



## **Regional Child Project under the GEF Africa Mini-grids Program**

### **Part I: Project Information**

#### **Name of Parent Program**

**GEF-7 Africa Minigrids Program**

#### **GEF ID**

**10843**

#### **Project Type**

FSP

#### **Type of Trust Fund**

GET

#### **CBIT/NGI**

**CBIT No**

**NGI No**

#### **Project Title**

Regional Child Project under the GEF Africa Mini-grids Program

#### **Countries**

Regional

#### **Agency(ies)**

UNDP

#### **Other Executing Partner(s)**

UNDP, Rocky Mountain Institute

#### **Executing Partner Type**

Others

#### **GEF Focal Area**

Climate Change

**Taxonomy**

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

7/30/2021

**Expected Implementation Start**

1/20/2022

**Expected Completion Date**

1/19/2026

**Duration**

48In Months

**Agency Fee(\$)**

317,331.00

**A. FOCAL/NON-FOCAL AREA ELEMENTS**

<b>Objectives/Programs</b>	<b>Focal Area Outcomes</b>	<b>Trust Fund</b>	<b>GEF Amount(\$)</b>	<b>Co-Fin Amount(\$)</b>
CCM-1-1	Promote innovation and technology transfer for sustainable energy breakthroughs for decentralized renewable power with energy storage	GET	3,525,900.00	37,690,000.00
<b>Total Project Cost(\$)</b>			<b>3,525,900.00</b>	<b>37,690,000.00</b>

## B. Project description summary

### Project Objective

The Regional Project's objective is to support countries to scale up commercial investment in renewable energy minigrids, acting as the knowledge, and advocacy and coordinating platform for the Africa Minigrids Program (AMP). This will be achieved supporting countries to scale up commercial investment in renewable energy minigrids, through a suite of knowledge tools, technical and operational expertise, communities of practice, and promoting innovative digital approaches for minigrid cost-reduction.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing(\$)
Component 1. Knowledge Tools	Technical Assistance	Latest developments and good practice in minigrids captured and made available to all minigrid stakeholders	<p>Output 1.1: Implementation guidance and curated resources for AMP (regional project and national projects)</p> <p>Output 1.2: AMP flagship reports and country-level insight briefs</p> <p>Output 1.3: Training materials (various thematic areas)</p>	GET	1,132,906.00	6,463,800.00

<b>Project Component</b>	<b>Financing Type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>GEF Project Financing (\$)</b>	<b>Confirmed Co-Financing(\$)</b>
Component 2. Tailored Technical and Operational Assistance to National Child Project Implementation	Technical Assistance	AMP child project countries benefit from rapidly-deployable technical and operational expertise, tailored to each country's context, organized across the program's three thematic areas and national project implementation modalities.	Output 2.1: Database of operational and technical experts.  Output 2.2: Operational and technical expert support (core AMP thematic areas)	GET	500,000.00	10,505,100.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing(\$)
Component 3. Communities of Practice	Technical Assistance	Support & facilitate knowledge management and information sharing between regional and National Child Projects, within the program's communities of practice, as well as broader ecosystem	<p>Output 3.1: Development of a communications and partnership strategy.</p> <p>Output 3.2: Online learning management system and AMP web platform.</p> <p>Output 3.3: Community of practice establishment and convening.</p> <p>Output 3.4: Technical cohorts and facilitation to address shared challenges</p>	GET	977,851.00	6,984,400.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing (\$)
Component 4. Digital Tools and Solutions for Minigrid Cost Reduction	Technical Assistance	Robust data-driven market intelligence on minigrid systems and business models is aggregated and shared across the minigrid sector, increasing consumer and investor confidence and lowering the risk profile and costs of minigrids. Digital solutions are mainstreamed across national child projects to demonstrate cost-reduction opportunities.	<p>Output 4.1: A digital strategy for the Africa Minigrids Program (AMP) is developed and implemented</p> <p>Output 4.2: Standardization of data and data collection protocols, applied to all AMP minigrid pilots, and disseminated across the minigrid sector</p> <p>Output 4.3: Data from all AMP minigrid pilots/countries is digitally aggregated at a regional level, based on the AMP-QAMF, creating value by generating insights and regional learning</p> <p>Output 4.4: Demonstration of automated data analysis for minigrid development</p> <p>Output 4.5: Digital advocacy and communication tools, as well as digital content, are developed to enable and facilitate national policy dialogues for AMP national child projects</p>	GET	572,143.00	6,192,100.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing(\$)
Component 5. Monitoring & Evaluation	Technical Assistance	Coordinated tracking/aggregation of all AMP projects? M&E.	Output 5.1: Regional project monitoring and evaluation including: (i) Inception workshop, (ii) project monitoring, and (iii) mid-term and terminal evaluations.  Output 5.2: Programme monitoring/reporting to GEFSEC of all AMP ?child? project impacts from results frameworks (aggregation)	GET	176,000.00	5,660,100.00
<b>Sub Total (\$)</b>					<b>3,358,900.00</b>	<b>35,805,500.00</b>
<b>Project Management Cost (PMC)</b>						
			GET	167,000.00	1,884,500.00	
			<b>Sub Total(\$)</b>	<b>167,000.00</b>	<b>1,884,500.00</b>	
			<b>Total Project Cost(\$)</b>	<b>3,525,900.00</b>	<b>37,690,000.00</b>	

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

<b>Sources of Co-financing</b>	<b>Name of Co-financier</b>	<b>Type of Co-financing</b>	<b>Investment Mobilized</b>	<b>Amount(\$)</b>
Civil Society Organization	Rocky Mountain Institute	Grant	Investment mobilized	2,800,000.00
Private Sector	African Minigrad Developers Association	In-kind	Recurrent expenditures	250,000.00
Donor Agency	Carbon Trust (DFID)	Grant	Investment mobilized	810,000.00
Donor Agency	AfDB (Regional), GCF Activities	Loans	Investment mobilized	16,000,000.00
Donor Agency	AfDB (Regional), Green minigrad helpdesk TA	Grant	Investment mobilized	900,000.00
Donor Agency	AfDB (Regional), RBF	Loans	Investment mobilized	8,000,000.00
Donor Agency	AfDB (Regional), AMAP TA	Grant	Investment mobilized	2,400,000.00
Donor Agency	AfDB, Madagascar 'Third-Party Funded' National Project	Grant	Investment mobilized	1,000,000.00
Donor Agency	AfDB, Angola 'Third-Party Funded' National Project	Grant	Investment mobilized	1,000,000.00
Donor Agency	UNDP (Regional)	In-kind	Recurrent expenditures	1,430,000.00
GEF Agency	UNDP, Madagascar 'Third-Party Funded' National Project	Grant	Investment mobilized	1,000,000.00
GEF Agency	UNDP, Chad 'Third-Party Funded' National Project	Grant	Investment mobilized	600,000.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
GEF Agency	UNDP, Mauritania 'Third-Party Funded' National Project	Grant	Investment mobilized	1,500,000.00
<b>Total Co-Financing(\$)</b>				<b>37,690,000.00</b>

#### **Describe how any "Investment Mobilized" was identified**

Investment mobilized related to Carbon Trust activities. Co-financing includes two out of the three major projects that Carbon Trust funds in the African minigrid sector, all highly complementary to the project: (i) CLUB-ER and SSN (1 million British pounds), delivering a South ? South capacity building programme for minigrids for government officials including central government, local government and officials at rural electrification agencies; and (ii) African Forum for Utility Regulation (AFUR) (0.6 million British pounds), delivering a programme for developing a transparent Africa-wide tool that can be used to settle mini-grid tariffs and attract private investment into-minigrids. Please note that these amounts have been converted to US dollars using an exchange rate of 1.35 USD/ ? as of 01 October 2021 (source: <https://www.bankofengland.co.uk/statistics/exchange-rates>). Also, co-financing figures have been adjusted downwards from figures in the co-financing letter, to reflect the time-frame of co-financing vis-?-vis the time-frame of the project. These pro-rated adjustments and adjustments include: - CLUB-ER and SSN: USD 1.35 million Jan/2021 ? Mar/2022, pro-rated to Jan/2022 ? Mar/2022 (3 of 15 months) USD 0.27 million - AFUR: USD 0.81 million Dec/2020 ? Sep/2023, pro-rated to Jan/2022 ? Sep/2023 (2 of 3 years) USD 0.54 million

Investment mobilized related to AfDB's activities. Co-financing includes AfDB's programmatic approaches at both regional- and country-levels, which are complemented by subsequent concessional investments to mitigate key project risks and address commercial viability gaps and which reflect capital expenditures in renewable energy minigrids. Some of these activities include activities in countries which are not directly participating in AMP as GEF-funded or third-party-funded national projects. Notwithstanding the latter, the regional project aims to have a continent-wide reach and its remit, with the sole exception of Component 2, is not limited to the participating national projects. The regional project's role as a knowledge platform drawing from experiences gained through implementation of national projects, but seeking to disseminate knowledge and learning within the African minigrids ecosystem more widely, will benefit AfDB projects and counterparts through their engagement with AMP's communities of practice under Component 3 and other dissemination and outreach activities related to Components 1 and 4. AfDB's activities in other African countries have therefore been included here as co-financing to the regional project under those components which focus on engaging with a wider audience across Africa. These activities include: - AfDB (Regional), GCF Activities: this includes the DRC Green Mini-Grid Program, a programmatic approach which aims to serve as a pilot to innovative private-led electrification with renewable-based minigrid solutions in the Democratic Republic of Congo (DRC) with funding (senior loans) from both AfDB and the Green Climate Fund (GCF). - AfDB (Regional), Green minigrid helpdesk TA: includes technical assistance activities in Niger, Rwanda, and DRC - AfDB

(Regional), RBF: this includes AfDB's Results-Based Financing for mini-grids. As identified at this stage it consists of a pilot project in Togo which will be a pilot for future use of SEFA's RBF instrument. - AfDB (Regional), AMAP TA: this includes projects in Mozambique, one Sahel country (to be defined), among others, which will benefit from the Africa Mini-Grid Market Acceleration Programme (AMAP), a technical assistance initiative for minigrids funded by a grant from the Sustainable Energy Fund for Africa (SEFA). The total AMAP grant is USD7 million from which the Madagascar (USD 1 million), Angola (USD 1 million), and Ethiopia (USD 1 million) have been deducted considering these are reported separately as third party-funded project co-financing (Madagascar, Angola) and as co-financing to an AMP national project (Ethiopia). This investment mobilized was identified in stakeholder consultations with AfDB, with AfDB as a core partner to the Africa Minigrids Program. Please note that this table reflects co-financing figures that in specific cases have been adjusted downwards from figures in the co-financing letters, to reflect the time-frame of co-financing vis-?-vis the time-frame of the project. These pro-rated adjustments and adjustments include: - AfDB (Regional), GCF Activities: USD 40 million 2019-2023, pro-rated to 2022-23 (2 of 5 years) USD 16 million - AfDB (Regional), Green minigrid helpdesk TA: USD 3.6 million 2016-2023, pro-rated to 2022-23 (2 of 8 years) USD 900,000 - AfDB (Regional), RBF: USD 12 million 2021-2023, pro-rated to 2022-23 (2 of 3 years) USD 8 million - AfDB (Regional), AMAP TA: USD 4 million 2020-2024, pro-rated to 2022-24 (3 of 5 years) USD 2.4 million - Carbon Trust: removed 100% of CBIL (2019-2021) and 80% of CLUB ER & SSN (2021-2022)

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

<b>Agency</b>	<b>Trust Fund</b>	<b>Country</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>Amount(\$)</b>	<b>Fee(\$)</b>
UNDP	GET	Regional	Climate Change	CC Global/Regional Set-Aside	3,525,900	317,331
<b>Total Grant Resources(\$)</b>					<b>3,525,900.00</b>	<b>317,331.00</b>

**E. Non Grant Instrument**

NON-GRANT INSTRUMENT at CEO Endorsement

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Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

**F. Project Preparation Grant (PPG)**

PPG Required **false**

**PPG Amount (\$)**

**PPG Agency Fee (\$)**

<b>Agency</b>	<b>Trust Fund</b>	<b>Country</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>Amount(\$)</b>	<b>Fee(\$)</b>
<b>Total Project Costs(\$)</b>					<b>0.00</b>	<b>0.00</b>

## 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 <sub>2</sub> e (direct)	0	30433	0	0
Expected metric tons of CO <sub>2</sub> e (indirect)	0	8467145	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 <sub>2</sub> e (direct)				
Expected metric tons of CO <sub>2</sub> 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 <sub>2</sub> e (direct)		30,433		
Expected metric tons of CO <sub>2</sub> e (indirect)		8,467,145		
Anticipated start year of accounting		2026		
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 <b>select</b>		0.66		<input type="checkbox"/>
Energy Storage <b>select</b>		1.58		<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)
<b>Female</b>		7,446		
<b>Male</b>		7,187		
<b>Total</b>	0	14633	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

#### 1. Global environmental and/or adaptation problems, root causes and barriers to be addressed

To limit global warming to between 1.5 and 2.0 degrees Celsius, in line with the Paris Agreement, the world's greenhouse gas (GHG) emissions must decline to net zero by 2050 and become negative in the second half of this century. Achieving this target will require a rapid and systemic transformation of the energy sector, starting with energy conservation and efficiency and the progressive replacement of fossil fuels with renewable energy.

At the same time, the world is targeting universal access to affordable, reliable and modern energy services by 2030, requiring clean energy solutions to reach almost 760 million people currently without access. Critical to achieving both these targets is widespread deployment of low-carbon energy solutions and technologies. Such deployment face several obstacles. The investment requirements in technologies and infrastructure are high ? typically in countries without the means to afford it ? and the utilisation, and resulting revenue and business case, is most often low. Deployment also requires governments to create policies that enable and encourage investment and adoption, with the knock-on effect of displacing fossil-fuel based technologies, industries, and potentially a multitude of economic and political linkages. These are among the most significant barriers to the adoption of low-carbon energy technology by developing countries.

#### 2. Baseline scenario and any associated baseline projects

580 million people in Africa have no access to electricity (International Energy Agency, 2019)[1]<sup>1</sup>, and, as a result, no access to the improved income and savings that depend on electricity[2]<sup>2</sup>. Many millions more suffer from poor quality and unreliable grid-connected power, or expensive and polluting diesel generators. Sustainable Development Goal (SDG) 7 (energy) is a fundamental enabler of the broader set of SDGs; electricity is an essential ingredient for lifting people out of poverty, improving health, boosting educational levels, reducing gender inequities, promoting women's empowerment, and enabling sustainable economic development.

This development challenge has been exacerbated by the global coronavirus pandemic (COVID-19) that continues to afflict countries worldwide. The pandemic has been far more than a health crisis, affecting societies and economies at their core. The situation in developing countries is even more tenuous. The IEA estimates that across Africa, COVID-19 has pushed 30 million people back into energy poverty. It points to the socio-economic effects of the pandemic, such as food insecurity, being

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disproportionately borne by households that were already impoverished prior to the pandemic. The pandemic has also impacted consumer affordability and increased the risk for vulnerable households to fall back into energy poverty.

The social and economic ramifications of the COVID-19 pandemic have amplified the urgency for providing communities and businesses in developing countries and particularly sub-Saharan Africa with low-cost, reliable, and clean power. The pandemic is also deepening pre-existing gender inequalities, and in every sphere, ranging from health and personal well-being, economy, livelihoods, security to social protection, the impacts of COVID-19 are exacerbated for women and girls simply by virtue of their gender.

The pandemic has highlighted the importance of access to electricity to power healthcare facilities, supply clean water for essential hygiene, enable communications and IT services for education or more broadly to connect people while maintaining social distancing. It also pointed to the importance of access to affordable, clean energy, to support economic recovery, highlighting the significant potential opportunities for co-benefits from rural electrification in the fight against COVID-19. With this recognition comes a renewed commitment and urgency to accelerate the uptake of clean energy minigrids towards meeting energy access targets in the region.

RE minigrids can help achieve universal access to electricity goals, address the last mile electrification challenge, meet growing electricity demand and strengthening or stabilizing existing power networks, while also contributing to the renewable energy targets and climate change commitments for participating countries. This minigrid opportunity is driven by several converging disruptive trends: falling hardware costs (solar modules, batteries, energy efficient appliances, and modular approaches), disruptive digital technologies including mobile money, and innovative, private sector business models (new service offers, lowering customer acquisition costs).

Minigrids lie at the nexus between rural electrification, climate resilience and sustainable development. The African Mini-Grid Community of Practice (AMG-CoP)<sup>[3]</sup> a collaborative network of 16 African country governments including four AMP participant countries identified minigrids as a central element of developing a decarbonized, climate-resilient energy services sector for the millions of people in Africa who lack access to affordable, safe and clean energy.

RE minigrids contribute greater resiliency to the overall energy system through contributing spatial diversity, bringing generation closer to consumption areas, diversification of the generation mix, locational flexibility, reduced water requirements and modular and rapid deployment. The communities where RE minigrids are deployed benefit from reduced vulnerabilities related to broader grid outages, back-up capacity inherent to battery storage, reduced reliance on fuel availability, having local economies energized with lower cost, localised energy solutions that are insulated against price escalations/volatilities of fossil fuels<sup>[4]</sup>.

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Thus, while delivering climate change mitigation and resilience, they also advance economic and social development benefits. A 2020 EEP Africa study of the climate co-benefits from clean energy projects, highlighted the significant potential for resilience co-benefits<sup>5</sup> offered to communities by off-grid solar home systems (SHS), minigrids and powering productive uses. It also pointed to the importance of initial, small-scale risk-taking through clean energy innovation, business model testing, and demonstration projects, for assessing long-term viability.

Despite stated policy intent, the deployment of renewable energy minigrids in all AMP countries have remained subdued. This is largely ascribed to several remaining risks and barriers that have been identified as hindering minigrid investment (documented and also captured in the TOC).

For many years, energy developers and development partners have recognized this potential, and have invested in various efforts to support the initial risk taking, energy innovation and business model testing. Accordingly, the minigrid sector has benefitted and continues to benefit from multiple private and development partner-supported initiatives. An overview of related, parallel initiatives is captured below with additional detail documented in the Project Document, Section III, Strategy and Section IV, Results and Partnerships and the Stakeholder Engagement Plan in Annex 8 to the Project Document.

Table 1: Overview of related initiatives

Agency/ Initiative	Description
RMI	RMI is currently supporting minigrid policy, strategy, and regulatory framework development in Nigeria and Ethiopia. It has performed research and published several widely-read reports on the minigrid market in sub-Saharan Africa. RMI has participated in and hosted several regional minigrid convening events.
UNDP	UNDP's baseline activities in minigrids are composed of its DREI framework, as well as its on-the-ground support to developing countries, including execution of GEF-financed projects
AfDB	AfDB is actively supporting minigrids via the Green Mini Grid Market Development Program, SEFA/SE4ALL, FEI, and GCF projects, amongst others.
BOAD	BOAD is the project owner of the GCF-funded project in Mali, as well as the BOAD climate finance facility to scale up solar energy investments in Francophone West Africa. It is also the GEF implementing agency for a GEF-6 renewable energy program in Togo.
ESMAP	The ESMAP Global Facility on Mini Grids works to increase World Bank investments in mini grids while generating knowledge on the factors affecting mini grid scale-up.

Agency/ Initiative	Description
GCF	The Green Climate Fund is supporting a range of climate mitigation minigrid projects across Africa. Project owners for these minigrid projects include the AfDB and BOAD, as described above.
CLUB-ER	This is a Community of Practice including rural electrification agencies and ministries from over 35 member countries in Africa, and is supported by ADEME and IFDD.
Carbon Trust	The <i>Carbon Trust</i> manages the Transforming Energy Access ( <i>TEA</i> ) Programme, targeting sub-Saharan Africa and South Asia, with funding from the UK Government's Department for International Development (DFID).
Innovation Lab	CrossBoundary and The Rockefeller Foundation launched the Minigrid Innovation Lab in April 2018 in Kenya that focuses exclusively on testing business model innovations in the minigrid sector aiming to accelerate sustainable rural electrification.
UNF Mini Grid Partnership	This is a voluntary partnership of leading minigrid stakeholders that seeks to accelerate the development and deployment of minigrids through the exchange of information and ideas, shaping policy and markets to unlock the potential of widespread minigrid electrification.
Smart Power X (SPX)	A new global platform with Rockefeller Foundation and IKEA foundation, amongst others;
Africa LEDS Partnership	The African Mini-Grid Community of Practice (AMG-CoP) is a collaborative network of 16 African country governments including four AMP participant countries committed to scaling up minigrid policies and systems. It is an initiative of the Africa LEDS <sup>[7]</sup> Partnership (AfLP), which is centered on peer-to-peer learning and knowledge exchange among governments, and a member-driven process.

In recognition of the potential contribution by RE minigrids to universal energy access goals, development goals and global environmental benefits, more than USD 2 billion have been approved since 2012 by the Minigrids Funders Group (a group of 14 funders that includes the World Bank, GIZ and AFD) for minigrid development. However, by end of February 2020, only 13% of the approved financing had been disbursed over the corresponding period since 2012<sup>[8]</sup>. This suggests funding and financing are available at an unprecedented scale, if an environment is put in place that allow investment to flow.

### 3. Proposed alternative scenario with a description of outcomes and components of the project

Additional effort is required to unlock the sector's growth potential and address the remaining roadblocks that will enable the necessary expansion of private sector investment into, and public sector support for, mini-grid-based rural electrification. The Africa Minigrids Program (AMP) contribution, as described below, has been conceived to contribute to and complement this current context.

### **Africa Minigrids Program**

*This section will first provide a brief description of the Africa Minigrids Program, and then the Regional Project, which itself forms part of the program.*

**Program Objective:** The Africa Minigrids Program's objective is to **increase access to electricity by improving the financial viability and promoting scaled-up commercial investment in renewable energy minigrids (?minigrids?).** The programmatic approach aims to achieve greater impact by creating new minigrid markets across the continent, which, in aggregate, will create scale and momentum, attracting private sector interest and investment. The programmatic approach will also allow for a broader sharing of good practice, and create economies of scale in providing program services

The program is focused on **minigrid cost-reduction ? across hardware costs, soft costs[9]<sup>8</sup> and financing costs ? and innovative business models for minigrids.** With lower costs minigrids will be more financially viable, commercial capital flows will increase, and end-users will benefit from lower tariffs and expanded service.

The program has been designed to specifically address the niche of cost-reduction, and in this way be complementary to existing baseline activities supporting minigrid investment in Africa. Figure 1 sets out how the program can promote more efficient and effective use of development resources. Program partners such as AfDB and the World Bank can leverage the program's focus on cost reduction in their own distinct activities.

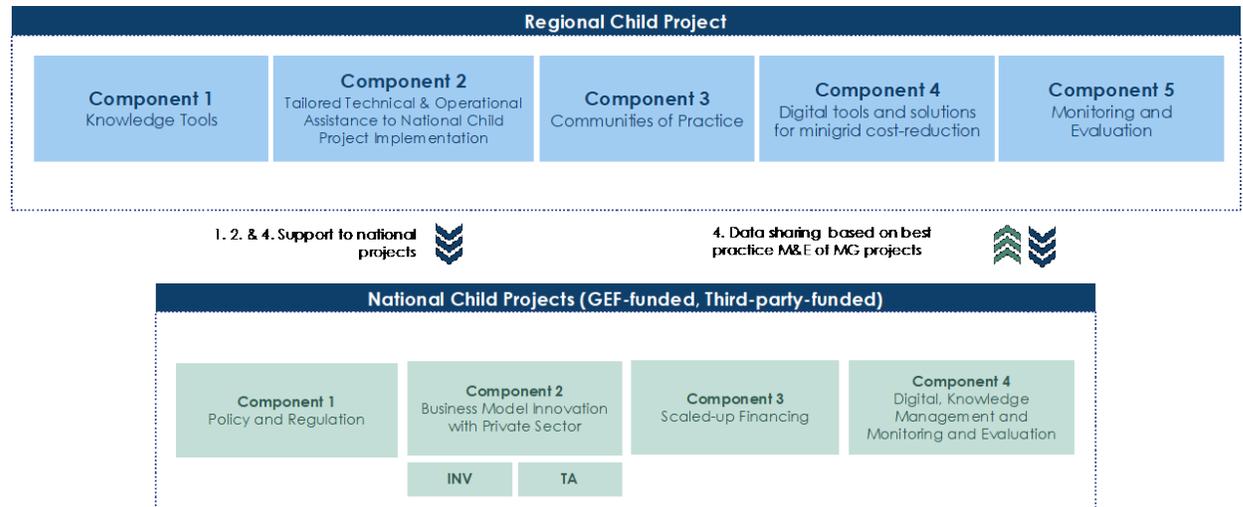


Figure 1. African Minigrids Program's Niche

**Program Design:** The program architecture, as shown in Figure 2 below, has two main elements:

? A cohort of **National Projects**, each with a set of tailored activities structured across four components: (i) policy and regulations, (ii) business model innovation and private sector, (iii) scaled-up financing and (iv) digital, knowledge management, and monitoring and evaluation (M&E).

? A **Regional Project**, acting as the knowledge, advocacy and coordinating platform of the Africa Minigrids Program. The regional project is structured across five components: (i) knowledge tools for both public and private actors; (ii) tailored technical and operational assistance to countries; (iii) communities of practice, (iv) digitalization for minigrid cost-reduction, and (v) M&E.



**Figure 2. Architecture of the Africa Minigrids Program**

**Country Participation:** The primary form of country participation in the program will be as national projects. The program is initially supporting two rounds of national projects, totalling 18 in number. These are shown in the map in Figure 3 below:

? A first round of 11 national projects approved at the concept stage in the GEF December 2019 work programme. These 11 countries are: Angola, Burkina Faso, Comoros, Djibouti, Ethiopia, Eswatini, Madagascar, Malawi, Nigeria, Somalia and Sudan.

