



**Part I: Project Information**

**Name of Parent Program**

**GEF-7 Africa Minigrids Program**

**GEF ID**

10833

**Project Type**

MSP

**Type of Trust Fund**

GET

**CBIT/NGI**

**CBIT No**

**NGI No**

**Project Title**

Niger National Child Project under the GEF Africa Minigrids Program

**Countries**

Niger

**Agency(ies)**

UNDP

**Other Executing Partner(s)**

Nigerienne Agency for the Promotion of Rural Electrification (ANPER)

**Executing Partner Type**

GEF Agency

**GEF Focal Area**

Climate Change

**Sector**

Renewable Energy

**Taxonomy**

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

**Rio Markers****Climate Change Mitigation**

Principal Objective 2

**Climate Change Adaptation**

No Contribution 0

**Biodiversity**

No Contribution 0

**Land Degradation**

No Contribution 0

**Submission Date**

8/31/2022

**Expected Implementation Start**

6/1/2023

**Expected Completion Date**

5/30/2027

**Duration**

48In Months

**Agency Fee(\$)**

144,124.00

**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	1,601,376.00	136,757,017.00
<b>Total Project Cost(\$)</b>			<b>1,601,376.00</b>	<b>136,757,017.00</b>

## **B. Project description summary**

### **Project Objective**

Supporting access to clean energy by increasing the financial viability, and promoting scaled-up commercial investment, in renewable minigrids in Niger with a focus on cost-reduction levers and innovative business models

<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>
------------------------------	-----------------------	--------------------------	-------------------------	-------------------	----------------------------------	-----------------------------------

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 1 -Policy and Regulation	Technical Assistance	Stakeholder ownership in a national minigrid delivery model is advanced, and appropriate policies and regulations are adopted to facilitate investment in low-carbon minigrids	<p>1.1: An inclusive national dialogue to identify minigrid delivery models is facilitated, clarifying priority interventions for an integrated approach to off-grid electrification</p> <p>1.2: A minigrid regulatory framework, including tariff model, tax regime, and grid expansion risk, is developed in close coordination with the authorities concerned and other development partners</p> <p>1.3: Analysis of existing (pre)-feasibility studies conducted for</p>	GET	250,428.00	4,046,212.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
			<p>selected minigrid sites to enhance sector planning and decision-making on a delivery model for minigrid development</p>			
			<p>1.4: Targeted policy and financial derisking instruments of the Minigrid DREI techno-economic analyses implemented and contributing to AMP Flagship Report on Cost Reduction</p>			
			<p>1.5: Capacity building provided to public officials (regulator, ministries) to support cost-reduction levers and innovative business models</p>			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
			<p>1.6: Domestication of quality standards and norms for solar minigrid components, and institutional capacity of ANERSOL strengthened</p> <p>1.7: Public programmes (apprenticeships, certificates, university programs) to develop competitive, skilled labour market in minigrids facilitated</p>			
Component 2 - Business model innovation with the private sector	Investment	Innovative business models based on cost reduction are operationalized, with strengthened private sector participation in renewable energy minigrid development	2.1 Pilots developed, including productive use/innovative appliances and modular hardware/system design, leading to cost-reduction in minigrids	GET	560,275.00	108,099,540.00



Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 2 - Business model innovation with the private sector	Technical Assistance	Innovative business models based on cost reduction are operationalized, with strengthened private sector participation in renewable energy minigrid development	<p>2.2 Pre-feasibility studies for pipeline development</p> <p>2.3 Productive use pathway study</p> <p>2.4 Support provided to establish and grow a national industry association for private sector developers</p>	GET	226,345.00	5,111,504.00

<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 3 ? Scaled-up financing	Technical Assistance	Financial sector actors are ready to invest in a pipeline of low-carbon minigrids and concessional financial mechanisms are in place to incentivize scaled-up investment	<p>3.1 Support financing mechanisms to scale-up RE minigrids investment</p> <p>3.2. Domestic financial sector capacity-building on business and financing models for minigrids</p> <p>3.3.: Replication plan (including investment plan) for scaling up rural energy access developed</p>	GET	147,844.00	3,583,650.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 4- Digital & Knowledge Management	Technical Assistance	Digitalization and data are mainstreamed, across stakeholders, into local minigrid market development. Increased knowledge, awareness and network opportunities in the minigrid market and among stakeholders, including benefitting from linkages to international good practice	<p>4.1 A project digital strategy is developed and implemented, including linkages to and following guidance from the AMP Regional Project</p> <p>4.2 A ?Minigrids Digital and Data Management Platform? is implemented to run tenders and manage data from pilots, and to support minigrids scale-up and cost-reduction</p> <p>4.3: A Quality Assurance and Monitoring Framework for measuring, reporting and verification of the sustainable development impacts of all minigrids pilots supported, including GHG</p>	GET	263,960.00	2,440,489.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
			<p>emission reductions, is adopted and operationalized based on standardized guidance from the regional project.</p> <p>Output 4.4: Engage with regional project, including, but not limited to, via (i) participating in Communities of Practice and (ii) capturing and sharing lessons learned</p> <p>Output 4.5. Awareness raising</p>			
Component 5 ? Monitoring & Evaluation	Technical Assistance	Monitoring & Evaluation	5.1: M&E and Reporting, including (i) Conducting inception workshop and preparing report, (ii) Ongoing M&E, (iii) Mid Term Evaluation and (iv) Terminal Evaluation	GET	7,000.00	1,043,167.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
<b>Sub Total (\$)</b>					<b>1,455,852.00</b>	<b>124,324,562.00</b>
<b>Project Management Cost (PMC)</b>						
		GET	145,524.00			12,432,455.00
<b>Sub Total(\$)</b>			<b>145,524.00</b>			<b>12,432,455.00</b>
<b>Total Project Cost(\$)</b>			<b>1,601,376.00</b>			<b>136,757,017.00</b>

Please provide justification

**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>
Recipient Country Government	Nigerienne Agency for the Promotion of Rural Electrification (ANPER)	In-kind	Recurrent expenditures	76,490.00
Recipient Country Government	Nigerienne Agency for the Promotion of Rural Electrification (ANPER)	Public Investment	Investment mobilized	135,104,356.00
Donor Agency	SIDA-Swedish International Development Agency	In-kind	Recurrent expenditures	1,276,171.00
GEF Agency	UNDP	Grant	Recurrent expenditures	300,000.00
<b>Total Co-Financing(\$)</b>				<b>136,757,017.00</b>

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

Co-financing investment (INV) has been identified by linking activities in ongoing and planned activities of ANPER and its partners with the Project. This includes (i) Rural electrification project by decentralized solar energy in Niger financing of the Islamic Development Bank (IsDB), (ii) Rural electrification project using hybrid micro power plants in 47 localities in Agadez, Diffa, Dosso, Maradi, Tahoua, Tillabery and Zinder regions financed by the West African Development Bank (BOAD), (iii) Rural electrification project using solar Photovoltaic systems and individual kits in 100 localities in Niger financed by IRENA/ADFD, (iv) Rural Electrification Project by Solar Photovoltaic Systems in the Regions of Dosso, Tahoua and Tillabery, financed by EBID/Exim Bank India for 10 minigrids, (v) Photovoltaic rural electrification project in Niger - Keita and Illela departments financed by the Italian Agency for Development Cooperation, (vi) Electricity Access Acceleration Project (HASK?), Component 2. Strengthening the Ecosystem for the Development of Rural Solar Photovoltaic Mini-grids and Sub-component 4.2. Institutional Strengthening and Technical Assistance financed by the World Bank, (vii) Niger Solar Electricity Services Access Project (NESAP), Component 2: Rural Electrification through Solar Hybrid Mini-grids following a Delegated Service Operator Model (viii) Rural electrification project by solar photovoltaic system of 250 villages in the Republic of Niger under financed by EBID (BIDC in French). SIDA's and AfDB's co-financing letters (Annex 13) list their relevant projects for AMP Niger with the timespan of their projects (e.g., 2020-2024). As AMP Niger will be implemented from 2023-2027, the amounts taken into consideration as co-financing activities will only cover 2023-2027. Thus, the amounts in the co-financing letters and the table do not coincide. The co-financed amounts have been calculated as follows: SIDA: SIDA's 'Liptako-Gourma rural electrification project' lasts from 2020-2024 hence 2 years

out of 4 are considered for AMP Niger. The total amount was divided by 4 years to have a broad approximation of disbursements per year. ANPER: The projects breakdown amount listed in the letter has been calculated as from the beginning of AMP Niger, expected to start in 2023. The table below lists the projects and breakdown type (INV/TA) considering only the relevant proportion of the project (in relation to AMP's components and the proportion of these projects implement between 2023 and 2027: (kindly refer to CEO approval request document in MS Word attached. Table formatting is unavailable under this portal section. Thanks)

**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>	<b>Total(\$)</b>
UNDP	GET	Niger	Climate Change	CC STAR Allocation	1,601,376	144,124	1,745,500.00
<b>Total Grant Resources(\$)</b>					<b>1,601,376.00</b>	<b>144,124.00</b>	<b>1,745,500.00</b>



**E. Non Grant Instrument**

NON-GRANT INSTRUMENT at CEO Endorsement

---

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

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

PPG Required **true**

**PPG Amount (\$)**

50,000

**PPG Agency Fee (\$)**

4,500

<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(\$)</b>
UNDP	GET	Niger	Climate Change	CC STAR Allocation	50,000	4,500	<b>54,500.00</b>
<b>Total Project Costs(\$)</b>					<b>50,000.00</b>	<b>4,500.00</b>	<b>54,500.00</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	17015	0	0
Expected metric tons of CO <sub>2</sub> e (indirect)	0	2052000	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)		17,015		
Expected metric tons of CO <sub>2</sub> e (indirect)		2,052,000		
Anticipated start year of accounting				
Duration of accounting				

### 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)

<b>Technology</b>	<b>Capacity (MW) (Expected at PIF)</b>	<b>Capacity (MW) (Expected at CEO Endorsement)</b>	<b>Capacity (MW) (Achieved at MTR)</b>	<b>Capacity (MW) (Achieved at TE)</b>
Energy Storage		0.33		
Energy Storage		0.81		

**Indicator 11 People benefiting from GEF-financed investments**

	<b>Number (Expected at PIF)</b>	<b>Number (Expected at CEO Endorsement)</b>	<b>Number (Achieved at MTR)</b>	<b>Number (Achieved at TE)</b>
<b>Female</b>		6,902		
<b>Male</b>		6,632		
<b>Total</b>	0	13534	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

#### **changes in alignment with the project design with the original pif**

Based on the stakeholder consultations, additional data collected during the PPG phase and the regional AMP programme design, a few updates and changes have been made while developing the CEO Endorsement document even if the main structure and nature of the project remained the same. The table below describes the main changes between the approved PIF and the CEO Endorsement document.

Table 1 ? changes between pif and ceo endorsement document

Outputs with GEF budget at Concept Note		Outputs with GEF budget at CEO ER		Change	Justification
1.1 An inclusive national dialogue identifying minigrid delivery models is facilitate and supports an integrated approach to off-grid electrification	\$ 195,206	<i>1.1. An inclusive national dialogue to identify minigrid delivery models is facilitated, clarifying priority interventions for an integrated approach to off-grid electrification</i>	\$ 250,428	Slight wording change	
1.2 Minigrid DREI techno-economic analyses updated to propose most cost-effective basket of policy and financial derisking instruments and contribute to AMP Flagship Report on Cost Reduction		<i>1.4. Targeted policy and financial derisking instruments of the Minigrid DREI techno-economic analyses implemented and contributing to AMP Flagship Report on Cost Reduction</i>		Scope change as DREI analyses conducted in 2021-2022 on the "Support for rural electrification by renewable energy systems in the Liptako-Gourma region - Pilot phase" project executed by UNDP and financed by SIDA	The DREI analyses were conducted from late 2021 to June 2022 as part of the ALG project (Integrated Authority for the Development of the Liptako-Gourma, a region shared by 3 countries: Niger, Mali and Burkina Faso) executed by UNDP under SIDA financing. The derisking instruments were identified. Some of them are considered and will be implemented as part of AMP Niger. A workshop sharing the targeted de-risking instruments of DREI under AMP will be held in Year 1. An update of the DREI will be conducted in Year 4.

