demonstration projects under the AMP in Somalia is USD 1,595,096. The exact financing mechanism and payment modality to be used by the UNDP for the release of the GEF investment fund to ESPs and suppliers will be decided at project start. However, the PPG team recommends the adoption of the SREF's Window-1 structure:

- A minimum of 30% co-finance is required from ESPs participating in the AMP pilots. The percentage applies to costs associated with hybridization of their diesel mini-grids as well as those associating the digital transformation, i.e. sensors, smart meters, etc.

- A maximum of 20% of the GEF investment fund is directed towards distribution system improvements, adding to it the costs associated with the establishment of new connections which may be required given the system's increased capacity or other retrofitting activities leading to the ESPs ability to generate more electricity than the baseline levels for their diesel mini-grid.

Using the GEF investment, the project is expected to implement pilot project(s) with a total solar-PV and battery storage capacity estimated at 2.116 MW and 3.3 MWh respectively, resulting in direct GHG emissions mitigation of about 29,577 tCO₂e. Indirect emission reductions amounting to 891,000 tCO₂e are expected due to investments in minigrids completed during the 10-year influence period following project completion, predominantly through the replication of the sustainable technology value chain. The detailed calculation is presented in Annex 12 of the Project Document.

7) innovativeness, sustainability and potential for scaling up.

Innovativeness

Given the existing reliance on mini-grids, and the previous work of other development partners to introduce low carbon mini grids to the markets in Somalia and Somaliland, innovativeness is a primary concern for the AMP and is an overarching goal in all project components. Therefore, the AMP in Somalia starts the work on each output by investigating the most suitable way for enhancing the competitiveness of low-carbon mini-grids by exploring innovative ways to (1) encourage the people, and (2) finance the systems. This is achieved by conducting detailed studies, analyses, and assessments that aim to propose tailored practices and develop fit-for-purpose regulatory, organizational, and operational solutions.

For example, and building on the assessments and discussions during PPG development, innovative ways have been proposed to create government visibility on the mini-grid sector with minimal disruption to private-sector operation. This includes supporting digital transformation in the value chain for energy supply, i.e. on the generation side but also on consumption side, as well as supporting the operationalization of existing regulatory bodies and enhancing their capacity to utilize private-owned mini-grids to promote renewable energy and achieve higher access rate.

The project also aims to promote a mini-grid business model that builds upon the developments achieved by projects financed by the government and other development partners. The proposed pilots aim to demonstrate this model and showcase the impact of balancing private-lead development in the energy sector with national plans for energy access and low-carbon economic development. Recognizing that the role envisioned for public parties is relatively new to the Somali market, the project focuses heavily on capacity building for public and private actors to ensure smooth transition into the proposed model and ensure it is not counter-productive in terms of attracting new investment in the renewable and hybrid mini-grid sector.

In terms of technological innovation, and in addition to the digital transformation described above, the AMP pilot systems will promote hybridization technologies following best practice specifications for hardware/software and data sharing. This includes abiding by the following requirements per project site:

- Inverter monitoring (monitoring & control)
- Distribution monitoring
- Optional current transformers for energy meter if more than 10 kW (single phase) or 30 kW (three-phase)
- 24V power supply (50?)
- Various data cables and installation material
- Optional: 24V backup battery (50?)
- Optional: Cabinet for the complete monitoring system

- Industrial internet router
- Industrial or high quality Ethernet Switches
- Smart meters per connection

Sustainability

From operational sustainability perspective, the partnership with public and private parties does not only facilitate project implementation, but also increase the medium and long-term sustainability of all project outcomes. Sustainability was the main aspect guiding the inclusion of outputs that tackle the review of the institutional setup for the mini-grid public sector and the establishment of industry associations for private ESPs under Component 1, and dedicating resources to institutionalizing the capacity building effort by establishing a complete academic programme under Component 2.

On the piloting scale, sustainability is more about ensuring steady operation of the system for the full duration of its lifetime, including sound operation and maintenance of system component. This is guarded through three aspects of pilots' development: (1) focusing on hybridization, which means the ESP already has ownership of the mini-grid prior to the involvement of the AMP, (2) mandating ESPs to co-finance the pilot systems, which capitalizes on this ownership and creates mutual benefit to keep the system in operation for the longest possible period, and (3) empowering communities to oversee the operation of the mini-grid systems in their villages and report on any misconduct by ESPs. These aspects will be complemented by government oversight on system operation and performance through the digital transformation activities under Component 1 of the AMP in Somalia.

From the perspective of sustainable approach to knowledge production and sharing, Component 4 dedicates resources to KM on the national and regional levels. These aspects are stronger in this project than other mini-grid projects and initiatives in the country since the AMP in Somalia is part of a regional programme, giving it access to a regional hub for mini-grid technical support, a wealth of experience sharing between the participating countries, and an opportunity to become part of the Communities of Practice (CoP) to be established by the Regional AMP Project.

From a climate change perspective, increasing the commercial viability of low-carbon mini-grids will have long-term positive environmental and economic impacts. The proposed project activities contribute significantly towards helping insulate communities from some of the risks of climate change. With the potential for increased adverse weather events, the delivery of diesel to support conventional mini-grids may be interrupted for significant periods. The use of solar-powered mini-grids significantly reduces or eliminates the needs for diesel delivery therefore enhancing the sustainability of communities and their resilience to climate change.

Furthermore, promoting low-carbon development is also in line with the recommended global response to COVID-19 crisis and helps to reduce the risk of emerging infectious diseases in the future, while increasing the resilience of the ecologic and socio-economy systems to emergency situations

Potential for scaling-up:

Enhancing the potential for scaling up is the primary goal of Component 3, under which the project dedicates resources to work with small investors, the diaspora, and domestic financial institutions, paving the way for mobilizing additional financial resources to replications of the AMP pilot(s) beyond the project lifetime. These activities aim to ensure that the development path for the mini-grid sector in Somalia does not stop at donor funded projects. At project end, the business model will be in the hands of the people of Somalia; government, ESPs, developers and users, connected by an online platform that generates data on opportunities and enables tracking of performance to ensure fair approach to tariff setting and context-specific de-risking measures, hence, strategic effort towards resource mobilization.

In addition, the project design aims to ensure that the proposed model can be replicated and that the parties are able to undertake similar activities when developing future projects. This is achieved by conducting detailed studies, analyses and assessments that aims to propose tailored practices and develop fit-for-purpose regulatory, organizational, and operational solutions, including the DREI techno-economic analyses.

There were also measures that have been expanded into independent outputs instead of activities tackling only the pilot under the AMP. For example, the establishment of an industry association for private sector developers in the mini-grid sector may not be of direct use to the AMP pilots, but it paves the way for further public-private partnerships going forward. Similarly, the implementation team for the AMP in Somalia will ensure the use of high quality components for the pilot systems, yet the development of quality standard for system component is included in the AMP outputs to ensure high quality is maintained by future projects replicating the AMP business model.

To enhance the knowledge production and management aspects of project implementation, some of the outputs and activities under Components 2 and 4 are designed to serve not only the AMP in Somalia, but to also allow the AMP to become an enabler for further renewable mini-grid development efforts. For example, the project focuses on data sharing requirements for the pilot mini-grids where:

- Pilot beneficiaries (e.g. minigrid operators) receiving support from the project will be required to share minigrid performance data with the national project

- Specific terms and conditions for data-sharing and how best to operationalize the commitment and its adoption by the beneficiaries will be defined and agreed upon with minigrid operators during project implementation, including details of what data can and cannot be used, based on consultations with industry stakeholders and with support from the AMP Regional Project.

- The specifications around the data generation by the demonstration pilots supported by the project will consult and follow guidance/standards provided by the AMP Regional Project. A standardized Quality Assurance and Monitoring Framework (QAMF) for application in all minigrid

pilots supported under the project will be developed in year 1 of the regional project and disseminated to all national projects.

- A digital platform will be procured by the project (under Component 4, Output 4.2) to serve different purposes including: (1) running digital tenders by which minigrid developers will be selected as beneficiaries to receive support under the project and (2) managing all technical and financial data related to minigrid sites.

- Through the implementation of this digital management platform, minigrid developers selected to implement minigrid pilots with support from the project will have access to a set of best-in-industry tools for analyzing minigrids (e.g. demand forecasting, system optimization, distribution network design, detailed financial modeling at the site and portfolio level). Similarly, as part of the roll-out of the data platform, minigrid developers (as well as key government and other stakeholders) will receive capacity-building and in-depth training to use analytical tools and data management technologies.

More details on the AMP's strategy on knowledge management and sharing is presented in Section 8 below.

Furthermore, the multi-dimensional COVID-19 crisis creates opportunities for the AMP to mitigate country- and project-level impacts, to contribute toward green recovery and building back better, and also to leverage global responses to COVID-19 to deliver global environmental benefits and/or climate adaptation and resilience benefits. The following opportunities are identified as relevant for the AMP in Somalia:

? **Leveraging economic recovery and stimulus plans.** Governments across the continent have been structuring and implementing stimulus and economic recovery plans, social programs and even policy reforms during the crisis. These offer a good opportunity to accelerate the energy transition and step-up climate ambition. Putting people back to work will be an important part of stimulus plans and clean energy is an important source for new job creation and has great potential to spur local economic activity. This creates opportunities for AMP as increased funding availability and public support for renewable energy projects could be leveraged to augment AMP's results. Also, increased support to energy consumers could address widening affordability gaps which pose risks for project implementation.

? **Minigrid site selection with COVID-19 considerations.** AMP projects could also seek to help policymakers and regulators integrate elements from government strategies to respond and recover from the pandemic into energy sector planning. For instance, rural electrification strategies and plans could prioritize areas based on the presence of essential health facilities, key economic activities, particularly vulnerable populations, or other factors to concentrate efforts where COVID-19 impacts are highest. AMP national child projects can help enhance coordination between the energy and health sectors to ensure national electrification plans and minigrid sector planning consider the energy needs of the health sector.

? **Health facilities as beneficiaries of specific minigrid investment pilots.** AMP projects provide support to a number of specific minigrid investment pilots across AMP countries. Projects could use

digital mapping tools to proactively identify minigrid sites that can benefit health facilities in addition to households, commercial, and productive users.

? **Improved business case for minigrids providing energy for health facilities.** With its focus on minigrid cost-reduction, AMP could potentially add value in reducing the cost and increasing the commercial viability of minigrids providing energy for healthcare facilities in several ways including supporting governments: (i) to improve data collection on energy access in the health sector and conducting comprehensive community energy needs assessments of health facilities that consider both electricity and thermal energy needs; and (ii) to utilize specialized digital tools to assist minigrid operators in targeting health care providers and designing appropriate minigrid systems for rural health clinics.

? **Communities of Practice focused on COVID-19 impacts.** If there was enough interest among several countries AMP could create a specific Community of Practice (CoP) to focus on impacts, risks and opportunities around minigrids and the global pandemic. This would allow AMP countries to document and exchange experiences and knowledge on how off-grid lighting and electrification can alleviate some of the disadvantages and challenges experienced by households, productive users, health facilities and communities without access to electricity in facing the different stages of the COVID-19 pandemic and bolster recovery efforts.

[1] World Bank (2018) Somali Electricity Access Project: Project Information Document/Integrated Safeguards Data Sheet - <http://projects.worldbank.org/P165497/?lang=en&tab=documents&subTab=projectDocuments>

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

The investment component of the project will be in Somaliland in the form of the installation and commissioning of solar PV systems to hybridize existing diesel-based mini-grid systems. However, the soft components such as institutional setup, capacity building, and knowledge dissemination, will be applicable nationwide. The exact pilot location will be selected during Year 1 of project implementation. As part of the AMP's plan to build upon previous and ongoing projects by other partners, the AMP studied combining two approaches to site selection. The first approach is to build upon the evaluations conducted by the ESRES team for the applicants who submitted bids under SREF

Window 1. One example is the Hargeisa Water Agency (HWA) mini-grid project, for which the technical design drawings and detailed budget has been prepared. The second approach is to build upon the results of the geospatial mapping exercise presently being finalized by the WB team under the SEAP project. The result of the mapping, complemented by the DREI techno economic analyses to be performed by the AMP, will provide a more comprehensive inventorying of the current mini-grid situation in Somalia, better identification of potential future sites, and better estimation of future demand. During the site selection process, the project team will combine the findings from both approaches, along with other Social and Environmental Safeguards (SES) assessments, to decide on the most suitable location(s) for the AMP pilot project(s). Maps for project location are provided below in Annex E.

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

The AMP in Somalia follows the AMP's overall Theory of Change (ToC), developed in the PFD, which acknowledges that renewable energy mini-grids are currently not competitive with fossil-fuel based alternatives and envisions that once solar PV mini-grids are competitive, private capital will flow resulting in various program benefits, inter-alia: investment at scale, GHG emission reductions, higher electrification rates and lower tariffs for end-users. As such, the ToC of the AMP involves a number of logical steps: (1) organize interventions into three key areas (components): policies and regulations; business model innovation and private sector; and innovative finance; (2) create program specific outputs under each of these three areas that are designed to systematically target the underlying investment risks at the national level for renewable energy mini-grids; and (3) mitigating the underlying investment risks will in turn inverses the earlier relationships, resulting in three key beneficial drivers for the competitiveness and financial viability of renewable energy mini-grids: reduced hardware and soft costs, and increased revenues and economies of scale. Collectively these three beneficial drivers result in a virtuous cycle of lower generation costs. The figure below presents the ToC diagram for the AMP.

Underlying risks and barriers are currently driving higher minigrid costs and inhibiting innovation, preventing scale up of renewable energy minigrids.



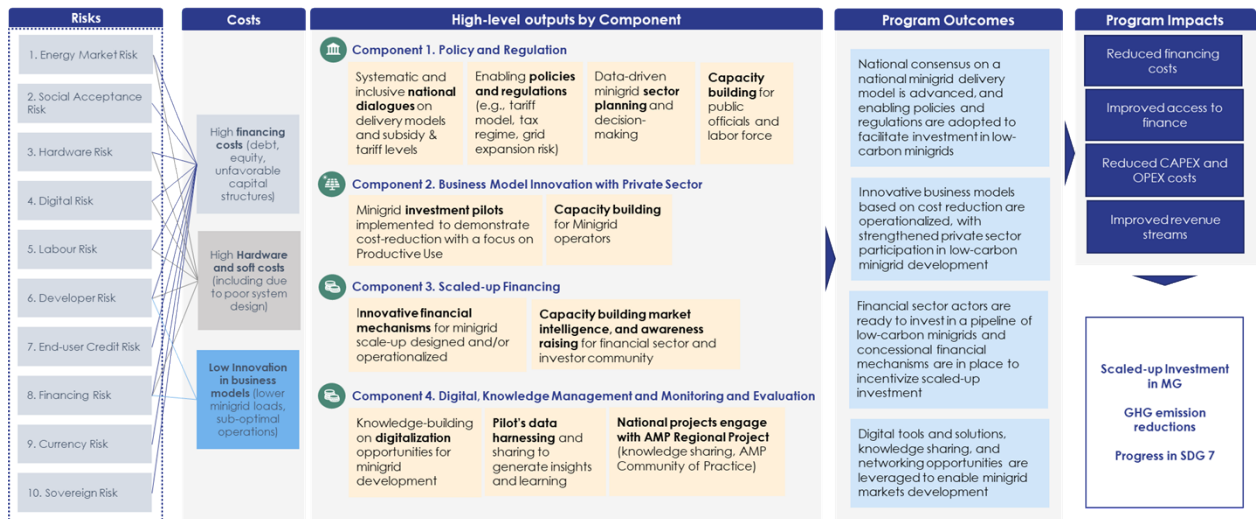
AMP Program interventions systematically target underlying risks and barriers to reduce MG costs through public interventions in four country-level thematic areas (Components).