? A second round of 7 national projects approved at the concept stage in the GEF June 2021 work programme. These 7 countries are Benin, Chad, Niger, Mali, Mauritania, Sao Tome & Principe, and Zambia.

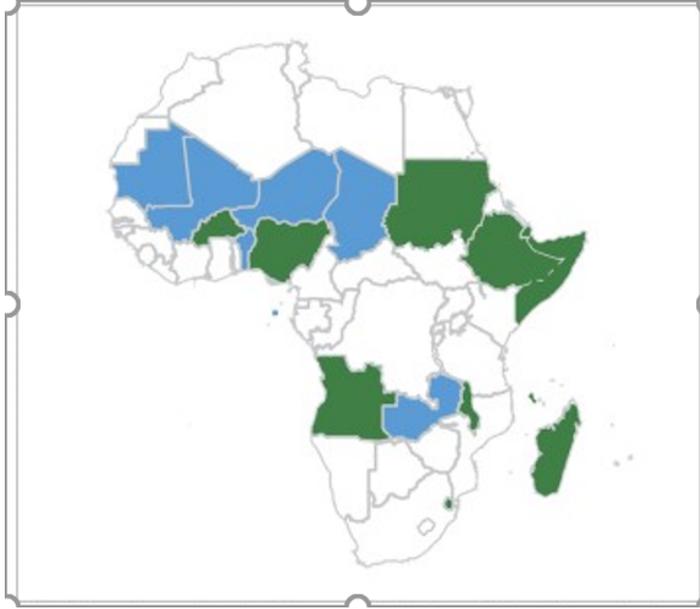


Figure 3. AMP Participating Countries<sup>[10]</sup><sup>9</sup>

Together, these 18 AMP countries host an estimated total of 312 million people without electricity<sup>[11]</sup><sup>10</sup>, more than half of the total people without access to electricity in Africa<sup>[12]</sup><sup>11</sup>.

These initial 18 countries represent a diverse cross-section of African countries: both large as well as smaller markets; Anglophone and Francophone countries; small island developing states; and countries in post-crisis contexts. This can create a rich and diverse mix of contexts, perspectives and experiences in the program.

These countries exhibit different stages of minigrid market development, and have different levels of private sector involvement in the economy and energy sector which will allow demonstration of country-specific minigrid business models and cost reduction solutions. With this additional second round of national projects, the AMP now has an enhanced scope for (i) extracting learning and best practices from diverse settings, (ii) disseminating knowledge products and lessons learned, (iii) mainstreaming the use of digital technologies to improve and further demonstrate the viability of minigrids as an electrification pathway, and (iv) aggregating data from AMP minigrid projects to enable benchmarking, insights gathering and enhanced monitoring and evaluation.

The project document provides additional detail of the characteristics and categories of participating AMP countries (refer Section III, Strategy).

**Partnerships:** The program will partner widely with other stakeholders and initiatives in minigrids. Key likely partners include (non-exhaustive):

? Lead partners of UNDP, RMI and AfDB

? Financing partners, who will be key to the program's investment goals, including development banks, such as AfDB, BOAD, DBSA and World Bank, as well as philanthropic actors, such as Rockefeller and IKEA foundation, and impact players such as responsAbility, Acumen and CrossBoundary.

? Knowledge partners, including Club ER, Carbon Trust/DFID, WB ESMAP, IRENA, SEforAll, Innovation Lab and the Minigrid Partnership.

The program will put in place an inclusive governance structure, including an AMP advisory committee, to promote engagement and information flow amongst partners. Similarly, the program will actively seek to reciprocate engagement in partners' governance bodies.

The Project Document captures additional information regarding the lead partners and anticipated partnerships for the program (refer Section III, Strategy and Section IV, Results and Partnerships), highlighting the suitability and strength of the various collaborations.

**Program's Theory of Change:** The program's theory of change, set out in Figure 4 below, seeks to advance the program's objective of increasing the financial viability, and promoting scaled-up commercial investment, in low-carbon minigrids. The theory of change is premised on a baseline context where, while good progress is being made, renewable energy minigrids are currently not competitive with fossil-fuel based alternatives. The program, by focusing on cost-reduction levers and innovative business models, can improve the financial viability of renewable energy minigrids. When renewable energy minigrids are more competitive, private capital will then flow, resulting in various program benefits: investment at scale, GHG emission reductions, and electrification and lower tariffs for end-users.

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



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 minigrads to their full potential.

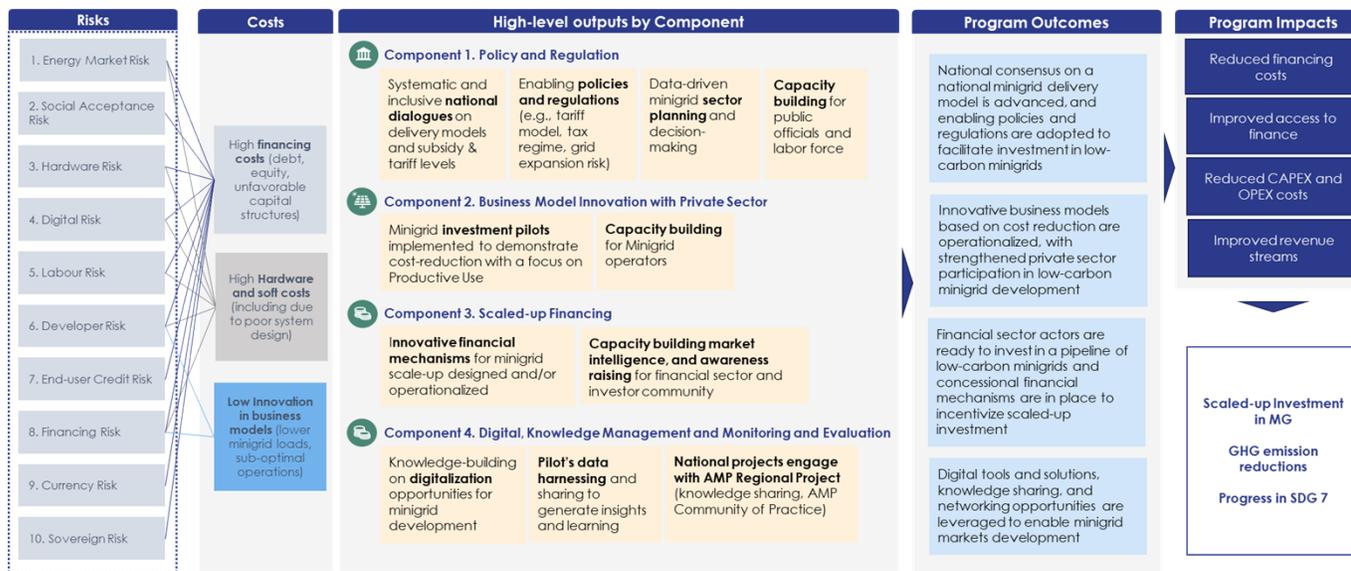


Figure 4. AMP Theory of Change

## Regional Project

**Regional Project Objective:** The Regional Project's objective is to support countries to scale up commercial investment in renewable energy minigrads, acting as the knowledge, advocacy and coordinating platform for the Africa Minigrads Program. This will be achieved through a suite of knowledge tools, technical and operational expertise, communities of practice, and promoting innovative digital approaches for minigrad cost-reduction.

Cognisant of the vibrant, dynamic and fast-moving minigrad ecosystem that already exists, the Regional Project contribution has deliberately been shaped to ensure a coordinated, synergistic contribution across the multiple stakeholders. To this end the project has been structured to:

- Leverage the wealth of knowledge contributed by the multiple and diverse group of national projects and collated and curated by the Regional Project, to inform and benefit AMP national child projects and the broader minigrad ecosystem. This will complement new knowledge products and information developed specifically for or from within the AMP portfolio.

- Include participation by entities active in the sphere on the Regional Project's technical advisory committee, contributing both to the integrity and value of the governance framework (Section VII of the Project Document).

Regional Project Theory of Change: While national child projects have a set of interventions aimed at systematically targeting the underlying investment risks at the national level for renewable energy minigrids, the regional child project has been designed to aggregate and systematically disseminate lessons learned and experiences from national projects implementation, and from collaboration with other national stakeholders, that can help foster enabling conditions for minigrid cost-reduction and the development of minigrid markets across Africa. The Regional Project will augment the AMP by providing technical and knowledge support to the national projects, while also serving as a knowledge platform for the wider ecosystem. The theory of change for the Regional Project is illustrated in Figure 5, below.



Figure 5. Regional Project Theory of Change

As already stated, the Regional Project was designed with the understanding that a wealth of clean energy minigrid learnings and knowledge resources have been developed over the preceding decade and will continue to emerge with the constant learning that marks a new innovative market. Despite the ready availability of good knowledge resources, these are not adequately or efficiently finding their way into common practice and policies.

**Barriers to adoption.** Multiple barriers have been identified as contributing to hinder the easy adoption of learnings and experience from other countries and initiatives. These have been grouped into three buckets, including (i) core underlying barriers, such as the fundamentally innovative nature of an early-stage market such as mini-grids, as well as (ii) knowledge barriers, and (iii) digital and data barriers.,

**Components and contribution.** The AMP offers a further opportunity for knowledge to be shared among and to emerge from the 18 participant countries and the diverse implementation environments they represent. With established links to the broader minigrid ecosystem, the Regional Project can also

disseminate AMP collated data more broadly and funnel external information to the AMP participant countries.

With this pivotal placement, the Regional Project contribution has been structured to leverage the knowledge that is created (internal), collated (internal and external), curated, translated (analysed, interpreted, and packaged) and disseminated to national projects, communities of practice and broader stakeholder engagement, to promote knowledge integration and adoption more widely.

Outcomes. The hypothesis follows that improved access to credible information and active collaboration, networking and lobbying among peers and stakeholders will establish a distribution channel for ?innovative goods? ? learnings and experiences gained from pilot innovations and business models ? to be shared, digested and adopted to become ?public goods? i.e. made accessible for adoption into common practice at scale.

In the short term, the expectation is that platforms will be created that facilitate:

? better access to credible, independent minigrad information and knowledge for policy makers, developers and investors;

? an operational network of communities of practice that enables members and partners to connect, discuss and share, translate and co-create knowledge.

? the use of digital tools for knowledge pooling, extraction of insights and identification of new opportunities.

In the medium to longer-term the expectation is that these AMP supported platforms will embed a culture and environment (i) of active learning and knowledge sharing among policy-makers, developers and investors; and (ii) where the availability and active sharing of knowledge find its way into evidence-informed programs, policies and practices.

Targeted impacts. Data-driven designs should enable improved minigrad system design, enhanced business models, improved business models, tariff designs and revenue collection mechanisms. When also supported by evidence-informed policies and regulatory environments, minigrads will offer a more attractive investment opportunity for investors and developers. As for the overall program, the intended impact of the Regional Project is to contribute to scaled up investment in minigrads, GHG emission reductions and progress in terms of SDG 7.

Regional Project Structure: The project design, including its components, outputs and activities, have been shaped by the overall program strategy, its targeted results and the specific focus of the Regional Project as described by the project theory of change provided above. It was also informed by the consultations held with various stakeholders (*refer Part II, Point 2, Stakeholders in this CEO Endorsement request*).

- Discussions revealed that there are already numerous knowledge tools and products that other development actors in the minigrad ecosystem have developed, that would be of benefit to AMP child project stakeholders and associated partners and that deserve wider visibility and uptake at a national level.

- Stakeholder contributions have underscored the importance of designing the Regional Project to ensure the AMP contribution is synergistic and complementary, adding impetus and weight to the development trajectory. It further emphasised the importance of strong collaboration among stakeholders to effectively unlock the potential of clean energy minigrid to contribute meaningfully towards universal access objectives.

- Consultations also pointed to the growing importance of digital technologies and solutions in enabling off-grid electrification. Although digital tools and solutions could potentially add value at various stages of the minigrids value chain, this potential remains largely untapped. Several barriers contribute to underutilization of such tools, but lack of familiarity and capacity are among the key challenges faced by both public and private sector stakeholders. With many of the opportunities around digitalization related to leveraging the large amount of data generated by minigrid projects to surface insights, learning and optimization, it was recognised that the AMP was particularly well placed to facilitate the adoption and use of digital tools to demonstrate the benefits and cost reduction potential. This prompted a restructuring of and addition to the Regional Project with a Component dedicated to Digitalisation.

An adaptive approach has been used during PPG to redesign the Regional Project proposed at the concept note stage reflecting the extensive consultations held with partners during the design phase and the specific inputs noted above. The parallel national and regional project design processes further assisted with crystalising the scope and contribution of the Regional Project ? identifying support requirements, understanding the different interfaces and clarifying linkages with National Projects.

Accordingly, the project components and outputs have been amended as set out in the table at the end of this section. A brief overview of the respective components is captured here ( ), with detailed descriptions of components, outputs and activities available in the Project Document, Section IV: Results and Partnerships.

Component	Outcome	Description
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Component	Outcome	Description
1. Knowledge Tools	The latest developments and good practice in minigrids as they relate to cost-reduction, data/digitalization and productive use are captured and made available to program stakeholders, leveraging existing partner minigrid programs where possible.	<p>The aim of this component is to ensure that the latest developments, cutting-edge guidance and good practices in minigrids, as they relate to the program's main thematic areas and areas of focus (both vis-?-vis AMP and more broadly in the African minigrid ecosystem), are captured and made available to relevant stakeholders, leveraging existing partner minigrid programs and knowledge tools where possible.</p> <p>This component will serve as the 'content' hub for AMP on a programmatic level where all program-wide knowledge tools or products will be curated and/or developed</p>
2. Tailored Technical and Operational Assistance to National Child Project Implementation	AMP child project countries benefit from rapidly-deployable technical and operational expertise, tailored to each country's context, organized across the program's three thematic areas and national project implementation modalities.	This component will ensure that AMP child project countries benefit from rapidly-deployable technical and operational expertise, tailored to each country's context, organized across the program's thematic areas and national project implementation modalities. This will be offered as a database of experts that national projects can approach as well as direct technical support made available by the regional project.
3. Communities of Practice	Support and facilitate knowledge management and information sharing between the regional and national projects, within the program's communities of practice, as well as between the program and the broader minigrids ecosystem.	This component will support knowledge sharing and facilitate the development of solutions to common challenges within the African minigrid sector, providing support to ministries, government agencies, and electric utilities, among others. The component will strengthen South-South cooperation and learning, drawing on the experiences of participating countries in minigrid cost reduction and deployment, with a focus on policy & regulations, finance, and new business models.

Component	Outcome	Description
4. Digital tools and solutions for minigrid cost reduction	Robust data-driven market intelligence on minigrid systems and business models is aggregated and shared across the minigrid sector, increasing consumer and investor confidence and lowering the risk profile and costs of minigrids. Digital solutions are mainstreamed across national child projects to demonstrate cost-reduction opportunities.	This component of the Regional Project will curate existing specialized digital tools and solutions for the off-grid and minigrids sectors, identify the key use cases that can deliver the most value for minigrid development, seek to understand and assess their value and social impact, and disseminate this knowledge widely across AMP national child projects and the minigrid sector. It will also develop a data aggregation platform as a regional public good that will enable the aggregation of data <sup>[13]</sup> <sup>12</sup> collected by national child projects on minigrid projects receiving project support. This data aggregation platform will use common reporting data protocols and standardized approaches <sup>[14]</sup> <sup>13</sup> for data analytics and monitoring and evaluation of minigrid projects thus contributing to further standardization in the African minigrid sector.
5. Monitoring and Evaluation	Coordinated tracking/aggregation of all AMP projects? M&E	This component, which will be fully executed by UNDP, will put in place an efficient and effective system of reporting and adaptive management that will allow the Regional Project to achieve its objectives. In addition to tracking and reporting on the performance of the Regional Project, it will put in place a monitoring and indicator framework to aggregate and coordinate reporting of M&E results for all AMP national projects to be available to GEF and more broadly.

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

The Africa Minigrids Program is intended to contribute towards the GEF-7 Climate Focal Area's stated Objective 1 to "Promote innovation and technology transfer for sustainable energy breakthroughs" and more specifically to mitigate climate change as defined under Objective CCM1-1, to "Promote innovation and technology transfer for sustainable energy breakthroughs for de-centralized renewable power with energy storage".

These objectives are stated in response to the urgent need to curb greenhouse gas emission while also addressing the developmental need for improved energy access in developing countries. The program therefore also aligns with Sustainable Development Goal 7 that aims to "Ensure access to affordable,

reliable, sustainable and modern energy for all? as well as Sustainable Development Goal 13 i.e. ?Take urgent action to combat climate change and its impacts?.

#### **5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing**

The GEF-7 Trust Fund allocation for the regional project is USD 3,525,900. A further USD 37,690,000 in co-finance have been committed by a range of sources as detailed in the co-finance table (Table C) in Part I of this document. In addition to implementing the project scope already described, the combined project finance of USD 41,215,900 [CG1] will unlock the global environmental benefits described below.

#### **6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)**

The AMP as a whole is expected to generate 347,567 tCO<sub>2</sub>e of direct emissions reductions from the renewable minigrid investments made by all its national projects, and 27,329,016 tCO<sub>2</sub>e of indirect emission reductions as a result of an enabled investment environment, to which the program will contribute, where minigrids can scale-up and program interventions can be replicated at scale.

At the regional child project, 10% of the indirect GHG impacts calculated at the national child project level are allocated to the regional child project, in line with the apportioning of the overall program budget. This reflects the benefits of national child projects accessing the regional child project's support. To avoid double counting, this 10% is removed from the indirect totals for each of the national child projects.

Also, direct and indirect emissions reductions from ?third-party-funded? national projects are allocated to the regional child project based on agreed reporting requirements for these type of projects which will benefit from and participate in the activities of the regional project.

Therefore, the emission reductions targets for the regional child project include:

(i) 10% of the indirect GHG emissions reductions of AMP ?GEF-funded? national projects (i.e. 1<sup>st</sup> round: Burkina Faso, Comoros, Djibouti, Eswatini, Ethiopia, Malawi, Nigeria, Somalia, Sudan; and 2<sup>nd</sup> round: Benin, Mali, Niger, S?o Tom? and Pr?ncipe, Zambia)

(ii) 100% of the direct GHG emissions reductions of AMP ?third-party-funded? national projects (i.e. 1<sup>st</sup> round: Madagascar; 2<sup>nd</sup> round: Chad, Mauritania)

(iii) 100% of the indirect GHG emissions reductions of AMP ?third-party-funded? national projects (i.e. 1<sup>st</sup> round: Madagascar; 2<sup>nd</sup> round: Chad, Mauritania)

Based on this allocation, the AMP regional project is expected to generate 30,433 tCO<sub>2</sub>e of direct emissions reductions from the renewable minigrid investments made by AMP ?third-party-funded? national projects. It is also expected to generate 8,467,145 tCO<sub>2</sub>e of indirect emission reductions associated to the project's contribution to an enabled investment environment for minigrid scale-up.

### **Increase in installed solar PV capacity (MW) and battery storage (MWh) targets:**

The increased RE capacity targets for the regional child project include 100% of the increased RE capacity targets of AMP ?third-party-funded? national projects (i.e. Madagascar, Chad, Mauritania). The AMP regional project is expected to result in an increase in renewable energy installed capacity of 0.658 MW of solar photovoltaic (PV) systems and 1.575 MWh of battery storage.

### **Number of direct beneficiaries targets (Energy access via minigrids):**

As it relates to investments in minigrid pilots being reported as co-financing to the project, and the direct beneficiaries gaining access to electricity and/or improved electricity services from those, the targets for the regional child project include 100% of the direct beneficiary targets of AMP ?third-party-funded? national projects (i.e. Madagascar, Chad, Mauritania). The AMP regional project is expected to provide and/or improve energy access for a total of 14,233 people, of whom 7,296 are women and 6,937 men. This is a result of 2,893 connections to minigrids which are expected to be added/improved directly by AMP ?third-party-funded? projects.

### **Number of direct beneficiaries targets (Regional project activities):**

As it relates to project activities under the different project components, a conservative approach has been followed to estimate the number of direct beneficiaries from project activities. A total of 400 people (of whom 150 women) are expected to directly participate and benefit from close interaction with the regional projects as the knowledge and coordination platform for the AMP.

### **7) Innovativeness, sustainability and potential for scaling up**

In refining the project design, due consideration have also been to innovativeness, sustainability and opportunities to scale. These include:

**Innovativeness:** The Program?s primary innovation is its extensive focus on cost-reduction and business model innovation to reduce minigrid cost, with the overall aim to increase the affordability of renewable electricity to off-grid markets. Since off-grid market development cannot be met solely through public investments and development aid, a more sustainable approach is to involve private sector participation in off-grid electrification using PV minigrids. Reductions in financing costs is underlined by the Program theory of change that proposes to reduce, eliminate or transfer the investor?s risks using appropriate derisking instruments, thereby reducing the investor?s cost of capital (equity and debt). In addition to reducing financing costs, emphasis will be given to hardware and soft cost reductions, all of which will act in synergy to decrease the cost of renewable electricity in rural settings. In addition, the Program will operationalize innovative business models centered on productive energy uses, providing economic opportunities in the form of income-generating activities for local communities. The combined effects of decreasing electricity costs and improved economic conditions will be the increased affordability and capacity to pay for renewable electricity by end users. In a derisked investment environment, the increasing demand driven by low cost of electricity will catalyse further investments in renewable minigrids thereby creating a virtuous circle for scaling up investments and contributing to higher levels of rural electrification. All of this will be done using a

programmatic approach without compromising each Child Country's specific needs. The role of the Regional Project will be to progress 'innovative goods' to 'public goods', encouraging adoption and integration of risk and cost reduction innovations into common practice.

To do so, the Regional Project will leverage the global digital transformation, harnessing the opportunities of digitalisation for improved efficiencies, lower costs and risks, facilitate the flow of investment and revenue streams, and thereby contribute to the propel sector development in the region. This is a significant innovation in a market that has, for various reasons, not fully utilised the potential of digital tools and solutions to accommodate multiple, decentralised and distributed 'data points' in the minigrad system.

The Regional Project will also leverage the established structures of national projects and implementation partners, through National Dialogues established at AMP country level, to encourage active engagement with and integration of minigrad advances (including learnings and demonstrated good practice) into national policy agendas and programs.

**Sustainability:** Four factors that will act simultaneously to contribute to the overall sustainability of the Regional Project.

**(a) Technical sustainability:** From a technical perspective, the viability of low-carbon minigrads for rural electrification has been demonstrated in several developing countries particularly in Africa (e.g. Mali and Nigeria). By supporting the adoption of technical standards and a QAMF for minigrads in participating countries, the barriers to technology transfer and diffusion will be reduced or eliminated. By further addressing non-technical barriers to the development of low-carbon minigrads, the Program will help create a sustainable niche by strengthening the political, institutional, legal, regulatory and operational capacities of key national institutions. It will also support technology development through a market-based approach - developing national capabilities and disseminating information. These efforts should ensure the long-term technical viability of minigrads for rural electrification in participating African countries.

At Regional Project level, the data asset developed under Component 4, will be an invaluable resource to support minigrad planning and development in the region. The continued ownership and maintenance of this asset will be given priority by the Project Steering Committee before the end of the implementation period to ensure the longevity of this asset. Similarly, consideration will be given to the long-term hosting of knowledge products and tools.

**(b) Financial sustainability:** One of the innovative elements of the Program is its focus on cost reduction (hardware, non-hardware, and financing costs) in order to increase the affordability of renewable electricity to rural communities. To achieve this objective, National Child Projects will implement policy and financial de-risking measures designed to reduce the costs of hardware, non-hardware (site-selection, system design, customer acquisition, operations and maintenance, etc.) and finance (debt and equity). Secondly, the Program will operationalize the most optimum business model for the design, implementation, operation, maintenance and management of the Child Projects using the business template discussed above - taking into account local conditions to minimize both transaction and operational costs in minigrad development and management. For instance, the Program will promote a value chain approach to technology transfer that will integrate local labor and local

industries / service providers in the development of solar PV-battery minigrids. A third element of the Program design is to promote the use of renewable electricity for productive uses to support the socio-economic development of targeted communities. A by-product of this development will be the increased capacity of local communities to pay for electricity, which will ensure the financial viability of proposed minigrids. This will be achieved by providing targeted support to rural households and/or associations willing to engage in income-generating activities using electricity, simultaneously building the capacity of technical staff.

With regard to the financial support given to project promoters, the key to sustainability is to ensure that low-carbon minigrids are viable investments. As discussed earlier, the Program will support National Child Projects to identify and implement financial instruments based on stage of market development National Child Project concepts and detailed during program formulation. In addition to integrating financial instruments in project designs, it is important to involve the private sector by making promoters aware of investment opportunities in minigrids and low-carbon technologies, educating financial institutions about the particularities of investments in the off-grid sector, as well as strengthening the role of government and development partners as facilitators. The activities proposed under Component 4 of the Program will serve this purpose.

**(c) Socio-economic sustainability:** The Program will fully support the human rights-based approach and will not have any negative impact on the enjoyment of human rights (civil, political, economic, environmental, social or cultural) of key potential stakeholders, targeted communities or the population as a whole. In particular, a gender-transformative approach will be used as described in the GAP.

The Regional Project will support countries with best practices on providing modern and sustainable decentralized energy services to the rural population and, in the process, demonstrate the benefits that sustainable technology can bring to improved livelihoods in rural areas. These relate to the social and economic benefits accruing to local communities in terms of a healthier environment for the rural population, opportunities for income-generating activities and improved management of natural resources related to productive energy uses. Particular attention will be given to strengthening the role of women as actors in the energy sector rather than mere beneficiaries. Women entrepreneurs (Annex 9) will be encouraged to manage facilities. Those engaged in the processing and packaging of agricultural products will be at the core of promoting renewable electricity for productive purposes. In addition, on-the-job capacity building - especially for installation and maintenance of minigrids, will be gender-sensitive. These combined activities will help reduce the gender gaps that traditionally exist in the energy sector.