Outputs with GEF budget at Concept Note	Outputs with GEF budget at CEO ER	Change	Justification
n.a.	1.2. A review of the political and regulatory frameworks on the possible minigrid delivery models and suitable incentives is proposed in close collaboration with the National Dialogue Platform members and other development partners	Added an output on designing a suitable minigrid framework and what it should encompass	Focus will be put on clearly translating the suitable minigrid delivery model(s) into the political and regulatory frameworks. Relevant aspects of the framework will need to be identified at project inception as there are current progress made with ongoing projects from development partners. Therefore, an adaptive management approach will be required as changes will happen between PPG and implementation. This could include supporting cost-reduction efforts of equipment through existing but insufficient customs duties and tax exemptions on the one hand, and VAT reduction on the other hand as well as grid interconnection risks for private sector CEMG operators.

Outputs with GEF budget at Concept Note		Outputs with GEF budget at CEO ER	Change	Justification
<p>1.3 Design of a tendering program and all required bidding documentation, support for tender management (including use of e-tendering systems, proposal evaluation, and transaction advisory)</p>		<p><i>1.3. Analysis of existing (pre)-feasibility studies conducted for selected minigrid sites to enhance sector planning and decision-making on a delivery model for minigrid development</i></p>	<p>Tendering program is already in place. The focus is put on leveraging the many existing (pre-)feasibility studies for pilot MG sites across the country. This will help the entire ecosystem, including the private sector, to select and operate MG in a sustainable and viable manner</p>	<p>As a nascent market especially, it is critical to elaborate suitable tender documents and contracts ? homogenized. During PPG phase and through consultations especially with ANPER and World Bank, the ?tendering toolbox? design is ongoing. Bidding documentation templates have already been developed and. a digital tendering platform should be provided by the new World Bank HASK? project)</p>



Outputs with GEF budget at Concept Note		Outputs with GEF budget at CEO ER		Change	Justification
<p>1.4. Capacity building provided to public official (regulator, ministries) specifically to design procurement/tender processes that incorporate cost-reduction levers and innovative business models</p>		<p>1.5. <i>Capacity building provided to public officials (regulator, ministries) to support cost-reduction levers and innovative business models</i></p>		<p>Focus of the capacity building for public officials expanded</p>	<p>During PPG, the need for institutional capacity building around minigrids (in every aspect) has been raised at inception and validation workshops. Capacity building efforts for public officials will encompass a larger spectrum of topics around CEMG and related rural electrification. A rapid assessment of the current capacity, the needs and gaps will need to be done. This will inform the relevant training required and develop a modular based approach on each participants' knowledge level and needs.</p>

Outputs with GEF budget at Concept Note	Outputs with GEF budget at CEO ER	Change	Justification
n.a.	<p><i>1.6. Domestication of quality standards and norms for solar minigrid components, and institutional capacity of ANERSOL strengthened</i></p>	Additional output on standards as barely considered in this nascent CEMG market	<p>Only a few standards have been yet designed around some solar equipment with ANERSOL and World Bank. To ensure good quality standards for both CEMG equipment and ancillary devices, it is critical to define relevant standards and enforcement measures. Customs duties and taxes could be remained for lower quality products (to be discussed during project implementation)</p>
n.a.	<p><i>1.7. Public programmes (apprenticeships, certificates, university programs) to develop competitive, skilled labor market in minigrids facilitated</i></p>	Additional output on public programmes around minigrids	<p>The limited competencies at national level on minigrids represent a hurdle for Niger's minigrid market development. National programmes, with a modular approach and at different levels to cover specific needs, will be facilitated, based on the existing local offer, the AMP regional e-training platform, South-South collaboration including with other AMP projects, etc.</p>

Outputs with GEF budget at Concept Note		Outputs with GEF budget at CEO ER	Change	Justification	
2.1. Pilots developed, including on productive use/innovative appliances and modular hardware/system design, leading to cost reduction in minigrids	\$545,591	2.1. Pilots developed, including on productive use/innovative appliances and modular hardware/system design, leading to cost reduction in minigrids	\$786,620	n.a.	More funding allocated to pilot projects as key for the development of a nascent minigrid market in Niger, as well as to prove its value proposition and enabling the potential of scaling up to be unleashed. The initial (PIF) \$300k allocated for the Long Term Low Emissions Development Strategy (LT-LEDS) has been reallocated to the CAPEX costs for CEMG implementation as other funds are sought to cover this activity (probably Climate Promise).
n.a.		2.2. <i>National report on opportunities to boost economic activities through electricity access and productive use</i>		Additional output	Given the fact that Niger's rural population is facing extreme poverty, the entry point to contribute to the MGs sustainability is the productive use of energy. This study will be useful for the pilot sites of AMP as well as other projects to identify value chains in rural areas where PUE could be significant.

Outputs with GEF budget at Concept Note		Outputs with GEF budget at CEO ER		Change	Justification
2.2. Capacity of winning tender bidders strengthened to develop and implement cost reduction levers and innovative business models		2.3. <i>Capacities of private minigrid developers and communities are strengthened</i>		Changes in terms of scope of the capacity buildings efforts based on stakeholder consultations changes	Capacities of local private minigrid developers (winning tender bidders are not) as well as communities will be built and/or reinforced. A modular approach based on knowledge level, needs and capacities required will be put in place for better results, adoption and application.
n.a.		2.4. <i>Support provided to establish and grow a national industry association for private sector developers</i>		Additional output	AMP is focusing on the private sector's role in supporting the development of the MG market in Niger. The need to have a local industry association for advocacy, business collaboration and knowledge sharing purposes would make a difference for local private sector players, as well as the National Dialogue platform and the development of the CEMG market in Niger (and the project's success).

Outputs with GEF budget at Concept Note		Outputs with GEF budget at CEO ER		Change	Justification
<p>3.1. Design support, including development of operational guidance, provided for Minigrid Funding Facility (MFF, or equivalent financial mechanism) under rural electrification agencies/funds</p>	<p>\$175,000</p>	<p>3.1. <i>Support financing mechanisms to scale-up RE minigrids investment</i></p>	<p>\$147,844</p>	<p>The variety of existing and potential mechanisms need to be assessed to determine which mechanisms(s) the project could support through technical assistance</p>	<p>Based on stakeholder consultations, including with IP ANPER, a sectoral fund would be welcomed including to ensure that the identified delivery model (Component 1) is applied in practice Other existing financing schemes for minigrids and RE, as well as other sectors in Niger on the one hand, and a benchmark of successful financing mechanisms abroad could be considered. A comprehensive study is envisaged to assess the different options suitable for Niger. AMP Niger could then select where technical assistance could be provided to scale up financing for RE minigrids across the country.</p>

Outputs with GEF budget at Concept Note	Outputs with GEF budget at CEO ER	Change	Justification
<p>3.2. Innovative financing solutions for minigrid development are identified and implemented through the MFF (or equivalent) with supporting human and institutional strengthening</p>	<p>n.a.</p>	<p>Innovative financing included under Output 3.1.</p>	<p>Innovative financing mechanisms are considered as potential financing mechanisms and will be evaluated under Output 3.1. Some innovative financing are already used in Niger incl. crowdfunding for a 100% private-sector led 100% RE minigrid (Africa Green Tech).</p>
<p>3.3. Financial sector capacity-building on business and financing models for renewable minigrids</p>	<p><i>3.3. Domestic financial sector capacity-building on business and financing models for minigrids</i></p>	<p>Slight rewording</p>	<p></p>

Outputs with GEF budget at Concept Note		Outputs with GEF budget at CEO ER		Change	Justification
n.a.		3.4. Replication plan (including investment plan) for scaling up rural energy access developed		Added	A replication plan based on best practices and lessons learned, including from AMP Niger pilot projects as well as other MG projects in the country, will be designed to scale-up MG market development while leveraging well-functioning innovative business models and more. The replication plan will also include a financing plan linked to the financing mechanisms supported by the project under component 3
4.1. A project digital strategy is developed and implemented, including linkages to (and following guidance from) the AMP Regional Project	\$ 240,000	<i>4.1. A project digital strategy is developed and implemented, including linkages to and following guidance from the AMP Regional Project</i>	\$263,960	Slight rewording	

Outputs with GEF budget at Concept Note		Outputs with GEF budget at CEO ER	Change	Justification
		<p><i>4.2. A ?Minigrids Digital and Data Management Platform? is implemented to run tenders and manage data from pilots, and to support minigrids scale-up and cost-reduction</i></p>	<p>Additional output as the digital platform is a critical aspect of the digital strategy to be implemented</p> <p>Output 4.2. moved to Output 4.3.</p>	<p>In line with Output 4.1. as well as with the entire project?s components, a minigrids data management platform suitable to Niger? needs will be implemented. This should be covered by World Bank?s HASK? project. It shall facilitate the tendering process from A to Z, monitoring of pilot sites and other indicators, cost optimization. AMP will ensure that this platform is adapted to the requirements. The project shall complement this platform with a repository of all relevant data, studies, reports and more around rural electrification in general and minigrid in particular, at national level. Indeed, during project formulation, the lack of a centralized repository was a challenge to gather all relevant, reliable and most recent data. Stakeholder consultations confirmed this need with all actors? types</p>



Outputs with GEF budget at Concept Note		Outputs with GEF budget at CEO ER		Change	Justification (government, technical and financial partners, private sector)
<p>4.2. Quality Assurance and Monitoring Framework for measuring, reporting and verification of the sustainable development impacts of all minigrids pilots, including GHG emission reductions is adopted and operationalized based on standardized guidance from the regional project</p>		<p>4.3. A Quality Assurance and Monitoring Framework for measuring, reporting and verification of the sustainable development impacts of all minigrids pilots supported, including GHG emission reductions, is adopted and operationalized based on standardized guidance from the regional project</p>			
<p>4.3. Engage with regional project, including, but not limited to, via (i) Communities of Practice and (ii) capturing sharing lessons learned</p>		<p>4.4. Engage with regional project, including, but not limited to, via (i) participating in Communities of Practice and (ii) capturing and sharing lessons learned</p>			
<p>4.4. Monitoring and Evaluation (M&amp;E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&amp;E, (iii) Mid-Term Evaluation and (iv) Terminal Evaluation</p>				<p>Output 4.4. moved to Component 5 as per new guidelines from UNDP/GEF to have a separate M&amp;E component</p>	

Outputs with GEF budget at Concept Note		Outputs with GEF budget at CEO ER	Change		Justification
n.a.		4.5. <i>Awareness raising campaigns, including lessons learned, are developed and disseminated at all levels nationally (including intervention zones) and with the regional project</i>		Added	To support visibility, adoption and minigrid market development and scale-up, targeted awareness raising campaigns at national (including political sphere and general public), and AMP regional levels will be designed and rolled out. This will include climate change risks and mitigation efforts.
	n.a.	5. <i>Monitoring &amp; Evaluation</i>	\$7,000		<p>A dedicated component on monitoring &amp; evaluation has been added to comply with GEF and UNDP processes and facilitate potential corrective measures to achieve the expected project's results.</p> <p>The budget related to M&amp;E is split between GEF funds (\$7,000) and UNDP TRAC funds (\$105,256) for a total of \$112,256</p>

## 1a. Project Description.

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

General Context: Niger is West Africa's largest country (1,267 million km<sup>2</sup>) with one of the fastest population growth rates on the planet at 3.8%<sup>[1]</sup> reaching 24.2 million inhabitants in 2020<sup>[2]</sup>. However, this large landlocked country has one of the lowest population densities on the continent. About 80% of its area is barely inhabited desert and most of the population lives in rural areas in the southern parts of the country. Niger, classified as Least Developed Country (LDC), is one of the poorest countries in the world with 42% of its population living in extreme poverty in 2021 (under \$1.90 a day)<sup>[3]</sup> out of which 75% are girls and women<sup>[4]</sup>. The population is comprised by 61% of working age women, however 84% men are part of the active population<sup>[5]</sup>, therefore there is room to integrate women as part of the workforce. It has a weak economic diversification and competitiveness where agriculture accounts for almost 40% of its Gross Domestic Product (GDP) - mainly subsistence farming and herding. About 90% of its population works in the agricultural sector. About 90% of Niger's export revenues are related to mining including gold, uranium and thorium ores and concentrates<sup>[6]</sup>.

Niger has seen its first democratic transfer in history with the election of Mohamed Bazoum in February 2021 and made some substantial change in terms of political governance, security issues and the number of refugees and displaced persons keep rising especially at its borders with neighboring conflicted countries such Burkina Faso, Mali and Nigeria. In March 2021, according to UNOCHA, there were about 250,000 refugees and over 276,000 displaced persons in Niger (over half are estimated to be women and almost 66% are under 18 according to UNHCR).

The country, one of the hottest on the planet, is also increasingly vulnerable to natural disasters and climate change effects while barely contributing to Greenhouse Gas (GHG) emissions globally (0.009% in 2019<sup>[7]</sup>). Climate shocks lead to a high rainfall variability and negatively impact the socio-economic situation. Water constraints, desertification, reduced agricultural yields, land deterioration, food insecurity, rising food prices, rapid population growth and increased pressure on arable lands become commonplace.