Commercial viability of MGs is improved through reduced risks, lower costs and improved revenues.



With reduced risks and improved cost structures, access to finance at scale is unlocked for developing minigrids to their full potential.



Theory of Change (ToC) diagram of the AMP

Cost reduction was one of the key themes guiding the strategy of the AMP in Somalia as will be seen in leaning towards hybridization, increasing the funds dedicated to technical capacity building of ESPs to reduce operational losses, and focusing on enhancing tariff collection systems to reduce commercial losses. A complementary area which the strategy focuses on quite heavily, in accordance with the AMP's ToC is the social return of the project, i.e. putting equal emphasis on adopting consumption tracking and transparent billing systems to guarantee that the cost-reduction for ESPs will result in driving down tariffs to end-users.

In addition, components under the AMP in Somalia are in line with the harmonized results framework developed by the AMP Regional Project to provide guidance to participating national projects and streamline program implementation on the regional level. Furthermore, and in line with the protocol established in the AMP Program PFD, 10% of the consequential/indirect GHG impacts calculated for this project are allocated to the regional child project core results indicator, in line with the apportioning of the overall program budget. This reflects the benefits of this and all other national child projects accessing the regional child project's support.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

The PPG development process involved conducting several consultation meetings and workshops with public authorities and private sector parties in Somalia and Somaliland, during which stakeholders were invited to share their views on the obstacles facing low carbon development in the mini-grid sector and their suggestions for the best way forward. The feedback and comments by stakeholders were taken into consideration when developing the project strategy presented in this document. The consensus on the strategy and expected results is aspired to lead to successful project implementation. Furthermore, the project management arrangement embraced the need for the UNDP Somalia, as the implementing partner, to work closely with all national stakeholders as a necessary ingredient for project success. Additional details on the project's approach towards stakeholders' engagement can be found in the Stakeholder Engagement Plan (SEP) presented in Annex 9 of the Project Document.

In addition, to bring the voice of national parties in Somalia and Somaliland to global and regional fora, the project will explore opportunities for meaningful participation in specific events where UNDP could support engagement with the global development discourse on low-carbon mini-grid development. The project will furthermore provide opportunities for regional cooperation with countries that are implementing initiatives on low-carbon mini-grid development in geopolitical, social, and environmental contexts relevant to the AMP in Somalia.

Furthermore, the proposed strategy for the AMP in Somalia intends to capitalize on the project being part of the AMP Regional Project and use all possible opportunities for South-South and Triangular Cooperation. Hence, the AMP in Somalia will have access to (if requested) a variety of dedicated technical and operational support from the AMP Regional Project as follows:

- 1) Access to specialized expert international consultants in selected areas (DREI, data, GIS modelling, mini-grid business models, etc.) hired, retained, contracted, and paid for by the AMP regional project and made available to all participating national 'child' project staff and selected beneficiaries on as needed basis. The areas of support, listing of available firms/ICs under contract by the regional project and protocol for how the project can request and/or access such expertise (if needed/requested) will be elaborated in the first year of regional project implementation and disseminated to this project and the staff of all other participating AMP national 'child' projects. This support may range from virtual assistance to in-country missions. All requests for such assistance must be approved by the project manager of the AMP regional project management unit.

- 2) Provision of a database of qualified international consultants and firms disaggregated by their expertise in the four main components of the national project and other key operational areas (procurement, M&E, communications, etc.). These individuals will not be retained or contracted under the regional project but rather provided to the project for informational purposes only in an effort to assist in identifying high-quality experts and firms who may be available for contracting by national governments under their own procurement rules and modalities.
- 3) Provision of generic ToRs for various standard activities (mentioned above) under the four main components of the national project.
- 4) Advisory support by the AMP regional project management unit to staff of the project on trouble shooting (operational support, ToR reviews and problem solving) on an ad-hoc and as-needed basis. These services will be paid for the regional project and available on a first-come/first-serve bases under a protocol to be established by the regional project.

A full detailed elaboration of these offerings and the protocols attached to each service will be communicated to the project at the inception workshop of the AMP Regional Project and at the inception workshop of each national child project.

The following table presents a summary of the preliminary Stakeholder Engagement Plan (SEP) for the AMP in Somlia as presented in Annex 9 of the Project Document. The SEP is planned to be updated at the time of site selection for the pilot systems:

Table 1. Preliminary SEP for the AMP in Somalia (to be updated at the time of site selection for the pilots, i.e. as part of updating the safeguards for the project)							
#	Stakeholder Group	Role/Relevance	Means of engagement	Interest in the project	Influence on the project	Participation capacity	Perception of problem
1	State and local government authorities, i.e. public sector entities	Project partners and co-financiers	Regular meetings, including the inception workshop, technical committee meetings, project board and consultations as part of the project planning and monitoring visits.	As partners to the UNDP, the public sector has been involved in project design, and is expected to plan a key role during implementation.	High	High	Will require skills, activities and measures new to their usual practice and scope of sectors.

2	Private sector associations, and ESPs involved in the project's pilot(s)	Project partners and direct beneficiaries	Engagement through Public Private Dialogues and getting strategic inputs from the private sector associations in the implementation of the pilots.	Given the nature of the mini-grid sector in Somalia and the proposed hybridization activities, the private sector is crucial for project success.	High	Moderate	Lack of certainty in the market nationally to de-risk investment
3	Development partners	Co-financiers	Regular meetings with the donor partners, including information exchange and inputs to the existing Energy Sector Coordination Platform for Somalia	The project is designed to build upon ongoing work and collaborate with development partners to avoid work-duplication to the extent possible.	Moderate	High	Will require skills, activities and measures new to their usual practice and scope of sectors.
4	Communities in pilot location	Direct beneficiaries and affected persons	Communities engagement as part of social mobilization, identification of stakeholder groups and hold Focus Groups Discussions to inform pilot projects	End-users of electricity to be generated from the pilot projects.	High	Low	New set of problems for some and opportunities others.
5	Academics, educational institutions and vocational training centers	Direct beneficiaries	Engagement while undertaking training needs assessment with the institutions delivering modules on energy systems	Recipients of training and future implementers of the academic certification programme.	Moderate	High	To be determined

6	Financial institutions and small investors	Direct beneficiaries	Meetings with representatives of financial institutions to understand scope and their involvement in viable business models to overcome financial barriers	Recipients of training and future implementers of innovative financing schemes and incentive mechanisms.	High	High	Lack of certainty in the market nationally to de-risk investment
7	Developers and ESPs not involved in the pilot project(s)	Indirect beneficiaries	Engage through the ESPs associations for drawing lessons to design business models	Affected by project outcomes and potential beneficiaries of replication.	Moderate	Moderate	To be determined
8	Industry groups (agriculture, fisheries, manufacturing)	Indirect beneficiaries	Engage representatives of relevant industry groups through chambers of commerce	Affected by project outcomes and potential beneficiaries of replication.	Low	Moderate	To be determined
9	Communities in non-pilot location	Indirect beneficiaries	Nationwide messaging and visibility campaigns about sustainable energy solutions	Affected by project outcomes and potential beneficiaries of replication.	Low	Low	To be determined
10	NGOs and civil society groups	Indirect beneficiaries	Invitation to participate in discussion groups for knowledge management and replication of the best practices	Especially the groups working on energy access, climate change, renewable energy development, etc.	Moderate	Moderate	Disadvantaged groups are usually left behind/outside of the project benefits (i.e. women, poor, disable, indigenus?)
11	Other groups	To be identified as part of the site selection assessment for the pilot(s) location.					

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor;

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

The gender analysis performed during PPG development identified the following key gaps in terms of the status of men, women boys and girls in their access to clean energy and their roles and contributions in the production and distribution of electricity:

- With very limited access to electricity in rural areas and due to culturally assigned roles and responsibilities everyday Somali women and girls travel long distances to collect firewood, grind flour using traditional methods, cook in an open fire and prepare dung cakes to satisfy household energy needs. Girls' study less time due to absence of lighting during nighttime faced with vulnerabilities to gender-based violence. As compared to men, access to clean energy is transformative fundamentally addressing the above-mentioned challenges uniquely experienced by women and girls.
- There is favorable constitutional and policy back-up to address gender equality and women empowerment issues in various sectors including the energy sector. However, in terms practical steps a lot of gaps exist mainly due to gender relations are governed by customary laws, strong social norms shaped by Islamic religion accompanied by limited institutional capacities to systematically identify and address gender gaps. For eg. The Somalia National Energy Policy 2018 and Somali Electricity Bill 2020 neither acknowledge the different needs and priorities of men and women in relation to access to energy nor create institutional set-up to make equitable considerations and actions in the design and implementation of energy access interventions.
- Among the 24 independent ESPs in Somaliland which are owned by private sector who also run the generation, distribution and transmission systems none of them are owned by women and even if there might be women holding shares data is not available. Furthermore, information is rare about women's participation in the operation and maintenance aspects of ESPs.

- As compared to men Somali women are uniquely identified with great entrepreneurial skills creating and successfully running small business but not supported as such particularly in the energy sector.
- Data is not available on how many female and male students are enrolled in vocational training schools to be targeted and trained as mini-grid technicians.
- Three-quarters of women aged 15-49 own a mobile phone and 64 percent use their mobile phones for financial transactions and women are found to be active and friendly in adopting digital processes.
- Existing interventions such as World Bank's Somali Electricity Access Project 2018 has a focus on addressing gender gaps by tracking beneficiaries disaggregated by sex, Solar home distribution to be 25% women led, Training of solar distributors, incentives to women led enterprises with the focus on lighting and TV.

As per the findings the following are some of the examples of gender transformative actions aligned with the four components of AMP:

- Support capacity building training for women professionals and emerging female students in the mini-grid sector for their systematic engagement in policy level dialogues.
- Intentional integration of gender dimensions in policy analysis and study designs which will be supported by this project.
- Establish female-cohort of mini-grid technicians from rural areas through vocational training opportunities.
- Capitalize on women's entrepreneurial skills to engage them in the value chain of the energy mix ESP, off-grid solar.
- Provide targeted finance/incentivize to women owned business to engage in ESPs, purchase of electrical appliances to start-up or improve business.
- Prepare minimum standards on the engagement of women in various capacity building trainings, consultation meetings on tariff, digitalization process, business opportunities to be created by this project.
- Identify women managed business such as milk and ghee production to be supported by modern electrical appliances.
- Incentivize existing women and girl graduates of electrical engineering to establish small business in the sector.

- Incentivize OGS companies and ESPs to higher women at different points of the value chain.
- Provide incentives to OGS companies to market and sell quality products to women only/lead businesses and households.
- Document success stories, set gender and clean energy as an agenda in the community of practice to be established by this project.

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Does the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

During PPG consultations, discussions around the role of private actors in developing new regulations for mini grid development were initiated. This is generally important as part of stakeholders' engagement activities, but in Somalia, the importance is magnified by the high control of private investors and operators on the mini grid sector. Hence, one of the aspired outputs of the AMP is to support private actors with self-organization through establishing and capacitating mini grid industry associations in Somalia and Somaliland. The PPG consultations also explored the limited awareness on the importance of purchasing quality products and how to identify them. Most of the currently available solar and hybrid mini-grid products are of poor-quality, which undermines consumer confidence in this technology and poses a financial strain on consumers who scarcely invest funds in products that fail to perform as promised.

Another issue that was extensively discussed during PPG consultations is the technical capacity of ESPs to design, operate, maintain and manage solar and hybrid mini grids. This was identified as one of the most critical gaps facing mini grid development in Somalia and Somaliland. The problem was explained to be multi-layered, comprising several technical and social challenges. Therefore, the project design expanded the scope of capacity building activities to include the establishment of a one-year academic certification/diploma, consisting of general courses for three months, followed by the choice of one of three tracks:

- a) Mini grid Design: for individuals with engineering background interested in studying the technical aspects of system design, performance monitoring, remote telemetry, and solar components? quality standards;
- b) Mini grid O&M: for operators and technicians interested in vocational training on the installation, operation, and maintenance of hybrid mini-grid systems; and
- c) Mini grid Management: for individuals interested in studying tendering, contracting, procurement, proposal design, tariff structures, demand simulation, productive use support, revenue diversification, and project management.

The institutionalization of capacity building and knowledge production in the solar and hybrid mini-grid sector is not only crucial for the AMP to attempt to fill this identified gap sustainably, but is also key to ensuring that ESPs are ready to digest the proposed medium and long-term digital transformation concepts and applications. Therefore, in each track, relevant courses on digitalization will be included. Moreover, the academic programme will be developed and operated in close collaboration with the Communities of Practice (CoPs), led by the AMP Regional Project, such that the programme makes best use of the mini-grid courses to be made available through online platforms and other knowledge production and sharing tools. The collaboration will support the AMP in Somalia team to take into account the lessons learned from developing and running similar programmes in countries with relevant context, including technical expertise, but also in terms of ensuring sustainability and inclusivity.