**(d) Environmental sustainability:** The Regional Project, accompanied by investments in solar PV-battery minigrids in national child projects, will result in an estimated GHG emission reduction of 8,497,578[1] metric tons of carbon dioxide equivalent (tCO<sub>2</sub>e). Of these, 8,467,145 are indirect[2] and 30,433[3] are direct emission reductions. It will support all national project countries and non-AMP countries participating in the CoP in either implementing their NDCs through deployment of low-carbon minigrids or in updating NDCs to cover off-grid electrification using sustainable delivery models for low-carbon minigrids. This will facilitate decision-making on energy infrastructure and service delivery options to account for the uncertainty associated with climate change predictions and to assess the climate resilience of different options. For example, decisions to invest in minigrids

should take into account current and future climate changes and variability. The project will ensure that the country's climate change portfolio agencies are actively involved in the project coordination mechanism to promote an integrated approach. As part of best practices in productive energy uses, the Regional Project will also promote the uptake of energy efficient appliances for residential and commercial purposes, thereby further supporting environmental sustainability.

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[1] 8,467,145 indirect GHG ER (10% of indirect GHG ER from all national projects and an additional 90% of indirect GHG ER from third-party-funded national projects) and 30,433 direct GHG ER (100% of direct GHG ER from third-party-funded national projects)

[2] Indirect emissions reductions result from a broader adoption of the outcomes of the regional and national projects and market changes occurring in the post-project period. Broader adoption of AMP outcomes will take place through replication and scaling-up of renewable minigrids, amid a general enabled investment environment for minigrid market development to which AMP contributes.

[3] Direct emissions reductions are attributable to the minigrid investments made during the national projects' implementation periods, totaled over the respective lifetime of the investments.

**Potential for scaling-up:** The replication and scaling of the Program's impact is embedded within the program design, and pertinently stated in the targeted long-term impact. The AMP has a deliberate focus on lowering risks and costs, intended to unlock the flow of public and private sector investment in renewable energy minigrids. By means of an example, one of the key knowledge tools to be developed by the Regional Project is a DREI regional flagship report. This analysis will use the results of the minigrid DREI analyses that will be carried out in national child projects to provide a high-level picture of the state of risk profiles in SSA countries. These analyses will identify the most effective basket of policy and financial derisking instruments for reducing financing costs and catalyzing a combination of public and private investments in renewable minigrids in order to promote multi-tier electricity access. The comprehensive approach to reduce financing, hardware and soft costs will create the enabling environment to attract public and private investments. This, coupled with sound knowledge management underpinned by a robust theory of change, is expected to catalyze markets both within the 18 AMP countries and potentially also throughout the region.

In addition to scaling the adoption of renewable energy minigrids and possible replication of learnings in other programs and initiatives, the AMP hopes to encourage wider participation in the Program (refer Strategy, Section III). This scaling is already evident with the addition of 7 phase 2 countries and in the inclusion of 4 third-party funded projects among the 18 AMP countries. This is an indication of the momentum that can be created by the Program. The Regional Project will encourage scaling by leveraging the knowledge products and tools using the various communication and knowledge sharing interfaces established across the project components.

**Changes with respect to PIF stage**

<b>Outputs with budget at Concept Note (approved by GEF Council Dec 2019)</b>	<b>Outputs with budget at CEO ER</b>	<b>Change</b>	<b>Justification</b>

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)		Outputs with budget at CEO ER		Change	Justification
<p>The <b>objective</b> in Concept Note: To support various African countries that are part of AMP (?national child projects?) ? and other national stakeholders in the Africa minigrid market more generally ? increase energy access through increased deployment of renewable energy minigrids via a customized suite of knowledge tools; technical and operational expertise; convening platforms (communities of practice); communications; and mainstreaming of data and digital tools and solutions.</p>	\$ 3,000,900	<p>The Regional Project?s objective is to support countries to scale up commercial investment in low-carbon minigrids, acting as the knowledge, and advocacy and coordinating platform for the Africa Minigrids Program. This will be achieved supporting countries to scale up commercial investment in low-carbon minigrids, through a suite of knowledge tools, technical and operational expertise, communities of practice, and promoting innovative digital approaches for minigrid cost-reduction.</p>	\$ 3,525,900	<p>The objective statement wording amended.</p> <p>Also note the additional budget allocation of \$500,000 for a new Component 4 focused on Digitalisation.</p>	<p>The objectives statement has been simplified and refined to reflect (i) the specific support to the program, (ii) with a the broader overall sphere of influence, and (iii) the stronger emphasis on digitalisation.</p> <p>The amended objective statement has been informed by the experience gained during the PPG phase, both for the regional and national projects. It retained the program focus on cost reduction and support to the national projects, while simultaneously recognising the importance of a wider network of collaboration.</p> <p>The addition of a new component focused on digitalisation is also recognised, with contributions resulting from digitalization and DREI expected to make a significant contribution to the broader ecosystem.</p>

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)		Outputs with budget at CEO ER		Change	Justification
<p><b>Outcome 1.</b> The latest developments and good practice in minigrids as they relate to cost-reduction are captured and made available to program stakeholders, organized across the program's three thematic areas (policies, private sector, financing), leveraging existing partner minigrid programs where possible</p>	\$ 1,208,000	<p><b>Outcome 1.</b> Latest developments and good practice in minigrids captured and made available to all minigrid stakeholders</p>	\$ 1,082,906	Outcome wording adjusted	<p>The wording has been amended and simplified to reflect the broadened scope of this component (i) beyond program stakeholders and (ii) the three thematic areas that described the focus of the program and national projects.</p> <p>The amended wording more accurately reflects the contribution that the Regional Project knowledge platform can make to the minigrid sector as a whole, drawing on all relevant knowledge resources curated, collated and created including any from the newly added digitalisation component (refer Component 4 below).</p> <p>The potential impact of digitalisation on cost-reduction has been recognised and incorporated alongside the original three thematic areas as a key driver of minigrid market development.</p> <p>By being less</p>

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)	Outputs with budget at CEO ER	Change	Justification
<p><b>Output 1.1.</b> Various tools (policy packages; financial models; template contracts; template tender documents; template legal documents; guidelines on system design) to support cost reduction in National Child Projects</p>	<p><b>Output 1.1:</b> Implementation guidance and curated resources for AMP (regional project and national projects)</p>	<p>Output wording adjusted</p>	<p>The wording of this output has been adjusted to acknowledge and allow full use of the extensive knowledge resources already available in the sector and to expand the focus from tools to include guidance and resources more generally.</p> <p>Stakeholder engagement during the design phase highlighted the challenges with having existing knowledge resources disseminated, utilised and adopted. The AMP Regional Platform establishes a knowledge sharing platform that can facilitate the integration of learnings and experience and adoption of available tools among the 18 AMP countries. It simultaneously offers an independent platform where knowledge resources and tools developed from within the AMP portfolio of projects (Regional and National Projects) can be made available to a broader audience.</p>

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)	Outputs with budget at CEO ER	Change	Justification
<p><b>Output 1.2.</b> Reports, in-depth case studies, and insight briefs that codify and synthesize cost-reduction good practices</p>	<p><b>Output 1.2:</b> AMP flagship reports and country-level insight briefs</p>	<p>Output wording adjusted</p>	<p>The wording of this output has been adjusted to reflect (i) the expanded scope of learning and knowledge material, (ii) and the relationship and linkages between the regional project and national projects in developing flagship reports and insight briefs. It also more accurately delineates the outputs curated and shared under Output 1.1 and those developed and published under the AMP.</p> <p>As indicated for the overall component, the scope of learning has been broadened for greater flexibility to respond to the fast-paced development in the sector.</p> <p>While retaining the program focus on cost-reduction, related learnings and insights may emerge from various experiences and packaged into different formats.</p> <p>In developing the national and</p>

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)		Outputs with budget at CEO ER		Change	Justification
<b>Output 1.3</b> Cost-reduction training materials for the community of practice for National Child Projects, and for a broader set of stakeholders		<b>Output 1.3:</b> Training materials (various thematic areas)		Output wording amended to broaden the focus	<p>The Output has been amended in recognition of the wider scope of training material that will be developed and made available across all three thematic areas at national project level (i.e. policy and regulation, business model innovation and innovative finance) as well as any that may follow from inclusion of the digital component.</p> <p>The amended wording also recognises that training material will be accessible to National Projects through channels other than the Community of Practice.</p>

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)		Outputs with budget at CEO ER		Change	Justification
<p><b>Component 2 ?</b> Tailored Technical Assistance to National Minigrid Project Implementation</p>	\$ 500,000	<p><b>Component 2 ?</b> Tailored Technical and Operational Assistance to National Child Project Implementation</p>	-	<p>Wording adjusted to include operational assistance</p>	<p>The change was made to reflect the scope of assistance that will be available to national projects i.e., national projects will have access to both technical and operational expertise from the Regional Project.</p> <p>The expanded scope of assistance and likely need for expert inputs related to minigrid operations was informed by the project development phase for the 1st round AMP countries.</p>
<p><b>Outcome 2.</b> Child project countries benefit from rapidly-deployable technical expertise on minigrid cost-reduction and associated business models, tailored to each country?s context, organized across across the program?s three thematic areas (policies, private sector, financing)</p>	-	<p><b>Outcome 2.</b> AMP child project countries benefit from rapidly-deployable technical and operational expertise, tailored to each country?s context, organized across the program?s three thematic areas and national project implementation modalities.</p>	-	<p>Wording adjusted to include operational assistance</p>	<p>The change was made to align with the expanded scope of assistance as reflected above for Component 2.</p>

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)	Outputs with budget at CEO ER	Change	Justification
<p><b>Output 2.1.</b> A roster of leading technical experts (consultants, program partner staff) are selected, and made available to countries on demand, providing rapidly-deployable support</p>	-	Output amended	<p>The output was amended in recognition of diverse national procurement practices among AMP partner countries and was informed by discussions with national implementation partners and country offices.</p> <p>While procurement practices vary among the AMP countries and implementation partners, procurement rules generally prohibit direct contracting without following a transparent procurement process. This dictated a revision of the original approach to this output and prompted a revised approach that will produce a database of operational and technical experts made available at regional level whom AMP countries could draw from when following country-specific or implementation partner-specific procurement practices.</p> <p>It also includes for the development of generic Terms of</p>

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)	Outputs with budget at CEO ER	Change	Justification
<p><b>Output 2.2.</b> Regular tailored assessments and support (either via desk-review, video conference or travel) to countries to include operational and technical support, TOR reviews and trouble-shooting.</p>		<p><b>Output 2.2:</b> Operational and technical expert support (core AMP thematic areas)</p>	<p>Output amended</p> <p>The output has been amended to offer the Regional Project increased flexibility to respond to country specific needs. The amended approach will allow for operational and technical expertise to be procured at regional level and be available to support national projects with common, shared or acute challenges.</p>

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)		Outputs with budget at CEO ER		Change	Justification
<b>Component 3.</b> Convening, Dissemination, Tracking	\$ 1,150,000	<b>Component 3.</b> Communities of Practice	\$ 977,851	Amended to reflect the narrowed focus on Communities of Practice	<p>It was originally anticipated that this component would include strong data and digital elements and an emphasis on data aggregation, monitoring and tracking. In defining the detail design of the AMP and in conversation with sector stakeholders, the significant value and potential contribution of each of these three elements were recognised, leading to a separation into three distinct components: (i) Communities of Practice; (ii) Digital tools and solutions for minigrad cost reduction; and Monitoring and Evaluation.</p> <p>Accordingly Component 3 is now solely focused on Communities of Practice. It will serve as dissemination and collaboration platform for stakeholders while drawing on intelligence and tracking data surfaced by the newly introduced Components 4 and 5 (refer below). The amended outputs below</p>

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)		Outputs with budget at CEO ER		Change	Justification
<p><b>Outcome 3.</b> Increased awareness of and network opportunities in cost-reduction in the minigrid market and among stakeholders, organized across the program's three thematic areas (policies, private sector, financing) in such a way to give stakeholders an opportunity to work together in a structured way, and coordinated tracking for the program's and child projects? M&amp;E</p>	-	<p><b>Outcome 3.</b> Support &amp; facilitate knowledge management and information sharing between regional and National Child Projects, within the program's communities of practice, as well as broader ecosystem.</p>	-	Amended to reflect the narrowed focus on Communities of Practice	Outcome has been restructured to reflect the specific focus on facilitating active communication, knowledge sharing and collaboration among AMP and broader stakeholders.
N/A	-	Output 3.1: Development of a communications and partnership strategy	-	New	Introduced in recognition of the key role the Community of Practice will play in facilitating communication, collaboration and knowledge sharing among AMP stakeholders.

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)		Outputs with budget at CEO ER		Change	Justification
<p><b>Output 3.1</b> A cost-reduction community of practice that includes members from national child project countries and global experts are established and convened on a semi-annual basis; learnings from the program are shared regularly with an emphasis on South-South cooperation and private sector engagement</p>	-	<p>Output 3.3: Community of practice establishment and convening</p>	-	Amended and renumbered.	<p>Wording of the output has been amended to reflect the establishment and active convening of the communities of practice. The frequency of meetings is not prescribed, but will be informed by the communication strategy (Output 3.1), best practice experience from other such communities, the needs of stakeholders and the concurrent schedule of technical cohorts (Output 3.4)</p>

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)		Outputs with budget at CEO ER		Change	Justification
<p><b>Output 3.2</b> Cost-reduction community of practice web-platform established, webinars, conferences, blogs, media release (interviews etc.) arranged for knowledge management and communication</p>	-	<p>Output 3.2: Online learning management system and AMP web platform</p>	-	Amended.	<p>The wording of the Output has been amended to distinguish between the online learning management system and AMP web platform.</p> <p>Access to these two platforms will be informed by the communication strategy (Output 3.1) creating information sharing and collaboration spaces for the COP, while other knowledge resources are publicly available .</p>

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)		Outputs with budget at CEO ER		Change	Justification
N/A	-	Output 3.4: Technical cohorts and facilitation to address shared challenges	-	New.	<p>This output has been added in support of Output 3.3, to create a mechanism for the Community of Practice to work on and emerge solutions to shared challenges through collaboration.</p> <p>The expectation is that this will lay a solid foundation for future cooperation and south-south exchange among AMP partner countries.</p>
<b>Output 3.3.</b> A common monitoring and indicator framework (including MRV for GHGs, SDG impact, and quality assurance) is established for national child projects, support provided, and data tracked.	-	N/A	-	Removed / moved and incorporated, partly under Component 4 and partly under Component 5.	Elements of data collection, monitoring and tracking have been moved to the newly created Component 4 and Component 5 respectively. This includes the implementation of a monitoring framework (Component 5).

Outputs with budget at Concept Note (approved by GEF Council Dec 2019)		Outputs with budget at CEO ER		Change	Justification
<p><b>Output 3.4.</b> Annual monitoring and evaluation reports, including mid-term and terminal program evaluations for enhanced learning and tracking program impacts</p>	-	N/A	-	Included under Component 5.	Monitoring and evaluation have been moved to the newly created Component 5.
<p><b>Output 3.5.</b> End-of-project replication / scaling-up plans, including investment plans, supported for national child projects to ensure sustainability, and to help countries integrate off-grid energy access in NDCs</p>	-	N/A	-	Removed	<p>No longer explicitly an output of the regional project. With so many of the national markets being at early stages of development, the focus of the AMP in these countries have been directed at the most immediate actions needed to unlock minigrid market potential. As such, few countries will develop replication plans during the 4 years of implementation.</p> <p>The focus of the regional project will be more generally on opportunities for scaling, drawing from the insights and tools gained throughout the implementation timeframe.</p>

The following components were newly formulated. Component 4, *Digital Tools and Solutions for minigrid cost-reduction*, was approved by the GEF with an additional budget in June 2021. Component 5 is introduced with a dedicated focus on program-wide monitoring and reporting and to ensure compliance with Monitoring and Evaluation requirements.

Outputs with budget at Concept Note (approved by the GEF Council in June 2021)		Outputs with budget at CEO ER		Change	Justification
<b>Component 4.</b> Digital Tools and Solutions for minigrid cost-reduction	\$ 500,000	<b>Component 4.</b> Digital Tools and Solutions for minigrid cost-reduction	\$ 572,143	Budget adjusted.	New addition to the Regional Project, but no change from concept note.  The budget has been increased to correspond with the consolidation of all digital elements under this component.

Outputs with budget at Concept Note (approved by the GEF Council in June 2021)		Outputs with budget at CEO ER		Change	Justification
<p><b>Outcome 4.</b> Robust data-driven market intelligence on minigrid systems and business models is aggregated and shared across the minigrid sector, increasing consumer and investor confidence and lowering the risk profile and costs of minigrids. Digital solutions are mainstreamed across national child projects to demonstrate cost-reduction opportunities.</p>	-	<p><b>Outcome 4.</b> Robust data-driven market intelligence on minigrid systems and business models is aggregated and shared across the minigrid sector, increasing consumer and investor confidence and lowering the risk profile and costs of minigrids. Digital solutions are mainstreamed across national child projects to demonstrate cost-reduction opportunities.</p>	-	No change	<p>New addition to the Regional Project, but no change from concept note.</p> <p>The</p>

Outputs with budget at Concept Note (approved by the GEF Council in June 2021)		Outputs with budget at CEO ER		Change	Justification
<p><b>Output 4.1.</b> AMP Digital strategy. A digital strategy on improving minigrids scalability through the use of specialized digital tools and solutions is developed, applicable to both the regional project and national projects, and including a global digital solutions database on use-cases (e.g. costs, value, social impact), in partnership with industry associations.</p>	-	<p><b>Output 4.1:</b> A digital strategy for the Africa Minigrids Program (AMP) is developed and implemented</p>	-	Narrowed focus	<p>The output has been focused on the development of the digital strategy. The digital strategy will inform and give direction for the development of all other outputs under this component.</p> <p>A separate output has been introduced that will focus on the demonstration of digital tools, solutions and use-cases (refer Output 4.4)</p>

Outputs with budget at Concept Note (approved by the GEF Council in June 2021)		Outputs with budget at CEO ER		Change	Justification
<p><b>Output 4.2.</b>Data privacy and consumer protection. A framework for data security and consumer protection is developed for collecting data from minigrid projects, applied to all AMP minigrid pilots, and disseminated across the minigrid sector.</p>	-	<p><b>Output 4.2:</b> A framework for data security and consumer protection is developed for collecting data from minigrid projects, applied to all AMP minigrid pilots, and disseminated across the minigrid sector. Standardization and harmonization of data and data collection protocols</p>	-	<p>Output expanded to include framework for standardisation and harmonisation of data.</p>	<p>The output has been amended to add a second framework for the standardization and harmonization of data and data collection protocols. This consolidation establishes the guidelines and frameworks for data collection that will enable the development of a high quality data asset by the AMP.</p> <p>It is important to note that framework for the standardization and harmonization of data and data collection protocols incorporates both:</p> <ul style="list-style-type: none"> <li>- the framework originally anticipated under Output 3.3 (as at concept note stage), and</li> <li>a. the harmonized framework on digital standards and data KPIs for minigrid developers is developed, disseminated and distributed to AMP national projects that was foreseen to be part (ii) of Component 4.3 at concept note stage.</li> </ul>

Outputs with budget at Concept Note (approved by the GEF Council in June 2021)		Outputs with budget at CEO ER		Change	Justification
<p><b>Output 4.3.</b> Regional data aggregation and standardization. Two parts: (i) Data from all AMP minigrid pilots/countries is digitally aggregated at a regional level, creating value by generating insights and regional learning. (ii) A harmonized framework on digital standards and data KPIs for minigrid developers is developed, disseminated and distributed to AMP national projects.</p>	-	<p><b>Output 4.3:</b> Data from all AMP minigrid pilots/countries is digitally aggregated at a regional level, based on the AMP-QAMF, creating value by generating insights and regional learning</p>	-	<p>Output amended to focus on data aggregation and analytics.</p>	<p>The second part of the output i.e., (ii) a harmonised framework for digital standards and data, has been integrated under Output 4.2.</p> <p>As such, this output will be <u>implementing</u> the frameworks created by Output 4.2 and focus on data aggregation and analytics for the extracting of insights and learnings to be shared through the various platforms created under Components 1, 2 and 3.</p>

Outputs with budget at Concept Note (approved by the GEF Council in June 2021)		Outputs with budget at CEO ER		Change	Justification
<p><b>Output4.4. Machine learning for minigrid development.</b> Artificial Intelligence-based minigrid, geo-spatial site identification and planning tools are adapted to AMP use-cases in collaboration with technology partners, creating new data-informed opportunities for policy-makers and developers to drive efficient minigrid market-development.</p>	-	<p><b>Output 4.4:</b> Demonstration of automated data analysis for minigrid development</p>	-	Output amended to accommodate broader scope of digital tools and solutions	The amended Output formulation widens the specified scope from ?artificial intelligence and machine learning? to ?automated data analysis? thereby allowing a range of digital applications to be demonstrated and developed into use-cases.
<p><b>Output 4.5. Digital advocacy.</b> Digital advocacy and communication tools, as well as digital content, are developed to enable and facilitate national policy dialogues for AMP national child projects.</p>	-	<p><b>Output 4.5:</b> Digital advocacy and communication tools, as well as digital content, are developed to enable and facilitate national policy dialogues for AMP national child projects</p>	-	No change	New addition to the Regional Project, but no change from concept note.

<b>Outputs with budget at Concept Note</b> (approved by the GEF Council in December 2019 and June 2021)		<b>Outputs with budget at CEO ER</b>		<b>Change</b>	<b>Justification</b>
<b>Component 5.</b> New	\$ -	<b>Component 5.</b> Digital, Knowledge Management and Monitoring and Evaluation	\$ 181,696	Newly created Component for M&E	Component 5 is introduced and dedicated to ensuring compliance with Monitoring and Evaluation requirements and consolidated, program-wide tracking of impacts across the AMP, including all National projects.
N/A	-	<b>Output 5.1:</b> Regional project monitoring and evaluation including: (i) Inception workshop, (ii) project monitoring, and (iii) mid-term and terminal evaluations.	-	New	Introduced to ensure compliance with M&E requirements and plans and to ensure progress is tracked and reported.  This change was made following UNDP guidance to reflect M&E activities in the Results Framework.
N/A	-	<b>Output 5.2:</b> Programme monitoring/reporting to GEFSEC of all AMP ?child? project impacts from results frameworks (aggregation)	-	New	The Output will monitor and report on the results framework for the regional project, all GEF CORE indicators and at an aggregated level across the Harmonized Results Framework for AMP National Child Projects.

The preliminary indications of co-financing at Concept Note stage have also been updated to reflect the following confirmed commitments:

Sources of Co-financing at Concept Note	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount (\$)	Changes in Co-financing at CEO ER	Justification
Civil Society Organization	Dutch Postcode Lottery (via RMI)	Grant	Investment mobilized	2,600,000	No commitment	No relevant parallel activity / timing of activities not aligned.
Civil Society Organization	Good Energies Foundation (via RMI)	Grant	Recurrent expenditures	500,000	No commitment	No relevant parallel activity / timing of activities not aligned.
Civil Society Organization	IKEA Foundation (via RMI)	Grant	Recurrent expenditures	500,000	No commitment	No relevant parallel activity / timing of activities not aligned.
Civil Society Organization	Rocky Mountain Institute (RMI)	Grant	Recurrent expenditures	2,800,000	2,800,000	Replaces Dutch Postcode Lottery, Good Energies Foundation and IKEA Foundation (via RMI)
Private Sector	African Minigrad Developers Association	In-kind	Recurrent expenditures	250,000	250,000	No change Commitment confirmed.
GEF Agency	AfDB-Green Mini-grid Market Development Programme (Phase 3)	Grant, Loans	Investment mobilized	4,000,000	900,000	Restating of co-finance commitments to reflect activities with corresponding AMP implementation timelines.
GEF Agency	AfDB-Sustainable Energy Fund for Africa (Technical Assistance)	Grant	Investment mobilized	11,000,000	-	Amended allocation from AfDB (refer below)

Sources of Co-financing at Concept Note	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount (\$)	Changes in Co-financing at CEO ER	Justification
GEF Agency	AfDB-Sustainable Energy Fund for Africa  (Results Based Financing)	Loans	Investment mobilized	25,000,000		Amended allocation from AfDB (refer below)
GEF Agency	AfDB (Regional), GCF Activities	Loans	Investment mobilized	-	16,000,000	
GEF Agency	AfDB (Regional), RBF	Loan and grant	Investment mobilized	-	8,000,000	
GEF Agency	AfDB (Regional), AMAP TA	Grant	Recurrent expenditures	-	3,600,000	
GEF Agency	AfDB, Madagascar 'Third-Party Funded' National Project	Grant	Recurrent expenditures	-	1,000,000	
GEF Agency	AfDB, Angola 'Third-Party Funded' National Project	Grant	Recurrent expenditures	-	1,000,000	
GEF Agency	UNDP Regional	Grant	Recurrent expenditures	1,000,000	-	
GEF Agency	UNDP	In-kind	Recurrent expenditures	155,000	-	
GEF Agency	UNDP	Grant	Recurrent expenditures	275,000	-	
Donor Agency	ESMAP, World Bank	Grant	Recurrent expenditures	7,500,000	-	

Sources of Co-financing at Concept Note	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount (\$)	Changes in Co-financing at CEO ER	Justification
Donor Agency	Carbon Trust (DFID)	Grant	Recurrent expenditures	2,380,000	810,000	Restating of co-finance commitments to reflect activities with corresponding AMP regional project implementation timelines.
Private Sector	Microsoft	Grant	Recurrent expenditures		-	
GEF Agency	UNDP, Madagascar 'Third-Party Funded' National Project	Grant	Recurrent expenditures		1,000,000	
GEF Agency	UNDP, Chad 'Third-Party Funded' National Project	Grant	Recurrent expenditures		600,000	
GEF Agency	UNDP, Mauritania 'Third-Party Funded' National Project	Grant	Recurrent expenditures		1,500,000	
<b>Total Co-financing</b>				55,310,000	37,690,000	

[1] <https://www.iea.org/reports/sdg7-data-and-projections/access-to-electricity>

[2] IEA, IRENA, UNSD, WB, WHO (2020), *Tracking SDG 7: The Energy Progress Report*, Washington DC.