COVID-19 has compounded the structural fragility of the country, in addition to security and climate issues, and leading to a lower annual economic growth rate (shrinking to 3.6% in 2020 compared to 5.9% in 2019)<sup>[8]</sup>. While investment efforts around oil are boosting the economic growth rate in 2021 and will continue in the coming years with the exploitation of new oil fields, the livelihoods of the population especially in rural areas will still remain at risk.

Energy situation in Niger: The power mix in Niger is highly dependent - close to 80% - on cheaper hydroelectricity imports from neighboring Nigeria (on average 90% cheaper than the production by the national power utility NIGELEC according to a report in 2016). Another 18% comes from costly diesel thermal generation by NIGELEC. Solar energy accounts for 0.9% of Niger's power mix and is expected to increase to 30% by 2030 according to the Sustainable Energy for All (SE4All) Investment Prospectus

---

(2019). Niger is well endowed with solar irradiation throughout the year (6 Kwh/m<sup>2</sup>/day with a daily insolation of 9 hours)[9]9.

Niger has considerable untapped renewable energy potential, and the Government wants to increase its share of RE in the power mix. Currently, solar energy accounts for 0.9% of power mix, the country is well endowed with solar irradiation throughout the year (6 Kwh/m<sup>2</sup>/day with a daily insolation of 9 hours) and therefore, the production is expected to increase to 30% by 2030 according to the Sustainable Energy for All (SE4All) Investment Prospectus (2019). Moreover, the Kandadji 130 MW hydropower plant is planned to be operationalized by 2027.

National electricity capacity today represents only 272 MW (excluding mining companies Independent Power Producers IPP) with an import capacity of 194 MW. The existing national grid has a limited capacity in addition to being fragmented with 4 grids across the country that are not connected to each other.

Niger's electricity demand is expected to grow by 10% per annum[10]10 in the coming years - one of the highest growth rates in the world. Growing population and low electricity access rates are the main levers of this increase. The electricity access rate is one of the lowest in Sub-Saharan Africa at around 19.3% with 19.5 million people lacking access to electricity[11]11. Based on a Multi-Tier Framework (MTF) survey done in 2018, 15.8% are connected to NIGELEC's national grid. In addition, discrepancies are relatively high between urban and rural areas; 48% in urban areas and only about 13% in rural areas (2022)[12]12.

To reach universal access to electricity of 65% by 2030, Niger needs about USD 4.2bn according to its Sustainable Energy for All (SE4All) Investment Prospectus.

Risks & Barriers to renewable energy minigrad development : During the PPG, the preliminary conclusion of the currently ongoing Derisking Renewable Energy Investment (DREI) was made available and is presented in the Table 2 below. The DREI exercise is estimated to end by September 2022. It is expected to have a proper risk evaluation of minigrad expansion in the country at the start of the project.

DREI is an innovative, quantitative framework to support policymakers to cost-efficiently promote private investment in renewable energy. A central focus of the DREI framework is on private sector financing costs. Developing countries often exhibit high financing costs for renewable energy due to investment risks that can exist in early-stage markets. From an investor's perspective, these risks result in higher financing costs (equity and debt) and reduce the competitiveness of minigrads relative to alternative sources of energy (e.g., diesel generators). All else being equal, the need for higher returns that reflect these risks translates into higher energy prices that, in turn, or require larger subsidy requirements for rural electrification programs.

An opportunity is for policymakers to systematically address these investment risks, lowering financing costs and leading to competitive investment. Although there are both public and private strategies to address investment risks, the DREI framework is concerned mainly with public strategies, and identifies three central ways - often used in combination - that the public sector can improve the risk-return profile of private sector investment opportunities: (i) Reducing risk, targeting underlying barriers that create investment risk. These instruments are typically policies, such a legislation, or technical programmes (?policy derisking?); (ii) Transferring risk, shifting risk from the private to public sector. These include

---

instruments such as guarantees, or credit lines to commercial banks for on-lending (?financial derisking?); and (iii) Compensating for risk, increasing the return of investments. These are typically targeted subsidies for renewable energy (?direct financial incentives?). As RE minigrid markets mature, an opportunity also exists for diversifying risk through aggregation of multiple mini-grid assets (?portfolio derisking?).

As regards AMP, UNDP's DREI framework will be applied either qualitatively and quantitatively at various points in the project cycle, both at the national level in each country, and then aggregated into regional knowledge products by the AMP Regional Project and disseminated widely. The DREI framework, both at the national and regional level (in aggregate), will act as the program's mechanism to harvest and disseminate data on changes in the financing costs, hard and soft costs, and resulting costs for minigrids.

Table 2 ? Preliminary conclusions of the drei analyses in niger

N°	Risk Category	Description of underlying barrier	Risk Level	Preliminary recommendations from DREI analysis
1	<p><b>Energy market risk:</b> Risk arising from limitations and uncertainty in the energy market (off-and on-grid) regarding market outlook, access, price and competition</p>	<p><i>Market access, competition and grid expansion:</i> Limitations and inability, including due to government regulations, of minigrid developers to access the electrification market; uncertainty regarding potential future competition in electrification; unclear, or lack of, grid planning and expansion policies. <i>Tariffs:</i> Uncertainty or inflexibility in electricity tariff regulations for minigrids. <i>Technical standards:</i> Lack of clarity, uncertainty and/or inconsistent government technical requirements for minigrids regarding (i) quality of service and (ii) grid integration, should it occur.</p>	High	<p><b>Policy measures</b> ? Publication of the Rural Electrification Master Plan and regular updating with information on concession areas ; ? Establish a regulatory approach of 2 cohabiting regimes (light touch and comprehensive) for the granting of licenses, with a clear methodology for setting up required tariffs in the comprehensive regime and clear and balanced technical standards (revision of the PERAN decree). <b>Financial measures :</b> ? Compensation system through a subsidy per kWh in the event of connection to the national grid ? AMP Niger could consider supporting this measure after an assessment as stated in project activities Output 1.4 below).</p>

N?	Risk Category	Description of underlying barrier	Risk Level	Preliminary recommendations from DREI analysis
2	<b>Social acceptance risk:</b> Risks arising from lack of awareness and resistance to renewable energy and minigrids in communities	Resistance by general public and local communities due to unfamiliarity with electricity and renewable energy sources; mis-information/perceptions and lack of awareness for minigrid offerings; resistance from incumbent businesses (e.g., diesel based generation) and users (e.g., SHS), disrupted by minigrids	Medium	<b>Policy measures :</b> ? Community and public awareness impact campaigns ? AMP Niger will cover this under Component 4
3	<b>Hardware risk:</b> Risk arising from limitations in the quality and availability of mini-grid hardware, as well as the customs treatment of hardware	<i>Quality of hardware:</i> Lack of access to information on quality, reliability (performance) and cost of hardware; lack of clarity or uncertainty regarding government technical standards to ensure safety of minigrid hardware; lack of availability of warranties for components <i>Availability of hardware:</i> Lack of a competitive market for buying hardware (from both international and domestic suppliers); where appropriate, lack of locally tailored hardware <i>Customs:</i> Cumbersome customs/clearing process for importing hardware, leading to delays in delivery; punitively high customs tariffs on minigrid hardware, particularly in comparison to other sectors.	High	<b>Policy measures :</b> ? Development of standards and certifications for equipment; ? Streamlined customs procedures - Clarification of equipment exempt from import taxes and VAT.  ? AMP Niger could consider supporting this measure after an assessment as stated in project activities Output 1.4 below.
4	<b>Digital risk:</b> Risks arising from use of cellular networks for remote monitoring and payments; the use of software; and abuse of consumer data	<i>Cellular networks and mobile money:</i> lack of cellular coverage in rural areas, where electrification needed; over-dependence on a single operator for reliable cell service and payment processing; lack of mobile money, or limitations relating to fees on mobile money transactions <i>Software:</i> Limited standardization of software and interfaces on minigrid developers' back-end data and operations, and mobile money payment platforms	High	<b>Policy measures :</b> ? Telecommunications regulations for universal coverage and access to mobile money ; ? Support capacity building for industrial associations for the sharing of best practices and standards. ? AMP Niger will contribute to this under Components 2 (building the capacity of the industry association) and 4 (communities of practice in Niger and sharing knowledge with other communities of practice

N?	Risk Category	Description of underlying barrier	Risk Level	Preliminary recommendations from DREI analysis
		<i>Abuse of consumer data:</i> possible abuse of consumer data privacy on payments and usage; lack of understanding/clarity on uses of consumer information		embedded activity with the AMP Regional project)
5	<b>Labour risk:</b> Risks arising from the lack of skilled and qualified potential employees	Lack of a competitive labor market of educated, skilled and qualified potential employees, leading to higher costs, hiring non-local staff and suboptimal performance	Medium	<b>Policy measures :</b> ? Set up programs to develop a competitive and qualified labor market in renewable energies? AMP Niger will support the analysis of existing curricula and programs for higher education and vocational training across Niger to identify gaps and support training activities at targeted institutions under Component 1.
6	<b>Developer risk:</b> Risks arising from limitations in the mini-grid operator's management capability, and its creditworthiness and cash-flow.	<i>Management capability:</i> lack of C-suite talent and experience to ensure effective execution (business planning, financial structuring, plant design (resource and demand assessment), installation, operations, and maintenance), and to manage challenges (limited information, unforeseen events) <i>Developer credit worthiness and cash flow strength:</i> Inability of developer to secure low-cost financing from investors due to lack of credit worthiness, or insufficient cash flows to meet investors' return requirements	High	<b>Policy measures :</b> ? Improvement of network effects and information flow / technical assistance to promoters ? AMP Niger will support targeted capacity building for local private sector operators based on a need assessment under Component 2. <b>Financial measures :</b> ? Public loans, guarantees, public equity ? AMP Niger will contribute with technical assistance to advance financing mechanisms to scale up CEMGs.

N?	Risk Category	Description of underlying barrier	Risk Level	Preliminary recommendations from DREI analysis
7	<p><b>End-user credit risk:</b> Risk arising from customers' willingness, ability, and methods of payment for electricity</p>	<p><i>Lack of information on end-user credit worthiness:</i> Lack of end-user credit data with which to assess the ability of end-users to pay for the initial connection fees, ongoing electricity bills and ancillary equipment (e.g., lights and appliances)</p> <p><i>Poor credit worthiness and non-payment:</i> Risk of delayed, reduced or non-payment by customers due to poor credit worthiness, lack of funds available, electricity theft and social dynamics</p>	High	<p><b>Policy measures :</b></p> <ul style="list-style-type: none"> <li>? Promotion of the productive use of electricity (PUE) ? AMP Niger will strongly support PUE as a main focus for any pilot site. In addition, a national study will be conducted on opportunities to boost economic activities through access to electricity and productive use (Output 2.2.)</li> <li>? Facilitation of access to consumer credit / micro-credit ? AMP Niger will facilitate consumer credit/micro-credit as part of Component 3 via technical assistance on relevant financing mechanisms and capacity building of financial institutions representatives in Niger</li> <li>? Government mandates to insure solvent key customers (ex: telecommunication tower)</li> </ul> <p><b>Financial measures :</b></p> <ul style="list-style-type: none"> <li>? Public loans, guarantees, public equity? AMP Niger will contribute with technical assistance to advance financing mechanisms to scale up GMG.</li> </ul>



N?	Risk Category	Description of underlying barrier	Risk Level	Preliminary recommendations from DREI analysis
8	<p><b>Financing risk:</b> Risks arising from scarcity of domestic investor capital (debt and equity) for minigrids, and domestic investors' lack of familiarity with minigrids and appropriate financing structures</p>	<p>Capital scarcity - liquidity constraints in domestic banking: Limited availability of long-term domestic loans due to high banking reserve requirements</p> <p>Capital scarcity - under-developed domestic financial sector: Low number of well-capitalized actors (debt, equity, insurance, pensions); lack of regulatory clarity on new types of financial products</p> <p>Capital scarcity - competing incentives/ mandates: existing policies incentivize or mandate domestic financial sector (banks, pension funds) to invest in alternative, competing sectors to minigrids</p> <p>Limited domestic investor experience with minigrids: Lack of information, assessment skills and track-record for minigrid projects amongst domestic investor community; lack of network effects (investors, investment opportunities) found in established markets; lack of familiarity and skills with appropriate finance structures.</p>	High	<p><b>Policy measures :</b></p> <ul style="list-style-type: none"> <li>? Liberalize the national financial sector (reforms for new types of financing, incentives)</li> <li>? Technical assistance to financial institutions and investors ? AMP Niger will provide technical assistance to these actors under Component 3</li> </ul> <p><b>Financial measures :</b></p> <ul style="list-style-type: none"> <li>? Public loans, guarantees, public equity ? AMP Niger will contribute with technical assistance to advance financing mechanisms to scale up CEMGs.</li> </ul>
9	<p><b>Currency risk:</b> Risks arising from currency mismatch between domestic currency revenues and hard currency financing</p>	<p>Uncertainty due to volatile local currency; unfavorable currency exchange rate movements resulting in domestic currency revenues not being sufficient to cover hard currency debt/equity servicing; inability to economically hedge FX exposure due to illiquid FX derivative markets.</p>	Low	<p><b>Policy measures :</b></p> <ul style="list-style-type: none"> <li>? Support for the development of a foreign exchange market derivative products.</li> </ul>
10	<p><b>Sovereign risk:</b> Risk arising from a mix of cross-cutting political, economic, institutional and social characteristics in the particular country which are not specific to mini-grids</p>	<p>Limitations and uncertainty related to conflict, political instability, economic performance, weather events/natural disaster, legal governance, ease of doing business, crime and law enforcement, land tenure and infrastructure in the country.</p>	High	<p><b>Financial measure :</b></p> <p>Political risk insurance</p>







## v2) the baseline scenario and any associated baseline projects

Niger has taken some critical steps to improve the electricity access rate, especially in rural areas and energy markets by creating a regulatory body, *Autorité de Régulation du Secteur de l'Énergie* (ARSE), to increase transparency and fair competition among numerous energy actors. The Government also created *Agence Nigérienne de Promotion de l'Électrification en milieu Rural* (ANPER), which is mandated to design, implement, and monitor rural electrification programs throughout the country.