In the design of the proposed programmes, the responsible institution can be one of the national educational institutions in Somalia, but it could also be the mini-grid industry association, with the training and certification designed as one of the services offered by the industry associations. The decision on the most suitable party to be responsible for programme delivery will be made as part of the broader work on supporting the institutional setup for the mini-grid sector. Moreover, for the design to be responsive to COVID risks, while the programme will have practical components requiring in-person attendance, it can also have a partially online component to facilitate the participation of eligible candidates from different regions of Somalia and Somaliland. The online component would also allow for some classes to be conducted by experienced professors from different internationally-recognized universities, as well as engage with the courses and resources to be provided online through the CoPs by sharing material and utilizing the material shared by other AMP participant countries.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

#	Description	Risk Category	Likelihood (L) & Impact (I)	Risk Treatment / Management Measures	Risk Owner
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#	Description	Risk Category	Likelihood (L) & Impact (I)	Risk Treatment / Management Measures	Risk Owner
1	Continuing security risks due to armed conflicts, limiting the ability to mobilize personnel and equipment.	Security	Lack of security imposes restrictions on the mobility of people and goods. It also increases the risk of theft or damage, prohibiting the investment in equipment requiring upfront capital. <i>Level: High</i> <i>L = 4</i> <i>I = 5</i>	UNDP has been implementing many projects during the ISIS period between 2014 and 2017. The UNDP CO will follow the security arrangement of the UN mission in Somalia in accordance with the security regulations and policies of UNAMI and UNDSS. With regards to the investment in solar components and hybridization work, it has been agreed during the development of the Concept Note that the pilot projects will be situated in Somaliland, which had relatively higher security than other regions. Specific security arrangements for the pilot projects, especially in relation to equipment transport and safeguarding, will be developed with the authorities and partnering ESPs as needed.	UNDP CO, in their capacity as the project's IP

#	Description	Risk Category	Likelihood (L) & Impact (I)	Risk Treatment / Management Measures	Risk Owner
2	Inability to maintain the political will required to undertake steps towards effective operationalization and upgrade the institutional setup of government's involvement in the mini-grid sector	Political	Without political will, operationalization will not be achieved regardless of the progress achieved on other project activities, which jeopardizes the project's sustainability. <i>Level: Substantial</i> L = 3 I = 4	The PPG consultations involved discussions with the ministries of energy in Somalia, Somaliland, and Puntland. The stakeholders considered the AMP to be an important project, aligned with their national initiatives and collaboration with other development partners. During implementation, and in addition to overall stakeholder engagement, a clear output to work on the institutional arrangement has been added to the project strategy and another for establishing an industry association for mini-grid developers and ESPs. The mitigation of this risk, in case of occurrence, will be to redirect additional funds towards these two outputs as a way of maintaining government attention and dedication to solar and hybrid mini-grid development.	UNDP CO, in their capacity as the project's IP

#	Description	Risk Category	Likelihood (L) & Impact (I)	Risk Treatment / Management Measures	Risk Owner
3	Inability to translate the cost reduction to ESPs into tariff reduction for end-users	Strategic	<p>In the absence of formal tariff regulations, the realization of social returns of the project is subject to ESPs' commitments to their agreements.</p> <p><i>Level: Substantial</i> <i>L = 3</i> <i>I = 4</i></p>	<p>The project starts with performing DREI techno-economic analyses, the result of which will include recommendations for de-risking measures. These measures can be adopted by the AMP team for pilot implementation to ensure the cost-reduction is reflected on the end-user tariffs.</p> <p>Furthermore, the digital transformation approach is readily capable of detecting changes in tariff calculation and collection and providing end-users with channels to submit feedback and file complaints as needed. Hence, the pilot design will already involve aspects of mitigation, with more to be added based on the findings of the DREI analyses.</p>	UNDP CO, in their capacity as the project's IP

#	Description	Risk Category	Likelihood (L) & Impact (I)	Risk Treatment / Management Measures	Risk Owner
4	Persistence of COVID-19 until project start and/or throughout project implementation, and/or spread of similarly communicable diseases among the population.	Health	<p>The implementation of the project during a pandemic can potentially lead to:</p> <ul style="list-style-type: none"> - General reduction in the purchasing power of the population - Change in national priorities and context - Procurement delays due to restrictions on imports - Hindered communication due to COVID-19 - Exposure risks for the project team, consultants, partners, and communities during implementation <p><i>Level: Substantial</i> <i>L = 4</i> <i>I = 3</i></p>	<p>The biggest risk of the COVID-19 to the AMP project has been the impact on the economy, which reduced the purchasing power of the population in general. According to the UNDP SEIA of COVID-19, it was reported early on that in general the electricity sector experienced negative outcome as consumption of electricity reduced due to failing demand, revenue collection was disrupted, suspension network expansion operations, a slowdown in daily operations and staff productivity and overall disruption in operations. This trend will have negative impact on the overall development of the sector especially in the clean energy sector as it is currently more capital intensive to invest in clean energy than diesel power.</p> <p>In addition, COVID-19 poses a challenge on communication and service delivery due to restrictions on in-country gatherings and international travel. In March 2020, the Government imposed restrictions in response to the COVID-19 pandemic, and the UN reduced its physical staff presence in response.</p> <p>The following mitigation measures were integrated in the project strategy to overcome and mitigate the influence of the above challenges on project operation:</p>	UNDP CO, in their capacity as the project's IP

#	Description	Risk Category	Likelihood (L) & Impact (I)	Risk Treatment / Management Measures	Risk Owner
5	Lack of coordination amongst various stakeholders and partners involved in the mini-grid sector	Organizational	Without intra-government collaboration and consensus among stakeholders, the operationalization of regulations will be more challenging and less impactful. <i>Level: Moderate</i> <i>L = 2</i> <i>I = 4</i>	The AMP is designed to promote an inclusive strategy for developing the mini-grid sectors. Three outputs are dedicated to capacitate the public sector, private sector, and financial sectors and support them with self-organization, i.e. institutional setup, industry association, and capacity building for domestic financial institutions. With a well-defined chain of command on the government side, a recognized body to represent the interests of private parties, and clear operational guidance for financiers and investors, the coordination on mini-grid projects and sectoral development will be facilitated and decision-making processes will be more adaptive to the views of different parties. Furthermore, the digital transformation will also facilitate the engagement of communities and end-users and provide them with proper tools for knowledge sharing.	UNDP CO, in their capacity as the project's IP

#	Description	Risk Category	Likelihood (L) & Impact (I)	Risk Treatment / Management Measures	Risk Owner
6	Lack of private sector cooperation on project activities	Operational	<p>Without private sector cooperation, no change can be expected in the Somali mini-grid sector.</p> <p><i>Level: Moderate</i> <i>L = 2</i> <i>I = 4</i></p>	<p>The private sector is <i>the</i> key player in the development of mini-grids in Somalia and is naturally inclined to reject regulations that could potentially reduce its ability to maximize profit. This could potentially be manifested in the form of refusal to participate in tenders that mandates a minimum threshold of co-finance or poses strict oversight on tariffs value and collection procedure. It may also come out in the form of a one-sided decision to discontinue the pilot systems before their lifetime (20 years) or intentional negligence in following the recommended O&M procedure, e.g. system cleaning, replacing equipment, etc.</p> <p>Enforcing laws without proper private sector engagement could lead to their withdrawal from the market. Therefore, the AMP will focus on promoting hybridization to ensure that ESPs can capitalize on their existing investments and are supported to achieve cost-reduction. Furthermore, the AMP adopts a step-wise approach towards regulations, where the introduction of new measures targeting digital transformation will start voluntarily with incentives, before they become mandatory in the long-term. In addition, emphasis is given to developing ESPs?</p>	UNDP CO, in their capacity as the project's IP

#	Description	Risk Category	Likelihood (L) & Impact (I)	Risk Treatment / Management Measures	Risk Owner
7	ESPs are unable to afford contributing to financing the hybridization processes	Financial	Without direct investment, the realization of social returns of the project is subject to ESPs' commitments to their agreements. <i>Level: Moderate</i> L = 2 I = 4	The AMP has a dedicated component for studying the financing mechanisms available and contributing to: (1) enhancing the clarity of the process of obtaining finance from existing sources such as smaller ESPs and new developers can seek finance for their projects, and (2) expanding the ability of financial institutions to mobilize resources from the diaspora and small investors.	UNDP CO, in their capacity as the project's IP
8	Climate risk: External environmental factors, like for example the effects of climate change (such as the volume and quality of rainfall, rising temperatures, floods, droughts, violent winds, earthquakes, landslides, severe winds, storm surges, tsunamis, volcanic eruptions?) could lead to delay or abandonment of the project.	Environmental	<i>Level: Moderate</i> L=3 I=3	This is an external risk to the project that will be mitigated in the context of a variety of other third-party activities from the Government. Furthermore, external environmental factors likely to be a risk will be considered within this project as part of the feasibility/assessment studies established in the ESMF for each site, which will use conservative assumptions to successfully operate. Therefore, this risk is assumed to be LOW under the assurance that this project will prepare the pertinent environmental studies as required in the ESMF.	UNDP CO, in their capacity as the project's IP

#	Description	Risk Category	Likelihood (L) & Impact (I)	Risk Treatment / Management Measures	Risk Owner
9	Potential negative environmental impacts resulting from the project, either routine or non-routine based, could lead to adverse local, regional, and/or transboundary impacts causing a delay or abandonment of it.	Environmental	<i>Level: Substantial</i> L=4 I=4	<p>During Project preparation similar Project activities have been visited and/or consulted by the team of experts to evaluate the risks.</p> <p>Principal environmental risks have been framed at this stage (Project Preparation Grant, PPG) and they will continue to be assessed along the entire project cycle for each chosen site. Based on that, a pertinent due diligence project development process, monitoring of operations, and active intervention are foreseen according to such environmental safeguards established in this project through the ESMF to ensure operation within the established parameters and in compliance with the applicable regulations. This includes the environmental risks associated with the disposal of used batteries, solar panels, power converters, and other grid equipment during maintenance rounds and at the end of the project's lifetime.</p> <p>Therefore, this risk is assumed to the LOW under the assurance that this project will prepare the pertinent environmental studies as required in the ESMF.</p>	UNDP CO, in their capacity as the project's IP

#	Description	Risk Category	Likelihood (L) & Impact (I)	Risk Treatment / Management Measures	Risk Owner
10	External social factors, like for example political unrest, COVID persistence, and other issues, could lead to delay, abandonment of the project, or decrease the ability of people to pay for the services.	Social	<i>Level: Substantial</i> L=4 I=4	<p>This is an external risk to the project that will be mitigated in the context of a variety of other third-party activities from the Government.</p> <p>Furthermore, external social factors likely to be a risk will be considered within this project as part of the feasibility/assessment studies established in the ESMF for each site, which will use conservative assumptions to successfully operate.</p> <p>Therefore, this risk is assumed to be LOW under the assurance that this project will prepare the pertinent environmental studies as required in the ESMF.</p>	UNDP CO, in their capacity as the project's IP

#	Description	Risk Category	Likelihood (L) & Impact (I)	Risk Treatment / Management Measures	Risk Owner
11	Potential negative social impacts resulting from the project, either routine or non-routine based, could lead to adverse local, regional, and/or transboundary impacts causing a delay or abandonment of the project.	Social	<i>Level: Moderate</i> L=3 I=3	<p>During Project preparation similar Project activities have been visited and/or consulted by the team of experts to evaluate the risks.</p> <p>Principal social risks have been framed at this stage (Project Preparation Grant, PPG) and they will continue to be assessed along the entire project cycle for each chosen site. Based on that, a pertinent due diligence project development process, monitoring of operations, and active intervention are foreseen according to such social safeguards established in this project through the ESMF to ensure operation within the established parameters and in compliance with the applicable regulations.</p> <p>Therefore, this risk is assumed to be LOW under the assurance that this project will prepare the pertinent environmental studies as required in the ESMF.</p>	UNDP CO, in their capacity as the project's IP

[1] WHO (2020). Considerations for public health and social measures in the workplace in the context of COVID-19 (<https://apps.who.int/iris/rest/bitstreams/1277575/retrieve>)

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Implementing Partner (IP): The Implementing Partner for this project is UNDP Country Office in Mogadishu, Somalia.

The AMP in Somalia will follow the Direct Implementation Modality (DIM), where the UNDP CO in Mogadishu will act as the Implementing Partner (IP), responsible for the UNDP-GEF project execution and accountable for the disbursement of funds and the achievement of the project goals, according to the approved results framework and work plan presented in this Project Document.

At the time of submission of the project document, all UNDP projects in Somalia are under Direct Implementation Modality (DIM). This is considering the limited national capacities and fragile operational context of the country. Given the operational context in Somalia, all projects in 2021-25 Country Programme cycle are required to follow DIM.

DIM does not limit the engagement of third party to undertake specific activities under contractual agreements with UNDP. Such contracts need to follow a thorough competitive process during the project implementation, where the overall accountability of delivery of results will remain with UNDP. The project will also benefit from the ground presence and on-the-ground operational capacities of UNDP Country Office required for day-to-day interaction with counterpart institutions, ability to timely address risks and operational capacities for effective implementation, help to reduce transactional cost that would have required engagement of third party for project implementation. UNDP projects and programmes in Somalia are part of four portfolios, including, 1) Resilience and Climate Change; 2) Economic Recovery and Institutional Development; 3) Rule of Law and Security; 4) Inclusive Politics. In addition, UNDP CO have dedicated units for human resources management, finance and resources management and procurements. Senior management in its oversight and compliance functions, is supported by Programme Oversight and Quality Assurance Unit. The oversight functions are independent of Project Management functions with clear delineation of rolls as per the Internal Control Framework (ICF).

Furthermore, national institutions will be engaged as Responsible Party (RP) on specific activities under Letters of Agreement arrangement for enhancing national capacities based on the capacity assessment for Harmonised Approach to Cash Transfer (HACT). The mitigation measures are adopted based on the findings of HACT assessments for risk management without compromising on the accountability of UNDP for the use of project resources.

In addition, development partners will be regularly consulted during the AMP implementation to share lessons and ensure complementarity. Continuous collaboration on mini-grid sector development is part of the project's SEP and has already started during project design as evidenced by the two letters of co-finance

by the WB and SIDA. The project team will continue to build these healthy relationships throughout the implementation of the AMP in Somalia.

Project Management Unit (PMU):

UNDP CO will initiate the project by creating the PMU, where a minimum of three staff members will be hired to fill the positions of Project Manager, Finance Officer and M&E Officer. For quality assurance, additional M&E missions will be conducted at MTR and TE by independent (third-party) consultants, however, the PMU will be responsible for the issuance of regular progress reports and ensuring continuous reporting, collaboration and coordination with the AMP Regional Project. Furthermore, the UNDP-NCE Regional Technical Advisor (RTA) will provide an additional layer of project oversight and will participate in regular project team calls to monitor progress and advise on project implementation, as needed.

Responsible Parties:

The project will be under Direct Implementation Modality of UNDP. As such, the accountability for use of project resources and deliver on project results will rest entirely with UNDP. Standard procedures for direct implementation will be followed to mobilize inputs and deliver on results. However, in cases where certain activities are to be performed by national institutions, procedures laid out as per the Harmonized Approach to Cash Transfer (HACT) framework will be followed. This will involve micro-assessment of national institutions to determine the risks and capacity gaps. Letters of Agreements or Responsible Parties Agreements will incorporate the findings of HACT assessment as per Country Office oversight role before approval of these agreements.

Management arrangement:

To ensure sound management of project implementation and continuous engagement of stakeholders in all project activities, the UNDP CO in Somalia, as the project's IP, will establish the following committees at project start:

- Steering Committee/Project Board

Consisting of UNDP Resident Representative, the GEF Operational Focal Point and Minister of Ministry of Energy and Water Resources (MoEWR), to oversee project development, governance, and M&E. Board meetings will be held bi-annually. Additional meetings may be scheduled if deemed necessary by the Project Management Unit (PMU).