[3] <https://africaledspartnership.org/2019/01/30/african-mini-grids-community-of-practice-amg-cop/>

[4] Sherry Stout. James Elsworth. NREL. 2020. Renewable Energy and Resilience. [ccreee.org/event/climate-vulnerability-modelling/](https://ccreee.org/event/climate-vulnerability-modelling/)

[5] EEP Africa. 2020. Energising Resilience, Climate Co-Benefits from Clean Energy Projects.

[6] Co-benefits including local value chains and diverse livelihoods, Self-reliance including food and energy security, and resilient infrastructure such as health care.

[7] Low Emission Development Strategies in Africa.

[8] SEforAll. 2020. Seizing the Mini-grids Opportunity: Market Trends and Pathways to Growth. State of the Global Mini-grids Market 2020 report. 1 July 2020.

[9] Typical soft costs include site-selection, customer acquisition, project development, ongoing operations and maintenance, and other non-hardware costs.

[10] The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations or UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

[11] Round 1 countries: 221.3 million people without access to electricity, Round 2 countries: 63.4 million

[12] Based on the SDG 7.1.1 Electrification Dataset - IEA, IRENA, UNSD, World Bank, WHO. 2021. Tracking SDG 7: The Energy Progress

Report. World Bank, Washington DC. ? World Bank. License: Creative Commons Attribution?NonCommercial 3.0 IGO (CC BYNC 3.0 IGO).

[13] UNDP has faced challenges that have made the continuous online monitoring of solar systems difficult and even impossible in some of the sites where stand-alone solar systems have been installed with UNDP support. For a concrete case in Chad, these challenges included: (i) Mobile connection is inexistent in many sites; (ii) Sites that have ?mobile connection? but only GSM, without internet capability; (iii) Sites have a connection but this is very poor (unstable), so data cannot reach the monitoring servers; (iv) the government has restricted internet connection in many locations (<https://www.aljazeera.com/news/2020/8/4/chad-slows-down-internet-to-curb-hate-speech-on-social-media>); (v) In some sites, the SIM cards and/or tablets have disappeared. Approaches to ensure that online remote monitoring of minigrid systems is possible will be explored including using radio, partnering with regional connection providers, sharing data through space satellite (LoRa), etc..

[14] Building upon the Quality Assurance Framework (QAF), a set of technical and financial performance monitoring indicators and a reporting protocol designed to measure the quality of minigrid energy service delivery and to assess the financial performance of a given project or portfolio of projects. The QAF was designed by NREL and the U.S. Department of Energy and later adapted to the

Nigerian context through work funded by AfDB's Green Mini-Grids Market Development Program (MDP).

[15] 8,505,705 indirect GHG ER (10% of indirect GHG ER from all national projects and an additional 90% of indirect GHG ER from third-party-funded national projects) and 30,433 direct GHG ER (100% of direct GHG ER from third-party-funded national projects)

[16] Indirect emissions reductions result from a broader adoption of the outcomes of the regional and national projects and market changes occurring in the post-project period. Broader adoption of AMP outcomes will take place through replication and scaling-up of renewable minigrids, amid a general enabled investment environment for minigrid market development to which AMP contributes.

[17] Direct emissions reductions are attributable to the minigrid investments made during the national projects' implementation periods, totalled over the respective lifetime of the investments.

#### **1b. Project Map and Coordinates**

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

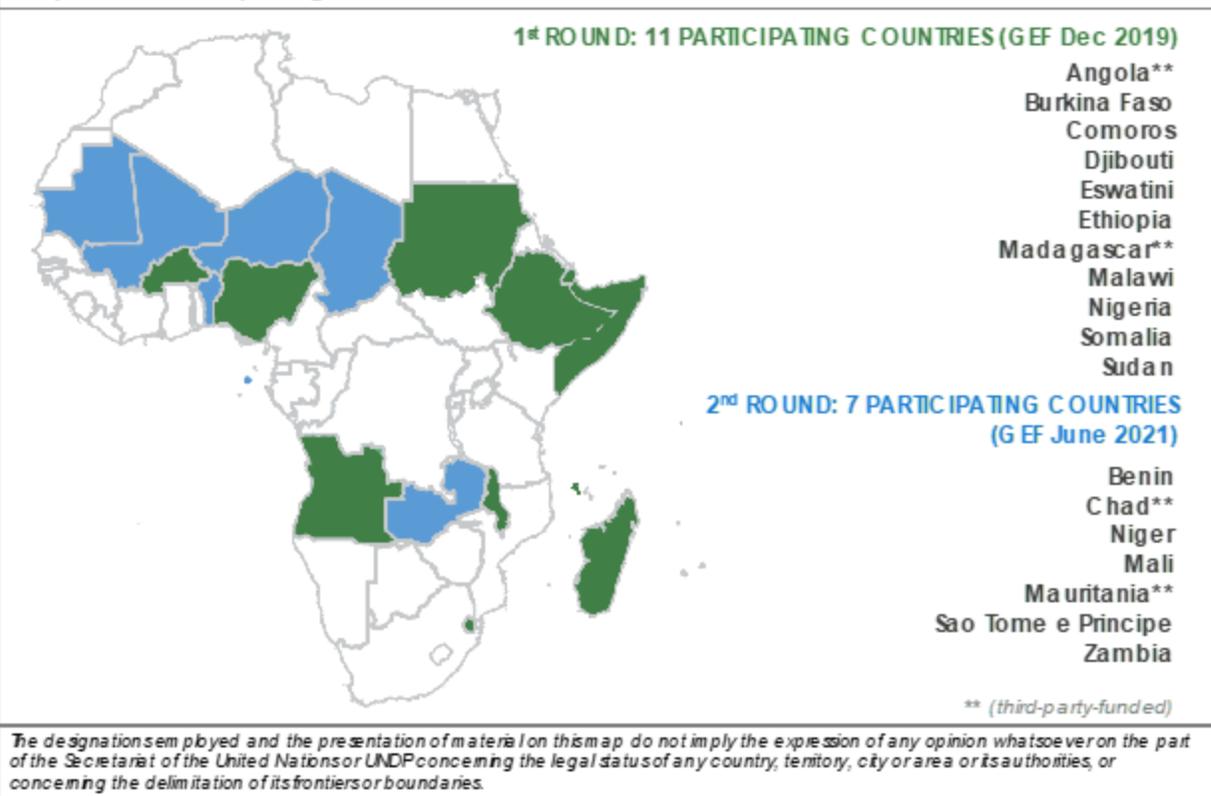
The eleven countries participating in the first round of the Africa Minigrids Program are: Angola, Burkina Faso, Comoros, Djibouti, Ethiopia, Eswatini, Madagascar, Malawi, Nigeria, Somalia and Sudan.

**Additional** seven countries are participating in the second round: Benin, Chad, Niger, Mali, Mauritania, Sao Tome e Principe and Zambia.

Four countries, Angola and Madagascar from the first round and Chad and Mauritania from the second round, are third party funded i.e. not direct recipients of GEF funding for implementation of the national projects, but indirectly benefitting from the collective knowledge creation and sharing facilitated by the Regional Project.

These countries are indicated on the map below:

## Map: AMP Participating Countries



### 1c. Child Project?

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

The programmatic approach aims to achieve greater impact by creating new minigrid markets across the continent, which, in aggregate, will create scale and momentum, attracting private sector interest and investment. The programmatic approach will also allow for a broader sharing of good practice, and create economies of scale in providing program services.

The Africa Mini-grids Program (AMP) has been designed to reduce the risks and therefore the costs of developing mini-grids by targeting four components i.e. (i) policy and regulation, (ii) innovative business models, (iii) innovative finance and (iv) data and knowledge management and dissemination. This framework guides the interventions in the 18 AMP National ?Child? Projects. To quantify a program-wide impact, the project components and results frameworks for National ?Child? Projects have been harmonized to achieve cost reductions at a national level, while also contributing to the collective outcomes of reduced costs and improved market attractiveness across the continent.

Most importantly, the experience and knowledge gained at a national level, will be aggregated at regional level across the diverse group of countries participating in the AMP and in turn shared more broadly to encourage the development of clean energy mini-grids beyond the scope of the AMP.

In the AMP context, the Regional Project serves as knowledge platform, providing both support to and aggregating across the national projects. It also establishes a platform for knowledge sharing and collaboration, thereby amplifying the country-level experiences and contributions to establish region-wide and sector-wide collaboration, learning and exchange on minigrid development. The Regional Project contribution have been structured for this purpose, around 5 components: (i) Knowledge Tools, (ii) Tailored Technical and Operational Assistance to National Child Project Implementation, (iii) Communities of Practice, (iv) Digital tools and solutions for minigrid cost-reduction, and (v) Monitoring & Evaluation. Collectively, these components serve both the AMP national projects and the broader minigrid ecosystem. They have also been structured to ensure that aggregated learnings of the AMP is harnessed and leveraged to contribute to the Program impacts of: Scaled-up Investment in Minigrids; GHG emission reductions, and Progress in SDG 7.

## **2. Stakeholders**

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

**Civil Society Organizations** Yes

**Indigenous Peoples and Local Communities**

**Private Sector Entities** Yes

**If none of the above, please explain why:**

Stakeholder engagements have been a key input to the development of the Regional Project. During the different phases of project development, key stakeholders were engaged in a series of in-person and online meetings. The purpose of these meetings was to discuss the project objective, most immediate market needs, relevance of the proposed program, inform the strategy and project details and its alignment with concurrent and planned market development initiatives in the region. The discussions also aimed to identify the gaps that the AMP can work to fill, especially in the presence of several projects targeting energy access and renewable energy development financed by development partners other than the UNDP.

In identifying key stakeholders to engage, a stakeholder mapping exercise was conducted which resulted in the creation of a longlist of 30 regional stakeholders of interest to the Project. These covered a wide range of actors, including private sector associations, regional initiatives, donors and agencies

involved in minigrids, UN sister agencies as well as UNDP units. Key stakeholders were then broadly defined as having high influence over ? and high interest in ? minigrids, as well as being generally responsive to information and consultation requests.

At least a dozen organisations in the African minigrid sector, including AfDB, SE4All, the African Minigrid Developers Association (AMDA), ESMAP, Carbon Trust, GIZ, and UNIDO, were thus consulted ? in some instances jointly ? during consultations sessions between September 2020 and January 2021. For each consultation session, the key elements of the Regional Project were presented, after which participants were invited to 1) provide feedback and recommendations on the approach, 2) identify how, where and when to coordinate on specific aspects of the project to increase synergies and avoid duplication, and 3) manifest their interest to act as technical advisors, co-financiers, partners or all of the above.

Minutes of consultations were recorded and made available to PPG team members for stock-taking and fine-tuning of the project. This, in part, has led to a more robust consideration of digitalization/data in both regional and national AMP child projects. Interestingly, while no community of practice has yet been formalised, this very consultation process, even if focused on the design of the project, has already started creating opportunities and linkages at the national level in AMP countries.

Another of the important evolutions in the design of the Regional Project is the recognition that the Regional Project is entering a crowded, dynamic and fast-moving ecosystem that is developing guidance for stakeholders; producing benchmarking reports; and already collaborating within existing platforms such as the Mini-Grids Partnership, ESMAP-led green minigrid coordination group and LEDES Mini-Grids Community of Practice.

The strategy behind the Regional Project design and the project contribution has thus been formulated to leverage synergies and complement existing efforts in the sector. In its role as knowledge platform, the Regional Project?s success will depend heavily on continued alignment and active engagement with stakeholders to ensure a coordinated, synergistic contribution across the multiple stakeholders. It will be severely limiting its potential impact if it operated in a purely ring-fenced manner with an exclusive remit serving as an operational or technical hub for AMP national child projects. Rather, it must actively collaborate and coordinate with a host of other knowledge and technical assistance entities working in the region to support the uptake of their products and ensure that the activities benefit not only AMP national child projects but also other entities operating in the African minigrid space. Accordingly, it has established multiple mechanisms for stakeholder engagement, both with and among the AMP partner countries and the broader minigrid ecosystem. This is reflected in the structure of the Program and the Regional Project in particular, such that components on ?knowledge tools?,

?communities of practice? and ?digital tools and solutions for minigrid cost reductions? are specifically intended to involve and benefit stakeholders across the sector, including those in non-AMP countries.

The Regional Project will take a multi-pronged approach, using multiple communication structures and interfaces to disseminate this knowledge as widely and make it as accessible as possible. It will also use active collaboration among stakeholders to grow trust and ownership in the knowledge resources. Mechanisms designed for this purpose include:

- Active advocacy supported by credible evidence and data representative of the diverse mix of AMP partner countries.
- Platforms for active knowledge exchange among partner countries rather than a top-down approach.
- Project steering committee with representation from partner countries and diverse stakeholders throughout the region.
- Communities of Practice committed to knowledge sharing and addressing questions and challenges from among the AMP countries.
- National Dialogues to be established for national projects to encourage active engagement with the topic and available information by government and other national stakeholders.
- Active interface between the Regional Project and PMUs to ensure support is available and questions and concerns can be raised and addressed.
- Collaboration with other development partners to support knowledge sharing and awareness raising through their adjacent networks and established stakeholder interfaces.

Throughout these different vehicles, a number of engagement methods and communication mediums will be employed to ensure active engagement with stakeholders and to overcome any remaining COVID-19 restrictions and social distancing recommendations that may still be in place. These include:

1. In-person meetings, where relevant, taking the form of, among others, (i) consultation workshops, (ii) interviews and focus groups, and (iii) community based consultations and focus groups.
2. Written communications in the form of (i) emails, (ii) letters, (iii) survey forms, and (iv) Project brochures and manuals.
3. Online meetings and phone calls. Where relevant to the stakeholder group, virtual communication may still be preferred since it is quicker and easier compared with email and letters, and a viable alternative to in-person meetings. The project website and other online platforms will also allow for two-way engagement.

4. Capacity development and training. Training and capacity development will employ both in person and online or web based learning management system. Capacity building is also part of the engagement with policy and decision-makers as well as the renewable industry in the country, region and regional project.

Although the mode of communication may vary according to task and participants, all consultations and engagement activities will be undertaken with the goal of ensuring full participation of relevant stakeholders, whereby all participants will be provided sufficient notice to prepare well and provide input for the project. Moreover, the AMP will also use all possible opportunities, i.e. workshops, meetings, trainings and awareness events, to promote diversity and gender balance. Balanced representation of relevant stakeholders will be ensured by reaching out to both men and women and different groups through appropriate communication means and encouraging their participation, noting the most socially and culturally acceptable method of communication and language and consultations for each group of stakeholders.

The frequency, means and timing of engagements per stakeholder group are described as part of the SEP.

In implementing the SEP, the following requirements will apply:

- ? All communication at regional Project level will be available in both English and French.
- ? At the discretion of the national PMUs, translations of printed material, written and spoken communication will be translated and made available in an alternate national language or vernacular relevant to the respective countries.
- ? The COVID-19 pandemic has had an impact on stakeholder engagement, limiting engagement to online channels and excluding communities with limited or no access to online facilities. This will likely have the greatest potential impact at national level. The extent to which this will continue into the implementation phase is uncertain, but should it persist, alternate opportunities to allow for information flow and ensure participation must be implemented. Examples may include delivery of information through the local radio, paper posts on key local community places, word to mouth through local leaders, among others.

**Please provide the Stakeholder Engagement Plan or equivalent assessment.**

The Stakeholder Engagement Plan (SEP) is available as Annex 8 in the Project Document and is also attached as a separate document to be uploaded.

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

see annex 8

**Select what role civil society will play in the project:**

**Consulted only;**

**Member of Advisory Body; Contractor;**

**Co-financier;**

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

**Executor or co-executor;** No

**Other (Please explain)** Yes

While the current stakeholder map for the Regional project includes several foundations and non-profit organisations, it does not yet specifically include any Non-Government Organisations (NGOs) and Civil Society Organisations (CSO). It is anticipated that the National Projects, at the frontline of implementation, will provide the primary interface with civil society, both in capturing and including affected people and communities as part of their SEPs and as partners in minigrad developments, where relevant.

AMP partner countries and minigrad industry associations have been identified as direct beneficiaries of the AMP. Youth has also been identified as a stakeholder category that must be prioritized for inclusion, both at national and regional project levels. This group is of particular importance given the youth bubble and high unemployment in the region, as well as the enormous opportunities for youth participation in the clean energy minigrad sector. The regional project stakeholder list will therefore remain live, to be expanded during implementation as stakeholders in these categories are identified both at the regional- and national project- levels.

### **3. Gender Equality and Women's Empowerment**

**Provide the gender analysis or equivalent socio-economic assesment.**

The Gender Analysis and Action Plan are available as Annex 9 in the Project Document and also attached as a separate document to be uploaded.

The gender analysis and action plan provides a detailed gender analysis for the Regional Project with an action plan formulated to support a gender-responsive design of the UNDP-GEF Regional Project outputs and activities. The following summary provides an overview of the key gender related considerations and actions identified in the plan:

The gender analysis has highlighted the gaps in the energy dividend between men and women, and regarding the participation of women in the minigrids value chain. It also pointed to opportunities for inclusion, increased participation by women in the minigrids value chain, including making use of renewable electricity productively. In addition to improved quality of living, this can positively impact the economic empowerment of women.

Further, the COVID-19 pandemic is deepening pre-existing gender inequalities, and in every sphere, ranging from health and personal well-being, economy, livelihoods, security to social protection, the impacts of COVID-19 are exacerbated for women and girls simply by virtue of their gender. Women are more likely to have to forgo economic activities owing to school closures and to take care of the sick at home ? an increase in unpaid work responsibilities, contributing to financial inequalities. A study carried out by ImpactHer and UN Women across 30 African countries in July 2020 revealed that 80% of female small- and medium-sized (SME) business owners had to, temporarily or permanently, shut down their businesses due to pandemic restrictions. Women have been hit harder by COVID-19 because they are more likely than men to be working in low-paying informal jobs and in the direct service sector.

The overall AMP and the Regional Project have been designed within this context. Gender responsive measures to address gender gaps and to promote gender equality and women's empowerment in the minigrid value chain have deliberately been incorporated into all project designs. These measures aim to improve women's participation and decision making; and/or generating socio-economic benefits through productive energy uses.

The AMP Regional Project does not implement any country level actions. However, it can play a pivotal role in amplifying the gender responsiveness of the national AMP projects and supporting national governments and other stakeholders integrate gender responsive actions in their minigrid programs, and more widely in national energy planning. National level gender action plans have identified and documented opportunities for the adoption gender-responsive measures such as gender-responsive community mobilization, training programmes tailored to work around women's schedules, and encouraging women to work in groups, to mitigate risks.

Within the Regional Project, opportunities identified to promote the development of gender-responsive energy policies that the AMP Regional Project can help strengthen through its inputs at the regional level, include:

- **Through gender responsive knowledge products**, influence others, especially other programs, to take up strategies that provide both men and women with equal and fair opportunities to benefit from minigrid interventions.

- **Provide technical expertise to national child projects to undertake systematic gender analysis.** Country level gender analyses undertaken through the national child projects can help identify and make visible the different needs of men and women and gender gaps in the energy sector would help policymakers develop more gender-responsive energy policies and identify concrete targets and solutions to close gender gaps.

- **Generate gender-responsive and sex-disaggregated data as part of energy policy development.** Systematic collection of gender-energy disaggregated data throughout the policy process would be useful for countries in monitoring and tracking the developmental outcomes of energy services on key SDG indicators, including gender equality (SDG 5), SDG education (SDG4), potable water (SDG6), primary health services (SDG3) and improved food security (SDG2).

- **Enhance women's participation in energy policy development and in the energy sector in general.** When national energy dialogue and energy policies are being shaped related to mini-grids, attention needs to be paid to who is participating and providing input into the formulation of the energy policy or rural energy development plans. Diverse perspectives from groups such as women's business associations and various civil society organizations are essential to inform and shape the discussions on energy use (from household level realities to industry demands), social services, job creation and the ability and willingness of consumers to pay for electricity connections. Having targets for women's participation in the public energy sector and creating platforms where women entrepreneurs and other relevant stakeholders can inform policymaking are other avenues for further exploration.

- **Support national governments to support integration of gender-responsive solutions in energy planning,** through sex-disaggregated data, gender analyses and capacity building of gender equality advocates and civil society organizations.

The Gender Action Plan (GAP), included in Annex 9, has been developed to support implementation of the Regional Project. The GAP links opportunities and actions for gender mainstreaming and empowerment to each component and implementation activity of the AMP Regional Project. Based on UNDP and GEF's priorities for gender equality and women's empowerment, the Gender Strategy and GAP adopt a 'twin track' approach of supporting targeted measures to tackle existing gender inequalities and empower women, as well as incorporating gender issues into all of AMP's work. Gender mainstreaming in the various components of the AMP Regional Project will be carried out in the following ways:

Table 1: Overview of project components and gender actions

Component	Gender mainstreaming actions
Component 1. Knowledge Tools	<ul style="list-style-type: none"> <li>- Incorporate gender equality issues in all knowledge products</li> <li>- Incorporate relevant gender equality content in training materials and activities</li> </ul>

Component	Gender mainstreaming actions
Component 2. Tailored Technical and Operational Assistance to National Child Project Implementation	<ul style="list-style-type: none"> <li>- High quality technical expertise on gender mainstreaming made available to national child projects.</li> <li>- Support government agencies to design policies to increase the productive uses of electricity in mini grid projects including those for women</li> </ul>
Component 3. Communities of Practice	<ul style="list-style-type: none"> <li>- Integrating gender equality as a core/ cross cutting theme in the technical working groups of the CoP</li> <li>- Ensuring women's representation and enhancing women's voice in all AMP regional and national project consultations at all levels (e.g. requiring and reporting on women's representation in CoP and stakeholder processes, providing clear guidelines on the stakeholder processes needed)</li> </ul>
Component 4 - Digital tools and solutions for minigrid cost-reduction	<ul style="list-style-type: none"> <li>- Not directly applicable, but aggregated data will be useful to inform targeted activities across other components and at national project level.</li> </ul>
Component 5. Monitoring and Evaluation	<ul style="list-style-type: none"> <li>- Ensuring that gender equality content is included in workshops.</li> <li>- The regional project's harmonized M&amp;E framework, developed by the regional project and operationalized by national child projects, will incorporate the Gender Action Plan and monitor and evaluate the program's impact on SDG5.</li> <li>- Gender-disaggregated M&amp;E data collection and reporting.</li> <li>- All consultations and inclusion in progress reports will document gender-related data and information.</li> </ul>

These actions are unpacked in further detail in the Gender Action Plan (Annex 9 of the Project Document), supported by indicative actions, implementation timelines and performance indicators.

**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.**

The low-carbon minigrid sector is poised to contribute significantly to the need for low-cost, reliable, and clean power ? particularly in places out of reach of existing power grids ? thereby contributing substantially towards timely meeting of universal access goals and alleviating the added social and economic pressures resulting from the COVID-19 pandemic. Since off-grid market development cannot be met solely through public investments and development aid, a more sustainable approach is to involve private sector participation in off-grid electrification using PV minigrids.

The private sector (developers, supply chain, investors, financial intermediaries, etc.) is key to unlocking this potential and additional effort is required to address the remaining roadblocks that will enable the necessary expansion of private sector investment into, and public sector support for, mini-grid-based rural electrification. Accordingly, the AMP contribution has been conceived to encourage, engage and support private sector involvement in the sector. This is encapsulated in the program objective ? to increase access to electricity by improving the financial viability and promoting scaled-up commercial investment in renewable energy minigrids ? and the programmatic approach that aims to achieve greater impact by creating new minigrid markets across the continent, which, in aggregate, will create scale and momentum, attracting private sector interest and investment. The program theory of change further underscores this objective, hypothesising that by reducing, eliminating or transferring investor's risks using appropriate derisking instruments, the flow of public and private sector investment in renewable energy minigrids can be unlocked.

The emphasis on private sector engagement has been embedded at national project level for all 18 AMP countries across all activities and specifically in a dedicated component: Business model innovation with private sector. Under this component, private sector players are expected to participate in most, if not all, of the pilot projects in some way that will be informed by the selected minigrid delivery models for each country.

At regional project level, engagement with and support for private sector participation are provided both directly (Components 1, 3 and 4) and indirectly (Components 2 and 5) through the assistance and support available to AMP partner countries. Cognisant of the regional project role as knowledge platform, interfacing with the private sector will take both the form of consultation and information sharing. Engagement will be further shaped by the Communication and Partnership Strategy to be developed under Component 3, Output 3.1. This strategy will ensure the key private sector actors ? as critical stakeholders in the advancement of minigrids ? are engaged and actively participate/contribute to the activities of the AMP.

The general relevance to the private sector, as well as specific activities focused on private sector engagement, are highlighted for each component:

### **Component 1. Knowledge Tools (direct)**

Knowledge tools will be curated, collated and developed to support both the public sector and the private sector (e.g. minigrid developers) in national child projects and the overall minigrid market. Development of knowledge tools and products will be informed by continued stakeholder consultation and engagement (including private sector) throughout implementation to ensure the products are relevant and responsive to the broader sector as well as specific stakeholder priorities or challenges.