Government has lately developed the Green MiniGrids (GMG) market through a variety of efforts to:

? Improve the legal and regulatory framework and create a conducive environment to promote access to electricity and the promotion of green minigrids (GMG), including via programmes/projects such as the World Bank's Electricity Access Expansion Project (NELACEP) and the African Development Bank's (AfDB) Green minigrid support Programme (funded by SEFA)[13]13, among others. However, a clear minigrid delivery model including the tariffication aspects is not yet available in this relatively nascent GMG market in Niger. The *Plan Directeur d'Accès à l'Électricité* (PDAE) for 2021-2025 identified clear criteria for rural localities which should benefit from MGs for their electrification (about 400 MGs). There is no active multi-stakeholder concertation framework yet in place around minigrids (MG) leading to limited experience sharing and some double work.

? Promote of green and hybrid minigrids development and management in rural areas in Niger. A variety of MG feasibility studies supported by development partners in collaboration with ANPER such as Power Africa, Liptako-Gourma Development Authority (ALG), World Bank, AfDB, etc. as well as the construction of MGs itself.

? Identify and test different delivery and business models for MGs. So far, these MGs adopt various business models financially sustainable and but are not supported by any relevant regulatory framework yet.

? Grant import duties exemptions on some solar MG equipment but are not considered sufficient by the local developers requesting for VAT tax exemption.

? Setup of some financial mechanisms to support rural electrification (e.g. via the Niger Solar Electricity Access Project NESAP project) including PAYGO for Solar Home Systems (SHS) and

---

productive use, a dedicated credit line for local solar entrepreneurs available at partnering financial institutions but so far with a relatively high interest rate. For instance, *Plan International* partnered with a local microfinance institution, MFI Capital Finance, to provide guarantee lines for end-users to access *inter alia* solar ancillary equipment for productive use. The recently approved World Bank's Niger Accelerating Electricity Access Project (HASK?) [14]14 project will offer some subsidy for solar ancillary products to rural end-users (households, productive use) (World Bank, n.d.).

Digitalize the energy space. Smart meters have been added for a few MGs including one operated by the private sector developer ?Africa Green Tech?. The HASK? project is considering an e-platform for tendering processes around MGs

Despite all the efforts made by the Government and the development partners through these projects, local private developers still lack sufficient capacities to promote the MG industry due to various risks: limited technical competencies, lack of financial capacities, missing suitable financial mechanisms provided by financial institutions in the country, limited payment capacities of very poor rural households in Niger, a conducive regulatory framework not yet available, MG profitability not yet clear, etc. An additional major hurdle lies in the low purchasing power of rural households across Niger unable to either access finance or to pay back their loans (including. PAYGO mechanisms).

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

Programmatic approach. This project is part of the broader **Africa Minigrids Program (AMP)**, a regional technical assistance and investment program with the objective of supporting access to clean energy by increasing the financial viability and promoting scaled-up commercial investment in renewable minigrids, with a focus on cost-reduction levers and innovative business models. The programmatic approach aims to achieve greater impact by creating new minigrid markets across the African continent, which, in aggregate, will create scale and momentum, attracting private sector interest and investment. It will also allow for a broader sharing of knowledge and good practice, and create economies of scale in providing program services.

Program design. As shown in **Figure 1** below, AMP is comprised of two main elements: (i) a **Regional Project**, acting as the knowledge, advocacy and coordinating platform of the Program; and (ii) a cohort of an initial 21 **AMP National Projects** that share a common approach, seeking to reduce minigrid costs via five country-level components: (i) policy and regulations, (ii) business model innovation with private sector, (iii) scaled-up financing and (iv) digital, knowledge management and (v) monitoring & evaluation (M&E).

---

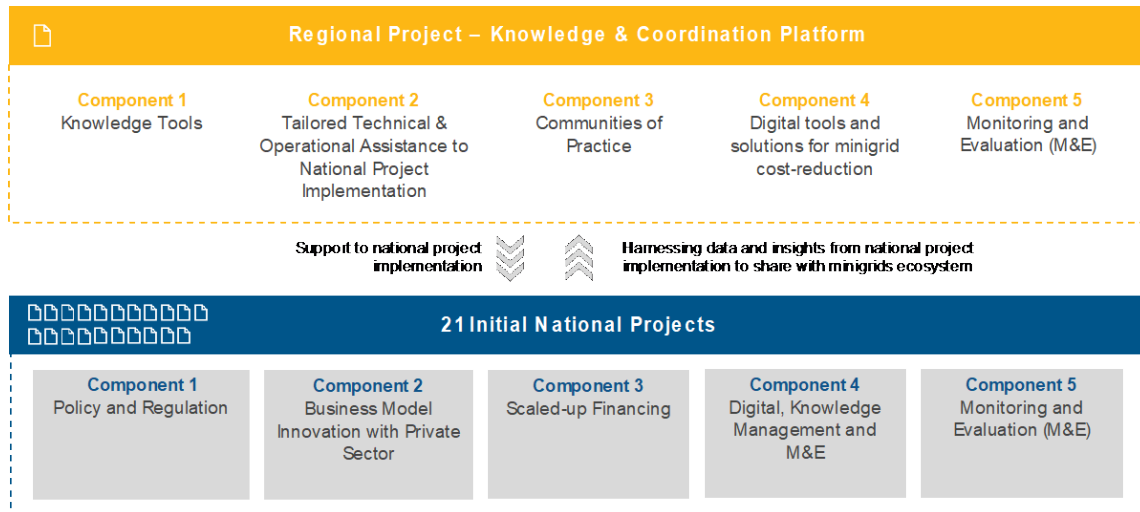


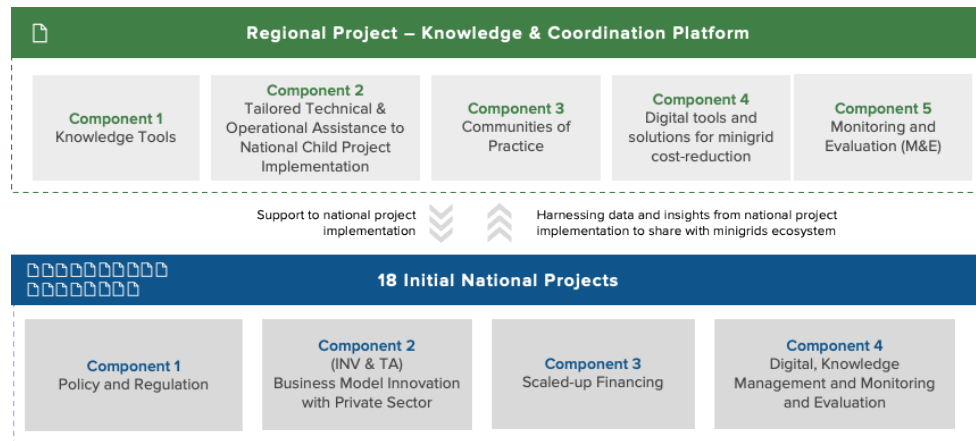
Figure 1 - Africa Minigrids Program's Architecture

Country Strategy. Niger has been selected as one of the AMP National Projects as presented in Figure 2 above. The country is a poverty-stricken country with a large rural population (80% of total). A combination of climate, political instability and security shocks and crises has hampered the growth of Niger's economy. Niger must address a few the negative constraints if it hopes to reduce its structural fragility and achieve the sustained pace of economic growth needed to reduce development gaps. The country's economy is vulnerable to climate change and its population, more than 70% of whom work in subsistence agriculture, is affected by volatile weather conditions. The GoN prioritizes the power sector for both socio-economic development and climate adaptation. Unfortunately, current installed RE capacity is less than 1% of the power mix and the electricity access rate is less than 20% (and under 4% in rural areas). Yet, Niger has high and reliable solar irradiation intensity, and a significant opportunity for green mini-grids to play a major role in increasing electricity access. GoN has articulated in its National Electricity Policy (2018) an objective for access to electricity for all by promoting renewable energy. The National Electrification Strategy also mentions access to affordable, reliable and modern electricity services for all Nigeriens, based on the principle of social justice and equity of at least 80% of the population by 2035 and with the support of the private sector. Moreover the "Plan Directeur d'Acc?s ? l'lectricit? 2019-2035" states that the electricity access increase should be done through 3 main options (i) densification (ii) new electrification via grid extension and MG development (iii) individual solutions for remote localities

So far, the minigrid market is at an early stage with 14 minigrids installed but not all are operational. Out of which 10 are owned by the Government (financed by Exim Bank of India), 1 by *Plan International* and 3 by private sector developers (1 offering a containerized MG solution). Other MGs are in the pipeline via the Niger Solar Electricity Access Project (NESAP ? WB project)<sup>[15]</sup>, 7 MGs with 2 Mauritanian companies, 2 MG with ANPER, 9 MG with Plan International (connected to women-led

multi-functional platforms) as well as IsDB, BOAD, etc. The market development is still very nascent, with a lot of actors, there is room for testing delivery and business model improvement.

Program's Theory of Change (TOC). AMP Niger will follow the AMP Theory of Change (TOC), developed in the Program Framework Document (PFD) and set out in **Figure 2** below. This TOC is premised on a baseline context where, while good progress is being made, several risks and barriers are driving high financing costs (equity and debt) and reducing the competitiveness of minigrids with respect to fossil-fuel based alternatives. All else being equal, the need for higher returns that reflect these risks translates into higher energy prices that, in turn, adversely affect affordability for the end-user, or lead to a larger subsidy requirements for rural electrification programs. As a result, renewable energy minigrids do not get financed and built at scale. By focusing on cost-reduction levers and innovative business models, the project can improve the financial viability of renewable energy minigrids which in turn can accelerate and scale up their adoption as part of the effort towards achieving universal energy access. When renewable energy minigrids are more competitive, private capital and commercial financing will then flow, resulting in various program benefits: investment at scale, GHG emission reductions, and electrification and lower tariffs for end-users.



**Figure 2 - Africa Minigrids Program's Theory of Change**

Expected Results:

Five components and relevant outputs and activities have been developed to increase energy access in rural areas and stimulate the uptake of low-carbon minigrids (mainly solar-based) in Niger by improving the financial viability and promoting scaled-up commercial investment in such systems. The project focuses on the cost-reduction (hardware, soft and financing costs) and innovative business models for minigrids. UNDP's derisking approach will be adopted to catalyze private sector investments in the off-grid rural energy market. In doing so the activities proposed under the five project outcomes will seek to:

1. Advance national consensus on a national minigrid delivery model and adopt enabling policies and regulations to facilitate investment in low-carbon minigrids
2. Operationalize innovative business models based on cost-reduction, with strengthened private sector participation in low-carbon minigrid development
3. Facilitate financial sector actors' readiness in investing in a pipeline of low-carbon minigrids and ensure that concessional financial mechanisms are in place to incentivize scaled-up investment



4. Leverage digital tools and solutions, knowledge sharing, and networking opportunities to enable minigrids market development
5. Conduct the relevant project monitoring and evaluation

Greenhouse Gas (GHG) Emissions Mitigated. This project will result in GHG emissions reductions which will be measured via the GEF7 Core indicator 6: Greenhouse Gas Emissions Mitigated. This indicator captures the amount of GHG emissions expected to be avoided through the project's investment in renewable energy minigrid pilots and will be measured above a baseline value considering that in the absence of the project, the end users would have been supplied by fossil-fuel-based minigrid(s). Mitigation benefits include both (i) direct emissions reductions attributable to the minigrid pilot investments made during the project's implementation period, totaled over the lifetime of the investments (20 years); and (ii) Indirect emissions reductions resulting from the increased uptake of minigrids for off-grid electrification of rural areas due to replication, scaling-up and market change to which the project has contributed by creating a general enabling investment environment for minigrid market development, and facilitating subsequent investment flows. Annex 12 describes the methodology used to define targets for direct and indirect GHG emissions mitigated.