Being a DIM project, UNDP Resident Representative will chair the Project Board and is accountable for the project. In this role, UNDP Resident Representative is ultimately accountable for the project, working closely with the Senior Beneficiary and Senior Supplier. The Executive's role is to ensure that the project is focused throughout its life cycle on achieving its objectives and delivering outputs that will contribute to higher level outcomes. The executive has to ensure that the project gives value for money, ensuring cost-conscious approach to the project, balancing the demands of beneficiary and supplier

- Technical Committee

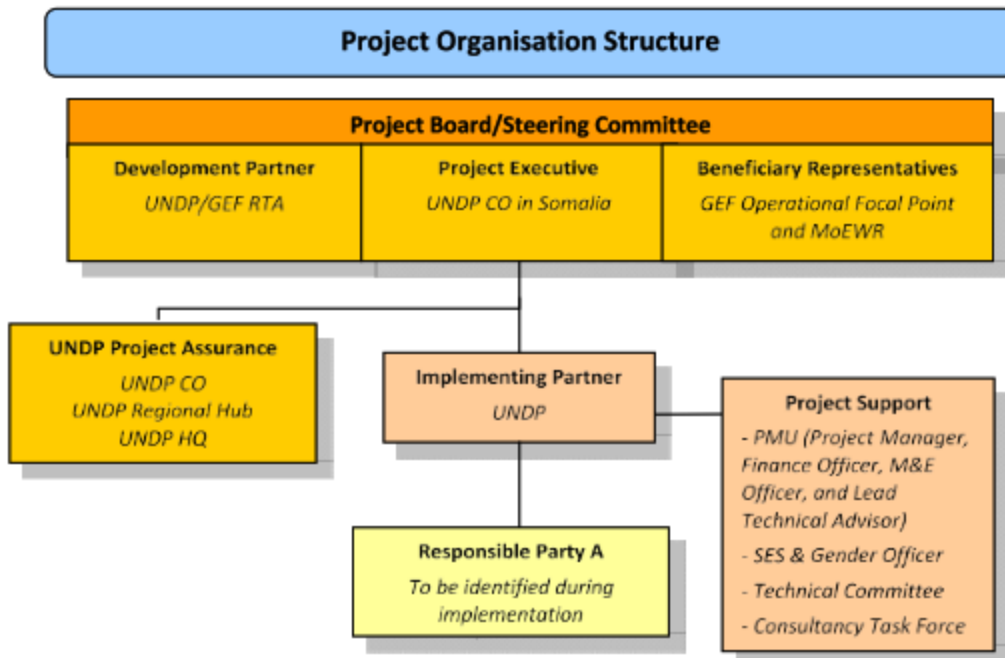
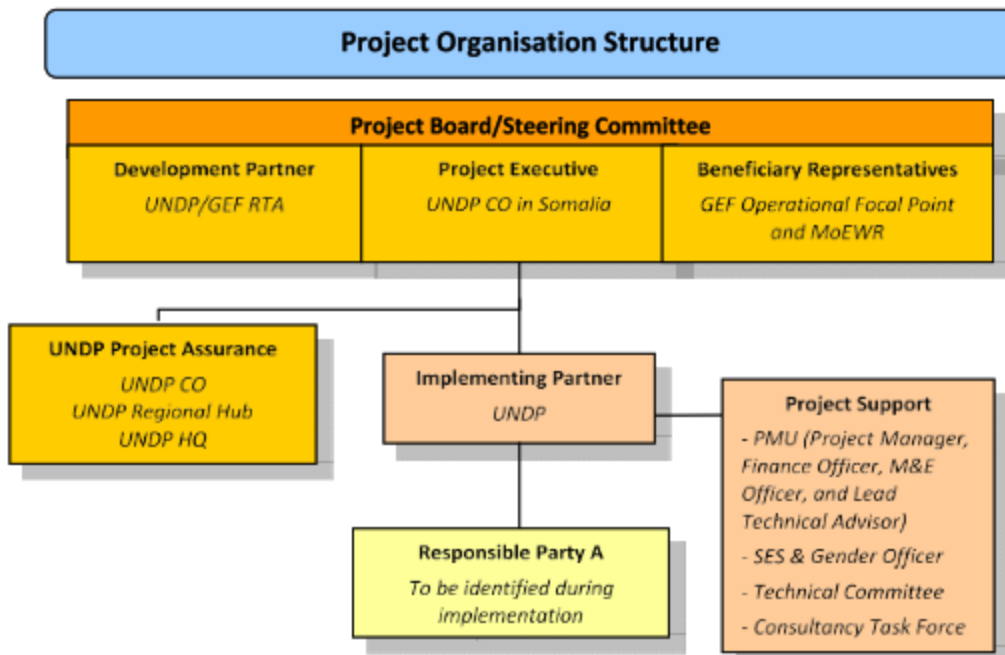
Consisting of representatives from all the stakeholders listed in Section IV, i.e. representatives of ministries, private sector, academia, and NGOs. This committee is expected to meet more frequently than the Project Board and will be responsible for looking into the technical aspects of project implementation.

- Consultancy Task Force

Consisting of international & national experts taking the lead on specific technical assignments and collaborating to ensure the homogeneity of the overall output.

Representation on the AMP Regional Project's board: A representative of the project will sit on the project board/steering committee of the AMP Regional Project in a role as 'beneficiary representative.' It is expected that all AMP Regional Project board meetings will be held virtually (i.e. not in-person) and that beneficiary representatives will participate in steering committee meetings via video-conference. The representative of the AMP in Somalia project on the AMP Regional Project board will be the Ministry of Energy and Water resources and GEF Operational focal point. It is expected that the AMP Regional project board will meet a maximum of twice per year.

The following chart shows the proposed organizational structure for the AMP in Somalia.



Proposed Organizational Structure for the AMP in Somalia

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The Federal Government in Somalia and Somaliland have been developing policies and regulations which could shape their aspired intervention in energy sectoral planning, including interventions to regulate the service delivery and tariff levels in the mini-grid sector. The most relevant developments to this project are summarized below:

- **National Energy Policy (2018) and the Somali Electricity Bill (2020):**

o The policy was developed by the Ministry of Energy and Water Resources (MoEWR). It presents the overall plan for the energy sector.

o The Electricity Bill is more focused, containing an outline for the legal direction of the electricity and identify the relevant authorities which will govern the sector ? both have been drafted and awaiting cabinet approval.

- **Somaliland Energy Policy (2010) and the Somaliland Electrical Energy Act (2016):**

o The policy was developed by the Ministry of Energy and Minerals (MOEM), in collaboration with Adventist Development and Relief Agency (ADRA) as part of the Somaliland Energy Policy Dialogue.

o The Act was developed a few years later, emphasizing the need to establish the Energy Regulatory Commission (ERC) for Somaliland, to provide a framework for energy investment and consumer protection.

The project aligns well with the current National Development Plan (NDP 2020-2024) as well as the National Energy Policy (2018) and Power Master Plan in number of areas.

- Master Plan outlines plans to increase energy production, increase the supply of renewable energy, and for government to establish regulatory authorities and a legislative framework to improve the market efficiency.

- The National Energy Policy sets out a strategy to the development of the country's electricity sector with a focus on clean energy, reduction of cost and coordination of the electricity general, transmission as well as distribution through policy making and the creation of an effective regulatory framework.

- In line with the above, the NDP 2020-2024 outlines clear strategy to develop the country's electricity sector from a triangular vantage point that covers, (a) development and implementation of relevant enabling environment i.e. regulations that improve the current developments in the private led energy sector, (b) focusing on clean energy, and (c) increasing access to energy particularly.

Finally, the project is also in line with the Nationally Determined Contribution (July 2021) and First National communications (2018) to UNFCCC. Both aims for sustainable and low carbon emission development, especially through decentralized mini-grids.

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

Part of ensuring the sustainability of project activities and prolonging its impact beyond the project duration is to maintain a system of monitoring, evaluation, knowledge sharing, and knowledge dissemination. The information contributing to knowledge production will be collected in an organized manner and constantly feeding the project operation as well as the design of new interventions. More specifically, the outcomes under Component 4 serve to ensure that knowledge management, monitoring and evaluation are accounted for as independent tasks, but also integrated in all aspect of project implementation. This includes project participation in the Communities of Practice (CoP) to be established and managed by the AMP Regional Project.

As such, part of the linkage of the AMP in Somalia to the AMP Regional Project will fall under the implementation of activities under Component 4 notwithstanding that The project will receive support and guidance from, as well as participate in activities led by the AMP Regional Project in the following key areas of interface between the AMP regional project and the AMP national projects:

? **Digital.**

- a. **Knowledge building/sharing.** The regional project will build and share knowledge with the project on the potential for use of digital tools and solutions, including leveraging minigrid projects? data to improve the commercial viability of renewable energy minigrids.
- b. **Data aggregation platform.** The AMP Regional Project will make a data management platform available to aggregate data from all national project pilots based on a common M&E framework to track Results Framework indicators as well as program objectives, SDG impacts and GHG emission reductions for all child projects.

? **Knowledge Management.**

- a. **Information sharing.** The AMP regional project will support and facilitate knowledge management and information sharing between the regional child project and national child projects, among national child projects, and between the program and the larger minigrid community.
- b. **Insight Briefs.** National projects will gather data and audio-visual content (video footage, photos, etc.) highlighting national project activities which will be the subject of an ?insight brief? to be developed by the AMP Regional Project. The ?insight brief? will be disseminated by the regional project to regional stakeholders and published on the AMP website.
- c. **Communities of Practice.** One of the primary ways national project staff will interface with the regional project is via the ?Communities of Practice? (CoPs) and associated activities/platforms. While it is expected that many of the activities will be undertaken virtually (via internet-based platforms, webinars or digital platforms) it is also expected that the CoPs will include actual in-person workshops, meetings or training events that project staff will participate on. Knowledge tools and good practices around minigrid cost-reduction in a variety of regulatory environments, and research and development tools, such as policy packages, template tender documents, and guidelines on productive use program designs will be made available to national projects.

? **Monitoring and Evaluation (M&E).**

- a. **Common M&E Framework.** The AMP Regional Project will develop, with inputs from national projects, a common M&E framework with SMART indicators to ensure that the program is able to track progress toward its overarching objective. This common M&E framework will include both the Results Framework indicators as well as additional Key Performance Indicators (KPIs) which will be adopted by the national projects to track progress toward project and program objectives (i.e. minigrid cost-reduction).

The project will thereafter provide on an annual basis (and to the extent feasible if requested on an ad-hoc basis) the following M&E information to the AMP regional project staff: (a) Standard reporting on all indicators in the results framework; and (b) Reporting on all additional Key Performance Indicators (KPIs) adopted by the project under the common M&E framework.

b. **Operational support for national project M&E activities.** The AMP Regional Project will provide support to the project, through its PMU staff or by hiring or recommending subject matter experts, for the project to execute M&E activities such as the inception workshop, ongoing monitoring, and project evaluations. Further details provided in Section VI. MONITORING AND EVALUATION (M&E) PLAN.

Under Component 4, the AMP will also develop A ?Mini-grids Digital Platform? implemented to run tenders and manage data from pilot(s), and to support mini grids scale-up and cost-reduction. The project digital platform will provide key functionality for the project in terms of acting as the (i) national digital convening platform for key stakeholders (public/private), (ii) providing ongoing data gathering and M&E on minigrids, including linking to the AMP regional project and (iii) acting as the mechanism for tenders for minigrad developers/sites. The indicative specifications for the Project's Digital Platform are presented in the following table.

Functionality	Details
National digital convening platform for key stakeholders	? Set up of a country-specific, web-based platform to manage all technical and financial data related to minigrad sites at the site and portfolio level
	? Single site register of minigrad sites, with geospatial views and technical/financial benchmarks for site assessment
	? Set of best-in-industry tools for analyzing minigrads, including demand forecasting, minigrad system design and optimization, and financial modeling
	? Capacity-building and in-depth training of key government and other stakeholders to use analytical tools and data management technologies
National monitoring and evaluation platform (remote monitoring & analytics)	? Direct integration with smart meters and remote monitoring systems for live data feeds and monitoring (with options to address lack of remote monitoring systems or other restrictions)
	? Big data analytics and customized reporting to calculate and report on standardized metrics for pilot performance, based on project QAMF
	? Quality assurance of data quality, accuracy, relevance, consistency
	? Interactive tools to analyze data, filter, and view at varying levels of granularity
	? All pilot-specific data can be rolled up into national view, and all country-specific data can be rolled-up into regional view

Functionality	Details
Financing platform for running tenders to select minigrid pilot beneficiaries	? Complete end-to-end management of e-tenders for mini-grids customized to specific project/pilot needs (e.g. customized technology solutions, customized workflow, customized KPIs for pilot monitoring)
	? Automated proposal analysis for quantitative proposal components
	? Remote verification of connections through smart meter integrations
	? Automated M&E analytics for all RBF program indicators (connections deployed, amounts paid, gender/environmental impact metrics, etc.)

To overcome the COVID restrictions, many of the tools developed under the Knowledge Management (KM) system will take the form of online portals, reducing in-person contact and ensuring the work can proceed in case there continues to be restrictions on mobility during project implementation. More details on the deliverables, timeline and budget for the KM scope of project implementation are presented in the Results Framework and M&E plan under Component 4.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

In addition, the project will provide (on a bi-annual/annual basis and to the extent feasible if requested on an ad-hoc basis) the following M&E information to the AMP Regional Project staff:

? Standard reporting on all indicators in the results framework for aggregation and reporting to GEFSEC (by the regional project) on the impacts of all participating national ?child? projects for the program as a whole.

Reporting on all additional Key Performance Indicators (KPIs) adopted by the project.

Monitoring and Evaluation Plan and Budget:		
This M&E plan and budget provides a breakdown of costs for M&E activities to be led by the Project Management Unit during project implementation. These costs are included in Component 4 of the Results Framework and TBWP. For ease of reporting M&E costs, please include all costs reported in the M&E plan under the one technical component. The oversight and participation of the UNDP Country Office/Regional technical advisors/HQ Units are not included as these are covered by the GEF Fee.		
GEF M&E requirements	Indicative costs (US\$)	Time frame
Inception Workshop	5,000	Within 60 days of CEO endorsement of this project.
Inception Report	None	Within 90 days of CEO endorsement of this project.
M&E of GEF core indicators and project results framework	Zero, as M&E of GEF core indicators is part of PIR or MTR and TE	Annually and at mid-point and closure.

GEF Project Implementation Report (PIR)	Zero, as GEF PIRs are prepared by the M&E specialist and Project Manager as part of their TORs	Annually typically between June-August.
Monitoring of environmental and social risks, and corresponding management plans as relevant, i.e. fees for SES and Gender Officer(s)	10,000 (2,500 per year)	On-going
Implementing the GRM and addressing environmental and social grievances	6,000 (1,500 per year)	On-going
Supervision missions	None	Annually
Independent Mid-term Review (MTR)	70,000	01/03/2024
Independent Terminal Evaluation (TE)	70,000	01/01/2026
TOTAL indicative COST	USD 161,000	

In addition, the project will provide (on a bi-annual/annual basis and to the extent feasible if requested on an ad-hoc basis) the following M&E information to the AMP Regional Project staff:

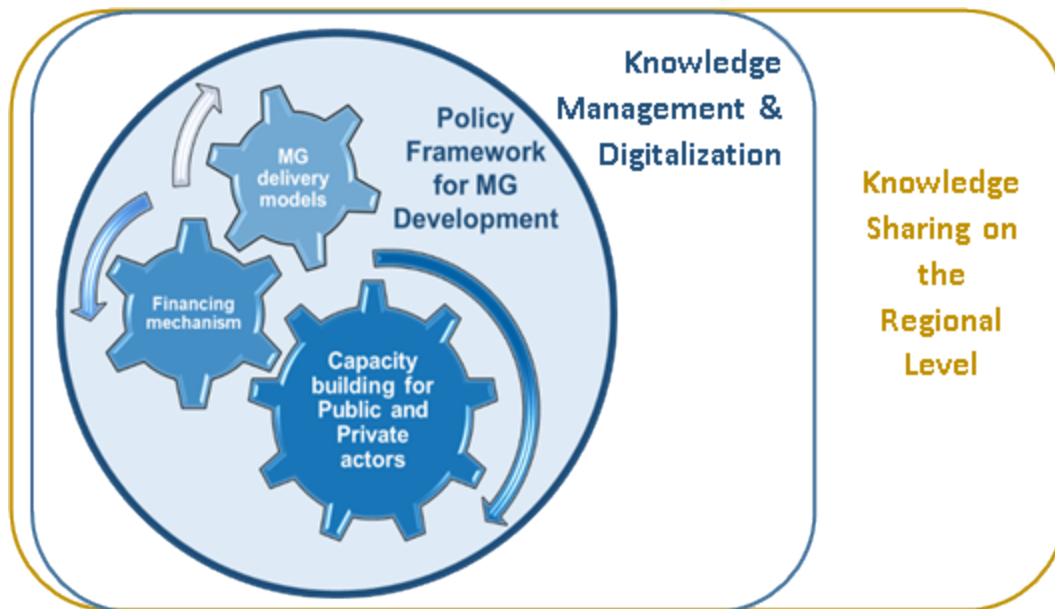
? Standard reporting on all indicators in the results framework for aggregation and reporting to GEFSEC (by the regional project) on the impacts of all participating national ?child? projects for the program as a whole.