Included under this component is the Derisking Renewable Energy Investment (DREI) and cost-reduction report. By interviewing private sector representatives in all 18 AMP countries, the DREI framework will provide a mechanism to harvest and disseminate data on changes in the financing costs, hard and soft costs, and LCOEs for minigrids. DREI. This flagship report will shed light on the opportunities for mini-grid cost-reduction across financing costs, hardware costs, soft costs, and innovative business models. By lowering risk and costs, the financial viability of minigrids will improve which in turn will increase commercial capital flows and private sector participation in the sector.

DREI outputs will be used to inform the national dialogues in AMP countries in identifying the most critical derisking policy instruments for each country, but will also be used as a knowledge tool more generally, to inform countries of opportunities to encourage private sector investment.

### **Component 2. Tailored Technical and Operational Assistance to National Child Project Implementation (indirect).**

This component has been designed to ensure AMP child project countries can benefit from rapidly-deployable technical and operational expertise, tailored to each country's context, organized across the program's thematic areas and national project implementation modalities. The type of technical assistance will depend on the country needs, but is anticipated to include issues related to private sector participation in electricity generation and support for national project activities under the 'Business model innovation with private sector' component.

### **Component 3. Communities of Practice (CoP) (direct)**

The aim of this outcome is to support and facilitate knowledge management and information sharing between regional and national child projects, within the program's communities of practice, as well as broader ecosystem. As such it is the main vehicle through which the Regional Project will actively engage with all stakeholders in the low carbon and mainly solar PV minigrids community.

A significant focus of the CoP is on knowledge sharing and facilitating the development of solutions to common challenges within the African minigrid sector - targeting all stakeholders including private sector players.

The CoP and its technical cohorts will be open to all countries in Sub-Saharan Africa and regional initiatives. The CoP will provide data, examples and case studies that will allow the Regional Project to produce new guidance that goes beyond existing knowledge and responds to the emerging

stakeholders? needs in child countries (including those of new developers, operators and other private sector roleplayers). The CoP will bring utility/government leaders, private sector voices, and other stakeholders together in groups that can share learning through South-South cooperation.

Among the topics already pertinently included, and of specific relevance to encourage private sector interest and investment, are minigrid cost reduction and deployment, finance, and new business models.

While the web presence and online learning under Component 3 will be available generally for interfacing with the wider sector, the CoP and technical cohorts will take a targeted approach to ensure engagement, provide a dialogue space and address major challenges identified by the CoP members. The CoP membership will prioritize key professionals and leaders from the public and private sector. Private actors are anticipated to include, but not be limited to: project developers, supply chain actors, digital/tech actors and financial investors.

#### **Component 4. Digital tools and solutions for minigrid cost-reduction (direct).**

Digital tools and aggregated data assets developed under Component 4 will directly benefit the private sector developers and operators, providing support for planning, design and operations. Many of the opportunities around digitalization are related to leveraging the large amount of data generated by minigrid projects to surface insights, learning and optimization. Improved planning data will improve design accuracy thereby lowering minigrid costs and making investment more attractive and financing more readily available and affordable.

Data is a tremendously valuable asset in the minigrid sector that has remained underutilized. Component 4 will be aggregating and sharing robust data-driven market intelligence on minigrid systems and business models across the minigrid sector, increasing consumer and investor confidence and lowering the risk profile and costs of minigrids. Digital tools and solutions also present cost-reduction opportunities, another direct benefit to private sector players.

Under this component, specific interfaces with private sector stakeholders, include:

- Output 4.2 includes an activity to development a data security and consumer protection framework for minigrid data collection in consultation with government, private sector and civil society stakeholders.

- Output 4.3 will focus on extracting insights and learnings from aggregated data that can support and enhance future planning, decision-making, developments and operations throughout the sector. Analyses will typically focus on (i) identifying trends, patterns and solutions that emerge from the data, (ii) describing, predicting and improving performance, and/or (iii) supporting improved decision-making and planning ? whether by private sector or private sector stakeholders. The aggregated view will allow insights at site, technology, developer, regulatory, country, geographic or regional level. Such intelligence, insights and learnings will be anonymized and packaged into knowledge and

learning tools to facilitate communication and sharing through the established platforms and channels to all stakeholders.

- Output 4.5 will develop advocacy and communication tools, as well as digital content, that can be used to familiarise government and private sector stakeholders to the possible use cases for digital tools and solutions, their value and social impact. Minigrad developers on the other hand, often overlook the enabling impact of digital technologies and follow more traditional approaches to system design and operations failing to benefit from efficiency gains and cost-reduction opportunities. This is especially true for local small-scale providers who lack access but also capacity to make the best use of available data services and digital solutions.

### **Component 5. Monitoring and Evaluation (M&E) (indirect)**

This component is internally focussed, drawing on the data collected and aggregated in Component 4 to report on progress against performance indicators. While not directly beneficial to the private sector, the rigor of monitoring will contribute to the strength of the AMP contribution and will flag any failures to implement the intended activities described above.

The Communication and Partnership Strategy (Output 3.1) will develop a comprehensive stakeholder list for each category of stakeholder at the regional project level, including private sector players. A preliminary list of stakeholders, including private sector players, has already been identified during project development stage and is already included in the SEP (Annex 8 of the Project Document). This will be supplemented at country level for each national child project in their respective stakeholder engagement plans.

## **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):**

The most significant risks (including climate change, potential social and environmental risks) that might prevent the project objectives from being achieved and the proposed measures that address these risks at the time of project implementation, were identified during the project design as:

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
Strategic Risk		

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
<p>Building a credible knowledge resource does not automatically translate into knowledge being utilized or adopted. Despite creating a platform for data and knowledge pooling, dissemination and collaboration, there is a risk that the AMP may not achieve the intended outcomes and impacts i.e. evidence-informed policies and practices that will enable the desired scaling of minigrid investment and developments.</p>	<p>Substantial (I = 4, L = 3)</p>	<p>The role of Regional Project is to make best practices in regulations and policies, innovative and inclusive business models, digitalization and financing available to all AMP beneficiary countries as well as the broader minigrid ecosystem. The Regional Project will take a multi-pronged approach, using multiple communication structures and interfaces to disseminate this knowledge as widely and make it as accessible as possible. It will also use active collaboration among stakeholders to grow trust and ownership in the knowledge resources. Mechanisms designed for this purpose include:</p> <ul style="list-style-type: none"> <li>- Active advocacy supported by credible evidence and data representative of the diverse mix of AMP partner countries.</li> <li>- Platforms for active knowledge exchange among partner countries rather than a top-down approach.</li> <li>- Project steering committee with representation from partner countries and diverse stakeholders throughout the region.</li> <li>- Communities of Practice committed to knowledge sharing and addressing questions and challenges from among the AMP countries.</li> <li>- National Dialogues to be established for national projects to encourage active engagement with the topic and available information by government and other national stakeholders.</li> <li>- Active interface between the Regional Project and PMUs to ensure support is available and questions and concerns can be raised and addressed.</li> <li>- Collaboration with other development partners to support knowledge sharing and awareness raising through their adjacent networks and established stakeholder interfaces.</li> </ul>

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
<p>Conventional or traditional approaches to providing energy access are too deeply entrenched in national policies and practices, hindering (i) the assertive pursuit of low-carbon minigrids developments and (ii) creation of policy and regulatory environments that will enable investment and developments at scale.</p>	<p>Substantial (I = 4, L = 2)</p>	<p>The platform established by the AMP Regional Project will deliberately focus on addressing barriers to adoption through capacity building, knowledge sharing, training and knowledge exchange between countries.</p> <p>While national pilot projects will allow country specific experience to be gained as well as demonstration of best practices at national level, the data collated at regional level will build a credible database of pilot project contributions (energy, social and economic) with a large footprint throughout the 18 AMP countries. This will be combined with active sharing of the evidence-based knowledge resources, using the various channels (as above) to raise awareness and demonstrate the advantages and potential of minigrids in progressing energy access targets.</p>
<p>Political</p>		

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
<p>Some countries are experiencing internal political issues (e.g. Ethiopia, Sudan, Somalia and Nigeria) or are geographically located in regions that are experiencing instability (e.g. northern parts of Nigeria). These issues can also be heightened during election periods, as anticipated in Ethiopia.</p> <p>However, if a sudden political instability occurs, it will certainly negatively impact on the overall investment climate and cause delays in project implementation.</p> <p>Changes in leadership arising at elections are not expected to disrupt the implementation of national child projects because of expected continued implementation of national electrification plans. The issue of electricity access will remain a primary national concern in all child countries.</p> <p>Such disruptions might impact participation by impacted national child projects in regional <b>activities</b> and contributions to data collection, monitoring and reporting.</p>	<p>Moderate (I = 4, L = 2)</p>	<p>The Regional Project will ensure that the PMU is located in a country that exhibits a low political and security risk profile. The location will also be such that it is relatively easily accessible by air travel.</p> <p>The number and diversity of AMP countries should mitigate against all countries failing to participate at the same time or permanently. This introduces a buffer against the impact of any political disruptions in individual countries, allowing the Regional Project to continue activities with participating national projects.</p>

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
Governments do not commit to policy and regulatory changes to promote solar PV (or renewables) minigrids	Substantial (I = 4, L = 3)	The activities of the Regional Project are designed to encourage national policy and regulatory institutions to make greater commitments to establishing an enabling environment for promoting affordable renewable electricity using solar PV minigrids. It will make best practice knowledge (Outcome 1) available to all interested parties (national child projects and other SSA countries), and establish CoP and technical cohorts (Outcome 3) to enhance peer-to-peer exchanges. One of the first technical cohorts planned under the CoP is for policy makers and regulators. The Regional Project will also provide capacity building through the CoP and technical cohorts, and through dedicated technical and operational support under Outcome 2. Also, the Regional Projects advocacy actions with different political levels through the CoP are designed to promote political motivation for greater commitments.
Operational (including COVID 19)		
If the data integrity or credibility of the data collected by the AMP is under suspicion, it will negatively impact the potential contribution of the program.	Moderate (I = 4, L = 1)	<p>Support for AMP pilot projects will be subject to data sharing commitments, thereby securing access to a significant and invaluable data asset. To ensure this combined data asset has integrity, the AMP will put in place relevant frameworks and measures, including:</p> <ul style="list-style-type: none"> <li>- The Quality Assurance Management Framework (QAMF) to provide for standardisation of data indicators, formats and reporting protocols.</li> <li>- A data security and consumer protection framework to give assurance to data owners and provide protocols for data handling and safe keeping, thereby encouraging sharing and safeguarding throughout the data assemblage process.</li> <li>- Automated, remote collection of consumption and generation data using prescribed specifications to eliminate errors and ensure completeness.</li> </ul>

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
<p>Misalignment of knowledge resources and tools with stakeholder requirements.</p> <p>Different stakeholders have different information needs. Small or new minigrad developers or operators, may have very different information requirements compared to more experienced. If the approach to developing knowledge resources is too generic, it may not adequately serve the needs of the targeted audience / stakeholders and therefore not contribute to catalysing the desired scaling up.</p>	<p>Moderate (I = 4, L = 2)</p>	<p>To maintain relevance, the Regional Project knowledge platform will have to be cognisant of and responsive to the needs of different stakeholders.</p> <p>The stakeholder interfaces established under the various components of the Regional Project, supported by the Stakeholder Engagement Plan (Annex 8) and Communication Plan under Component 3, will prioritise consultation with stakeholders alongside dissemination of knowledge.</p> <p>Stakeholder inputs will continue to shape and inform various activities including training, priorities for the COP, development of knowledge tools and datasets.</p>

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
<p>There is poor coordination and responsiveness between the Regional Project and the national child projects.</p>	<p>Substantial (L = 3, I = 4)</p>	<p>Despite the Regional Project not carrying out any in-country activities, its success in terms of achieving the overall objective of supporting African countries to increase energy access by increasing the affordability of low-carbon minigrids resides foremost in supporting the 18 national child projects that constitute the Africa Minigrids Program. Therefore, the proximity between the Regional Project and the AMP national projects is privileged, and several actions have been taken and features built into the Regional Project design to ensure coordination and responsiveness between the Regional Project and national projects:</p> <p>? The National CC Focal Points and national implementing institutions (where identified during the PFD stage) have been closely involved in the design and formulation of the Regional Project document. For instance, prior to seeking endorsement from the GEF, UNDP and RMI carried out a ?roadshow? to obtain stakeholders? inputs and validation of the design;</p> <p>? The institutional structure proposed to ensure appropriate governance and management of the Regional Project (Section VII) includes the National CC Focal Points, and representative of implementing institutions (where they are already established) of child countries as Beneficiary Representatives. This is expected to facilitate coordination between the regional and national child projects.</p> <p>? The Regional Project is expected to be responsive to the needs and expectations of the national child projects mainly through the activities and outputs proposed under Outcome 2 that will provide technical and operational assistance to national child projects. The technical and operational assistance will emanate from detailed national child projects? needs assessments and be in direct response to requests emanating from child countries.</p> <p>? Each national project document includes a Box Insert showing linkages to the Regional Project to ensure the PMUs and implementation partners are aware of the support available to them.</p> <p>? Also, AMP national projects will be the first recipient of knowledge products that will be developed under Outcome 1, and in particular a quick-start package that will support ramp up of national project implementation</p> <p>? The Community of Practice (and its cohorts) will be an important vehicle / modality that will be used by the Regional Project to establish and maintain a live relationship between all national child projects stakeholders.</p> <p>Proximity between the regional and national child projects will also be maintained through a bidirectional M&amp;E arrangement as follows:</p> <p>The Regional Project will develop a harmonized M&amp;E framework (Output 4.4) that each national child project will operationalize through capacity building from the Regional Project. In turn, national child projects will collect data on</p>

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
<p>The COVID-19 pandemic is, at the time of writing, at a point of inflection. Variants and second/third waves of infections are emerging worldwide with concomitant reactions from authorities, ranging from mild restrictions on movement and curfews, to strict lockdowns and strict domestic travel restrictions. The most robust forms of restrictions could negatively impact activities requiring the physical presence of team members and stakeholders. Vaccine rollouts that have started in most countries are however expected to ease the restrictions in due course.</p> <p>The COVID-19 Pandemic may still slow down project implementation. Delivery of infrastructure projects, such as the minigrad pilot projects included under the AMP, will be vulnerable to supply chain disruptions, availability of construction teams, access to rural communities, logistical and cost impacts of meeting health and safety compliance.</p> <p>Specifically, carrying out in-person training activities or regional events could prove difficult if some sanitary risks materialize or persist.</p>	<p>Moderate (I = 3, L = 3)</p>	<p>The effects of the pandemic will be attenuated by the fact that the Regional Project does not carry out any in-country activities. The uncertainty relates to the uptake and use of the results/outputs of the Regional Project such as knowledge products, operational and technical assistance, Community of Practice and data collection by national child projects, should their implementation be disrupted by major in-country outbreaks.</p> <p>Again, the spread of support across 18 child countries and other SSA countries (that can also make use of the Regional Project's results/outputs) will dampen the effect of the pandemic in delaying implementation.</p> <p>The following project design provide mitigation actions that reduce the need for physical travel:</p> <p>? The PMU will function virtually for the first year, whereafter, if risks related to the pandemic have been adequately resolved, it will settle in a physical location.</p> <p>? The Regional Project proposes to use virtual meetings to carry out stakeholder meetings and consultations. For instance, the Inception Workshop is planned to take place virtually.</p> <p>? Peer-to-peer exchanges that will be mediated through the Community of Practice will be facilitated through the Regional Project's dedicated web portal that will be set up under Component 3.</p> <p>? Data and information exchanges between the Regional Project and national child projects, and non-GEF funded countries/initiatives will be facilitated through the Regional Project's website and other interfaces established under the different frameworks (e.g. QAMF).</p> <p>Continued vigilance and risks assessments will be done as the global situation continues to evolve.</p>

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
<p>Climate change and climate variability are expected to increase in the future, which may impact delivery of Regional Project outputs in terms of: (i) disruption of infrastructure development and data collection from national pilot projects, (ii) continuity and disaster management implications for the PMU and (iii) stakeholder participation in events hosted by the Regional Project.</p>	<p>Low (I = 2, L = 2)</p>	<p>The potential impacts of climate change and climate variability have been recognized in the development of the national projects, particularly as it relates to infrastructure development.</p> <p>Climate risk and the considerations pertaining to the overall AMP are included in Annex 16.</p> <p>The geographic footprint of the 18 AMP countries will partially mitigate against all pilots being extensively delayed that would prevent all data collection efforts.</p> <p>Experience with climate risk can serve as valuable learnings for future developments and will therefore be treated as a knowledge resource in itself.</p> <p>In order to mitigate against climate-related risks, the Regional Project will use the following mitigating measures:</p> <ul style="list-style-type: none"> <li>? Avoid hazard prone areas and seasons when planning in-person training venues to minimize impacts related to extreme weather events.</li> <li>? Make use of its webportal to carry out virtual training / webinars.</li> <li>? Locate project staff a location that is not exposed to climate hazards</li> </ul> <p>Develop a disaster management and business continuity plan for the PMU if deemed necessary and not already in place for the facility where the PMU is hosted.</p>

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
<p>In national child projects, low appetite by private sector to support women-run businesses in PUE and to engage them in minigrids operations and management, due to perceptions of women's businesses being high-risk and low profits and women's low level of education and training</p> <p>Specific barriers faced by women such as limited skills/experience outside of traditional sectors/mobility restrictions may affect their performance</p>	<p>Low (I=2, L=2)</p>	<p>Systematic gender analyses will help identify prevalent gender gaps as well as opportunities, and develop concrete solutions, while learning from other international best practices in engaging women in energy projects.</p> <p>National child projects will adopt gender-responsive measures such as gender-responsive community mobilization, training programmes tailored to work around women's schedules, and encouraging women to work in groups, to mitigate risks.</p>
<p>Organizational Risk</p>		
<p>Time lag of results: The results from the Regional Project might not be fully seen until after its lifetime</p>	<p>Substantial (I = 3, L = 5)</p>	<p>First, the Regional Project will end before national child projects implying that not all in-country results will be captured by end of Regional Project. Second, there are usually administrative delays in the update and operationalization of best practices across the program's three thematic areas. In order to circumvent these issues, the Regional Project will move into a lighter phase with the support of the UNDP, where it will continue annual reporting and maintaining the website of materials. An agreement will be made with national implementing institutions to continue reporting beyond the Regional Project's lifetime.</p>

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
Multiple stakeholders and development partners active in the sector and region may result in duplication of efforts and overlaps.	Moderate (I = 3, L = 3)	<p>The Regional Project has been shaped by extensive consultations with other stakeholders in the African minigrid sector and the is cognizant that the project is entering a crowded, dynamic and fast-moving ecosystem.</p> <p>Several measures have been put in place to ensure the AMP contribution remains to coordinated, synergistic and complementary across the multiple stakeholders:</p> <ul style="list-style-type: none"> <li>- Established interfaces with existing platforms such as the Mini-Grids Partnership, ESMAP-led green minigrid coordination group and LEDS Mini-Grids Community of Practice.</li> <li>- Inclusion of many of these stakeholders on the Regional Project's technical advisory committee and Project Steering Committee.</li> <li>- The outwards facing elements of the Regional Project will have a deliberate focus on building networks and communicating more broadly than the AMP partner countries, facilitating a multi-directional flow of data and knowledge resources, both to AMP countries and from the AMP aggregated AMP knowledge platform to the minigrid ecosystem.</li> <li>- A communication strategy will be developed under Component 3 and the stakeholder engagement plan (Annex 8) will guide the continued engagement of stakeholders.</li> </ul> <p>The footprint, scope and prominence of the AMP is likely to create visibility to any new entrants into the sector.</p>
Capacity risk		

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
<p>The Regional Project does not have sufficient outreach to bring additional partners to the program.</p>	<p>Moderate (I = 3, L = 2)</p>	<p>The strategy will build on the existing partnerships of RMI and UNDP, and the combined communications capabilities of the group. The commitment of strategic partners has been secured by the RMI as confirmed by the letters of co-financing.</p> <p>To secure the buy-in of existing partners and to seek additional ones, the following are pointed out:</p> <p>? As mentioned above, UNDP and RMI carried out a ?roadshow? as an outreach mechanism towards Regional Project stakeholders. This ?roadshow? sought to concretize existing partnerships and to motivate additional partners to endorse / join the Regional Project</p> <p>? The Regional Project has developed a detailed Stakeholder Action Plan (Annex 8) that describes continued outreach activities.</p> <p>Building on the above two elements, Component 3 include a deliberate focus on bringing the expertise of a wide group of partners to the benefit of the Regional Project?s CoP and its technical cohorts.</p>
<p>Financial</p>		

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
<p>If co-financing is not realized as anticipated, it will confine the contribution of the AMP Regional Project. The extent to which information and knowledge can be disseminated and leveraged for awareness creation, capacity building and replication will depend on the co-financing support that is realized and any additional support or partnerships that can be leveraged during implementation.</p>	<p>Substantial (I = 4, L = 3)</p>	<p>Commitment letters have been provided by co-financing partners. These commitments will be tracked and reported on during implementation. The regional project will, as part of its monitoring activities under Component 5, track co-financing for the program including co-financing for the regional project and for national projects. As per the 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> </p> <p>In addition to the Regional project PMU tracking of all sources of co-financing, the AMP regional project oversight team (UNDP BPPS NCE Principal Technical Advisor (PTA), and Regional Technical Advisor (RTA)) will closely monitor co-financing provided by UNDP BPPS NCE and the UNDP Country Offices.</p> <p> </p> <p>Early indications are that the project will benefit from additional support and interest from stakeholders that may enable the project reach to be extended and/or demonstrated contributions to be replicated or expanded.</p> <p>Seeking opportunities for further partnerships and networks will be included in the scope of the Stakeholder Action Plan (Annex 8). Also, UNDP is in the process of joining the Minigrid Funders Group (MGF) which will provide a mechanism to coordinate with other key funders in the minigrids sector.</p>

Description of risk (grouped by category)	Level of risk (I, L)[1]	Mitigation
National child projects do not set aside sufficient funding to participate in the Regional Project activities and events (e.g. Community of Practice, meetings of Project Boards)	Substantial (I = 4, L = 3)	<p>AMP national projects have earmarked specific allocations (between USD 50,000 to USD 100,000) for specific national-level activities which can contribute to the program, and link up with the regional child project's activities. To be clear, this will not involve any transfer to the regional child project, but will simply cover national child project costs. For example this budget can cover costs related to:</p> <ul style="list-style-type: none"> <li>? M&amp;E to feed into program framework indicators (Component 5)</li> <li>? Travel to participate in the Regional Project's workshops/events (e.g. peer-to-peer exchanges through CoP and its cohorts under Component 3)</li> <li>? Sharing of research and lessons learned to the regional child project (Component 1)</li> <li>? Contributions towards the regional child projects customized knowledge products (Component 1)</li> </ul>
Social and Environmental (including climate)		
Please refer SES Exemption below.	N/A	N/A

**SES Exemption.** The objective of the Regional Project is to support countries to scale up commercial investment in low-carbon minigrids, acting as the knowledge, advocacy and coordinating platform for the Africa Minigrids Program. This will be achieved through a suite of knowledge tools, technical and operational expertise, communities of practice, and promoting innovative digital approaches for minigrid cost-reduction, as described for the respective components in earlier paragraphs.

As part of UNDP's quality assurance role, UNDP requires adherence to the SES for project activities implemented using funds channelled through UNDP's accounts, regardless of Implementation Modality (e.g. NIM, DIM). With some exceptions (see below), all proposed projects are required to be screened. As per UNDP's SES, projects that consist solely of any of the following functions or activities will be exempt from the screening requirement:

a. UNDP serves as Administrative Agent;

b. Preparation and dissemination of reports, documents and communication materials;

c. Organization of an event, workshop, training;[1]

d. Strengthening capacities of partners to participate in international negotiations and conferences;

e. Partnership coordination (including UN coordination) and management of networks; and/or

f. Global/regional projects with no country-level activities (e.g. activities such as knowledge management, inter-governmental processes);

g. Development Effectiveness projects and Institutional Effectiveness projects.

An assessment of the respective components against the exemption criteria found that the entire scope of the regional project falls under the exemption criteria, with all activities logically placed under one or more of the exemption criteria. Accordingly, the regional project is exempt from the SESP[2]. The SESP exemption is recorded in the project Design Stage QA Assessment Rating Tool and in this Project Document.

[1] For information on best practices in organizing meetings and events in a sustainable manner, see the UNDP Green Meeting and the Sustainable Events Guides, available at <https://www.greeningtheblue.org/reports/green-meeting-guide-2009>

[2] For projects that meet the SESP exemption criteria, Project Developers indicate in the SESP Tool that the SESP is not required and indicate the reason for the exemption. The SESP exemption is recorded in the project Design Stage QA Assessment Rating Tool.

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[1] I = Impact; L = Likelihood

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[1] I = Impact; L = Likelihood

## 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.**

**Roles and responsibilities of the project's governance mechanism:**

**Executing Agency:** The Executing Agency for this project is the **United Nations Development Programme ? Bureau for Policy and Programme Support ? Nature, Climate, Energy (UNDP/BPPS/NCE)**. The Executing Agency is the entity to which the UNDP Administrator has entrusted the implementation of UNDP assistance specified in this signed project document along with the assumption of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in this document.

The Executing Agency is responsible for executing this project. Specific tasks include:

? Project planning, coordination, management, monitoring, evaluation and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Executing Agency will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.

- ? Risk management as outlined in this Project Document;
- ? Procurement of goods and services, including human resources;
- ? Financial management, including overseeing financial expenditures against project budgets;
- ? Approving and signing the multiyear workplan;
- ? Approving and signing the combined delivery report at the end of the year; and,
- ? Signing the financial report or the funding authorization and certificate of expenditures.