10% of the estimated indirect GHG mitigated of this project have been removed from the project and allocated to the AMP regional project, in line with the apportioning of the overall program budget and reflected in the PFD allocation of GHG emissions reductions across the different AMP national projects. This reflects the benefits of AMP national projects accessing the regional project's support which is expected to contribute and enhance the enabling conditions required for minigrids development across AMP countries.

Project components, outcomes, outputs and activities:

---

1. Policy and Regulation

---

***Outcome 1: Stakeholder ownership in a national minigrid delivery model is advanced, and appropriate policies and regulations are adopted to facilitate investment in low-carbon minigrids.***

As stated in the baseline, Niger is a relatively early-stage market for low-carbon minigrids. While 14 minigrids have been installed across the country under the supervision of ANPER, a clear national minigrid delivery model has not yet been clearly determined and adopted. The PERAN decree has broadly described different financing options but missing some concrete information on delivery and business models. Currently, a variety of models are on the ground with respect to ownership, tariffs, financing, etc. The need for a national delivery model with stakeholder ownership is crucial to support the market development with private sector involvement and investment.

The existing policy and regulatory framework for electricity in general and minigrids in particular is in place but still needs to be adapted, fine-tuned and adopted on the ground. The National Strategy for Electricity Access (SNAE) and the Master Plan for Electricity Access (PDAE) were prepared with GIS and techno-economic modelling electrification analysis across the country (including rural areas) leading to identifying the most suitable option for every locality across Niger: from grid expansion (NIGELEC), minigrids to individual kits. The PDAE 2021-2025 aims at enabling about 6,000 localities to have access to modern energy services out of which 300 minigrids. A DREI analysis is currently ongoing and to be completed by September 2022, it will determine which de-risking instruments to be supported by the GoN to facilitate the uptake of the low-carbon minigrids in Niger (see preliminary findings under Table 2 - Preliminary Conclusions of the DREI).

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

The project will facilitate the establishment of a multi-stakeholder working group or platform to initiate systematic discussions that will inform the national government's identification of the optimal minigrid

delivery model to meet the country's rural electrification objectives. The national dialogue will be centered around key issues regarding who finances, builds, owns and who operates and maintains the minigrids, and the related key components of a minigrid framework, including tariff structures/mechanisms and subsidy levels/mechanisms. It should lead to the official adoption of a national delivery model and a buy-in from all relevant stakeholders. Such a national dialogue platform has been highly welcomed by all stakeholders during the various consultations to facilitate coordination and avoid 'reinventing the wheel' and 'double work'.

This output includes the following activities:

**Activity 1.1.1. Establish multi-stakeholder national dialogue group/platform**

Support the establishment of a working group or a similar platform that includes a diverse and representative mix of stakeholders from Government, technical and financial partners, local authorities (collectivities), civil society, private sector, rural populations, local media and others, and initiate a national dialogue to identify the optimal minigrid delivery model based on the GoN's vision, the feedback from first MGs implemented in Niger as well as lessons learned from other AMP countries and beyond. The National Dialogue will be based on the Concertation Framework of energy sector players (*Arrêté portant création d'un cadre de concertation des acteurs intervenants dans le secteur de l'énergie*) that would be amended to include questions related to minigrids. After the review of this Arrêté a collaboration with the national dialogue platform around energy in Niger will also be envisaged. Efforts can be made to support and amplify women's and youth voices, for example, by ensuring at least 40% of participants are female and youth, and that at least one dialogue co-chair is female, that events are held at convenient times/places with childcare provided, and that communication barriers are addressed (i.e., linguistic barriers, digital/technology barriers, norms governing speaking in front of elders and members of the opposite sex).

**Activity 1.1.2. Provide inputs for national dialogue decision making**

Provide input to the discussion in the form of gap analysis, best practice reports, and suggestions for delivery models and make sure that the probable consequences of any decision taken for the overarching framework are evaluated and well understood. Support for ongoing gender mainstreaming of the dialogue may also be required.

**Activity 1.1.3. Establish feedback loop between national dialogue and the project**

Align the ongoing dialogue with activities implemented in parallel under the other outputs and loop respective (pre-)results back into the discussion. This should include, but not be limited to, activities which can shed light on trends and progress regarding minigrid cost reduction (e.g. DREI analyses and tracking of minigrid costs, resulting subsidy levels and electricity tariffs that will apply for minigrid pilots).

*Output 1.2. A minigrid regulatory framework, including tariff model, tax regime, and grid expansion risk, is developed in close coordination with the authorities concerned and other development partners*

Quite some efforts have already been made by various partners to support the GoN in creating a conducive policy and regulatory framework for minigrids and especially green minigrids, including AfDB and World Bank. At the time of writing, several other initiatives and activities are planned by different stakeholders, including GoN, ANPER, World Bank, AfDB and EU, around the general electricity regulatory framework including the minigrids regulatory framework.

Limits of the existing framework have been identified by many stakeholders and included in a recent diagnostic study on the policy and regulatory framework of the Electricity sector in Niger, including minigrids, financed by the EU. A revision of relevant policies and regulations starting from the Electricity Code and including minigrids and private investments is planned with the support of the World Bank's HASK project. This revision is a prerequisite for the EU's involvement in the energy sector in Niger by 2023. A first draft of the revision should be available by December 2022 and a final version latest by April 2023. As such, UNDP Niger will participate in the dialogue on the revision prior to AMP Niger's project management unit (PMU) team being in place by early 2023.

The World Bank HASK? project will develop an online platform for the management of license applications located at ANPER. The digital platform will be used from designing to monitoring minigrid projects. This platform will be available to all relevant partners, including AMP.

This output includes the following activities:

**Activity 1.2.1. Conduct a brief assessment of the actions taken in terms of minigrid regulatory framework since project formulation**

A rapid assessment of actions taken and planned by other stakeholders will be conducted. The results and gaps of the assessment will be shared and discussed during the National Dialogue Committee. AMP's activities will then be adapted, where necessary, using an adaptive management approach and in line with the minigrid delivery model identified and selected by the national government and the National Dialogue Committee

Based on the stakeholder consultations as well as desk reviews, this *could* include - *if not covered yet at project launch* by the Electricity Code revision or other initiatives? the following:

? Develop the tariff model and calculation tool for isolated minigrids in collaboration with ARSE and taking the following into account:

? ECREEE RE tariffication tool (financed by EUEI PDF 2017)

? World Bank study conducted under the NESAP project

? UNDP study recommending off-grid tariffication integrating payment capacities of rural populations and CAPEX realities for a private sector operator in Niger in 2016 (*cadre et sch?ma de gouvernance de l'?lectrification rurale*)

? Results from the DREI study Analysis conducted during the project preparation phase

? Lessons learned from the first implemented minigrids on national grid tariffs, business models, system sizing, CAPEX related aspects and recovery, payment capacities of end-users, types of end-users (residential, commercial, social), living/working arrangements of end-users (e.g., polygynous households, cottage businesses, child-headed households, displaced or resettled households) etc.

? Assess the grid expansion risks: the PDAE clearly defines which localities would be covered by a national grid expansion/densification by 2035 with specifics on off-grid solutions such as minigrids and individual kits. The risk of grid expansion and interconnection issues remain as the compensation schemes for private sector developers and operators represent an additional hurdle for the private sector to invest in minigrids.

? Set up standardizing and categorizing interventions of minigrid operators (technology type, etc.) - see output 1.6

**Activity 1.2.2. Formulate articles to be added to relevant minigrid regulatory texts and support endorsement**

The results and gaps assessment (Activity 1.2.1) will help identify legislation, policies, regulations, sector plans and strategies that require further analysis and development to properly address minigrid development challenges and risks. This activity will support further analysis and development of these policy derisking instruments as needed. The project, including through the National Dialogue platform, will support the endorsement of the revision of the relevant legal texts.

One such area of intervention could be the revision of a 2017 decree (updated in 2022) establishing tax exemptions applicable to solar PV technologies which has not yet addressed specific challenges faced by the minigrids sector.

Importing equipment (including RE related ones) are taxable in three ways: customs taxes and duties, VAT and other tiny taxes (including ECOWAS, WAEMU and statistics taxes - all together under 10%). In Niger, a 2017 joint act (*Arr?t? conjoint portant liste des ?quipement et mat?riels ? ?nergies renouvelables ? exon?rer des droits et taxes per?us en douane*) lists some solar components (mainly related to individual kits) that are exempted from any custom taxes and duties. While this list should be updated once every year, the first review was done early 2022 encompassing some solar ancillary equipment (e.g. solar pumps and solar refrigerators). The VAT (19% in 2022) was not included in that decree while it is hampering private sector energy services players.

Other areas of intervention could include:

- ? structuring arrangements after the Electricity Code revision and more
- ? adding VAT reduction or exemption to the relevant 2017 joint act (as stated above)
- ? revising standards and business models of minigrid operators (including technology type, etc.) - see output 1.6.
- ? adopting a Strategic Environmental and Social Assessment (SESA) approach where the role of local authorities and communities engage localities and highlighted in the regulatory framework. The *Code des Collectivités* and its relevant clauses will be considered where necessary.

*Output 1.3. Analysis of existing (pre)-feasibility studies conducted for selected minigrid sites to enhance sector planning and decision-making on a delivery model for minigrid development*

Feasibility studies have been undertaken by various donors and partners in coordination with ANPER in approximately 350 out of 500 localities identified as potentially relevant for electrification via minigrids. Component 2 will address activities to analyze and summarize the main findings and impacts on a suitable minigrid delivery and business model to be tested. Moreover, some additional (pre)-feasibility studies could be undertaken in the remaining villages (i.e., 150 villages) and which would nourish the decision-making on a delivery model and relevant financially sustainable business models for minigrids (see Component 2).

In addition to the demand assessment and trends, ability and willingness to pay, productive use (commercial and social), and other aspects, the economic development potential will be further assessed along with a holistic approach of all stakeholders and their needs (not only in terms of electricity).

This output includes the following activities:

**Activity 1.3.1. Cluster existing (pre-) feasibility studies by type of village and needs and identify missing pre-feasibility studies per type of village/potential business model**

Existing pre-feasibility studies undertaken by various partners (including private sector players) and available at ANPER will be collected, analyzed and grouped based on common specificities leading to specific delivery and business models. Objective criteria will be identified to categorize each locality. Consultations with selected stakeholders including on their feedback on existing minigrids and more will be conducted. Relevant updates and hypotheses (e.g., demand evolution, etc.) will be done where deemed necessary for the analysis as some studies have been conducted a few years ago already. Where possible, gender aspects can be added to the clustered feasibility studies (e.g., cultural groupings, women's land tenure, presence of micro-finance institutions and women's agricultural and artisanal co-ops, etc.) as well as environmental and social considerations.

**Activity 1.3.2. Draw recommendations for sector planning and decision-making on a delivery model**

Based on Activity 1.3.1. and benchmarks within AMP countries and beyond, different options will be elaborated with their respective strengths and weaknesses. These options will nurture the discussions and conclusions for the national delivery model within the National Dialogue platform (Output 1.1.).

*Output 1.4. Targeted policy and financial de-risking instruments of the Minigrid DREI techno-economic analyses implemented and contributing to AMP Flagship Report on Cost Reduction*

As regards to AMP, UNDP's DREI framework will be applied either qualitatively and quantitatively at various points in the project cycle, both at the national level in each country, and then aggregated into regional knowledge products by the AMP Regional Project and disseminated widely. The DREI framework, both at the national and regional level (in aggregate), will act as the program's mechanism to harvest and disseminate data on changes in the financing costs, hard and soft costs, and resulting costs for minigrids.

DREI, by interviewing the private sector, is a well-suited tool to evaluate the risk environment and suggest instruments at various stages of the project to ultimately lower the project development costs. The DREI financial modeling stage captures hardware and soft costs to determine the levelized cost of electricity (LCOE) of the technology being assessed.