? Reporting on all additional Key Performance Indicators (KPIs) adopted by the project.

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

The objective of the AMP in Somalia is ?Supporting access to clean energy by increasing the financial viability, and promoting scaled-up commercial investment, in low-carbon mini-grids in Somalia, with a focus on cost reduction levers and innovative business models?. Given the domination of ESPs on the mini grid market in Somalia, the keywords in the objective statement are ?clean energy? and ?cost-reduction?, i.e. the project aims to increase the market competitiveness of ?solar PV? mini-grid systems. To address baseline challenges and achieve the overall objective, the project design involves a collaborative strategy revolving around two central ideas: (1) Promoting digital transformation as an essential ingredient for creating an enabling environment for scaled-up investment in mini grid hybridization, and (2) Institutionalizing capacity building, stakeholder engagement, and the financial mechanisms targeting the shift from diesel to solar PV in the mini grid sector. These central ideas have influenced the contextualization of the components, outcomes, and outputs introduced by the AMP in the Program Framework Document (PFD), such that the AMP in Somalia is aligned with the AMP Regional Project design, yet sensitive to the national context and needs. The following figure captures the four elements shaping the proposed strategy for the AMP in Somalia, and the overarching Knowledge Management (KM) and digitalization targets on the national and regional levels.



Overview of the proposed design for the AMP in Somalia

The project has numerous socioeconomic benefits, at the national, local and individual household levels, as listed specifically below.

At the national level the project:

- Helps increase access to off-grid electricity, thus relieving the burden on the government and allowing it to meet the increasing demand sooner without large investments in infrastructure.
- Reducing the amount of fuel needed for power generation from diesel-powered mini-grids.
- Increased vocational training for renewable energy as well as installers and contractors who will do the work.
- Of course, reduction of CO₂ emissions as a direct result of reduced reliance on fossil fuel for energy.

At the local level:

- Reduced fuel combustion in diesel generators will result in reduced air pollution and reduced particulate matter, resulting in better health for the local population.
- Reduced need for fuel transport to support mini-grids also means reduced congestion, fire and explosion hazards, and further reduced pollutants.

At the individual house-hold level:

- Reduced operational cost for ESPs will enable service provision at lower costs, hence lower tariffs leaving additional income at households for other matters.

- Improved stable access to clean energy is the starting point for households to become more comfortable and enables better adoption of modern technology for different purposes. This is becoming more crucial in light of the COVID-19 pandemic and the necessity for family members to work from home or attend online classes.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification *

PIF	CEO Endorsement/Approval	MTR	TE
High or Substantial			

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

There are 21 potential risks have been identified for this project, 12 are assessed as MODERATE and 9 are Substantial so the overall risk is Substantial. More detail is provided in SESP document.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
ANNEX 10 - ESMF for 10 UNDP AMP Child Projects_06Oct2021_clean (4)	CEO Endorsement ESS	

Title	Module	Submitted
PMIS 6328 ANNEX_06-SESP - SOMALIA_resub 19Sept2021 clean	CEO Endorsement ESS	
PMIS 6328 ANNEX_06-SESP - SOMALIA_clean and cleared	CEO Endorsement ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

<p>This project will contribute to the following Sustainable Development Goal(s): <u>SDG 7:</u> Ensure access to affordable, reliable, sustainable, and modern energy for all. SDG 7.1 By 2030, ensure universal access to affordable, reliable, and modern energy services; and SDG 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix. <u>SDG 13:</u> Take urgent action to combat climate change and its impacts. <u>SDG 5:</u> Achieve gender equality and empower all women and girls.</p>				
<p>This project will contribute to the following country outcome (UNDAF/CPD, RPD, GPD): <u>UNSDCF Outcome 3.2, Output 3.2.4:</u> The capacity of public and private (for-profit and non-profit) organizations is strengthened to expedite the growth of the information and communications technology (?digital economy?) and renewable energy sectors. <u>CPD Output 3.3:</u> Enhanced access to clean, affordable, and sustainable energy for economic growth. <u>NDP-9, Pillar-3:</u> Economic Development.</p>				
	<p>Objective and Outcome Indicators (no more than a total of 20 indicators)</p>	<p>Baseline</p>	<p>Mid-term Target</p>	<p>End of Project Target</p>
<p>Project Objective: Supporting access to clean energy by increasing the financial viability, and promoting scaled-up commercial investment, in low?carbon mini?grids in Somalia, with a focus on cost?reduction levers and innovative business models.</p>	<p><u>Mandatory Indicator 1: GEF Core indicator 6</u> GHG emissions mitigated (metric tons of carbon dioxide equivalent (tCO₂e))</p>	<p>Zero, since the project has not yet started</p>	<p>Zero, since the pilot project(s) is not yet commissioned</p>	<p>Direct: 29,577 tCO₂eq Indirect: 891,000 tCO₂eq</p>
	<p><u>Mandatory Indicator 2: GEF Core indicator 11</u> Number of direct beneficiaries benefitting from clean, affordable and sustainable energy access via mini-grids, disaggregated by gender and by customer segment (residential, social, commercial/productive use) (number of people)</p>	<p>Zero, since the project has not yet started</p>	<p>Zero, since the pilot project(s) is not yet commissioned</p>	<p>66,670 people (of which 50% women) ----- 65,570 people (residential) 210 people (social) 710 people (commercial/PUE) 66,670 people (total) --- 13,150 connections (residential) 53 connections (social) 237 connections (commercial/PUE) 13,440 connections (total)</p>
	<p><u>Indicator 3: GEF Core indicator 6.4</u> Increase in installed solar PV capacity (MW) and battery storage (MWh)</p>	<p>Zero, since the project has not yet started</p>	<p>Zero, since the pilot project(s) is not yet commissioned.</p>	<p>Solar PV: 2.116 MW Battery storage: 3.300 MWh</p>

	<i>Indicator 4:</i> Number of local residents trained in different aspects of mini-grid development and operation (e.g. sales, distribution, operations, management) disaggregated by gender (number of people)	Zero, since the project has not yet started	Female: 60 Male: 90 Total: 150 persons	Female: 120 people Male: 180 people Total: 300 people
Project component 1	Policy and regulation			
Outcome 1 Stakeholder ownership in a national mini-grid delivery model is advanced, and appropriate policies and regulations are adopted to facilitate investment in low-carbon mini-grids.	<i>Indicator 5: A minigrid delivery model to enable minigrid development is endorsed/adopted by the national government through a consultative process involving key stakeholders (e.g. relevant ministries, local authorities, rural populations, private sector, media, etc.) (binary (1/0))</i>	Zero, since the project has not yet started	One Multi-stakeholder national dialogue platform on minigrid delivery models established and active.	At least one minigrid delivery model is identified and endorsed by the government through the work of the multi-stakeholder platform and dialogue.
	<i>Indicator 6:</i> Number of policy derisking instruments[1] for minigrid investments - whose development has been supported by the project - are endorsed/adopted by the national government (number of policy derisking instruments)	Zero, since the project has not yet started	One policy derisking instrument.	Two policy derisking instruments.
	<i>Indicator 7:</i> Online tools for digital transformation of the mini-grid sector are selected and adopted through a consultative process involving key stakeholders (e.g. relevant ministries, local authorities, rural populations, private sector, media, etc.)	Limited capacity for monitoring and regulation	Online tools are selected and consensus among public and private parties is achieved on their adoption as part of the proposed digital transformation activities.	The selected online tools are adopted and staff members in public authorities, including women, are capacitated to utilize them for sector monitoring.

Outputs to achieve Outcome 1	<p>1.1. An inclusive national dialogue to identify mini-grid delivery models is facilitated, clarifying priority interventions for an integrated approach to off-grid electrification.</p> <p>1.2. Mini-grid DREI techno-economic analyses carried out to propose most cost-effective basket of policy and financial de-risking instruments and contribute to AMP Flagship Report on cost reduction.</p> <p>1.3. Mini-grid policies and regulations, including tariff model and incentives, are operationalized through digital transformation support, in collaboration with the authorities and other development partners.</p> <p>1.4. Institutional setup for rural electrification assessed and supported, and institutional capacity building provided on technical, managerial, and regulatory issues.</p> <p>1.5. Quality standards for solar and hybrid mini-grid components domesticated, and institutional capacity of Somali Bureau of Standards (SBS) and Somaliland Quality Control Commission (SQCC) strengthened.</p>			
Project component 2	Business Model innovation with private sector engagement			
Outcome 2 Innovative business models based on cost reduction operationalized, with strengthened private sector participation in low-carbon mini-grid development.	<i>Indicator 8:</i> Number of mini-grid pilot(s) implemented that demonstrate a delivery model, cost-reduction measure(s) and/or productive use of electricity (including data on the installed capacity, location coordinates, and commissioning date)	Zero, since the project has not yet started	The project's detailed design plan (the ?Minigrid Pilot Plan?) for advancing the minigrid pilots is developed, and cleared by UNDP and the Project Board. Any project tendering process, as applicable, for minigrid pilots is launched.	100% of the planned minigrid pilots, as identified in the project's Minigrid Pilot Plan, are commissioned.

	<p><i>Indicator 9:</i> Capacity of mini-grid developers and/or operators is enhanced to implement innovative business models and incorporate cost-reduction levers in mini-grid projects</p>	<p>ESPs have limited technical and operational capacity</p>	<p>Planned capacity building activities for year 1 and 2 are implemented, in both Somalia and Somaliland.</p> <p>The capacity of targeted recipients is assessed by survey towards the end of year 2. On a scale of 1 to 5, an average score of at least 2 is achieved.</p> <ul style="list-style-type: none"> - 1 represents a low level of capacity - 5 represents a strong capacity to understand relevant issues and apply knowledge and skills to find effective solutions. 	<p>Planned capacity building activities for year 3 and 4 are implemented, in both Somalia and Somaliland.</p> <p>The capacity of targeted recipients is assessed by survey towards the end of the project. On a scale of 1 to 5, an average score of at least 4 is achieved.</p> <ul style="list-style-type: none"> - 1 represents a low level of capacity - 5 represents a strong capacity to understand relevant issues and apply knowledge and skills to find effective solutions.
<p>Outputs to achieve Outcome 2</p>	<p>2.1. Pilot(s) developed using innovative business models through calls for proposals based on lessons learned from the operationalization of the SREF under ESRES2 and the results of the geospatial mapping under SEAP.</p> <p>2.2. Public programmes (apprenticeships, certificates, university programs) to develop competitive, skilled labor market in the design, O&M, and management of solar and hybrid mini-grids, including technical training on the utilization of online tools for performance monitoring, consumption tracking and billing.</p> <p>2.3. Support provided to establish, grow and capacitate national industry associations for private sector developers and ESPs.</p>			
<p>Project component 3</p>	<p>Scaled-up financing</p>			

<p>Outcome 3 Financial sector actors are ready to invest in a pipeline of low-carbon mini-grids and concessional financial mechanisms are in place to incentivize scaled-up investment.</p>	<p><i>Indicator 10:</i> Capacity of financial institutions is enhanced through training, knowledge sharing, and/or awareness raising events aimed at increasing the financial sector's capacity to evaluate investments in mini-grids</p>	<p>Domestic financial institutions are not involved in mini-grid funding</p>	<p>Planned capacity building activities for year 1 and 2 are implemented, in both Somalia and Somaliland.</p> <p>The capacity of targeted recipients is assessed by survey towards the end of year 2. On a scale of 1 to 5, an average score of at least 2 is achieved.</p> <ul style="list-style-type: none"> - 1 represents a low level of capacity - 5 represents a strong capacity to understand relevant issues and apply knowledge and skills to find effective solutions. 	<p>Planned capacity building activities for year 3 and 4 are implemented, in both Somalia and Somaliland.</p> <p>The capacity of targeted recipients is assessed by survey towards the end of the project. On a scale of 1 to 5, an average score of at least 4 is achieved.</p> <ul style="list-style-type: none"> - 1 represents a low level of capacity - 5 represents a strong capacity to understand relevant issues and apply knowledge and skills to find effective solutions.
	<p><i>Indicator 11:</i> Number of government or impact investor-supported financing mechanisms offering concessional finance for low-carbon mini-grids</p>	<p>Diaspora and small investors are not heavily involved in mini-grid funding</p>	<p>At least one complementary funding instrument is designed to support the participation of the diaspora and small investors in existing financing mechanisms.</p>	<p>Two ESPs in Somalia and two in Somaliland have managed to obtain finance for low-carbon mini grid projects from the diaspora or small investors.</p>
<p>Outputs to achieve Outcome 3</p>	<p>3.1. Design support, including development of operational guidance, for a complementary funding instrument through which the diaspora and small investors can participate in existing financing mechanisms that have been introduced by other development partners to facilitate finance for vetted mini-grid projects.</p> <p>3.2. Domestic financial sector capacity building on business and financing models for mini-grids.</p>			
<p>Project component 4</p>	<p>Digital, Knowledge Management (KM) and Monitoring and Evaluation (M&E)</p>			

<p>Outcome 4 Digital and data are mainstreamed, across stakeholders, into local mini-grid market development. Increased knowledge, awareness and network opportunities in the mini-grid market and among stakeholders, including benefitting from linkages to international good practice.</p>	<p><i>Indicator 12:</i> A project digital strategy for the project is prepared and implemented by the PMU to contribute to project implementation and local minigrid market development</p>	<p>No progress, since the project has not yet started</p>	<p>Digital strategy is prepared, in consultation with public and private parties, and close collaboration with the CoPs led by the AMP Regional Project.</p>	<p>The strategy is implemented and staff members in public authorities, including women, are capacitated to utilize the associating tools and reporting procedure.</p>
	<p><i>Indicator 13:</i> Number of mini-grid pilot(s) sharing data on mini-grid performance with the regional project and other stakeholders following best practices and guidance provided by the AMP Regional Project</p>	<p>Zero, since the project has not yet started</p>	<p>The project's digital platform is procured and operational, ready for data collection and managed with (i) the project's mini-grid pilot(s) and (ii) the AMP regional project's digital platform.</p>	<p>100% of the planned minigrid pilots, as identified in the project's Minigrid Pilot Plan, are collecting and sharing data with the project's digital platform</p>
<p>Outputs to achieve Outcome 4</p>	<p>4.1. A project Digital Strategy is developed and implemented, including linkages to and following guidance from, the AMP Regional Project. 4.2. Mini-grids digital platform implemented to run tenders and manage data from pilot(s), and to support mini-grids scale-up and cost-reduction. 4.3. A Quality Assurance and Monitoring Framework (QAMF) for measuring, reporting and verification of the sustainable development impacts of all mini-grid pilot(s) supported, including GHG emission reductions, is adopted and operationalized based on standardized guidance from the AMP Regional Project. 4.4. M&E and Reporting, including (i) Conducting inception workshop and preparing report, (ii) Ongoing M&E, (iii) Mid-term Review (MTR), and (iv) Terminal Evaluation (TE). 4.5. Engage with the AMP Regional Project, including, but not limited to, via (i) Participating in Communities of Practice (CoPs), and (ii) Capturing and sharing lessons learnt.</p>			

[1] A list of policy derisking instruments can be found in the Derisking Table found in the "DREI: Off-Grid Electrification" (UNDP, 2018) report. As an illustration, example policy derisking instruments can include: off-grid planning/site mapping; mini-grid policies/regulations/tenders; grid service and technical standards; awareness campaigns; technical skill building programs.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Compilation of Comments submitted by Council Members of the GEF December 2019, Work Program. Regional project, GEF 7 Africa Mini-grids Program, UNDP (GEF Program Financing: \$24,235,308) (GEF ID: 1043).