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Project Management Unit (PMU): On behalf of the Executing Agency, the regional component of the Project will be managed by the Regional Project Management Unit (PMU) based in UNDP/BPPS/NCE, in charge of daily project coordination/execution and monitoring of the project activities. The PMU will be composed of personnel on non-staff contracts specifically hired for the management of this project and consisting of:

- ? **A Project Manager (PM).** On a day-to-day basis, the Project Manager will have the authority to run the project on behalf of UNDP BPPS and in accordance with the UNDP Programme and Operations Policies and Procedures (POPP) and issued Delegation of Authority (DOA);
- ? A Digital/M&E Specialist;
- ? An Administrative Assistant.

Due to uncertainties around the evolution of the COVID-19 situation in Africa, a phased approach has been adopted for the execution of the project. In **the first year of implementation (Phase 1)**, interim arrangements will be established. The PMU team members will be home-based and working through a virtual arrangement. The PMU will report to a BPPS/NCE Energy Regional Policy Advisor located in the Dakar Regional Hub, who does not have a reporting line to the personnel ensuring oversight of the project. Administrative support services (ASS) for the project in areas of procurement, travel arrangement, finance, human resources, and other processes will be provided by BPPS/NCE management program support staff, coordinated from HQ but located in different geographic locations to the oversight team (as described below).

**In the subsequent years of implementation (Phase 2)**, from year 2 onwards, the interim arrangements will end and the project will be physically located in one of UNDP's Africa Regional Hubs (Dakar, Pretoria or Nairobi). An assessment will be performed during Phase 1 to determine the most suitable location. The PMU will be physically relocated to this regional hub. Similarly, the supervision of the PMU may be transferred to an Off-grid Senior Advisor and a suitable arrangement for ASS will be determined, either a continuation of the arrangements in Phase 1 by BPPS NCE, or via the Regional Bureau of Africa operations team from this hub. In all scenarios, separation of duties and geographic locations will be maintained.

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Responsible Party. The Rocky Mountain Institute (RMI) will be the Responsible Party for the Regional Project. The agreement to provide technical services to the project, carry out project activities and produce outputs using the project budget is given in Annex 12. UNDP will **make use of** RMI's specialized skills, to mitigate risk and to relieve administrative burdens related to the implementation of all the activities and outputs under Outcomes 1 and 3 of the Regional Project. Under the Responsible Party agreement in Annex 12, RMI will carry out the following tasks, details of which are given in Section IV and the objective-level targets found in the project Results Framework (Section V):

- ? Carry out curation of existing knowledge on minigrids under Output 1.1;
- ? Develop a quick-start knowledge product under Output 1.1;
- ? Develop knowledge products in the form of short reports and policy briefs that are complementary to existing information across the program's (and national child projects?) three thematic areas for achieving cost reduction (Output 1.2);
- ? Develop training materials on renewable minigrid cost reductions for the CoP (national child projects), and for a broader set of stakeholders in Sub-Saharan Africa using the results of Outputs 1.1 and 1.2;
- ? Establish a Community of Practice for solar PV minigrids actors and practitioners in SSA, as well as technical cohorts around the program's three thematic areas (Output 3.1);
- ? Undertake partner engagement and outreach for the participation of high-priority international and regional actors in the CoP as per the SEP in Annex 8 (Output 3.1);
- ? Provide advice and guidance on the design and implementation of the Regional Project website and communications platform (Output 3.2);
- ? Provide content for the project website (Output 3.2); and
- ? Facilitate and moderate convening sessions of the CoP and its technical cohorts (Output 3.2).

Technical Advisory Committee (TAC): A technical advisory committee will act as an advisory body to the UNDP and the Regional Project PMU. The TAC will include representation from **the** key industry bodies

including AMDA, RMI, SE4All, Carbon Trust and ESMAP. Specific terms of reference for the TAC will be developed by the PMU and approved by the Project Board.

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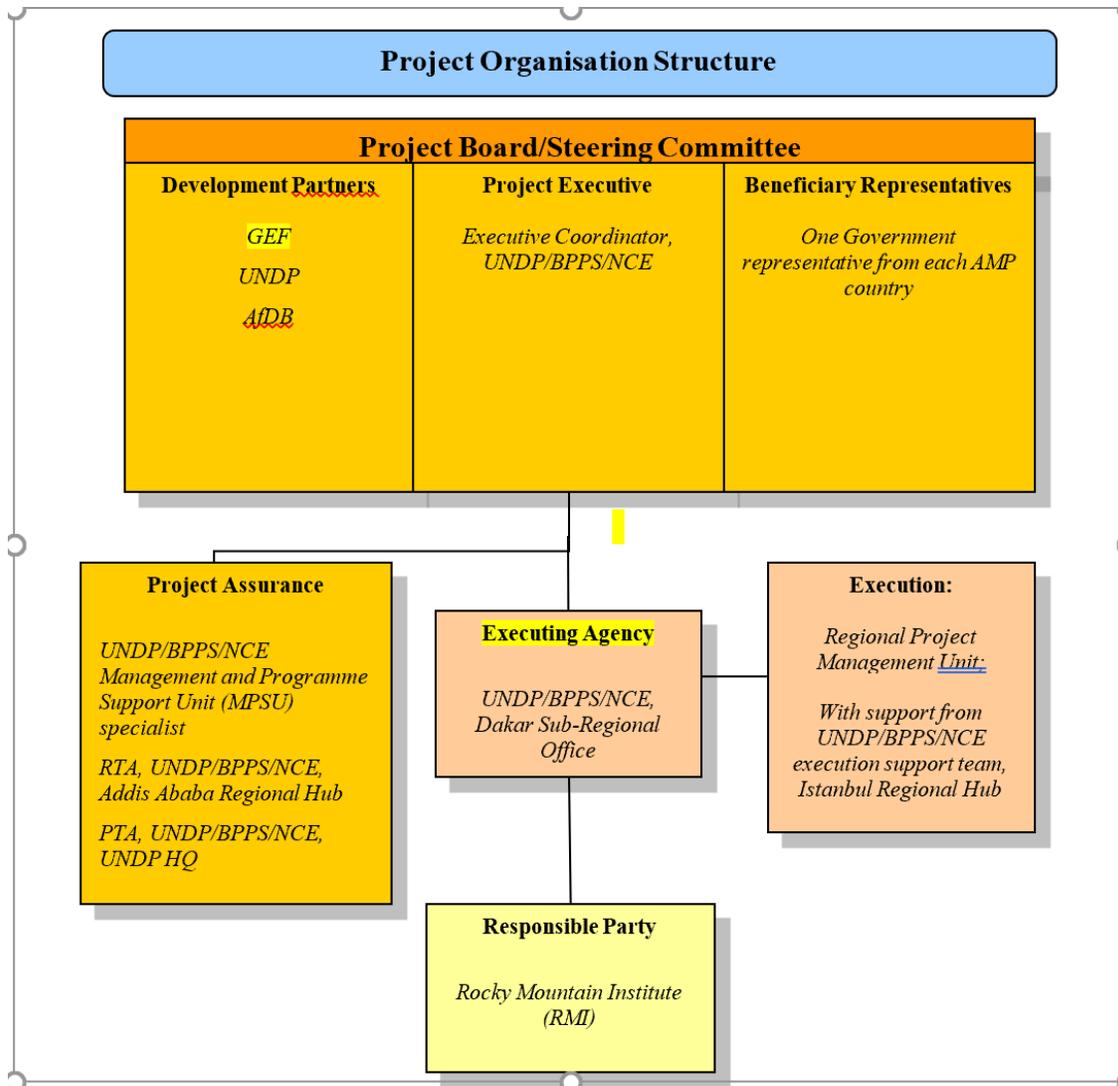
Project stakeholders and target groups: Project Targets Groups and their representatives will be invited to participate in the project's Inception Workshop at the start of the project. The Inception workshop is an opportunity for project target groups to provide additional feedback on the project's design and planning and propose changes (if necessary). Further engagement with stakeholders during implementation is described in the Stakeholders Engagement Plan in Annex 8 to this project document. The three broad categories of project stakeholders and target groups in this project will be: (i) AMP national projects and the corresponding in-country stakeholders (that are detailed in each national child project document); (ii) regional and international partners; and non-AMP project countries and corresponding national stakeholders that participate in the Regional Project CoP at their own costs.

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UNDP: UNDP is accountable to the GEF for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. UNDP is responsible for delivering GEF project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation. UNDP is also responsible for the Project Assurance role of the Project Board/Steering Committee.

In this project, UNDP/BPPS/NCE Team will provide both implementation oversight and execution support. A strict firewall will be maintained between UNDP personnel involved in the delivery of project oversight and quality assurance and charged to the GEF Fee, and UNDP personnel undertaking project execution and charged to the project management costs. Separation of duties will be achieved in particular by ensuring that (i) Individuals working on implementation oversight cannot work on execution support, and vice versa; and (ii) Individuals working on either implementation oversight or execution support will, to the extent possible - be geographically separated.

**Project organization structure:**



The Project Board (also called Project Steering Committee) is responsible for taking corrective action as needed to ensure the project achieves the desired results. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case consensus cannot be reached within the Board, the Project Executive will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

Specific responsibilities of the Project Board include:

- ? Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- ? Address project issues as raised by the project manager;

- ? Provide guidance on new project risks, and agree on possible mitigation and management actions to address specific risks;
- ? Agree on project manager's tolerances as required, within the parameters set by UNDP-GEF, and provide direction and advice for exceptional situations when the project manager's tolerances are exceeded;
- ? Advise on major and minor amendments to the project within the parameters set by UNDP-GEF;
- ? Ensure coordination between various donor and government-funded projects and programmes;
- ? Ensure coordination with various government agencies and their participation in project activities;
- ? Track and monitor co-financing for this project;
- ? Review the project progress, assess performance, and appraise the Annual Work Plan for the following year;
- ? Appraise the annual project implementation report, including the quality assessment rating report;
- ? Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;
- ? Review combined delivery reports prior to certification by the **Executing Agency**;
- ? Provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- ? Address project-level grievances;
- ? Approve the project Inception Report, Mid-term Review and Terminal Evaluation reports and corresponding management responses;
- ? Review the final project report package during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.
- ? Ensure highest levels of transparency and take all measures to avoid any real or perceived conflicts of interest.

The composition of the Project Board must include the following roles:

- Project Executive: Is an individual who represents ownership of the project and chairs the Project Board. In this project, the role of Project Board Executive/Chair will be ensured by the Executive Coordinator, BPPS/NCE.
- Beneficiary Representative(s): Individuals or groups representing the interests of those who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of

project results from the perspective of project beneficiaries. The Beneficiary representative (s) is/are: Representatives of child countries through either the national **Executing Agency** institutions and/or the National Climate Change Focal Points.

- Development Partner(s): Individuals or groups representing the interests of the parties concerned that provide funding and/or technical expertise to the project. Besides UNDP, the Development Partners in this project is AfDB **and the GEF**. Other organisations may be invited by the Project Board to join specific discussions and/or meetings.

- Project Assurance: UNDP performs the quality assurance and supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. In this project, UNDP will provide a two-tiered oversight services involving UNDP at regional and headquarters levels. Project assurance is totally independent of project execution.

## 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.

Consistency with National Priorities has been confirmed by the AMP National Projects for each partner country. Moreover, partner countries support and/or signatories to the global conventions, strategies and plans that underpin this Program, most notably including:

- United Nations Framework Convention on Climate Change and 2015 Paris Agreement;
- The Sustainable Development Goals, specifically SDG 7 that has set a target for 2030 to ensure universal access to affordable, reliable and modern energy services.

## 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.**

The aim of the AMP Regional Project is to foster knowledge sharing, learning, and synthesis of experiences in a multi-directional manner? i.e. flowing from the AMP Regional Project to the national projects, and vice versa, and between the various AMP national projects within the Program. The AMP Regional Project is therefore set up as a knowledge platform that will connect countries to knowledge,

resources and networks of best practice and will support the rapid deployment of expertise, solutions and tools to support on-the-ground implementation.

Knowledge management is therefore deeply embedded in the Theory of Change (TOC) and every aspect of the Regional Project. The TOC is briefly described as follows:

Challenge. The Project was designed with the understanding that a wealth of clean energy minigrid learnings and knowledge resources have been developed over the preceding decade and will continue to emerge with the constant learning that marks a new innovative market. Despite the ready availability of good knowledge resources, these are not adequately or efficiently finding their way into common practice and policies.

Barriers to adoption. Multiple barriers have been identified as contributing to hinder the easy adoption of learnings and experience from other countries and initiatives.

Components and contributions. As a program, the AMP offers a further opportunity for knowledge to be shared among and to emerge from the 18 participant countries and the diverse implementation environments they represent. With established links to the broader minigrid ecosystem, the Regional Project can also disseminate AMP collated data more broadly and funnel external information to the AMP participant countries.

With this pivotal placement, the Regional Project contribution has been structured to leverage the knowledge that is created (internal), collated (internal and external), curated, translated (analysed, interpreted, and packaged) and disseminated to national projects, communities of practice and broader stakeholder engagement, to promote knowledge integration and adoption more widely.

Outcomes. The hypothesis follows that improved access to credible information and active collaboration, networking and lobbying among peers and stakeholders will establish a distribution channel for ?innovative goods? ? learnings and experiences gained from pilot innovations and business models ? to be shared, digested and adopted to become ?public goods? i.e. made accessible for adoption into common practice at scale.

In the short term, the expectation is that platforms will be created that facilitate:

- ? better access to credible, independent minigrid information and knowledge for policy makers, developers and investors;
- ? an operational network of communities of practice that enables members and partners to connect, discuss and share, translate and co-create knowledge.
- ? the use of digital tools for knowledge pooling, extraction of insights and identification of new opportunities.

In the medium to longer-term the expectation is that these AMP supported platforms will embed a culture and environment (i) of active learning and knowledge sharing among policy-makers, developers and investors; and (ii) where the availability and active sharing of knowledge find its way into evidence-informed programs, policies and practices.

Targeted impacts. Data-driven designs should enable improved minigrid system design, enhanced business models, improved business models, tariff designs and revenue collection mechanisms. When also supported by evidence-informed policies and regulatory environments, minigrids will offer a more attractive investment opportunity for investors and developers. As for the overall program, the intended impact of the Regional Project is to contribute to scaled up investment in minigrids, GHG emission reductions and progress in terms of SDG 7.

The budget for the Regional Project, is therefore the knowledge management budget. The combined budget to deliver the 5 Components of the Regional Project is \$3,525,900. The Regional Project and will be implemented over 4 years.

## **9. Monitoring and Evaluation**

### **Describe the budgeted M and E plan**

The project results, corresponding indicators and mid-term and end-of-project targets in the project results framework will be monitored annually and evaluated periodically during project implementation. If baseline data for some of the results indicators is not yet available, it will be collected during the first year of project implementation. The Monitoring Plan included in Annex 4 details the roles, responsibilities, and frequency of monitoring project results.

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the [UNDP POPP](#) and [UNDP Evaluation Policy](#). The UNDP Country Office is responsible for ensuring full compliance with all UNDP project monitoring, quality assurance, risk management, and evaluation requirements.

Additional mandatory GEF-specific M&E requirements will be undertaken in accordance with the [GEF Monitoring Policy](#) and the [GEF Evaluation Policy](#) and other [relevant GEF policies\[1\]](#). The costed M&E plan included below, and the Monitoring plan in Annex 4, will guide the GEF-specific M&E activities to be undertaken by this project.

In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report.

Finally, the project will have a number of M&E linkages to the AMP National Projects. This is set out in a Box, at the end of this section.

**Additional GEF monitoring and reporting requirements:**

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Inception Workshop and Report: A project inception workshop will be held within 60 days of project CEO endorsement, with the aim to:

- a. Familiarize key stakeholders with the detailed project strategy and discuss any changes that may have taken place in the overall context since the project idea was initially conceptualized that may influence its strategy and implementation.
- b. Discuss the roles and responsibilities of the project team, including reporting lines, stakeholder engagement strategies and conflict resolution mechanisms.
- c. Review the results framework and monitoring plan.
- d. Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFF and other stakeholders in project-level M&E.
- e. Update and review responsibilities for monitoring project strategies, including the risk log; SESP report, Social and Environmental Management Framework and other safeguard requirements; project

grievance mechanisms; gender strategy; knowledge management strategy, and other relevant management strategies.

- f. Review financial reporting procedures and budget monitoring and other mandatory requirements and agree on the arrangements for the annual audit.
- g. Plan and schedule Project Board meetings and finalize the first-year annual work plan.
- h. Formally launch the Project.

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#### GEF Project Implementation Report (PIR):

The annual GEF PIR covering the reporting period July (previous year) to June (current year) will be completed for each year of project implementation. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR. The PIR submitted to the GEF will be shared with the Project Board. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

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#### GEF Core Indicators:

The GEF Core indicators included as Annex 13 will be used to monitor global environmental benefits and will be updated for reporting to the GEF prior to the TE. Note that the project team is responsible for updating the indicator status. The updated monitoring data should be shared with TE consultants prior to required evaluation missions, so these can be used for subsequent **ground truthing**. The methodologies to be used in data collection have been defined by the GEF and are available on the GEF [website](#).

#### Terminal Evaluation (TE):

An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance for GEF-financed projects available on the [UNDP Evaluation Resource Center](#).

The evaluation will be "independent, impartial and rigorous". The evaluators that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. Equally, the evaluators should not be in a position where there may be the possibility of future contracts regarding the project being evaluated.

The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the BPPS/GEF Directorate.

The final TE report and TE TOR will be publicly available in English and posted on the UNDP ERC by 1 June 2025. A management response to the TE recommendations will be posted to the ERC within six weeks of the TE report's completion.

Final Report:

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

Agreement on intellectual property rights and use of logo on the project's deliverables and disclosure of information: To accord proper acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy[2] and the GEF policy on public involvement[3].

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 3 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\$)[4]	Time frame
<b>Inception Workshop</b> (assumed blended format, respecting social distancing guidelines)	5,000	Within 60 days of CEO endorsement of this project.
Inception Report	None[5] <sup>14</sup>	Within 90 days of CEO endorsement of this project.

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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 3 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\$)[4]	Time frame
M&E of GEF core indicators and project results framework	93,500[6]	Annually and at mid-point and closure.
GEF Project Implementation Report (PIR)	None[7]	Annually typically between June-August, starting after first year of implementation.
Monitoring of environmental and social risks, and corresponding management plans as relevant	None[8]	On-going.
Addressing environmental and social grievances	None[9]	
Monitoring of Gender Action Plan	None[10]	On-going.
Supervision missions	None	Annually.
Independent Mid-term Review (MTR)	33,750	1 January 2024
Independent Terminal Evaluation (TE)	33,750	31 December 2021
<b>TOTAL indicative COST</b>	<b>Total: 166,000[11]</b>	<b>Included under Component 5, Output 5.1.</b>

Box 1: Linkages to the AMP National Projects - M&E

The project will collate M&E information from the AMP National Projects as follows:

? National AMP Projects will 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 for aggregation and reporting to GEF (by the regional project) on the impacts of all participating national projects for the program as a whole; and (b) Reporting on any and all additional Key Performance Indicators (KPIs) adopted by the project under the common M&E framework.

The project will provide support and guidance to the AMP National Projects for conducting M&E activities as follows:

- ? **Ongoing project monitoring.** The AMP Regional Project PMU will:
- a. Develop a common monitoring and evaluation (M&E) framework against which GHG emission reductions and broader SDG impacts and program objectives can be measured, and work closely with national child projects to ensure operationalization and harmonization.
  - b. Provide support to National Project PMUs for updating key project planning instruments at least on an annual basis as required to comply with UNDP project monitoring, quality assurance, and risk management requirements, and ensure adequate project planning and adaptive management. This may entail developing common templates for key project planning instruments.
  - c. Review and provide feedback on reports submitted by the national project PMUs seeking to continuously improve the quality and ease of reporting by national projects.
  - d. Aggregate M&E data from all national projects, including Results Framework and all additional Key Performance Indicators (KPIs) adopted by the project under the common M&E framework, and report back to GEF at the program level.
- ? **Evaluations (MTR and TE).** The AMP Regional Project PMU will:
- a. Make available to national projects standardized terms of reference for MTR and TE as well as a roster of vetted evaluation consultants.
  - b. Review and provide feedback on terms of reference and draft evaluation reports shared by the project PMU to ensure project-level evaluation will be undertaken in compliance with UNDP requirements.
  - c. Make themselves available for interviews and consultation in the context of national project mid-term and terminal evaluations.

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[1] See [https://www.thegef.org/gef/policies\\_guidelines](https://www.thegef.org/gef/policies_guidelines)

[2] See [http://www.undp.org/content/undp/en/home/operations/transparency/information\\_disclosurepolicy/](http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/)

[3] See [https://www.thegef.org/gef/policies\\_guidelines](https://www.thegef.org/gef/policies_guidelines)

[4] Not including project team staff time

[5] To be prepared by PMU, with no additional costs

[6] Because the aim of the regional program is knowledge sharing between the participant countries, a critical focus is on data collection, monitoring and reporting. While data collection is included under the

digital strategy and QAMF, monitoring and reporting of M&E and GEF Core indicators are covered under Component 5, Output 5.2. The indicated budget allocation is therefore specific to *Service Contracts* for monitoring of GEF core indicators (emissions and beneficiaries) and results framework indicators.

[7] Activities and costs included under the PMU functions.

[8] Socio-economic and environmental indicators have been incorporated under the data collection and overall monitoring framework and integrated under Output 5.2. A separate budget has therefore not been allocated.

[9] The SEP makes provision for a grievance mechanism.

[10] Gender specific indicators have been incorporated into the indicators, data collection and overall monitoring framework and are therefore already covered under the budget for Output 5.2. No additional budget allocation has therefore been made.

[11] Within the 5% allowance for M&E when GEF project grant for project is up to USD 5 million.

## 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 (LDCE/SCCF)?**

While national child projects have a set of interventions aimed at systematically targeting the underlying investment risks at the national level for renewable energy minigrids, the Regional Project has been designed to aggregate and systematically disseminate lessons learned and experiences from national projects implementation, and from collaboration with other national stakeholders, that can help foster enabling conditions for minigrid cost-reduction and the development of minigrid markets across Africa. The Regional Project will augment the AMP by providing technical and knowledge support to the national projects, while also serving as a knowledge platform for the wider ecosystem.

Benefits at a socioeconomic level ? including a healthier environment, opportunities for income generating activities and improved management of natural resources ? will therefore derive from:

- (i) National Project support provided to encourage implementation of clean energy minigrids in partner countries, and
- (ii) Broader and accelerated adoption of low-carbon minigrids enabled by minigrid cost-reduction and the development of minigrid markets across the continent.

Guidance from the Gender Analysis and Action Plan will help ensure that gender equity and empowerment remain a key part of the project implementation, while disaggregated indicators as well as monitoring and reporting will enable an understanding of gender specific impacts that can inform improved future planning and decision-making. Particular attention will be given to strengthening the role of women as beneficiaries, decision-makers, participants, management and ownership of mini-grid systems or energised end-uses as detailed in the gender action plan.

The Regional Project will aggregate the program-wide impact for all AMP countries, showing the combined contribution to improved energy access and the multiple associated socio-economic benefits. By linking this information back to the appropriate knowledge tools and information sharing platforms of the Regional Platform, benefits can be disseminated and used to inform best practices, replication and enhancement of future mini-grid developments.

Accelerated investments in clean energy also has wider benefits, contributing reduced carbon emissions of global significance. The AMP as a whole is expected to generate 422,373 tCO<sub>2</sub>e of direct emissions reductions from the renewable minigrid investments made by all its national projects, and 27,367,049 tCO<sub>2</sub>e of indirect emission reductions as a result of an enabled investment environment, to which the program will contribute, where minigrids can scale-up and program interventions can be replicated at scale.

Direct and indirect emissions reductions are allocated between the regional and national projects based on agreed requirements for reporting of AMP ?third-party-funded? national projects. AMP ?third-party funded? national projects will benefit from and participate in the activities of the AMP regional child project and hence will: (a) constitute co-financing to the AMP regional child project?s component 2; and (b) report their global environmental benefits and contributions to the program?s GEF CORE indicators through the AMP regional project. As such, emission reductions allocated to the AMP regional project include:

- ? 10% of the indirect GHG ER of AMP ?GEF-funded? national projects
- ? 100% of the indirect GHG ER of AMP ?third-party-funded? national projects
- ? 100% of the direct GHG ER of AMP ?third-party-funded? national projects

Based on this allocation, the AMP regional project is expected to generate 30,433 tCO<sub>2</sub>e of direct emissions reductions from the renewable minigrid investments made by AMP ?third-party-funded? national projects. It is also expected to generate 8,505,705 tCO<sub>2</sub>e of indirect emission reductions associated to the project?s contribution to an enabled investment environment for minigrid scale-up. This is

a significant increase with respect to the level of indirect emissions reductions at PIF/Concept stage due in large part to the addition of third-party-funded projects contributions.

The project will provide and/or improve energy access for a total of 14,233 people, of whom 7,296 people are women and 6,937 men. A total of 2,893 connections to minigrids are expected to be added/improved directly by AMP third-party-funded projects increasing renewable energy capacity by 0.658 MW of solar photovoltaic (PV) systems and 1.575 MWh of battery storage.

### 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
Low			

#### 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.

#### Supporting Documents

Upload available ESS supporting documents.