The preliminary conclusions of the DREI can be found under Table 2 above. The report will be shared and made available on the Regional AMP Knowledge Platform and will inform Niger's National Dialogue (Output 1.1) and the PMU to advance the scaling up of the market through de-risking measures.

This output includes the following activities:

**Activity 1.4.1. Identify and disseminate specific DREI derisking measures**

Based on the national DREI analyses and the derisking measures, the PMU will select relevant DREI derisking measures specific for the AMP Niger project. This might lead to adapting some project outputs/activities accordingly. In Year 1, the project will build on the DREI workshops undertaken in 2022 and organize 1 round-table workshop with government, private sector and other key stakeholders to disseminate the identified DREI derisking measures to be covered by the project.

**Activity 1.4.2. Coordinate with regional project on national DREI analysis update (Year 4)**

In the final year, or year 4, of the national project's implementation period, whichever happens first, the original national-level DREI analyses will be refreshed to track evolutions in financing costs as well as in hardware and soft costs. For administrative efficiency, the regional project will fund and execute this update (a light quantitative DREI analysis?), on behalf of the national project. The deliverable will be a brief note of 2-5 pages on the DREI national update. The data from the national refreshed DREI analysis will be fed into an update note to the year 2 AMP flagship regional DREI knowledge product, which will provide an end-of-program overview of the evolution in minigrid costs across AMP countries. The national project's contribution to this activity will be: (i) facilitating the DREI national update (to be funded and executed by the regional project); and (ii) disseminating the findings of the national DREI update note, and the update to the regional flagship DREI product.

*Output 1.5. Capacity building provided to public officials (regulator, ministries) to support cost-reduction levers and innovative business models*

While public officials benefited and will benefit from various capacity building around low-carbon minigrids with the support of various partners, fact is that:

1. At various ministries and agencies, new nominations and appointments were made leading to a loss of institutional memory. Ensuring that knowledge is acquired and transferred to new staff is critical.
2. Knowledge disparities exist within a same unit/department as well as between entities (ministries/agencies/utilities)
3. Some aspects in terms of capacity building were not yet covered and AMP Niger aims at bridging these gaps (be it at regulatory, managerial or technical levels)
4. Training should target not only the ministry and the agencies related to energy but also other members of the National Dialogue Platform as access to electricity is a cross-cutting topic and is critical to support economic, social and environmental development across Niger.

This output includes the following activities:

**Activity 1.5.1. Analyze provided capacity building activities and identify gaps**

The following sub-activities would be conducted:

- ? List all capacity building activities around low-carbon minigrids in the past years with the support of public officials and technical & financial partners, and which ministry or agency benefited from it.
- ? Gather all training materials to avoid reinventing the wheel and upload them on a specific platform (as part of the Community of Practice under Component 4) so all public officials and beyond can access it.
- ? Assess the needs of targeted public institutions
- ? Identify gaps based on the training materials collected along with the feedback of public officials.

- ? Draw recommendations on capacity building efforts to be provided for public officials
- ? Coordinate with other development partners and beyond on their planned trainings around minigrids

A special focus will be put on incorporating gender aspects in the entire minigrid project life cycle including the tendering process (including gender scoring of tenders) as well as SES aspects.

**Activity 1.5.2. Design comprehensive training materials and conduct workshops with a gender-diverse selection of public officials**

Based on Activity 1.5.1., specific comprehensive training materials supporting the understanding and ownership of the identified national minigrids delivery model(s) by public officials will be developed and rolled out. These capacity building efforts lie on multiple approaches: (i) modular whereby participants will attend trainings based on their needs and knowledge level (ii) holistic aspect taking a village with all its activities around minigrids, i.e. including representative members of households, businesses and social institutions (schools, health centers, etc.) and their respective needs, (iii) participatory where trainings are not purely academic but with a large space left to apply the knowledge and practical exercises.

The multi-country initiative around [Solar Renewable Energy Training and Certification Program implemented by Burkina Faso's 2iE institute](#) targeting engineers and staff from Ministries and national utilities (including 20% women) should be leveraged.

**Activity 1.5.3. Conduct Training of Trainers (ToT)**

A training for both, male and female trainers will be provided to targeted training institutions, ANPER and the Ministry of Energy and Renewable Energies, as well as the trainers of the Ministry of Technical Education and Vocational Training to contribute to ownership and sustainability of the various training modules. Institutional memory will hence be supported along with sharing these training materials with the national and regional knowledge practices around AMP.

*Output 1.6. Domestication of quality standards and norms for solar minigrid components, and institutional capacity of ANERSOL strengthened*

Today, there are no real quality standards for solar minigrid components. Article 5 of the PERAN decree stipulates that minigrids are build complying with state-of-the art standards and that the technologies selected should be interconnectable to the national grid. ANERSOL, the newly created agency (2018) supporting solar energy promotion, had benefited from technical assistance of WB , AfDB and AFD including building their quality control capacities.

This output includes the following activities:

**Activity 1.6.1. Review existing standards and identify gaps**

Together with ANERSOL, in collaboration with ECREEE, a review of existing national, regional and international standards around CEMGs will be conducted. Gaps will be identified and clear recommendations will be drawn. The results of this analysis will be presented to ANERSOL.

**Activity 1.6.2. Develop adapted standards**

Based on the review under Activity 1.6.1., ANERSOL and the PMU, with ECREEE's and Verasol's support, will design relevant standards and a plan to enforce these standards. Thresholds could be used around quality standards based on the installed capacity, e.g., under 350kW the standards would be simplified to avoid jeopardizing local efforts to electrify. Such a double standards system has been implemented for instance in Sierra Leone since 2020.

These standards should as much as possible take E&S aspects into consideration through SESA.

ANERSOL's mandate includes the definition of standards as well as the exclusivity for quality control of such standards. However, the capacities of the newly created ANERSOL related to standards and their enforcement are limited.

**Activity 1.6.3. Reinforce ANERSOL's capacities**

A workshop to present the review (Activity 1.6.1.) and standards (Activity 1.6.2) along with a training on how to reinforce these norms will be provided to ANERSOL's staff. Relevant training materials and documentation will be provided by the project.

*Output 1.7. Public programmes (apprenticeships, certificates, university programs) to develop competitive, skilled labour market in minigrids facilitated*

Climate and environmental risks and mitigation efforts as well as gender considerations will be included in the activities below.

This output includes the following activities:

**Activity 1.7.1. Identify minigrid market needs in terms of competencies and jobs**

A comprehensive analysis of the needs of the minigrids market, including efficient end-user appliances and equipment adapted to minigrid environments, in terms of competencies and jobs to contribute to its scaling up should be conducted. This preliminary study is critical to pave the way for the development of suitable training programmes and modules by academics to the market's needs. Such training should integrate a large part of practice and hands-on work, especially to include women who on average have less formal education, to facilitate ownership and direct application of learnings.

**Activity 1.7.2. Analyze existing university and higher learning institutions programs and gap analysis**

An assessment of the studies portfolio (including modules) around renewable energy and minigrids in particular at the University of Niamey, École des Mines, de l'Industrie et de la Géologie (EMIG) and other high learning institutions across Niger is carried out. Potential gaps compared to the market's needs (see 1.8.1) are identified, and recommendations are made. Bridging these gaps include strategic partnerships with Burkina Faso's 2iE, the soon to be relaunched Côte d'Ivoire's École Supérieure Interafricaine de l'Électricité and targeted higher learning institutions across the ECOWAS region and beyond, as well as ECREEE, IRENA and AMP's partner RMI. The analysis should encompass the inclusion of gender aspects in the curricula.

The analysis' findings will be introduced and shared to universities and higher learning institutions as an opportunity, as well as to the authorities in charge of providing budgets to these institutes.

**Activity 1.7.3. Analyze existing vocational training programs and gap analysis**

An assessment of the training portfolio (including modules) around solar PV installation and maintenance, battery maintenance, wastage & recycling, becoming a rural electrician and other relevant trainings will be conducted. This will include:

? vocational training courses designed by Plan International's CEMGs project financed by the EU and the Schneider Foundation and validated by the Ministry in charge of Vocational Trainings in Niger. This activity included a training of Trainers (ToT) aspect where 2 inspectors at the Ministry and 19 trainers in 2 vocational training centers (Dosso/Tilabéry and Marady/Zinder).

? training provided by energy service providers for their staff.

A particular focus will be put on certification aspects and their enforcement as this is key to raise awareness of, and ensure ownership by end-users (residential, commercial and social) of reliable quality cleantech solutions as a suitable alternative, especially minigrids. Lessons from Barefoot College-inspired experiences in West Africa will be used to determine the extent to which paper-based qualifications, even literacy, are prerequisites for electricity sector vocational training, hopefully lowering barriers to female enrollment. Gaps compared to the market's needs (see 1.8.1) will be identified, and recommendations drawn. The latter shall include discussions with ECREEE, IRENA, RMI (one of AMP's Regional Project implementers) as well as with AMP regional project and national child projects on how they go about for instance with the certification of solar PV and minigrids installers. Successful capacity building initiatives in other countries including 2iE institute in Burkina Faso etc. will also be leveraged, this includes also sharing best practices and lessons learned in promoting CEMG in the given country and relevant capacity building efforts.

The analysis findings will be introduced and shared to vocational training centers (including the 2 training centers already capacitated by Plan International) as an opportunity, as well as to the authorities in charge of providing budgets to these institutes.

#### **Activity 1.7.4. Train the trainers of relevant institutions in Niger**

Based on the findings of activities 1.8.3. and 1.8.4., and the support of the targeted training institutions, the project will support some ToT activities of these institutions for both male and female trainers in collaboration with identified partners (see above).

---

## 2. Business Model Innovation with Private Sector

---

### ***Outcome 2: Innovative business models based on cost reduction are operationalized, with strengthened private sector participation in low-carbon/renewable energy minigrid development***

Given Niger's electricity, and specifically minigrids' situation, policy and regulatory framework, and being an early-stage minigrid market, the project aims at enabling the proof of concept of minigrids with private sector engagement in rural areas. Thanks to innovative business models of demonstration pilots, rural communities will gain access to reliable, affordable and clean electricity. Lessons learned in Niger (with the support of a study conducted by Power Africa with ANPER) and in other countries have highlighted, especially in LDCs, that a minigrid can only become profitable and sustainable when based on:

- ? productive use
- ? and cost-reduction.

Such players, be it commercial (for-profit) or social (health centers, schools), are energy intensive during the day (or up to 24/7 such) where the sun is largely available and represent a relatively stable and significant electricity demand source. The project will support the identification of relevant energy intensive value chains in rural areas across the country (Output 2.2).

In terms of cost-reduction efforts, 3 levers are available:

- ? Sector levers - related to legal requirements (e.g., legal registration, importation license, tariff approvals, environmental impact assessment, land usage rights, village level MOU) and mainly covered in Component 1
- ? Supply levers - related to the site preparation costs (e.g., site visits, community engagement, transports and logistics), CAPEX (e.g., civil works, electricity generation and storage equipment, distribution infrastructure, metering and monitoring equipment, VAT and duties) and OPEX (recurring infrastructure expenses, salaries and other HR related costs, O&M costs)
- ? Demand levers - related to customer uptake and demand stimulation (including flexible tariff regimes)

*Output 2.1. Pilots developed, including on productive use/innovative appliances and modular hardware/system design, leading to cost-reduction in minigrids*

This output includes the following activities:

#### **Activity 2.1.1. Develop a detailed project plan (the project's Minigrid Pilot Plan) for advancing the project's minigrid pilot(s)**

The PMU will lead and 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). Once prepared, 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. This activity should be completed by the end of year 1.