Table 1: Council Comments and Responses

Comment & Response	Reference
Council Comments (Germany):	

Comment & Response	Reference
<p><u>1. Comment:</u> <i>"Germany requests that the risk and co-financing sections of the document are revised to provide more information about how the project implementers intend to mobilize the proposed finance and what alternatives will be pursued in the event of delays or changes to the indicative funds. With around 344 Mio. USD, provided by 51 financiers, a well-managed and guaranteed flow of co-financing will be crucial to the project's success. However, at this stage, co-financing sources and amounts are still indicative, thereby giving no assurance that finances will be made available."</i></p> <p><u>Response:</u></p> <p>Indeed, co-financing and partnerships with the private sector and capital providers will be critical to the program's success. During the PPG phase, discussions with co-financiers have been deepened and formalized. Details on this have been captured on this in both the CEO endorsement requests and project document.</p> <p>Measures to ensure that co-financing materializes will be addressed as follows, at the regional project and national project level:</p> <p><u>Regional project measures:</u></p> <p>(i) The AMP regional project will, as part of its monitoring activities under Component 5, track overall co-financing for the program, including co-financing for the regional project as well as for national projects. As per the regional project's Stakeholder Action Plan (Annex 8), the regional project will be in a position to identify new sources of co-financing as a mitigation action for any of the sources confirmed at CEO Endorsement stage that do not materialize during implementation.</p> <p>(ii) UNDP is part of the Minigrad Funders Group (MGF), which represents the main donors and development agencies active in minigrads, which will provide a mechanism to coordinate with other key funders in the minigrads sector.</p> <p>(iii) UNDP's oversight team for the regional project, and the regional project's PMU, will monitor the realization of co-financing on an annual basis in the GEF PIR, and in the mid-term and terminal evaluation.</p> <p>(iv) The regional project's Board is tasked in its TOR with tracking and monitoring co-financing.</p> <p><u>Somalia national project measures.</u></p> <p>(i) UNDP's Country Office, and the national project's PMU, will monitor the realization of co-financing on an annual basis in the GEF PIR, and in the mid-term and terminal evaluation.</p> <p>(ii) The national project's Board is tasked in its TOR with tracking and monitoring co-financing.</p> <p>(iii) During the PPG phase, stakeholder consultations have been conducted including with private sector players to ensure their engagement from the very beginning. Various players have expressed their will and potential concrete measures to support the success of the AMP project.</p> <p>(iv) The UNDP's Country Office will also stimulate confirmed co-financiers to materialize their commitments and identify other co-financing opportunities related to new projects and other players</p>	<p>Somalia CEO endorsement request: Part II, Somalia national project document: Part IV.</p> <p>Regional project document: Section IV. RESULTS AND PARTNERSHIPS: - Description of Component 5); - Key Risks (Table 9)</p> <p>Somalia CEO endorsement request: Part II and Part II. Somalia national project document: Annex 7 UNDP Risk Register Part IV. Results & Partnerships</p>

Comment & Response	Reference
<p><u>2. Comment:</u> <i>"Germany requests clear identification of relevant stakeholders for all countries and all program components, including regional and national agencies, technical stakeholders (implementation phase), strategic partners and relevant companies for e.g. capacity building. The program includes 11 African countries and numerous stakeholders. For some countries, relevant ministries and relevant technical implementation partners have been appointed, for others not."</i></p> <p><u>Response:</u></p> <p>All relevant stakeholders have been identified for Somalia and included in the project document's comprehensive Stakeholder Engagement Plan.</p> <p>[Stakeholders identified as partners and potential partners are also highlighted in project document, [Section IV]]</p> <p>Somalia AMP project uses a DIM modality, so the Executing Agency/implementing partner is the UNDP Country Office.</p>	<p>Somalia CEO endorsement/ approval request document: - Part II, Section 6 - Institutional Arrangement and Coordination</p> <p>Somalia Project document: Part IV. Results & Partnerships</p>

Comment & Response	Reference
<p>3. Comment: <i>"Germany requests a breakdown of component 2 activities, including more details on the project approach under Component 2. A large part of the program's allocated funding is for investments in this component (49% of total budget). However, the activities in this component are not sufficiently described. Given the importance to the project outcomes, Germany would also recommend further describing how project activities contribute to the project's overall theory of change."</i></p> <p>Response:</p> <p><u>Somalia National project:</u></p> <p>Component 2 activities, which include GEF INV for minigrid pilots, for the AMP in Somalia are comprehensively described in the project document, Section IV, RESULTS AND PARTNERSHIPS.</p> <p>The contribution of the respective components to the national project's theory of change has been detailed in the project document Section III, strategy, immediately following the TOC diagram.</p> <p><u>Regional project.</u></p> <p>At the program level, the contribution of minigrid investment pilots to the program's overall TOC has been further explained in the Strategy Section of the AMP Regional project document as follows:</p> <p><i>?Minigrid investment pilots contribution to the Program's TOC: National Projects include funds, under Component 2 (Business model innovation and private sector), for supporting minigrid investment pilots seeking to demonstrate innovative business models and cost-reduction opportunities. Minigrid pilots have a key role within AMP by contributing to demonstrate cost-reduction which can be leveraged to improve the financial viability of renewable energy minigrids. Minigrid pilots are aligned with one or more of the three key areas of opportunity mentioned above by demonstrating: (i) a particular delivery model or elements of a delivery model around which the government wishes to build capacity and engage with minigrid developers; (ii) productive uses of electricity and their potential to reduce costs and enable minigrid development at scale; and/or (iii) opportunities around digitalization and the use of data for minigrid cost reduction. Feedback loops to other national project activities (e.g., national dialogues, capacity building) and with the AMP Regional Project (e.g. Community of Practice) are intended to actively disseminate the learnings from the pilots to inform both the policy and regulatory environment as well technical capacity building.?</i></p>	<p>Somalia CEO endorsement/ approval request document, Part II</p> <p>Somalia National project document: Section IV. Results and Partnerships, Somalia national project document, Section III. Strategy.</p> <p>Regional Project Document: Section III. STRATEGY</p>

Comment & Response	Reference
<p>4. Comment: <i>"Experiences with implementing mini-grids in Africa have proven that high financial costs are linked to high financial risks in local markets. The proposal considers the risk, but Germany recommends that special attention should be given to financial risk reduction and risk-hedging approaches. The risk section should be revised accordingly.</i></p> <p><i>The lack of skilled technical staff is a further risk that requires greater consideration. Germany recommends a greater focus on capacity building for skilled technicians."</i></p> <p>Response: Effectively and efficiently addressing investment risks will be key to transforming local minigrad markets. AMP's design - both at national and regional project levels - will use UNDP's innovative Derisking Renewable Energy Investment (DREI) framework to identify, quantify and then target the underlying risks that are driving high financing, investment and operation costs. The DREI framework facilitates selection from a menu of possible policy and financial derisking instruments which can then reduce, transfer or compensate for these risks. Following the performance of a DREI techno-economic analyses in Somalia in year 1, in Output 1.2. findings can then shape follow-on project and partner activities. Lessons learnt at national level in each country will be aggregated into regional knowledge products by the AMP Regional Project and disseminated widely. In the risk section, issues and mitigation measures related to financing risks are detailed.</p>	<p>Somalia CEO endorsement/ approval request document: Part II.</p> <p>Somalia national project document: - Section II ? Development Challenge - Section IV. Results and Partnerships. - Annex 7 UNDP Risk Register</p>
Council Comments (Norway/Denmark):	
<p>5. Comment: <i>"USD 1,303,576 is budgeted for Program Management Cost (i.e. ca. 5%) presumably for implementing the various components"</i></p> <p>Response: Comment targeted at program level and addressed in the regional project response. Details of Somalia AMP co-financing, fees and Project Management Costs are included in the documents.</p>	
<p>6. Comment: <i>"USD 2,181,178 in addition is requested from the UNDP, i.e. ca. 8.3% - is this on top of the fee above? "</i></p> <p>Response: Comment targeted at program level and addressed in the regional project response. Details of Somalia AMP co-financing, fees and Project Management Costs are included in the documents.</p>	

Comment & Response	Reference
<p>7. Comment: <i>"Estimated co-financing is USD 344,310,000 ? of this only about USD 95 mill is loans (from WB, GCF, AfDB and GIZ), or ca. 28%. This is to be expected as there are still not strong business models for mini-grids without significant grant financing. "</i></p> <p>Response: Agreed. Minigrids still require grant financing and concessional lending which is why the co-financing sources identified for AMP include a mix of grants and loans with loans representing a smaller fraction of the total co-financing.</p>	
<p>8. Comment: <i>"Output 2.1 stipulates that ?Pilots developed, including on productive use/innovative appliances and modular hardware/system design, leading to cost-reduction in mini-grids? ? are there not a lot of lessons that can be gained from existing mini-grid programs now? "</i></p> <p>Response: While the program builds on lessons learned from previous projects and programs, minigrid markets in many countries overall remain immature, and there is a strong need for continued piloting of minigrids. The emphasis for minigrid pilots (Output 2.1) will be on piloting and showing proof-of-concept business models.</p> <p>To provide a better recount of lessons learned the program builds off from, a section on lessons learned has been added to regional project document, section III Strategy.</p>	<p>Regional Project Document: Section III. STRATEGY</p>
<p>9. Comment: <i>"Output 3.3 ?General market intelligence study on minigrids prepared and disseminated amongst public officials and finance community? ? how will this be different from existing market intelligence, for example: o https://www.esmap.org/mini_grids_for_half_a_billion_people o https://eepafrica.org/wpcontent/uploads/EEP_MiniGrids_Study_DigitalVersion.pdf o https://www.reeep.org/mini-grid-development-africa There is also at least one existing ?community of practice?: o http://ledsgp.org/community/africa-mini-grids-community-ofpractice/?loclang=en_gb</i></p> <p><i>Similarly, how will the knowledge tools (4.1) be different from/build on others?"</i></p> <p>Response: <u>National Market Intelligence Studies.</u> [This comment is not applicable to Somalia, as it does not have this output.</p> <p><u>Regional project: Knowledge tools</u></p> <p>- Comment targeted at program level and addressed in the regional project response.</p>	

Comment & Response	Reference
<p>10. Comment: <i>"How will the implementers ensure that markets are not undermined? There are currently several minigrids invested in by commercial actors (e.g., Norfund in Madagascar - https://www.norfund.no/newsarchive/lighting-up-madagascar) and the program should provide assurances that it will not undermine markets through (overly) subsidized new minigrids (e.g., if a few villages are connected to a minigrid which has been commercially invested in and pay a relatively high tariff, it can lead to discontent if another few nearby villages are connected to a new mini-grid that due to a higher level of grant financing pay a lower tariff)."</i></p> <p>Response:</p> <p><u>Risk of overly subsidization of new minigrids.</u></p> <p>In order to risk any over subsidization, the level of subsidy that will be applied to GEF ?Investment? (INV) funds will be based on a minimum concessionality principle. This principle can be achieved methodologically in different ways, for example by ensuring LCOE parity with a reference tariff; or based on willingness/ability to pay (which may be determined by a study during implementation). Such methodological assessments will be part of an overall package of financial due diligence/assessments that will be performed during the tender process to select recipients of pilot support.</p> <p>Each project?s CEO endorsement/approval request document (and UNDP Project Document) elaborates on this principle and establishes the need for each national project to develop, in close collaboration with other stakeholders and support from the AMP Regional Project, a detailed project plan (the project?s ?Minigrid Pilot Plan?) for advancing the minigrid pilot(s). Among other key aspects, the project?s Minigrid Plan Pilot Plan will determine the project?s approach to ensure minimal concessionality for the level of GEF INV support to the pilot(s). The project?s Minigrid Pilot Plan will first be reviewed for clearance by UNDP (CO and BPPS NCE), and then shared with the Project Board.</p> <p><u>Potential social discontent on tariffs.</u></p> <p>Even when avoiding the risk of over subsidization of minigrid pilots by applying the minimum concessionality principle, there is a possibility that new minigrids have lower tariffs than existing minigrids which were developed with a lower grant element and/or in general incurred in relatively higher costs. As minigrids scale, and costs decline over time, electricity tariffs (particularly cost-reflective electricity tariffs) are expected to decline as well.</p> <p>Mitigation for this risk comes from the systematic national dialogue that national projects will promote and support under Component 1, concretely under Output 1.1. ?An inclusive national dialogue to identify minigrid delivery models is facilitated, clarifying priority interventions for an integrated approach to off-grid electrification?. Results from activities implemented in parallel under the other outputs will loop their respective (pre-)results back into the national dialogue discussions. This will include, but not be limited to, activities which can shed light on trends and progress regarding minigrid cost reduction, and the interplay between subsidies and electricity tariffs.</p>	<p>Somalia CEO endorsement/ approval request document: - Part II</p> <p>Somalia national project document: Section IV. Results and Partnerships.</p> <p>Somalia CEO endorsement/ approval request document: - Part II.</p> <p>Somalia national project document: Section IV.</p>

Comment & Response	Reference
Council Comments (Canada):	
<p>11. Comment: <i>"Mini-grids can have important impacts on development, including on energy access, agriculture, health and education. It would be interesting if the project could explore opportunities to make further linkages with rural development programs."</i></p> <p>Response:</p> <p>Indeed, energizing productive uses of energy in rural communities unlocks agricultural value and rural economic development that initiates a virtuous cycle of growth: increased and more predictable demand for electricity that improves the viability of minigrid operations, lowers the costs of supply and in turn improves affordability and gives more people access.</p> <p>In Somalia, it is a fact that tariffs applied in rural areas are among the highest in the world, reaching 1 USD/kWh in some areas making it unaffordable for the majority of a population. The work of the AMP project on regulations and enabling environment will help reduce the high tariffs.</p>	<p>Somalia CEO endorsement/ approval request document: - Part II.</p> <p>Somalia national project document: Section IV</p>
<p>12. Comment: <i>"The minigrids program has value for engagement where there are market failures, and there should be entry points for the private sector.</i></p> <p><i>The project is also well-aligned with Ethiopia's Growth and Transformation Plan and its objective of ?Building Climate Resilient Green Industry? and ?Expanding Energy Infrastructure and Ensuring its Quality?.</i></p> <p>Response:</p> <p>We agree with this statement. AMP seeks to scale commercial and private investment in minigrids. Market failures will be identified and addressed.</p> <p>The design and activities of AMP Somalia seeks to create multiple entry points for the private sector. This includes several outputs of the project.</p>	<p>Somalia CEO endorsement/ approval request document: - Part II.</p> <p>Somalia national project document: Section IV.</p>
Council Comments (United States):	