Title

Module

Submitted

Title	Module	Submitted
<b>Justification for SESP exemption for Regional Child Project _07 27 2021_</b>	<b>CEO Endorsement ESS</b>	

**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><b>This project will contribute to the following Sustainable Development Goal(s):</b> 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services; <b>Corresponding SDG Indicator:</b> (a) 7.1.1, with additional disaggregation, (b) 7.1.2)</p>				
<p><b>This project will contribute to the following UNDP Strategic Plan Outcome/Indicators:</b>  <b>Tier IIa: Development Outcomes</b>  <b>Outcome 1: Advance poverty eradication in all its forms and dimensions</b>  <i>[Indicator - 1.7a: Proportion of population with access to electricity (disaggregated by urban/rural areas to the extent possible; Baselines: total: 85% (2014); urban: 96% (2014); rural 73% (2014) ; Target (direction): increase]</i>  <b>Outcome 2: Accelerate structural transformations for sustainable development</b>  <i>[Indicator ? 2.11: Proportion of population with primary reliance on clean fuels and technology; Baseline: 57% (2014); Target (direction): increase]</i></p>				
	<p><b>Objective and Outcome Indicators</b> (no more than a total of 20 indicators)</p>	<p><b>Baseline</b> <i>Must be determined during PPG phase</i></p>	<p><b>Mid-term Target</b> <i>Expected level of progress before MTR process starts</i></p>	<p><b>End of Project Target</b> <i>Expected level when terminal evaluation undertaken</i></p>
<p><b>Project Objective:</b> <i>To support countries to scale up commercial investment in renewable energy minigrids, acting as</i></p>	<p><b>Indicator 1:</b> <b>Greenhouse gas emissions mitigated</b> <i>(Units of measure: metric tons of carbon dioxide equivalent (tCO2e))</i></p>	<p>Zero, since the project has not yet started</p>	<p>Zero, since the project pilot(s) have not yet been commissioned</p>	<p><i>Direct: 30,433 tCO2e</i> <i>Indirect: 8,467,145 tCO2e</i></p>

*the knowledge, advocacy and coordinating platform for the Africa Minigrids Program.*

**Indicator 2:** Number of direct beneficiaries disaggregated by gender (individual people)

Zero, since the project has not yet started

**Regional project activities:**

**Regional project activities:**

*130 people (of whom 50 women)*

*400 people (of whom 150 women)*

**Energy access via minigrids (Third-party-funded projects):**

**Energy access via minigrids (Third-party-funded projects):**

*Zero, since the project pilot(s) have not yet been commissioned*

*7,296 people (women)*

*6,937 people (men)*

*14,233 people (total)*

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*13,810 people (residential)*

*130 people (social)*

*293 people (commercial/PUE)*

*14,233 people (total)*

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*2,762 connections (residential)*

*33 connections (social)*

*98 connections (commercial/PUE)*

*2,893 connections (total)*

This indicator includes:

i. Number of direct beneficiaries from regional project activities; and

ii. Number of direct beneficiaries benefitting from energy access via minigrids, made possible by third-party-funded national projects, disaggregated by gender and by customer segment (residential, social, commercial/productive use)

*(Units of measure: number of individual people, number of connections)*

	<b>Indicator 3:</b> Increase in installed solar PV capacity (MW) and battery storage (MWh) from <u>minigrids made possible by third-party-funded national projects</u>	Zero, since the project has not yet started	Zero, since the project pilot(s) have not yet been commissioned	<i>Off-grid solar PV: 0.658 MW</i> <i>Battery storage: 1.575 MWh</i>
<b>Project Component 1</b>	<b>Knowledge Tools</b>			
<b>Project Outcome 1</b>  <i>Latest developments and good practice in minigrids captured and made available to all minigrid stakeholders</i>	<b>Indicator 4:</b> Pre-identified knowledge products (quick-start package, DREI analyses) produced and disseminated.  <i>(Units of measure: binary (Yes/No))</i>	Zero, since the project has not yet started	<i>(i) Quick-start package and (ii) initial DREI flagship regional report produced and disseminated.</i>	<i>(i) Quick-start package. (ii) initial regional DREI flagship report, and (iii) regional DREI update report, produced and disseminated.</i>

	<p><i>Indicator 5:</i> In-house and third-party knowledge products are developed and disseminated, achieving high visibility and relevance for the program</p> <p>Knowledge products may include, but are not limited to: reports, briefs, newsletters, blogs, webinars, podcasts.</p> <p>- (Units of measure: binary (Yes/No))</p>	<p>Zero, since the project has not yet started</p>	<p><i>Targets for development and dissemination of in-house and third party knowledge products, in order to achieve high visibility and relevance for the program, are defined in the communications and partnerships strategy. The targets are approved by UNDP HQ and the Project Board.</i></p> <p><i>Knowledge product targets as per the communications and partnerships strategy, measured on a quarterly basis, are met or exceeded.</i></p>	<p><i>Knowledge product targets as per the communications and partnerships strategy, measured on a quarterly basis, are met or exceeded.</i></p>
	<p><b>Indicator 6:</b> Number of usage cases of knowledge products (differentiated by gender) measured in terms of (i) registered number of downloads from project website; (ii) number of stakeholders reached through convening of CoP; and (iii) number of requests made and fulfilled by email.</p> <p>(Units of measure: Absolute number of stakeholders accessing knowledge products)</p>	<p>Zero, since the project has not yet started</p>	<p>520 (at least, 30% women)</p>	<p>2,400 (38% women)</p>

	<p><b>Indicator 7:</b> Perceived value of available knowledge tools confirmed by high percentage of satisfaction from stakeholders/users of knowledge tools.</p> <p>(Units of measure: (i) <i>percentage</i> satisfaction rates recorded by users of the knowledge tools)</p>	Zero, since the project has not yet started	<i>At least 80% satisfaction rate achieved through twice annual satisfaction surveys among users of knowledge products</i>	<i>At least 80% satisfaction rate achieved through twice annual satisfaction surveys among users of knowledge products</i>
<b>Outputs to achieve Outcome 1</b>	<p>? Output 1.1: Implementation guidance and curated resources for AMP (Regional Project and national projects)</p> <p>? Output 1.2: AMP flagship reports and country-level insight briefs</p> <p>? Output 1.3: Training materials (various thematic areas)</p>			
<b>Project Component 2</b>	<b><i>Tailored Technical and Operational Assistance to National Child Project Implementation</i></b>			
<p><b>Outcome 2</b></p> <p>AMP child project countries <i>benefit from</i> rapidly deployable technical and operational expertise, tailored to each country's context, organized across the program's three thematic areas and national project implementation modalities.</p>	<p><b>Indicator 8:</b></p> <p>A comprehensive database of operational and technical experts and generic terms of references (TORs) defining expert profiles and standard scope of work, across all thematic areas, including digital, gender, social and environmental, and (i) any additional support needs expressed by national projects, (ii) developed and maintained, (iii) and made available online.</p> <p>(Units of measure: <i>binary (Yes/No)</i>)</p>	Zero, since the project has not yet started	<p>(i) <i>Categories of required expertise identified with input from national projects; AND</i></p> <p>(ii) <i>Comprehensive database developed with identified technical experts and generic TORs across all thematic areas and including digital, gender, social and environmental; AND</i></p> <p>(iii) <i>Database available online.</i></p>	<p>(i) <i>Categories of required expertise expanded with input from national projects to meet evolving project requirements; AND</i></p> <p>(ii) <i>Database of technical experts and TORs expanded and maintained; AND</i></p> <p>(iii) <i>Database available online.</i></p>

	<p><b>Indicator 9:</b> Number of AMP countries making use of generic TORs and/or operational and expert support available at the Regional Project.</p> <p><i>(Units of measure: Absolute number of AMP countries)</i></p>	Zero, since the project has not yet started	5 (at least)	10 (at least)
	<p><b>Indicator 10:</b> Perceived benefit of technical and operational expertise available from regional project confirmed by high percentage of satisfaction from AMP National PMUs.</p> <p><i>(Units of measure: (i) percentage satisfaction rates recorded by AMP national project PMUs)</i></p>	Zero, since the project has not yet started	At least 80% satisfaction rate achieved through annual satisfaction survey among AMP national project PMUs.	At least 80% satisfaction rate achieved through annual satisfaction survey among AMP national project PMUs.
<b>Outputs to achieve Outcome 2</b>	<p>? Output 2.1: Database of operational and technical experts</p> <p>? Output 2.2: Operational and technical expert support (core AMP thematic areas)</p>			
<b>Project Component 3</b>	<b>Communities of Practice</b>			
Support & facilitate knowledge management and information sharing between regional and National Child Projects, within the program's communities of practice, as well as broader ecosystem.	<p><b>Indicator 11:</b> Communication and partnership strategy developed and implemented, with a fully operational online learning management system and AMP web platform.</p> <p><i>(Units of measure: binary (Yes/No))</i></p>	Zero, since the project has not yet started	<p>Communication and partnership strategy developed, and approved by UNDP HQ and Project Board; AND</p> <p>Online learning management system established; AND</p> <p>AMP web platform established.</p>	Fully functional online learning management system and AMP web platform.

	<p><b>Indicator 12:</b> Community of Practice with constellation of technical cohorts established and operational corresponding to a scheduled program of activities with at least two meetings hosted for each active forum per year. <i>(Units of measure: binary (Yes/No))</i></p>	Zero, since the project has not yet started	<p><i>Community of Practice established and operational; AND</i></p> <p><i>Technical cohorts established and operational; AND.</i></p> <p><i>Scheduled program of activities defined and adopted; AND</i></p> <p><i>At least two meetings hosted for each active forum per year.</i></p>	<p><i>Community of Practice with constellation of technical cohorts operational corresponding to a scheduled program of activities.</i></p>
	<p><b>Indicator 13.</b> Consistently high value derived by participants in the COP and cohorts reflected in percentage satisfaction.</p>	Zero, since the project has not yet started	<p><i>At least 80% satisfaction rate achieved through annual satisfaction survey among COP and cohort participants.</i></p>	<p><i>At least 80% satisfaction rate achieved through annual satisfaction survey among COP and cohort participants.</i></p>
<b>Outputs to achieve Outcome 3</b>	<p>? Output 3.1: Development of a communications strategy</p> <p>? Output 3.2: Online learning management system and AMP web platform</p> <p>? Output 3.3: Community of practice establishment and convening</p> <p>? Output 3.4: Technical cohorts and facilitation to address shared challenges</p>			
<b>Project Component 4</b>	<b><i>Digital tools and solutions for minigrid cost-reduction</i></b>			
<p><b>Outcome 4</b> <i>Robust data-driven market intelligence on minigrid systems and business models is aggregated and</i></p>	<p><b>Indicator 14:</b> Digital Strategy and QAMF developed and implemented. <i>(Units of measure: binary (Yes/No))</i></p>	Zero, since the project has not yet started	<p><i>Digital Strategy and QAMF developed and being implemented.</i></p>	<p><i>Digital Strategy and QAMF implemented.</i></p>

<p><i>shared across the minigrid sector, increasing consumer and investor confidence and lowering the risk profile and costs of minigrids. Digital solutions are mainstreamed across national child projects to demonstrate cost-reduction opportunities.</i></p>	<p><b>Indicator 15</b> Insights publication of robust, data-driven intelligence on minigrid systems and regional learnings derived from the aggregated dataset, with specific focus on demonstrated risk and costs reduction opportunities, produced during years 3 and 4. <i>(Units of measure: binary (Yes/No))</i></p>	<p>Zero, since the project has not yet started</p>	<p><i>Aggregated dataset created at regional level.</i></p>	<p><i>Two annual insights publications produced with robust, data-driven intelligence on minigrid systems and regional learnings derived from the aggregated dataset with specific focus on risk and cost reduction opportunities.</i></p>
	<p><b>Indicator 16:</b> Digital solutions adopted and utilized in support of minigrid development in number of AMP countries. <i>(Units of measure: Absolute number of AMP countries)</i></p>	<p>Zero, since the project has not yet started</p>	<p><i>4 (at least)</i></p>	<p><i>9 (at least)</i></p>
<p><b>Outputs to achieve Outcome 4</b></p>	<p>? Output 4.1: A digital strategy for the Africa Minigrids Program (AMP) is developed and implemented.</p> <p>? Output 4.2: Standardization of data and data collection protocols, applied to all AMP minigrid pilots, and disseminated across the minigrid sector.</p> <p>? Output 4.3: Data from all AMP minigrid pilots/countries is digitally aggregated at a regional level, based on the AMP-QAMF, creating value by generating insights and regional learning.</p> <p>? Output 4.4: Demonstration of automated data analysis for minigrid development.</p> <p>? Output 4.5: Digital advocacy and communication tools, as well as digital content, are developed to enable and facilitate national policy dialogues for AMP national child projects</p>			
<p><b>Project Component 5</b></p>	<p><b><i>Monitoring &amp; Evaluation</i></b></p>			

<p><b>Outcome 5</b> <i>Coordinated tracking/aggregation of all AMP projects? M&amp;E.</i></p>	<p><b>Indicator 17</b> Percentage of active national projects tracking and reporting on GEF CORE and Harmonized Results Framework indicators and regional project result indicators for reporting to the GEFSEC. <i>(Units of measure: Percentage)</i></p>	<p>Zero, since the project has not yet started</p>	<p>100%</p>	<p>100%</p>
<p><b>Outputs to achieve Outcome 5</b></p>	<p>? <i>Output 5.1: Regional Project monitoring and evaluation including: (i) Inception workshop, (ii) project monitoring, and (iii) mid-term and terminal evaluations.</i></p> <p>? <i>Output 5.2: Programme monitoring/reporting to GEFSEC of all AMP child? project impacts from results frameworks (aggregation)</i></p>			

**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><b>I. Comment:</b></p> <p><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><b>Response:</b></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 in both the CEO endorsement request 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><b>Regional project measures:</b></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><b>General national project measures.</b></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>Regional project document:</p> <p>Section IV. RESULTS AND PARTNERSHIPS:</p> <p>- Description of Component 5;</p> <p>- Key Risks (Table 9)</p>

Comment & Response	Reference
<p><b>2. Comment:</b></p> <p><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><b>Response:</b></p> <p>All relevant stakeholders have been identified for the Regional Project 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. RESULTS AND PARTNERSHIPS.</p> <p>The Executing Agency/Implementing Partner for the Regional Project is the United Nations Development Programme ? Bureau for Policy and Programme Support ? Nature, Climate, Energy(UNDP/BPPS/NCE).</p>	<p>Regional project CEO endorsement/ approval request document:</p> <p>- (Part II, Section 6 - Institutional Arrangement and Coordination)</p> <p>Regional Project document:</p> <p>- Section IV. RESULTS AND PARTNERSHIPS.</p> <p>- Section VII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS.</p> <p>- Annex 8, Stakeholder Engagement Plan</p>

Comment & Response	Reference
<p><b>3. Comment:</b></p> <p>"Germany requests a <b>breakdown of component 2 activities</b>, 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."</p>	
<p><b>Response:</b></p>	
<p><b>National projects:</b></p>	
<p>For each of the AMP national projects, the Component 2 activities, which include GEF INV for minigrid pilots, have been comprehensively described in the respective project documents, Section IV. RESULTS AND PARTNERSHIPS.</p>	
<p><b>Regional project.</b></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>Regional Project Document:</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 as technical capacity building.</i></p>	<p>Section III. STRATEGY</p>

Comment & Response	Reference
<p><b>4. Comment:</b></p> <p><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 <b>Germany recommends that special attention should be given to financial risk reduction and risk-hedging approaches.</b> 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><b>Response:</b></p> <p>Effectively and efficiently addressing investment risks will be key to transforming local minigrid 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 AMP partner countries in year 1, 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.</p> <p>National projects have incorporated capacity building for skilled technicians where appropriate to the country context. This takes different forms as captured in the respective national projects documents.</p>	<p>Regional project document:</p> <p>Section IV, RESULTS AND PARTNERSHIPS ?</p> <p>Description of Component 1</p>
<p><b>Council Comments (Norway/Denmark):</b></p>	

Comment & Response	Reference																
<p><b>5. Comment:</b></p> <p>"USD 1,303,576 is budgeted for Program Management Cost (i.e. ca. 5%) presumably for implementing the various components"</p> <p><b>Response:</b></p> <p>The PFD included USD 1,303,576 for Program Management Costs (i.e. ca. 5%) for implementing the various components of the 9 national child projects and the regional child project. At the end of the project preparation phase, and as included now in the respective CEO endorsement/approval request documents, this amount has been revised at USD \$1,257,964 Costs (i.e. ca. 5%). It is still intended to cover project management costs to implement the various components under each of the AMP national and regional child projects.</p> <p>The aggregated Program Management Cost for the AMP is as follows:</p> <table border="1" data-bbox="277 1003 1170 1455"> <thead> <tr> <th>AMP Scope</th> <th>GEF-7 Funding</th> <th>GEF-7 Funding PMC</th> <th>Share of GEF Funding</th> </tr> </thead> <tbody> <tr> <td>Complete AMP including 1st and 2nd Round countries and Regional project.</td> <td>USD 35,355,540</td> <td>USD 1,947,596</td> <td>5.5%</td> </tr> <tr> <td>1st Round AMP countries only</td> <td>USD 21,234,408</td> <td>USD 1,090,064</td> <td>5.1%</td> </tr> <tr> <td>1st Round AMP and Regional project</td> <td>USD 24,760,308</td> <td>USD 1,257,964</td> <td>5.1%</td> </tr> </tbody> </table> <p>Project management costs for AMP national projects will fund, or part fund, the project management unit in each country.</p> <p>Details of the Regional Project AMP co-financing, fees and Project Management Costs are included in the Project Document and CEO Endorsement request documents. The project management costs for the regional project is budgeted as USD 167,000 of the total budget of USD 3,525,900 (i.e. approx. 4.7%).</p>	AMP Scope	GEF-7 Funding	GEF-7 Funding PMC	Share of GEF Funding	Complete AMP including 1st and 2nd Round countries and Regional project.	USD 35,355,540	USD 1,947,596	5.5%	1st Round AMP countries only	USD 21,234,408	USD 1,090,064	5.1%	1st Round AMP and Regional project	USD 24,760,308	USD 1,257,964	5.1%	<p>CEO Endorsement request, Part I, Table B, and Regional Project Document: Section IX TOTAL BUDGET AND WORKPLAN</p>
AMP Scope	GEF-7 Funding	GEF-7 Funding PMC	Share of GEF Funding														
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Comment & Response	Reference
<p><b>6. Comment:</b></p> <p><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><b>Response:</b></p> <p>Based on the total GEF funding amount of USD 24,235,308 included in the PFD, an Agency Fee of USD 2,181,178 was calculated which is equivalent to 9% of the GEF amount allocated to the 9 national child projects and the regional child project.</p> <p>At the end of the project preparation phase, and as included now in the respective CEO endorsement/approval request documents, this amount has been revised at USD \$2,228,428. The increase is due to the addition of USD 525,000 GEF funds (CC Global Regional Set-aside) to the regional child project.</p> <p>Details of the Regional AMP co-financing, fees and Project Management Costs are included in the Regional Project Document and CEO Endorsement request documents.</p>	<p>CEO Endorsement request, Part I, Table B, and Regional Project Document: Section VIII. FINANCIAL PLANNING AND MANAGEMENT and Section IX. TOTAL BUDGET AND WORKPLAN</p>
<p><b>7. Comment:</b></p> <p><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><b>Response:</b></p> <p>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>	

Comment & Response	Reference
<p><b>8. Comment:</b></p> <p><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><b>Response:</b></p> <p>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 at National Project level (Component 2) will be on piloting and showing proof-of-concept business models and digital innovations, among others.</p> <p>The Regional Project design has built strongly on experience and inputs from other programs and stakeholders. Particularly Components 1, 3 and 4 draw heavily from lesson other and s learned elsewhere or earlier. The learnings that gave shape to the approach and structure are noted under each component. A list of past studies and knowledge material used in the development of the AMP is also included as Box under Component 1. The intention is to have this available as an immediate library of resources to the PMU and the AMP partner countries.</p>	<p>Regional Project Document:</p> <p>Section II, DEVELOPMENT CONTEXT, Section III. STRATEGY, and Section IV. RESULTS AND PARTNERSHIPS</p>

Comment & Response	Reference
<p><b>9. Comment:</b></p> <p>"Output 3.3 ?General market intelligence study on mini-grids prepared and disseminated amongst public officials and finance community? ? <b>how will this be different from existing market intelligence, for example:</b></p> <p>o <a href="https://www.esmap.org/mini_grids_for_half_a_billion_people">https://www.esmap.org/mini_grids_for_half_a_billion_people</a></p> <p>o <a href="https://eepafrica.org/wpcontent/uploads/EEP_MiniGrids_Study_DigitalVersion.pdf">https://eepafrica.org/wpcontent/uploads/EEP_MiniGrids_Study_DigitalVersion.pdf</a></p> <p>o <a href="https://www.reeep.org/mini-grid-development-africa">https://www.reeep.org/mini-grid-development-africa</a></p> <p>There is also at least one existing ?community of practice?:</p> <p>o <a href="http://ledsgp.org/community/africa-mini-grids-community-ofpractice/?loclang=en_gb">http://ledsgp.org/community/africa-mini-grids-community-ofpractice/?loclang=en_gb</a></p>	
<p>Similarly, <b>how will the knowledge tools (4.1) be different from/build on others?"</b></p>	
<p><b>Response:</b></p>	
<p><u>National Market Intelligence Studies.</u></p> <p>For those National Projects that include an Output targeting ?General market intelligence study on minigrids prepared and disseminated amongst public officials and finance community?, it is intended to complement existing local market intelligence on minigrid opportunities in an effort to improve the financial sector?s understanding of and familiarity with the minigrid business opportunity, its risks and challenges.</p>	
<p><u>Regional project: Knowledge tools</u></p>	
<p><u>Knowledge Tools remain an important part of the Regional project, consolidated under Component 1.</u></p>	<p>Regional project document:</p>
<p><u>The design of this component</u> was specifically developed based on extensive consultations with other global and regional actors that have produced knowledge tools in the space, including SEforALL, the African Minigrid Developers Association (AMDA), UNIDO, ESMAP, GIZ, and others. Cognisant of the extensive collection of knowledge tools and material already available, the component has been structured to ensure that the latest developments, cutting-edge guidance and good practices in minigrids, as they relate to the program?s main</p>	<p>Section IV, RESULTS AND PARTNERSHIPS ? Description of Component 1, Knowledge Tools.</p>

Comment & Response	Reference
<p><b>10. Comment:</b></p> <p><i>"How will the implementers ensure that markets are not undermined? There are currently several mini-grids invested in by commercial actors (e.g. Norfund in Madagascar - <a href="https://www.norfund.no/newsarchive/lighting-up-madagascar">https://www.norfund.no/newsarchive/lighting-up-madagascar</a>) and the program should provide assurances that it will not undermine markets through (overly) subsidized new mini-grids (e.g. if a few villages are connected to a mini-grid 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><b>Response:</b></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>Respective national project documents:</p> <p>Section IV, RESULTS AND PARTNERSHIPS ? Description of Component 2</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</p>	

Comment & Response	Reference
<b>Council Comments (Canada):</b>	
<p data-bbox="272 331 435 359"><b>11. Comment:</b></p> <p data-bbox="272 394 1122 611"><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 data-bbox="272 705 391 732"><b>Response:</b></p> <p data-bbox="272 831 1162 1131">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. Accordingly, Productive Uses of Energy (PUEs) are identified as one of the three key areas of opportunity for the program. Technical and operational assistance available from the Regional Project to National Projects have identified beneficiation in agricultural value chains, energization of productive uses, and small business development as targeted areas for support.</p> <p data-bbox="272 1230 1162 1287">The specific focus on PUEs and rural industrialisation has been uniquely tailored to each country context and documented in the respective project documents.</p>	<p data-bbox="1198 831 1414 888">Respective national project documents:</p> <p data-bbox="1198 926 1414 1131">Section III. STRATEGY and Section IV. RESULTS AND PARTNERSHIPS ? Description of Component 2</p>

Comment & Response	Reference
<p><b>12. Comment:</b></p> <p><i>"The mini-grids program has value for engagement where there are market failures, and there should be entry points for the private sector.</i></p> <p> </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> </p> <p><b>Response:</b></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> </p> <p>The design and activities of AMP Regional Project, seeks to create multiple entry points for the private sector. It has been embedded into every aspect of the project Components, outputs and activities and is extensively described in the Regional Project CEO Endorsement request, Part II Point 4, Private Sector Engagement.</p> <p> </p> <p>Similarly, the design and activities of the National projects include specific interventions targeting private sector engagement and participation. These have been documented for each partner country.</p> <p> </p> <p> </p>	<p> </p> <p>Regional project document:</p> <p>Section IV. RESULTS AND PARTNERSHIPS, and</p> <p>CEO Endorsement request, Part II, Point 4.</p>
<p><b>Council Comments (United States):</b></p>	

Comment & Response	Reference
<p><b>13. Comment:</b></p> <p><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><b>Response:</b></p> <p>AMP National Projects have been encouraged to consider 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; mis-information/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 partner countries will seek 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 included as an output for national projects.</p> <p><b>Regional Project / Program level</b></p> <p>At a regional project level, the value of communication is fully recognised and primarily (although not exclusively) incorporated as a key element of the project under Component 3, Communities of Practice.</p> <p>This component is focused on supporting and facilitating knowledge management and information sharing, that will be guided by a communication and partnership strategy, to be developed as an early milestone in the project implementation. This component also establishes several communication channels / interfaces, including:</p> <ul style="list-style-type: none"> <li>- The official web presence for the AMP through which learning tools and knowledge products will actively be shared,</li> <li>- An online learning management system, and</li> <li>- Hosting of a community of practice with technical cohorts, intended to facilitate South-South cooperation, sharing learning, identifying common challenges, and reviewing outputs of the AMP.</li> </ul>	<p>Regional project document:</p> <p>Section IV. RESULTS AND PARTNERSHIPS</p>

Comment & Response	Reference
<p><b>14. Comment:</b></p> <p><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><b>Response:</b></p> <p>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 the respective AMP partner countries. Country specific interventions and measures have therefore been included at the national project level, for each country as relevant.</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>Respective national project document:</p> <p>Section IV. RESULTS AND PARTNERSHIPS</p> <p>Regional Project Document:</p> <p>Section IV. RESULTS AND PARTNERSHIPS</p>