Building on the initial design information in this project document and its annexes, including the key principles for minigrid pilot implementation, the project's Minigrid Pilot Plan (MPP) will determine, among other aspects, the following:

- ? Clear objective for the pilot(s)



- ? The minigrid delivery model(s) which will be demonstrated in the pilot(s)
- ? The proposed type of pilot: greenfield minigrid pilots
- ? The estimated target number of pilot(s), based on *ex-ante* estimates of available GEF INV and other funds needed to cover the CAPEX costs
- ? Inputs, as necessary, on-site selection, including based on geo-spatial mapping, for the pilot(s)
- ? Site-specific assessments and other requirements (e.g., demand sizing, social and environmental safeguards assessments (ESIAs/ESMPs), gender assessments, e-waste disposal). Some assessments may be needed to be performed by the project *ex-ante*, to inform follow-up competitive tenders. The project's MPP will rely on existing feasibility studies and will update and complete them where necessary.
- ? The use of the digital platform for competitive tendering at ANPER, as necessary
- ? Ongoing data collection from minigrid pilot(s), including data-sharing requirements from minigrid pilot(s) (Refer to Box 5), as well as digital hardware requirements (Refer to Box 6)
- ? The project's approach to ensure minimal concessionality for the level of GEF INV support to the pilot(s) (when there are private sector beneficiaries)
- ? Review of the Implementing Partner's (IP's) modalities for transfer of GEF INV support to the pilot(s), ensuring they are aligned with UNDP's policies and financial rules
- ? If a pilot includes GEF INV support for productive use, ensuring the pilot takes a third party ownership model to productive use equipment
- ? Coordination and rationale on any associated project technical assistance activities which may benefit the minigrid pilot(s)

**Box 1 - Indicative Specifications for Minigrid Pilots? Digital Hardware and Software**

Offering	Details
Hardware requirements per site	<ul style="list-style-type: none"> <li>? Inverter monitoring (monitoring &amp; control)</li> <li>? Distribution monitoring</li> <li>? Optional current transformers for energy meter if more than 10 kW (single phase) or 30 kW (three-phase)</li> <li>? 24V power supply (50?)</li> <li>? Various data cables and installation material</li> <li>? Optional: 24V backup battery (50?)</li> <li>? Optional: Cabinet for the complete monitoring system</li> <li>? Industrial internet router</li> <li>? Industrial or high-quality Ethernet Switches</li> </ul>
Hardware requirements per connection	<ul style="list-style-type: none"> <li>? Smart meter</li> </ul>

The types of pilot sites that *could be* considered during implementation could encompass the following:

- ? Around a Multi-Functional Platform (MFP) of a women's group (gender component) planned by a project and which will consider access to electricity via solar minigrids / adapted ancillary equipment
- ? e.g. **UNDP PASDEL project** - framework project where a proposal of combining a MFP can be submitted to UNDP
- ? A model called "Keymaker- 4th generation" where a private operator could have two roles: a) solar minigrid (production, transport and distribution of electricity) in the village with residential, commercial and social customers, b) but also an activity of conservation & agro-food transformation. This could be for example around fishing (like **Imveta** in Tanzania around Lake Victoria) or an agricultural value chain (local rice/rice steaming; peanuts/peanut oil, poultry farming, etc.)

- ? e.g., with a robust cooperative member of the Federation of market gardening cooperatives in Niger to support their food production, conservation and processing activities (e.g. organic onion, rice, etc.)
- ? Around a refugee camp and its host community (such as in Ouallam, where an agro-ecological farm and the refugee camp are not electrified) - electrification here will also create income generating activities and improve the living conditions of host communities and refugees
- ? Coordinate with the World Bank HASK? project as its aim is to cover the electrification of refugee camps
- ? A hybrid RE model with solar and biogas minigrids around several agricultural value chains including a more "sedentary" livestock component as a basis for the biodigester (issue of security and theft of livestock to be considered in the choice of sites)
- ? A site where local content will be highly favored for local developers and operators to gain the necessary experience to compete for minigrid tenders in Niger
- ? A focus group of local operators and developers, organized during the PPG phase, identified this a big hurdle for the scale-up of the minigrids market through private sector with local companies

### **Activity 2.1.2. Design the tender process for pilot(s) using a digital platform**

The project's pilot(s) may involve private sector engagement in various forms, including models involving private sector minigrid ownership, private sector EPC, and private sector O&M services. Where there is private sector engagement in the pilot(s), a competitive tender process will be executed using the digital tendering feature of the digital platform procured under Component 4.

Under this activity, the PMU, working with the digital platform vendor, specialist engineering, financial, procurement, and legal expertise, and the AMP regional project, will translate the approach set out in the project's Minigrid Pilot Plan into the design of a customized tendering process on the digital platform (to be implemented with ANPER leadership and coordination under World Bank's HASK? project), including requirements, specifications and evaluation criteria. Feedback can be solicited from a gender-diverse selection of private sector actors with experience responding to government tenders (not limited just to electricity) about whether the proposed digital modality and in-person supports will result in a more level or less level playing field for male and female prospective developers. The terms of reference will consider, among other factors, which the PMU will determine with support from the AMP Regional project, the following:

- (i) establishing a requirement and incentives for pilots to share data with the project
- (ii) including incentives for the proposals to be gender-responsive
- (iii) including implementing the ESMP (including a requirement for environmentally-sound collection, storage and disposal of all electronic and electrical waste, including rechargeable batteries, associated with off-grid renewable energy technologies)
- (iv) considering the different aspects set above before detailing outputs and activities of Component 2.

At the end of this activity, the tendering process on the digital platform will be ready to launch. The tender process itself should be launched before the end of Year 2.

### **Activity 2.1.3. Execute tender, contracting and payments to the selected pilot beneficiaries**

In year 2, the tender will be launched and executed according to the design finalized in activity 2.1.2, resulting in minigrid developers/operators being selected as pilot beneficiaries. Submissions to the tender will be competitively assessed against evaluation criteria (engineering, financial, environmental, social, gender, etc.), with the PMU supported by appropriate expertise.

Following selection of beneficiaries, the PMU/IP will enter into legal contracts with the selected minigrids, again supported by appropriate expertise, and make payments on pre-defined milestones, including on commissioning of minigrid plants and following ESMP. The digital platform will validate payment milestones as part of a result-based financing approach. A top-up payment could be envisaged for operators connecting socially vulnerable groups.

Capacity building for government personnel with the digital platform would have been conducted by HASK?. Potentially some capacity building would be offered to private sector actors (if not already done) to engage with the competitive tender and adherence to social and environmental standards.

**Activity 2.1.4. Monitor pilot(s), collect and aggregate data shared by pilot(s)**

Data generated by the pilot(s) will be collected using the digital platform, connecting directly to remote monitoring and smart metering equipment. Data that are not amenable to be collected by remote sensing will be collected either by the minigrid operator or some alternative way to be defined by the PMU supported by appropriate expertise.

Data collected from the pilot(s) will be used at the project level to, among other purposes: (i) track the performance of the minigrid systems in real-time; (ii) validate the underlying pilot(s) assumptions and business case; (iii) track performance enhancement in minigrid capacity utilization; and (iv) generate insights and lessons learned to share with the AMP Regional Project.

Also, data collected from pilot(s) will be shared with the AMP Regional Project for aggregating and analyzing data across all AMP national child projects. The regional project will use these data to: (i) generate insights and lessons learned; and (ii) inform the development of knowledge products, both to be disseminated across AMP participating countries and the broad minigrid sector.

Collected data should also be gender disaggregated.

*Output 2.2. National report on opportunities to boost economic activities through electricity access and productive use*

This output includes the following activities:

**Activity 2.2.1. Conduct an analysis on boosting rural economies**

As part of the minigrid market development and scale-up efforts, a mapping of relevant high potential value chains (in economic and social terms) with possible linkages between those and energy use will be focused upon (including stakeholder mapping) at national level. The analysis will include:

? A mapping on primary processing opportunities in rural areas to shift the value addition from existing agricultural processing into rural areas. Much of the agricultural outputs of rural areas is, as a result of non-existent rural electricity availability, transported to, aggregated and processed in areas connected to the national grid (or even abroad).

? An analysis on the role minigrid can play in sustainable rural development. The potential opportunities to boost economic activities through electricity access and productive use will be mapped against the difference roles that can be played by:

? Developers and operators - data supports the fact that investing in productive uses increases customer ability to pay and site Average Revenue Per User (ARPU)

? National governments: stimulating productive uses in rural areas boosts the local economy, such as releasing female labor from low productivity traps into higher productivity domestic, agricultural and wage work, and as does improving the health and educational status of children and pregnant women

? Development Finance Institutions (DFIs) - supporting increased electricity demand is a soft subsidy? for developers and a variety of socio-economic benefits

? Investors - increased ARPU and ability to pay are key drivers of a project's bankability. This is also critical information for due diligence and capital raising

? A benchmark of best practices around minigrid value chain support and suitable innovative CEMG business models (e.g. Jumeme's keymaker model in Tanzania, etc.)

? A market sizing exercise to assess the financial and non-financial impacts (including environmental & social aspects) and the viability of minigrids in rural areas in Niger

**Activity 2.2.2. Disseminate findings to facilitate the CEMG market scale-up**

The comprehensive analysis and its main findings on boosting rural economies via CEMG will be shared via a workshop, publications and knowledge sharing means in Niger as well as abroad including the regional AMP knowledge sharing platform and relevant communities of practice.

*Output 2.3. Capacities of private minigrid developers and communities are strengthened*

While local private minigrid developers benefitted from capacity building activities as identified during consultation meetings at PPG phase such as with and by Power Africa, there are some remaining needs to complete the gaps to ensure sustainability.

As indicated, the role of the communities and their engagement from the very beginning of the electrification process is crucial for the CEMG project. Hence their capacities need to be built for an adapted operations and maintenance (O&M) service. Obviously, capacities to be reinforced for minigrid developers and communities vary.

This output includes the following activities:

**Activity 2.3.1. Assess the capacity gaps of local private minigrid developers and solar panel installers**

An evaluation of the capacities of local developers and installers will be conducted. This will include their familiarity with minigrid technical and service delivery design targeting the full spectrum of individual users (i.e., for men and specifically for women and youth), business opportunities, tender writing, innovative business models, successful and durable O&M of the minigrid, quality assurance, raising funds, environmental and social considerations, etc.

**Activity 2.3.2. Offer workshops and webinars to fill these gaps**

Based on the assessment in Activity 2.3.1, relevant workshops, webinars and other knowledge sharing efforts will be provided to local developers based in the capital city Niamey. existing training and support materials suitable to each of the gaps within AMP, its partners and beyond will be used as much as possible. This includes AfDB's Green Minigrid Helpdesk, ESMAP minigrid Design manual, Power Africa's raising fund technical assistance or AfDB's SEFA Quality Assurance Framework for Minigrids.

Training should also be offered to local solar panel installers based in Niamey as well as in pilot project localities. These hands-on trainings could be offered in collaboration with the Ministry of Technical Education and Vocational Training and its various vocational training centers across the country.

**Activity 2.3.3. Raise awareness and building capacities of communities**

Pilot sites communities will benefit from continuous awareness raising at launch and during implementation of the project as a whole, and pilot site construction and operation in particular. This will include general benefits of the minigrid (including climate change aspects), demand profile, forecast and stimulation, support in money collection for the provision of power, etc. A specific training will be provided to targeted youth and women in the communities on becoming rural electricians (including power connection), on basic maintenance of the minigrid, as well as other competencies depending on the implemented business model. As stated in Component 1, the modules developed by Plan International and the Schneider Electric Foundation, and validated by the Ministry in charge of Vocation Training, will be leveraged. Youth and women will be trained based on these training materials and trained trainers Efforts made in other countries including [Barefoot College](#) or 2iE in Burkina Faso, [ProJeunes Energie](#) in North Cote d'Ivoire, etc. It is worth mentioning that maintenance requiring higher technical skills will be provided by the private sector operator. In addition, private sector operators will play a role in knowledge transfer, capacity building and regular support of these targeted youth and women.

*Output 2.4. Support provided to establish and grow a national industry association for private sector developers*

A private sector association for players in the solar industry has existed since May 2013 in Niger called 'APE-Solaire'. Some solar companies in Niger are either members of the association or requested to join. The main activity of APE-Solaire is to participate as a stakeholder in the ongoing development of the GoN's solar energy policy and regulation. Followed consultation during the PPG phase, the association could benefit from some strengthening that could be beneficial to the country in the development of CEMGs. APE solaire could become a powerful advocacy platform by including all relevant stakeholders such as the GoN and technical and financial partners.

This output includes the following activities:

**Activity 2.4.1. Develop and operationalize a national association of private sector RE providers and aspiring providers**

A rapid capacity gap assessment at APE-Solaire will be conducted based on interviews/focus groups of members and other solar energy products and services providers, as well as a benchmark of such successful associations with the support of AMDA - African Minigrid Developers Association[16]16. This will enable local private sector operators to have a voice at the National Dialogue Platform and beyond, nationally as well as continentally and internationally (advocacy). Common interests include taxes and import conditions of solar and solar ancillary equipment, collaborating as a consortium of players to answer specific larger bids and competing with international developers, as well as a better outreach. The association could then have thematic sub-committees (if applicable) including one dedicated to minigrids. The association, also considered as a national chapter of AMDA, will seek collaboration with AMDA ? African minigrid Developers Association. This industry association will become a member of the national chapter (an AMDA consultant located in Niger should become the chair of the minigrid committee of the association and could support advocacy, fund mobilization and interaction with its members (mainly private sector led associations and individual developer companies). Such an association can also play an intentional role providing role models and mentors to aspiring market entrants, especially youth and women, who face higher barriers to entry (e.g., lack of market information, weaker professional networks). APE-Solaire could also benefit from expertise and experience sharing with the AMP regional project and other AMP national projects.