Comment & Response	Reference
<p>13. Comment: <i>"The proposal addresses social acceptance risk but offers the use of policy and financial de-risking measures as a way to reduce cost, thereby increasing social acceptance risk. It does not address the value of messaging or public promotions and education campaigns to lower that risk further. Also, the program mentions working groups, but does not elaborate on make-up of the groups or state a commitment that the working groups will include representatives from local and community consumer and user stakeholders. Reviewers suggest a mechanism to ensure these groups include consumer stakeholders, indigenous representatives, and local authorities to educate and seek input on unexpected effects or consequences of the project at the local level."</i></p> <p>Response: AMP Somalia has considered risks arising from lack of awareness and resistance to renewable energy and minigrids in communities, among other risks driving high costs for minigrid development. Social acceptance issues are usually due to due to unfamiliarity with electricity and renewable energy sources; misinformation/perceptions and lack of awareness for mini-grid offerings; resistance from incumbent businesses (e.g., diesel-based generation) and users (e.g., SHS), which can get disrupted by minigrids.</p> <p>AMP Somalia seeks to address this risk by engaging and consulting with a diverse array of stakeholders, including representatives from local and community consumer and user stakeholders as per the Stakeholder Engagement Plan. In addition, salient among opportunities to engage and consult with representatives from local and community consumer and user stakeholders, is the national dialogue on delivery models Output 1.1.</p>	<p>Somalia CEO endorsement/ approval request document: Part II.</p> <p>Somalia national project document: - Section IV.</p>

Comment & Response	Reference
<p>14. Comment: <i>"Finally, the program will promote a value chain approach to technology transfers that will integrate local labor and local industries / service providers in the development of solar PV-battery minigrids. Reviewers note that monitoring the value chain periodically to ensure sufficient local integration (or make the necessary adjustments) will be important to the success of the project. GEF may want to consult with experts at the U.S. Department of Energy's Office of Electricity, which works with U.S. state and local electricity officials and industry groups, to share data and best practices"</i></p> <p>Response: Local labor and industries, together with local private sector developers and service providers, will be a key element in the long-term viability and sustainability of the minigrid market in Somalia.</p> <p>At the regional project level, component 1 'Knowledge Tools' will curate and disseminate materials and reports detailing examples of good practice in this area. The work developed by the U.S. Department of Energy's Office of Electricity, with U.S. state and local electricity officials and industry groups, is one of the resources that will be leveraged for this purpose.</p> <p>In addition, supply chain actors and the private sector are stakeholders that will participate as members of the AMP community of practice and benefit from South-South cooperation, knowledge sharing, identifying common challenges, and reviewing outputs of the AMP.</p>	<p>Somalia CEO endorsement/ approval request document: - Part II Somalia national project document: - Section IV</p>

Table 2: STAP Comments and Responses

Comment & Response	Reference
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Comment & Response	Reference
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1. Comment:

Mini-grids have much potential to bypass old development pathways for electrification. However, there is also growing literature on their pitfalls, which should be addressed. As with other GEF project proposals, more effort is needed to engage with the peer-reviewed literature on the topics. Examples of literature in this genre include:

Mini-Grids for the Base of the Pyramid Market: A Critical Review
(<https://www.mdpi.com/1996-1073/11/4/813>);

Mini-grid based off-grid electrification to enhance electricity access in developing countries: What policies may be required?
(<https://www.sciencedirect.com/science/article/pii/S0301421516301781>);

Rethinking the sustainability and institutional governance of electricity access and mini-grids: Electricity as a common pool resource
(<https://www.sciencedirect.com/science/article/pii/S2214629617303638>);

Institutional Innovation in the Management of Pro-Poor Energy Access in East Africa
(<https://www.sussex.ac.uk/webteam/gateway/file.php?name=2015-29-swps-gollwitzer-et-al.pdf&site=25>).

Response:

The program design has been informed by extensive literature review and consultations with technical experts and development partners. This has informed (1) the overall design of the program, as well as (2) the program's three main key areas of opportunity: **(i) National dialogues on minigrid delivery models; (ii) Productive use of electricity; and (iii) Data & Digitalization**, and in turn been translated to national projects.

Regional Project Document: Section IV, Box 2.

This literature exercise review is documented in the AMP regional project document, given its overall knowledge management function for the program.

1. Overall Program Design ? Key Literature
- GIZ, GET.transform (2020). A Renewable Energy Minigrid Technical Assistance Guide. Take-aways from 15 years of GIZ support in minigrid market development. April 2020 ([link](#))
 - AMDA (2020). Benchmarking Africa's minigrids.
 - SEforAll, BNEF and MGP (2020). State of the Global mini-grids Market Report 2020. Trends of renewable energy hybrid mini-grids in Sub-Saharan Africa, Asia and Island Nations. ([link](#))
 - IRENA (2016). Innovation Outlook: Renewable Mini-grids. ([link](#))
 - ESMAP (2019). Mini Grids for half a billion people. Market Outlook and Handbook for Decision Makers. Technical Report 014/19. ([link](#))
 - The World Bank, AFD (2019). Electricity Access for Sub-Saharan Africa. ([link](#))
 - RMI (2018). Minigrids in the Money: Six Ways to Reduce Minigrid Costs by 60% for Rural Electrification ([link](#))
 - GET.transform (2021). Nigeria Case Study: Financing Instruments for the Mini-Grid Market, ([link](#))

2. Program's three key areas of opportunity

(i) **National dialogues on minigrid delivery models** The AMP has embraced the key understanding that the development of a minigrid delivery model as the basis of a sustainable minigrid sector should ideally be implemented through a national dialogue involving all affected and required stakeholders. Specific resources which have informed program design with respect to this key area of opportunity include (but are not limited to):

Comment & Response	Reference
<p>2. Comment: Furthermore, there is considerable literature on the opportunities presented by blockchain technology for energy projects like this, including for renewable energy generation, distribution and management. STAP recommends that the project proponents explore the possibilities of using this technology to enhance the global environmental benefits of the project. Examples of relevant literature on this include: STAP's blockchain paper (http://stapgef.org/harnessing-blockchain-technology-delivery-global-environmentalbenefits); Blockchain technology in the energy sector (https://www.sciencedirect.com/science/article/pii/S1364032118307184); Blockchain meets Energy (https://fsr.eui.eu/wp-content/uploads/Blockchain_meets_Energy_-_ENG.pdf); Blockchain: A true disruptor for the energy industry (https://www2.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-blockchain-disruptor-for-energy-industry.pdf).</p> <p>Response: As part to the PFD addendum approved in June 2021, a new component has been added to the regional project focused on mainstreaming the use of digital tools and solutions across national child projects and other national stakeholders. This is premised upon the notion that digitalization offers great potential for minigrd cost reduction. While no specific emphasis has been placed within AMP on developing Blockchain applications, the Regional Project will knowledge-build on and identify opportunities to add value via the use of digital tools and solutions for planning, operations, financing, and other key applications.</p>	
<p>3. Comment: A generic diagram of the theory of change for minigrids is presented which starts with a diagnosis of risks and then proposes how to address them. However, this is linear and has only one step. There needs to be consideration of how particular kinds of policies could lead to change rather than just stating that policies will address the diagnostics. This diagram needs to be refined with more steps that unpack points like ?innovative financing? and ?business model and innovation? and ?policies and regulations.?</p> <p>Please see STAP paper on theory of change for further guidance: http://stapgef.org/theory-change-primer</p> <p>Response: The theory of change diagram for the program has been now further developed and refined to unpack key policies/activities under each of the four main components, which indeed feedback to address the originally identified risks. A new outcome column has also been inserted. This new theory of change is now reflected in the national project documents, as well as regional project documents.</p>	<p>Somalia CEO endorsement/ approval request document: - Part II.</p> <p>Somalia national project document: - Section III.</p>

Comment & Response	Reference
<p><u>3. Is the objective clearly defined, and consistently related to the problem diagnosis?</u> <u>Comment:</u> Yes. <u>Response:</u> NA</p>	
<p><u>4. A brief description of the planned activities. Do these support the project's objectives?</u> <u>Comment:</u> Nicely described with clear objectives. <u>Response:</u> NA</p>	
<p><u>5. A description of the expected short-term and medium-term effects of an intervention.</u> <u>Comment:</u> These are adequately provided. <u>Response:</u> NA</p>	
<p><u>6. A description of the products and services which are expected to result from the project. Is the sum of the outputs likely to contribute to the outcomes?</u> <u>Comment:</u> Adequately provided. <u>Response:</u> NA</p>	
<p><u>7. Is the baseline identified clearly?</u> <u>Comment:</u> Baselines are linked to earlier Child projects. <u>Response:</u> NA</p>	

Comment & Response	Reference
<p><u>8. What is the theory of change?</u></p> <p><u>Comment:</u> There is a growing literature on the barriers to minigrid adoption. As with other GEF project proposals, more effort is needed to engage with the peer-reviewed literature on the topic. An example of an article in this genre which is open source is linked here: https://www.mdpi.com/1996-1073/11/4/813</p> <p>-</p> <p><u>Response:</u> It is indeed critical to have a good understanding of minigrid barriers. AMP's overall approach to minigrid barriers has been informed by (1) UNDP's own Derisking Renewable Energy Investment (DREI) Framework for off-grid electrification (link), a leading publication in the field which identifies a taxonomy 9 investment risk and 25 investment barriers for minigrids, itself based on extensive consultations and literature review. (2) An independent review of recent literature on the subject, including the documents listed below:</p> <p>GIZ, GET.transform (2020). A Renewable Energy Minigrid Technical Assistance Guide. Take-aways from 15 years of GIZ support in minigrid market development. April 2020 (link) AMD A (2020). Benchmarking Africa's minigrids.</p> <p>SEforAll, BNEF and MGP (2020). State of the Global mini-grids Market Report 2020. Trends of renewable energy hybrid mini-grids in Sub-Saharan Africa, Asia and Island Nations. (link)</p> <p>IRENA (2016). Innovation Outlook: Renewable Mini-grids. (link)</p> <p>ESMAP (2019). Mini Grids for half a billion people. Market Outlook and Handbook for Decision Makers. Technical Report 014/19. (link)</p> <ul style="list-style-type: none"> - The World Bank, AFD (2019). Electricity Access for Sub-Saharan Africa. (link) - RMI (2018). Minigrids in the Money: Six Ways to Reduce Minigrid Costs by 60% for Rural Electrification (link) - GET.transform (2021). Nigeria Case Study: Financing Instruments for the Mini-Grid Market, (link) <p>Please also see the earlier response to STAP Comment #1.</p>	<p>Regional Project Document: Section IV, Box 2.</p>
<p><u>9. GEF trust fund: will the proposed incremental activities lead to the delivery of global environmental benefits?</u></p> <p><u>Comment:</u> Cost reasoning is well defined. Monitoring and evaluation is noted adequately through the Child projects phase. The prior usefulness of these monitoring mechanisms should be reviewed.</p> <p><u>Response:</u></p> <p>-</p> <p><u>Monitoring:</u> At a national project level monitoring and evaluation has been expanded into a Quality Assurance and Management Framework (QAMF) that will aggregate data across the program linked and will link to specific outputs (e.g. publications and insight briefs) and intelligence to ensure the usefulness of collected data.</p> <p>-</p>	<p>Somalia national project document: Section IV.</p>

Comment & Response	Reference
<p><u>10. Are the benefits truly global environmental benefits, and are they measurable?</u></p> <p><u>Comment:</u> The proposal identifies carbon mitigation benefits with adequate referencing of methods. Tradeoffs are not discussed but should be, in terms of reliability failures that can happen with minigrids. What are the backups to prevent diesel generators from still being frequently used? Resilience needs to be built into the grid architecture to address times of power outages.</p> <p><u>Response:</u> Minigrids are generally characterized by a very high availability. A recent report by the Africa Minigrid Developers Association (Benchmarking Africa's Minigrids) shows that uptime of all monitored minigrids is 99% on average, which is significantly higher than all national interconnected grids. When power outages occur in minigrids, it is rarely due to inverter failure, but rather because the system shuts down due to overload or low battery state-of-charge (if there is no diesel generator), or because the diesel generator fails. Recent evidence is revealing that diesel generators are now more prone to failure than the renewable energy components.</p> <p>To prevent power outages, a minigrid should be sufficiently dimensioned. This can lead to larger amounts of excess energy being available at non-peak times, which cannot normally be used and reduce the overall system efficiency. Currently, new approaches are being developed that take advantage of artificial intelligence to manage loads, based on machine learning and stochastic optimization. Examples include intelligent control of diesel generators to minimize fuel consumption, demand side management to precisely control deferrable loads (e.g., water pumps) that can consume excess energy. All this leads to minimizing outages and the need to use diesel generators. (See Activities 2.2.2 and 2.2.5)</p>	<p>Somalia CEO endorsement/ approval request document: - Part II. Somalia national project document: - Section III.</p>
<p><u>11. Is the project innovative, for example, in its design, method of financing, technology, business model, policy, monitoring and evaluation, or learning?</u></p> <p><u>Comment:</u> Proponents have partnered with Rocky Mountain Institute which has a distinguished record of innovative approaches to energy policy and there are clear highlights of scaling out (even though they note this as scaling ?up?). There is a focus on finding innovative ways of cost reduction and also to consider financing linkages between minigrids to promote resilience following the Rockefeller Foundation's Cross Boundary Energy Access (CBEA) investment projects.</p> <p><u>Response:</u> NA</p>	

Comment & Response	Reference
<p><u>12. Have all the key relevant stakeholders been identified to cover the complexity of the problem, and project implementation barriers?</u></p> <p><u>Comment:</u> Adequate presentation of stakeholders through the UNF Minigrid Partnership. However, diesel generation industry is quite widespread in Africa and how to ensure they don't sabotage prevalence of project and have incentives for new livelihoods should be considered.</p> <p><u>Response:</u></p> <p>Experience shows that deep-rural villages are usually not a market for the diesel generator industry as such. In many villages, however, individual owners of diesel or petrol generators can be found selling electricity to the neighborhood(s). These business models no longer work when a minigrid supplies the village with electricity. However, there is a significant demand for skilled labor in the minigrid sector. The local diesel generator operators can become important here, as they have the technical know-how on the one hand and know the respective village very well on the other. These skills can be put to good use, for example, for the rapid establishment of PUE, or in the context of rural industrialization approaches (e.g., KMM).</p> <p>Where relevant, this risk and related mitigation actions have been added to the risks log and elaborated upon in the CEO Endorsement request/approval document (Part II section 5).</p>	<p>Somalia CEO endorsement/ approval request document: - Part II.</p> <p>Somalia national project document: - Section II. Development Challenge</p>
<p><u>13. Have gender differentiated risks and opportunities been identified, and were preliminary response measures described that would address these differences?</u></p> <p><u>Comment:</u> Yes ? there is a fairly detailed section on gender aspects of this project. projects.</p> <p><u>Response:</u> NA</p>	
<p><u>14. Are the identified risks valid and comprehensive? Are the risks specifically for things outside the project's control?</u></p> <p><u>Comment:</u> Identified. Detailed climate risk assessment should be carried out.</p> <p><u>Response:</u></p> <p>- A climate risk assessment has been performed and included in the table risks of the Somalia CEO Endorsement Request</p>	<p>Somalia national project document: - Annex 7</p>
<p><u>15. Are the project proponents tapping into relevant knowledge and learning generated by other projects, including GEF projects?</u></p> <p><u>Comment:</u> Good coordination details provided based on historical relations as well. projects.</p> <p><u>Response:</u> NA</p>	
<p><u>16. What overall approach will be taken, and what knowledge management indicators and metrics will be used?</u></p> <p><u>Comment:</u> Identified and details adequately provided. projects.</p> <p><u>Response:</u> NA</p>	