Table 2: STAP Comments and Responses

Comment & Response	Reference
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Comment & Response	Reference
<p><b>1. Comment:</b></p> <p>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:</p> <p>? Mini-Grids for the Base of the Pyramid Market: A Critical Review (<a href="https://www.mdpi.com/1996-1073/11/4/813">https://www.mdpi.com/1996-1073/11/4/813</a>);</p> <p>? Mini-grid based off-grid electrification to enhance electricity access in developing countries: What policies may be required? (<a href="https://www.sciencedirect.com/science/article/pii/S0301421516301781">https://www.sciencedirect.com/science/article/pii/S0301421516301781</a>);</p> <p>? Rethinking the sustainability and institutional governance of electricity access and mini-grids: Electricity as a common pool resource (<a href="https://www.sciencedirect.com/science/article/pii/S2214629617303638">https://www.sciencedirect.com/science/article/pii/S2214629617303638</a>);</p> <p>? Institutional Innovation in the Management of Pro-Poor Energy Access in East Africa (<a href="https://www.sussex.ac.uk/webteam/gateway/file.php?name=2015-29-swps-gollwitzer-et-al.pdf&amp;site=25">https://www.sussex.ac.uk/webteam/gateway/file.php?name=2015-29-swps-gollwitzer-et-al.pdf&amp;site=25</a>).</p>	
<p><b>Response:</b></p> <p>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: <b>(i) National dialogues on minigrid delivery models; (ii) Productive use of electricity; and (iii) Data &amp; Digitalization</b>, and in turn been translated to national projects.</p>	
<p>This literature exercise review is documented in the AMP regional project document, given its overall knowledge management function for the program.</p>	<p>Regional Project Document:</p>
<p>1. Overall Program Design ? Key Literature</p> <ul style="list-style-type: none"> <li>- 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 (<a href="#">link</a>)</li> <li>- AMDA (2020). Benchmarking Africa's minigrids.</li> <li>- 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. (<a href="#">link</a>)</li> <li>- IRENA (2016). Innovation Outlook: Renewable Mini-grids. (<a href="#">link</a>)</li> </ul>	<p>Section IV RESULTS AND PARTNERSHIPS, Box 2.</p>
<ul style="list-style-type: none"> <li>- ESMAP (2019). Mini Grids for half a billion people. Market Outlook and Handbook for Decision Makers. Technical Report 014/19. (<a href="#">link</a>)</li> </ul>	

Comment & Response	Reference
<p><b>2. Comment:</b></p> <p>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:</p> <p>? STAP's blockchain paper (<a href="http://stapgef.org/harnessing-blockchain-technology-delivery-global-environmentalbenefits">http://stapgef.org/harnessing-blockchain-technology-delivery-global-environmentalbenefits</a>);</p> <p>? Blockchain technology in the energy sector (<a href="https://www.sciencedirect.com/science/article/pii/S1364032118307184">https://www.sciencedirect.com/science/article/pii/S1364032118307184</a>);</p> <p>? Blockchain meets Energy (<a href="https://fsr.eui.eu/wp-content/uploads/Blockchain_meets_Energy_-_ENG.pdf">https://fsr.eui.eu/wp-content/uploads/Blockchain_meets_Energy_-_ENG.pdf</a>);</p> <p>? Blockchain: A true disruptor for the energy industry (<a href="https://www2.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-blockchain-disruptor-for-energy-industry.pdf">https://www2.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-blockchain-disruptor-for-energy-industry.pdf</a>).</p> <p><b>Response:</b></p> <p>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 minigrid 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>	

Comment & Response	Reference
<p><b>3. Comment:</b></p> <p>A generic diagram of the theory of change for mini-grids 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:  <a href="http://stapgef.org/theory-change-primer">http://stapgef.org/theory-change-primer</a></p> <p><b>Response:</b></p> <p>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 feed back 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>Regional Project Document:</p> <p>Section III, STRATEGY</p>
<p><b>3. Is the objective clearly defined, and consistently related to the problem diagnosis?</b></p> <p><b>Comment:</b></p> <p>Yes.</p> <p><b>Response:</b></p> <p>NA</p>	

Comment & Response	Reference
<p data-bbox="277 268 1154 327"><b>4. A brief description of the planned activities. Do these support the project's objectives?</b></p> <p data-bbox="277 359 396 388"><b>Comment:</b></p> <p data-bbox="277 422 688 451">Nicely described with clear objectives.</p> <p data-bbox="277 485 396 514"><b>Response:</b></p> <p data-bbox="277 548 318 577">NA</p>	
<p data-bbox="277 615 1117 674"><b>5. A description of the expected short-term and medium-term effects of an intervention.</b></p> <p data-bbox="277 705 396 735"><b>Comment:</b></p> <p data-bbox="277 768 607 798">These are adequately provided.</p> <p data-bbox="277 831 396 861"><b>Response:</b></p> <p data-bbox="277 894 318 924">NA</p>	
<p data-bbox="277 961 1166 1020"><b>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?</b></p> <p data-bbox="277 1052 396 1081"><b>Comment:</b></p> <p data-bbox="277 1115 509 1144">Adequately provided.</p> <p data-bbox="277 1178 396 1207"><b>Response:</b></p> <p data-bbox="277 1241 318 1270">NA</p>	
<p data-bbox="277 1308 675 1337"><b>7. Is the baseline identified clearly?</b></p> <p data-bbox="277 1371 396 1400"><b>Comment:</b></p> <p data-bbox="277 1434 756 1463">Baselines are linked to earlier Child projects.</p> <p data-bbox="277 1497 396 1526"><b>Response:</b></p> <p data-bbox="277 1560 318 1589">NA</p>	

Comment & Response	Reference
<p><b>8. What is the theory of change?</b></p> <p><b>Comment:</b></p> <p>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: <a href="https://www.mdpi.com/1996-1073/11/4/813">https://www.mdpi.com/1996-1073/11/4/813</a></p> <p><b>Response:</b></p> <p>It is indeed critical to have a good understanding of minigrid barriers. AMP's overall approach to minigrid barriers has been informed by</p> <p>(1) UNDP's own Derisking Renewable Energy Investment (DREI) Framework for off-grid electrification (<a href="#">link</a>), 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.</p> <p>(2) An independent review of recent literature on the subject, including the documents listed below:</p> <ul style="list-style-type: none"> <li>- 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 (<a href="#">link</a>)</li> <li>- AMDA (2020). Benchmarking Africa's minigrids.</li> <li>- 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. (<a href="#">link</a>)</li> <li>- IRENA (2016). Innovation Outlook: Renewable Mini-grids. (<a href="#">link</a>)</li> <li>- ESMAP (2019). Mini Grids for half a billion people. Market Outlook and Handbook for Decision Makers. Technical Report 014/19. (<a href="#">link</a>)</li> <li>- The World Bank, AFD (2019). Electricity Access for Sub-Saharan Africa. (<a href="#">link</a>)</li> <li>- RMI (2018). Minigrids in the Money: Six Ways to Reduce Minigrid Costs by 60% for Rural Electrification (<a href="#">link</a>)</li> <li>- GET.transform (2021). Nigeria Case Study: Financing Instruments for the Mini-Grid Market, (<a href="#">link</a>)</li> </ul> <p>Please also see the earlier response to STAP Comment #1.</p>	<p>Regional Project Document:</p> <p>Section IV. RESULTS AND PARTNERSHIPS, Box 2.</p>

Comment & Response	Reference
<p data-bbox="272 268 1162 327"><b>9. GEF trust fund: will the proposed incremental activities lead to the delivery of global environmental benefits?</b></p> <p data-bbox="272 359 396 390"><b>Comment:</b></p> <p data-bbox="272 422 1105 512">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 data-bbox="272 543 396 575"><b>Response:</b></p> <p data-bbox="272 669 1149 789">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 and will link to specific outputs (e.g. publications and insight briefs) and intelligence to ensure the usefulness of collected data.</p> <p data-bbox="272 884 1162 1037">The framework for the QAMF will be developed by the Regional Project (Output 4.2) while a second output (Output 4.3) will focus on digitally aggregating data and generating insights and regional learnings. The QAMF will also support the data required for monitoring and evaluation of the project progress and the program-wide contribution.</p>	<p data-bbox="1193 764 1377 823">Regional project document:</p> <p data-bbox="1193 854 1393 945">Section IV. RESULTS AND PARTNERSHIPS</p>

Comment & Response	Reference
<p data-bbox="277 268 1057 327"><b>10. Are the benefits truly global environmental benefits, and are they measurable?</b></p> <p data-bbox="277 359 396 388"><b>Comment:</b></p> <p data-bbox="277 422 1157 573">The proposal identifies carbon mitigation benefits with adequate referencing of methods. Trade-offs are not discussed but should be, in terms of reliability failures that can happen with mini-grids. 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 data-bbox="277 667 391 697"><b>Response:</b></p> <p data-bbox="277 793 1166 1066">Minigrids are generally characterised 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 data-bbox="277 1161 1157 1434">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 minimise fuel consumption, demand side management to precisely control deferrable loads (e.g. water pumps) that can consume excess energy. All this leads to minimising outages and the need to use diesel generators.</p>	

Comment & Response	Reference
<p data-bbox="277 268 1133 323"><b>11. Is the project innovative, for example, in its design, method of financing, technology, business model, policy, monitoring and evaluation, or learning?</b></p> <p data-bbox="277 359 396 386"><b>Comment:</b></p> <p data-bbox="277 422 1149 604">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 CrossBoundary Energy Access (CBEA) investment.</p> <p data-bbox="277 638 370 665">projects.</p> <p data-bbox="277 699 391 726"><b>Response:</b></p> <p data-bbox="277 760 318 787">NA</p>	
<p data-bbox="277 831 1062 886"><b>12. Have all the key relevant stakeholders been identified to cover the complexity of the problem, and project implementation barriers?</b></p> <p data-bbox="277 921 396 949"><b>Comment:</b></p> <p data-bbox="277 984 1105 1100">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 data-bbox="277 1134 285 1161"> </p> <p data-bbox="277 1194 391 1222"><b>Response:</b></p> <p data-bbox="277 1260 1170 1562">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 data-bbox="277 1596 285 1623"> </p> <p data-bbox="277 1659 1170 1749">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 6).</p>	

Comment & Response	Reference
<p><b>13. Have gender differentiated risks and opportunities been identified, and were preliminary response measures described that would address these differences?</b></p> <p><b>Comment:</b></p> <p>Yes ? there is a fairly detailed section on gender aspects of this project. projects.</p> <p><b>Response:</b></p> <p>NA</p>	<p> </p>
<p><b>14. Are the identified risks valid and comprehensive? Are the risks specifically for things outside the project's control?</b></p> <p><b>Comment:</b></p> <p>Identified. Detailed climate risk assessment should be carried out.</p> <p><b>Response:</b></p> <p> </p> <p>A climate risk assessment has been performed and is included as Annex 16 to the Regional Project Document.</p> <p> </p>	<p> </p>
<p><b>15. Are the project proponents tapping into relevant knowledge and learning generated by other projects, including GEF projects?</b></p> <p><b>Comment:</b></p> <p>Good coordination details provided based on historical relations as well. projects.</p> <p><b>Response:</b></p> <p>NA</p>	<p> </p>

Comment & Response	Reference
<p data-bbox="277 268 1130 327"><b>16. What overall approach will be taken, and what knowledge management indicators and metrics will be used?</b></p> <p data-bbox="277 359 396 388"><b>Comment:</b></p> <p data-bbox="277 422 732 512">Identified and details adequately provided. projects.</p> <p data-bbox="277 546 391 575"><b>Response:</b></p> <p data-bbox="277 606 318 636">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:**

N/A This project did not request PPG

**ANNEX D: Project Map(s) and Coordinates**

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

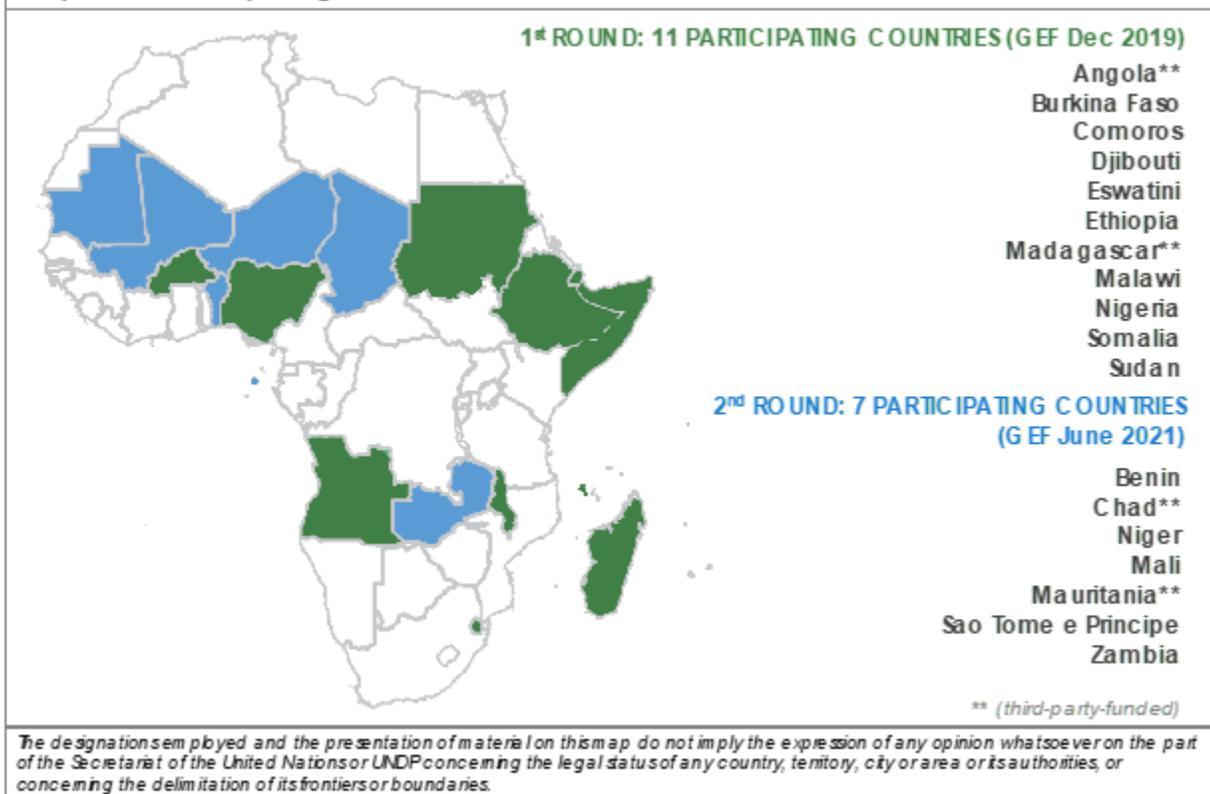
The eleven countries participating in the first round of the Africa Minigrids Program are: Angola, Burkina Faso, Comoros, Djibouti, Ethiopia, Eswatini, Madagascar, Malawi, Nigeria, Somalia and Sudan.

Another seven countries are participating in the second round: Benin, Chad, Niger, Mali, Mauritania, Sao Tome e Principe and Zambia.

Four countries, Angola and Madagascar from the first round and Chad and Mauritania from the second round, are third party funded i.e. not direct recipients of GEF funding for implementation of the national projects, but indirectly benefitting from the collective knowledge creation and sharing facilitated by the Regional Project.

Participating countries are indicated on the map below:

### Map: AMP Participating Countries



### ANNEX E: Project Budget Table

Please attach a project budget table.

Expenditure Category	Detailed Description	Component (USD eq.)							Total (USD eq.)	Responsible Entity
		Component 1	Component 2	Component 3	Component 4	Sub-Total	M&E	PM C		
										(Executing Entity receiving funds from the GEF Agency) [1]

<b>Equipment</b>	The project will purchase 3 computers (USD 1,500 each) and one printer (USD 1,200) in Year 2 for the use by project staff once the PMU has relocated to a physical location. Total USD 5,700	5,700			5,700			5,700	UNDP
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<p><b>Contractual services-Individual</b></p>	<p>To cover part (USD 98,600) of PMU costs as follows:  - 10 percent of the salary of the Project Manager (USD 51,611). A sum of USD 14,633 is allocated in Year 1, and USD 12,326 is allocated annually from year 2 to year 4 to cover this cost. - 7 percent of the salary of the Admin Assistant (USD 9,281). A sum of USD 3,956 is allocated in Year 1, and USD 1,775 is allocated annually from year 2 to year 4 to cover this cost. - 8 percent of the salary of the M&amp;E/Digital Specialist (USD 37,708). A sum of USD 10,180 is allocated in Year 1, and USD 9,176 is allocated annually from year 2 to year 4 to cover this</p>								<p>148,600      148,600      UNDP</p>
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<p><b>Contractual services-Individual</b></p>	<p>To cover part of PMU as follows: - 31 percent of the salary of the Project Manager (USD 161,053). A sum of USD 45,658 is allocated in Year 1, and USD 38,465 is allocated annually from year 2 to year 4 to cover this cost. - 8 percent of the salary of the Admin Assistant (USD 10,076). A sum of USD 4,295 is allocated in Year 1, and USD 1,927 is allocated annually from year 2 to year 4 to cover this cost. - 20 percent of the salary of the M&amp;E/Digital Specialist (USD 94,271). A sum of USD 25,451 is allocated in Year 1, and USD 22,940 is allocated annually from year 2 to year 4 to cover this</p>	<p>265,400</p>	<p>265,400</p>	<p>265,400</p>	<p>265,400</p>	<p>UNDP</p>
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<p><b>Contractual services-Individual</b></p>	<p>To cover part of PMU as follows:- 5 percent of the salary of the Project Manager (USD 25,805). A sum of USD 7,316 is allocated in Year 1, and USD 6,163 is allocated annually from year 2 to year 4 to cover this cost.- 22 percent of the salary of the Admin Assistant (USD 27,924). A sum of USD 11,904 is allocated in Year 1, and USD 5,340 is allocated annually from year 2 to year 4 to cover this cost.- 20 percent of the salary of the M&amp;E/Digital Specialist (USD 94,271). A sum of USD 25,451 is allocated in Year 1, and USD 22,940 is allocated annually from year 2 to year 4 to cover this cost. Total</p>	<p>148,000</p>	<p>148,000</p>	<p></p>	<p>148,000</p>	<p>UNDP</p>
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<p><b>Contractual services-Individual</b></p>	<p>To cover part of PMU as follows:- 5 percent of the salary of the Project Manager (USD 27,987). A sum of USD 7,935 is allocated in Year 1, and USD 6,684 is allocated annually from year 2 to year 4 to cover this cost.- 14 percent of the salary of the M&amp;E/Digital Specialist (USD 65,513). A sum of USD 17,687 is allocated in Year 1, and USD 15,942 is allocated annually from year 2 to year 4 to cover this cost.Total USD 93,500</p>					-	93,500		93,500	UNDP
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<p><b>Contractual services-Individual</b></p>	<p>To cover part of Project Management Unit as follows:- 48 percent of the salary of the Project Manager (USD 249,651). A sum of USD 70,776 is allocated in Year 1, and USD 59,625 is allocated annually from year 2 to year 4 to cover this cost.- 62 percent of the salary of the Admin Assistant (USD 78,667). A sum of USD 33,535 is allocated in Year 1, and USD 15,044 is allocated annually from year 2 to year 4 to cover this cost.- 38 percent of the salary of the M&amp;E/Digital Specialist (USD 179,592). A sum of USD 48,486 is allocated in Year 1, and USD 43702 is allocated annually from year 2</p>	<p>507,910</p>				<p>507,910</p>		<p>507,910</p>	<p>UNDP</p>
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<p><b>Contractual services-Individual</b></p>	<p>RMI as Responsible Party will be responsible for implementing some of the outputs under Outcome 1 using a combination of different levels of internal technical expertise, including: Managing Director, Principal, Manager, Senior Associate, Program Coordinator, and Communications Specialist. Total USD 450,456 Budget is allocated by resource as follows: Principal (USD 75,313); Manager (USD 184,258); Senior Associate (USD 125,364); Program Coordinator (USD 38,726); Communication Specialist (USD 26,795). Budget is allocated by year as follows: Year 1 (USD</p>	<p>450,456</p>				<p>450,456</p>		<p>450,456</p>	<p>RMI</p>
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<p><b>Contractual services-Individual</b></p>	<p>RMI Partner Staffing for Outcome 3: RMI as Responsible Party will be responsible for implementing all of the outputs and activities under Outcome 3 using a combination of different levels of internal technical expertise, including: Managing Director, Principal, Manager, Senior Associate, Program Coordinator, and Communications Specialist. Total USD 701,008 Budget is allocated by resource as follows: Managing director (USD 70,954); Principal (USD 128,033); Manager (USD 190,584); Senior Associate (USD 141,945); Program Coordinator (USD 67,046); Communication</p>			701,008	701,008			701,008	RMI
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<b>Contractual services-Company</b>	Contractual services (USD 70,000) for setting up the Regional Digital Platform in year 1 (dashboard, data aggregation across countries), and for data aggregation across countries (USD 75,000) during the complete project's implementation period, years 2 - 4. Total 145,000				145,000	145,000		145,000	UNDP
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<b>Contractual services-Company</b>	Fees for Professional Services contract hired to design, develop and maintain the regional project's web portal (project website and communication platform) that is planned for implementation under Activity 3.2.1. The web portal will be fully operational by year 2, and maintenance will be required in year 3 and year 4. For these, annual budgets are planned as: Year 1 (USD 118,125); Year 2 (USD 6,668); Year 3 (USD 5,625); Year 4 (USD 5,625). Total USD 136,043			136,043	136,043			136,043	RMI
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<p><b>International Consultants</b></p>	<p>Fees for hiring a cohort of International Consultants for providing in-country technical and operational assistance to national child projects under Activity 2.2.2. This includes Minigrad experts; gender, social and environmental, digital &amp; data specialists, and consultants to provide support in drafting standard terms of reference for use as reference by national child projects. Total USD 152,000</p>	<p>152,000</p>	<p>UNDP</p>						
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<b>International Consultants</b>	Fees for professional services hired to help set-up the digital platform (USD 20,000), and to derive systematic insights from the data collected and aggregated by the digital platform (USD 30,000) Total USD 50,000				50,000	50,000		50,000	UNDP
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<p><b>International Consultants</b></p>	<p>International expertise will be required for providing in-country technical assistance to national child projects to develop DREI analyses, and the Regional Flagship AMP report for publication and dissemination under Act. 1.2.1: Regional flagship AMP report(s) on Derisking Renewable Energy Investment (DREI) and cost-reduction: - USD 15,300 to cover costs of UNDP's DREI CORE Team (18 days at an average cost of 850 per day)- USD 16,000 to cover costs of UNDP's DREI CORE Team support for 16 countries at an average cost of US\$1,000 per country- USD 74,000 to</p>	<p>164,840</p>				<p>164,840</p>		<p>164,840</p>	<p>UNDP</p>
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<b>International Consultants</b>	Since this is a full-size project, USD 33,750 has been allocated for an independent lead consultant to undertake the mid-term review and USD 33,750 for an independent lead consultant to undertake the terminal evaluation. Total USD 67,500					-	67,500	67,500	UNDP
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<p><b>Training , Workshops, Meetings</b></p>	<p>Expenditures for organizing consultation meetings, stakeholder s? engagement conferences , capacity building workshops, and round table discussions, to support the implementation of activities under Component 4, with a focus on disseminating insights and learnings derived from data collected across all AMP minigrids pilots/count ries under Activity 4.3.2Total USD 5,000</p>				5,000	5,000		5,000	UNDP
<p><b>Training , Workshops, Meetings</b></p>	<p>Inception workshop. Total USD 5,000</p>				-	5,000		5,000	UNDP

<b>Training , Workshops, Meetings</b>	Meetings of the Community of Practice and its technical cohorts will be convened under Activity 3.2.2 (Convening and curating the community of practice). It is expected that 2 events will take place each year for a total of 8 events during the project's lifetime. Estimate cost of each event USD 12,500. Total USD 100,000			100,000		100,000		100,000	RMI
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<p><b>Travel</b></p>	<p>A total travel budget of USD 4,000 will be required for implementing Act. 1.2.1: Regional flagship AMP report(s) on Derisking Renewable Energy Investment (DREI) and cost-reduction. It will be used for meeting up with government and private sector stakeholders to develop DREI analyses in Year 4, updating those already completed for each national child project under their own budget in Year 1. All travel will take place in year 4 as per multi-year work plan. An airfare is assumed to cost USD 1,000, and two trips are planned for a total of 10 days? stay (at an average of USD 150 per day). Total</p>	<p>4,000</p>				<p>4,000</p>		<p>4,000</p>	<p>UNDP</p>
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<b>Travel</b>	Travel expenses for missions conducted by international consultants contracted to perform activities under Component 2.Total USD 82,600		82,600			82,600		82,600	UNDP
<b>Travel</b>	Travel expenses for missions conducted by RMI staff and/or international consultants contracted by RMI to perform activities under Component 3.Total USD 40,800		40,800		40,800			40,800	RMI
<b>Travel</b>	Travel expenses related to MTR and TE missions.Total USD 10,000				-	10,000		10,000	UNDP

<b>Office Supplies</b>	An annual budget of USD 800 is allocated for purchasing office supplies in years 2,3 and 4, once the PMU has relocated to a physical location. Total USD 2,400							2,400	2,400	UNDP
<b>Other Operating Costs</b>	An independent financial audit of the project will take place for USD 4,000 per year. Total USD 16,000							16,000	16,000	UNDP
	<b>Grand Total</b>	<b>1,132,906</b>	<b>500,000</b>	<b>977,851</b>	<b>572,143</b>	<b>3,182,900</b>	<b>176,000</b>	<b>167,000</b>	<b>3,525,900</b>	

#### 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 Agency 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).