ANNEX C: Status of Utilization of Project Preparation Grant (PPG).
(Provide detailed funding amount of the PPG activities financing status
in the table below:

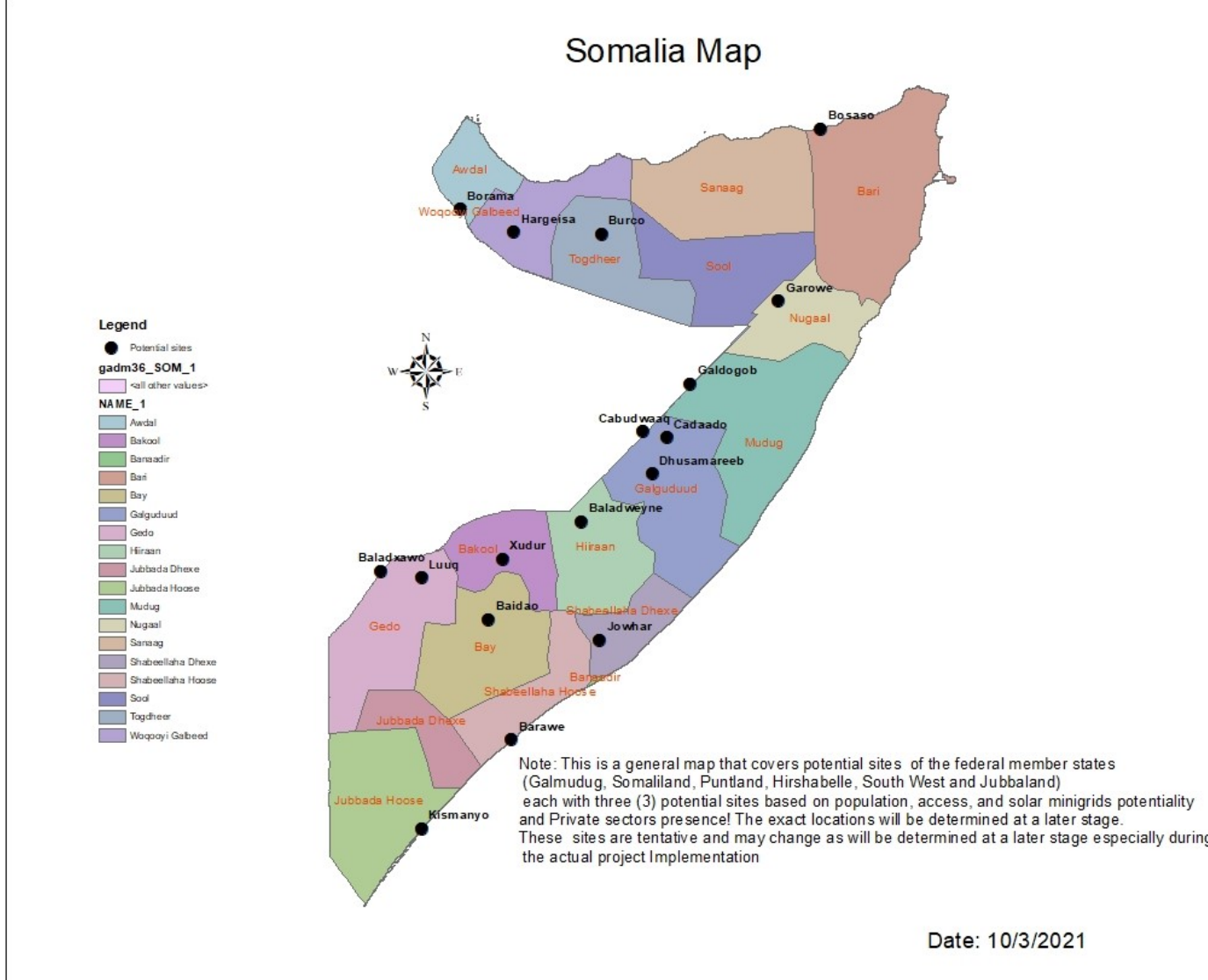
<i>Project Preparation Activities Implemented</i>	<i>GETF/LDCF/SCCF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
<i>Project preparation grant to finalize the UNDP-GEF project document for National child project under the GEF Africa Mini-grids Program</i>	100,000	82,842	17,158
Total	100,000	82,842	17,158

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.



Source: <https://www.un.org/Depts/Cartographic/map/profile/somalia.pdf>



ANNEX E: Project Budget Table

Please attach a project budget table.

Expenditure Category	Detailed Description	Component (USDeq.)	Total (USD eq.)	Responsible Entity
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y		Component 1	Component 2	Component 3	Component 4	Sub-Total	M&E	PMC		(Executing Entity receiving funds from the GEF Agency)[1]
		Sub-component 1.1	Sub-component 2.1	Sub-component 3.1	Sub-component 4.1					
Equipment	The investment budget for the purchase of system components for the pilot project(s). Detailed procurement plans will be developed during Year 1 of implementation when further studies are conducted, and the exact location and system capacity are identified.		1,595,096			1,595,096			1,595,096	UNDP
Equipment	Communication expenses by the project team.					-		4,000	4,000	UNDP
Equipment	Software, computers, and IT tools for the project team.					-		3,200	3,200	UNDP

Contractual Services ? Individual	Fees for contracting national and international consultants to conduct the initial full quantitative national DREI analysis.	50,000				50,000		50,000	UNDP
Contractual Services ? Individual	Budget for hiring local staff for the PMU. This includes: - Project Manager (PM) (Full-time employment at a rate of \$1,740/month for 4 years, costing about USD 83,520), - Project Accountant/Finance Assistant/Finance officer (\$180/week for 24 weeks/year over 4 years, costing about USD 17,280), and - Project Monitoring & Evaluation Officer (\$180/week for 24 weeks/year over 4 years, costing about USD 17,280).				-		118,080	118,080	UNDP

Contractual Services ? Company	Fees for Professional Services contract to support the project team with digital transformation activities. The team will include international digital transformation experts and as well as local software developers and frontend designers. The amount also includes the purchase of licenses for tracking systems and online platforms, as appropriate.	200,000				200,000		200,000	UNDP
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<p>Contractual Services ? Company</p>	<p>Fees for Professional Services contract to support the project team with conducting market research and associating studies. The studies include conducting needs assessment and community surveys at the selected sites for the pilot project(s), as well as private sector mapping on the national level and needs assessment for ESPs to define the technical gaps which the academic certification programme should address, and the commercial gaps with the mini-grid industry associations should focus on.</p>		<p>105,000</p>			<p>105,000</p>		<p>105,000</p>	<p>UNDP</p>
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<p>Contractual Services ? Company</p>	<p>Fees for hiring of a local firm for data collection and development of communications content (including photos and/or video footage) for the preparation of an "insight brief" capturing (in an accessible format) selected key highlights from successful national project activities. This insight brief will be developed in a standard format provided by the AMP Regional Project. The AMP Regional Project will also support the dissemination of the Insight Briefs developed by the national AMP projects.</p>			5,000	5,000			5,000	UNDP
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<p>Contractual Services ? Company</p>	<p>Fees for Professional Services contract to support the project team with the design and implementation of effective KM, M&E, and QA systems and procedures. This includes the development of templates for the team to use in reporting, as well as the design of suitable surveys in English and other local languages, as appropriate. This budget also includes carrying out specific national-level activities that can contribute to the AMP program and link up with the AMP regional project's activities, noting that this will not involve any transfer to the regional child project, but will simply cover national child project costs.</p>				50,000	50,000		50,000	UNDP
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Contractual Services ? Company						-			-	UNDP
International Consultants	Fees for International Consultants involved in the work under Component 1. This includes: - Mini-grid Policy and Regulations Expert (\$500/week for 26 weeks/year over 4 years, costing about USD 52,000), - Organization al Development and Institutional Capacity Building Expert (\$500/week for 30 weeks/year over 4 years, costing about USD 60,000), and - Technical Standards and Quality Control Expert (\$500/week for 28 weeks/year over 2 years, costing about USD 28,000).	140,000				140,000		140,000		UNDP

International Consultants	Fees for International Consultants involved in the work under Component 2. This includes: - Hybrid Mini-grid Design Experts (\$600/week for 30 weeks/year over 4 years, costing about USD 72,000), and - Mini-grid Education and Vocational Training Expert (\$500/week for 24 weeks/year over 4 years, costing about USD 48,000).		120,000		120,000			120,000	UNDP
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<p>International Consultants</p>	<p>Fees for International Consultants involved in the work under Component 3. This includes: - Financial Market Analysis and Financing Mechanisms Development Experts (\$500/week for 38 weeks/year over 4 years, costing about USD 76,000), and - Investor Relations and Capacity Building Expert (\$500/week for 34 weeks/year over 2 years, costing about USD 34,000).</p>			110,000		110,000		110,000	UNDP
<p>International Consultants</p>	<p>Since this is a full-size project, USD 50,000 has been allocated for an independent lead consultant to undertake the mid-term review and USD 50,000 for an independent lead consultant to undertake the terminal evaluation.</p>					-	100,000	100,000	UNDP

International Consultants	Fees for hiring an international Lead Technical Advisor to support the PMU on project implementation (\$600/week for 10 weeks/year over 4 years, costing about USD 24,000)						24,000	24,000	UNDP
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<p>Local Consultants</p>	<p>Fees for Local Consultants involved in supporting the project team and facilitating the implementation of all activities under Component 1. This includes: - Mini-grid Policy and Regulations Specialist (\$280/week for 23 weeks/year over 4 years, costing about USD 25,760), - Communication Specialists with experience in the Energy Sector (\$230/week for 52 weeks/year over 4 years, costing about USD 47,840), and - Training Facilitators and Capacity Building Specialists with background in Energy Policy (\$225/week for 26 weeks/year over 4 years, costing about USD 23,400).</p>	<p>100,000</p>				<p>100,000</p>		<p>100,000</p>	<p>UNDP</p>
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<p>Local Consultants</p>	<p>Fees for Local Consultants involved in supporting the project team and facilitating the implementation of all activities under Component 2. This includes: - Mini-grids Local Engineers (\$300/week for 35 weeks/year over 4 years, costing about USD 42,000), - Procurement and Logistics Specialist and Legal Advisors (\$200/week for 32 weeks/year over 2 years, costing about USD 12,800), and - Training Facilitators and Capacity Building Specialists with Engineering background (\$225/week for 28 weeks/year over 4 years, costing about USD 25,200).</p>	<p>80,000</p>	<p></p>	<p></p>	<p>80,000</p>	<p></p>	<p></p>	<p>80,000</p>	<p>UNDP</p>
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<p>Local Consultants</p>	<p>Fees for Local Consultants involved in supporting the project team and facilitating the implementation of all activities under Component 3. This includes: - Energy Finance Specialist (\$320/week for 34 weeks/year over 4 years, costing about USD 43,520), - Communication Specialists with experience in the Finance Sector (\$230/week for 32 weeks/year over 3 years, costing about USD 22,080), and - Training Facilitators and Capacity Building Specialists with background in Finance (\$225/week for 32 weeks/year over 2 years, costing about USD 14,400).</p>		80,000		80,000			80,000	UNDP
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<p>Local Consultants</p>	<p>Fees for Local Consultants involved in M&E procedure. This includes: - MTR and TE visits: Since this is a full-size project, USD 20,000 has been allocated for an independent national consultant to undertake the mid-term review and USD 20,000 for an independent national consultant to undertake the terminal evaluation. - SES and Gender Officer(s), responsible for developing the project's ESAP, in line with the project's ESMF, and conducting quarterly monitoring visits to project sites to ensure compliance with SES requirements and efficient implementation of the Gender Action Plan (\$2,500/year over 4 years, costing about USD 10,000).</p>					-	50,000	50,000	UNDP
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<p>Trainings, Workshops, Meetings</p>	<p>Expenditures for organizing consultation meetings, stakeholders? engagement conferences, capacity building workshops, and round table discussions, to support the implementation of activities under Component 1. The amount includes budget allocation for DREI dissemination activities (e.g. workshops, round tables, etc.) towards the end of Year 1 and in Year 2.</p>	<p>80,000</p>				<p>80,000</p>		<p>80,000</p>	<p>UNDP</p>
<p>Trainings, Workshops, Meetings</p>	<p>Expenditures for organizing consultation meetings, stakeholders? engagement conferences, capacity building workshops, and round table discussions, to support the implementation of activities under Component 2.</p>		<p>60,000</p>			<p>60,000</p>		<p>60,000</p>	<p>UNDP</p>

Training s, Worksh ops, Meetings	Expenditures for organizing consultation meetings, stakeholders? engagement conferences, capacity building workshops, and round table discussions, to support the implementation of activities under Component 3.			60,000		60,000		60,000	UNDP
Training s, Worksh ops, Meetings	Expenditures for organizing consultation meetings, stakeholders? engagement conferences, capacity building workshops, and round table discussions, to support the implementation of activities under Component 4.			24,997		24,997		24,997	UNDP

Travel	Travel expenses for missions conducted by international consultants contracted to perform activities under Component 1. This includes \$8,000 as travel budget for international DREI consultant to go on mission twice during Year 1.	44,425				44,425		44,425	UNDP
Travel	Travel expenses for missions conducted by international consultants contracted to perform activities under Component 2.		18,244			18,244		18,244	UNDP
Travel	Travel expenses for missions conducted by international consultants contracted to perform activities under Component 3.			16,378		16,378		16,378	UNDP

Travel	Travel expenses for missions conducted by international consultants contracted to perform activities under Component 4.				20,000	20,000		20,000	UNDP
Supplies	Office supplies and stationery for the project team.						2,800	2,800	UNDP
Other Operating Costs	Costs for the activities performed under GEF M&E requirements, specifically the costs allocated for conducting the inception workshop and implementing the project's GRM. The summation of this item and the fees for international and local consultants (contracted to perform MTR and TE), and the fees for the Local SES and Gender Officer(s), presents the total M&E budget detailed in Section VI.				-	11,000		11,000	UNDP

Other Operating Costs	Miscellaneous expenses by the project team.							3,927	3,927	UNDP
Grand Total		614,425	1,978,340	266,378	99,997	2,959,140	161,000	156,007	3,276,147	

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencies is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).