**Activity 2.4.2. Strengthen the capacities of the RE private sector association**

The industry association would highly benefit from capacity building as an association. Indeed, an association operates in different ways compared to a private company. Capacities to be focused on encompass structuring, managing and moderating the association to ensure its well-functioning and its sustainability.

---

### **3. Scaled-up Financing**

---

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

Access to low-cost, commercial capital (equity and debt), for both supply and demand, ideally in local currency, is key to reducing the cost of minigrids, and the scalability and sustainability of a minigrid market. Being an early stage minigrid market, there are only few financing schemes in place around minigrids in Niger. Thus, developing and scaling-up the CEMG market in Niger requires suitable financing mechanisms both on supply and demand sides.

*Output 3.1. Support financing mechanisms to scale-up RE minigrids investment*

This output includes the following activities:

**Activity 3.1.1. Identify existing financing schemes available in the country supporting access and use of energy**

A mapping exercise will be undertaken to identify and characterize all existing minigrid funding and support programs underway and planned nationally. From this a gap analysis will be conducted to identify the opportunities and challenges associated with different funding mechanisms.

During the PPG phase a preliminary mapping of available financing mechanisms related to access and use of energy in general has been undertaken. Some available financing products identified are:

On the supply & demand side:

? For SHS: World Bank's NESAP had created a USD 7 million credit line for some financial institutions in Niger. Sonibank and BSIC offer loans to solar systems providers, whereas Capital Finance

---

has been targeting households, solar pumping systems and very small enterprises. However, the interest rate given to banks for the credit line (4.5%) was relatively high compared to the market and therefore impacted the final interest rate for loan takers. Developers would have to take a loan at 11.5% which was finally reduced to 8% and ultimately few loans were given. The challenge was the high interest rate of the mortgage guarantee and the eligibility criteria which limited the list of eligible solar products (including ancillary equipment).

On the demand side: ?

? Fonds d'Investissement pour la Sécurité Alimentaire et Nutritionnelle (FISAN), a fiduciary fund for the promotion of agriculture that supports farmers to acquire equipment (mechanization) including e.g. solar pumping for irrigation purposes etc.

? PAYGO is offered by some enterprises like Olu Solar or High Tech Solution for household and productive use.

? Asusu: Former support for RE equipment through a former micro-finance institution in Niger that ended. This MFI, which has been dissolved, is planned to be revived under another entity soon.

The assessment will include innovative financing solutions both on supply and demand sides. This includes:

? Crowdfunding and crowdlending (already used in Niger for one private sector minigrid operator)

? Blockchain enables Finance

? Renewable Energy Certificates or Peace Renewable Energy Certificates

? etc.

Capacity building related to these innovative solutions are part of Output 3.2.

### **Activity 3.1.2. Assess the potential of aggregation of minigrid assets**

The potential for national and regional financial aggregation of minigrid assets will be explored. The assessment should include an ESIA/ESMP that takes into consideration cumulative impacts of minigrids to be aggregated.

Aggregation can take the form of:

? Operational aggregation whereby operators cooperate to share access to operational or development resources. This can lead to considerable savings and cost reductions;

? Project aggregation whereby minigrids are bundled together to form larger investable assets. This process creates larger portfolios to crowd in investors that might not consider small projects. This level of aggregation requires upfront and standardized due diligence to be carried out before projects can be bundled. This further reduces transaction costs for investors. Aggregating across multiple developers and markets further reduces the risk. An example of this is the **Cross-Boundary Energy Access Fund** that bought a portfolio of sites from PowerGen in Tanzania.

? Connection aggregation exploits the large amount of data that is constantly being generated and uploaded to the cloud in near real time from the smart meters installed on minigrids. This information includes data on energy being consumed and revenue being generated from each individual minigrid connection. The granular nature of this data allows different types of customers to be aggregated into asset classes with different characteristics. For example, all of the high revenue producing, consistent connections (most likely based on a productive use of electricity) across multiple sites can be aggregated into a high performance class suitable for commercial investors willing to pay well for revenue producing assets.

### **Activity 3.1.3. Benchmark successful financing mechanisms in other industries and countries**

There are few best practice of funds in Niger such as **APCantisme Commun de Financement (MCF)** for the water sector, the FISAN for the agricultural sector and the locally managed Financing Facilities in Nigeria for instance its Rural electrification Fund and ESMAP-NEP Program both managed by the Rural Electrification Agency. The AMP Regional project could advise on the type of mechanism and approach that are in place in other AMP countries.

### **Activity 3.1.4. Determine the main financial barriers**

Local and international private sector players will be engaged to determine what they see as key financial barriers for the development of the MG market in Niger. The African Minigrids Developer Association AMDA, ANERSOL, APE Solaire and any other organization with locally relevant private sector knowledge will be interviewed towards the same objective. The DREI analysis undertaken in 2021-2022 offers some de-risking measures that should be considered and implemented to overcome such financial barriers (see preliminary conclusions above).

**Activity 3.1.5. Select relevant financing mechanisms and provide suitable technical assistance**

Based on activities 3.1.1. and 3.1.2., AMP Niger will select 1-2 relevant financing mechanisms to benefit from technical assistance. This could include:

? a sectoral fund as initiated in December 2016 a decree to create a Financing Facility to promote RE and EE in Niger was adopted. This facility should have been located under the Ministry of Energy and Renewable Energies and focus on public funding and only accessible for the GoN and its related agencies. However, this facility never materialized. To facilitate the reach of universal electricity access by 2035, the design of a Minigrid Funding Facility (MFF) to support rural electrification and minigrids market in Niger has been welcome during stakeholder consultations. This Fund would receive the Special Electricity Tax (TSE - Taxe Spécifique d'Électricité) that is collected by NIGELEC whereby 60% of the collected tax is used to support rural electrification and transferred to ANPER. The tax is collected from each kWh paid by electricity users of the national grid to contribute to a national unified tariff grid. In order to contribute to social justice in terms of electricity access as stated in the Electricity Code, offering a tariff matching the average national grid is considered a must by all public energy related institutions. Thus, the TSE could support the funding for the compensation to be paid to private sector developers and operators for the difference between the average national tariff of about 85F/kWh (≈\$ 0.13) and the cost-reflective tariffs that private sector players would request to ensure their sustainable profitability and viability. This MFF should also be nurtured by the existing and upcoming minigrid market initiatives financed by development partners such as World Bank, AfDB as well as the AMP Niger project (for the pilot project sites - see Component 2) and private investments. A set of potential financing schemes will be identified as part of the Facility based on the delivery model that will be more clearly defined during project implementation.

? A result-based financing mechanism approach like the model that the pilots for AMP Niger under Component 2. Its design and governance could be informed by a gender-balanced set of stakeholders. Additional provisions may be required to ensure that women and men can access the mechanism in equitable measure (e.g., using scoring criteria, set-asides, special outreach, or offering women agency-based capacity strengthening services in parallel with the Fund's applications).

Relevant financing mechanisms should ensure that environmental and social considerations are taken into account when disbursing loans (see SESP in Annex 5).

Government stakeholders including ANPER will be engaged to ascertain the appetite for the different funding mechanisms proposed. The capacities of ANPER will be assessed as well as relevant institutions to support the selected financing mechanisms.

**Activity 3.1.6. Train relevant ANPER staff on the launch and management of the selected financing mechanisms**

Relevant ANPER staff will be trained on the selected financing mechanisms

*Output 3.2. Domestic financial sector capacity-building on business and financing models for minigrids*

Some efforts have been already conducted towards financial institutions to raise their awareness on CEMG (e.g., NESAP), but remain limited and do not include sufficient suitable as well as innovative financing solutions.

This output includes the following activities:

**Activity 3.2.1. Build the capacities of the national financial sector**

The local financial sector will only offer suitable and affordable financing solutions (demand and supply) once it gains awareness of and appetite for the minigrids market. De-risking means and lucrative opportunities around lending in the minigrids market in Niger will be put forward. Workshops will be conducted with representatives of the finance community - financial institutions and investors - whereby a variety of business models and financing schemes, as well as the best practices (including environmental, social and gender considerations) will be shared and discussed. Capacity building will be carried out with financial institutions to design and implement adapted financing schemes in close collaboration with the other Component 3 outputs.

**Activity 3.2.2. Develop links with relevant stakeholders around financing and costs reductions**

Links will be developed between local financial institutions, relevant government representatives (DGEME, agriculture and more) and international donors in order to explore hybrid and innovative schemes focused on unlocking finance and reducing risks and capital costs (e.g., first loss pools, currency hedging facilities, etc.). This includes for instance **IRENA's marketplace**, an online investment catalyst and connecting platform for technical and commercial RE solutions. In addition, awareness will be raised on climate risks and mitigation measures through the introduction and operationalization of low-carbon minigrids as well as the financial impacts of green solutions.

To ensure a good understanding and ownership of these solutions, capacity building for local financing solutions providers, local developers and energy solutions providers, government representatives, ANPER, NIGELEC, etc. will be provided.

*Output 3.3. Replication plan (including investment plan) for scaling up rural energy access developed*

This output includes the following activities:

**Activity 3.3.1. Develop a replication plan for scaling up investment in minigrids**

A plan for scaling up minigrid investments will be developed based on data gathered and lessons learned from implementation of project activities across all AMP countries and from GEF-funded minigrid projects worldwide, knowledge shared by the regional project with the national projects, and insights gained from participating in AMP Communities of Practice. The Program's 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 and a strategic environmental and social assessment is expected to catalyze markets.

**Activity 3.3.2. Conduct relevant market survey**

A more detailed market survey will be carried in Niger to assess scaling-up and replication impact potential.

---

## **4. Digital & Knowledge Management**

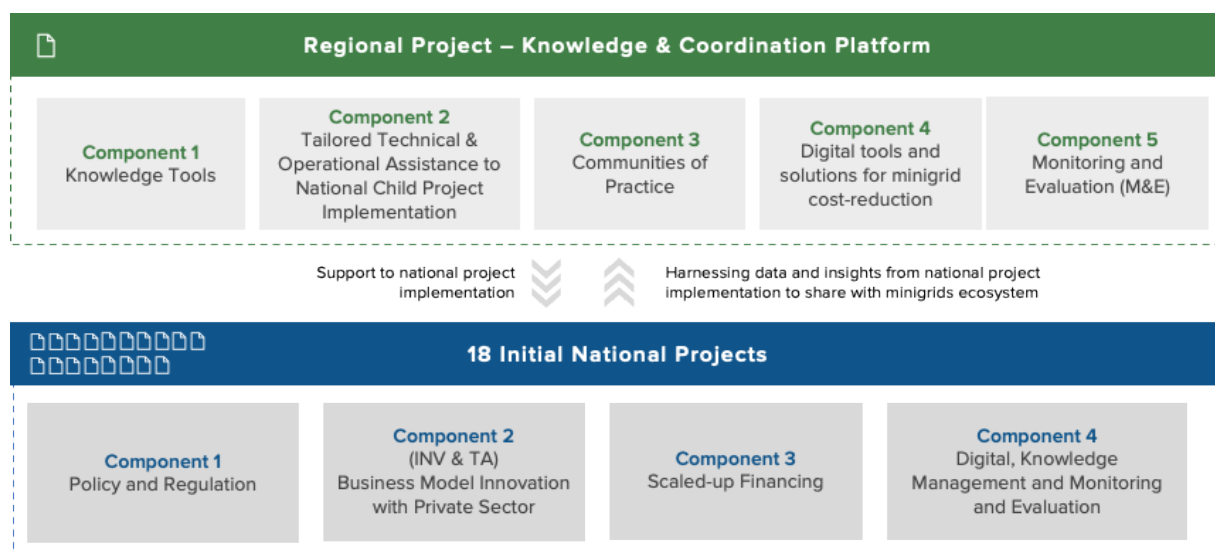
---

***Outcome 4: Digitalization and data mainstreamed, across stakeholders, into local minigrid market development. Increased knowledge, awareness and network opportunities in the minigrid market and among stakeholders, including benefitting from linkages to international good practice***

Linkages to the AMP Regional Project: Component 4 is a key interface with the AMP Regional Child Project. As such, details on linkages to the regional project as relevant for digital, knowledge management and data performance analytics activities under the project are addressed for each of the outputs described below.



**Figure 3- Interactions between AMP regional and national projects**



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

This output includes the following activities:

**Activity 4.1.1. Develop and implement a project digital strategy (the ?Project Digital Strategy?)**

All national child projects will develop a Project Digital Strategy in year 1 which will be implemented thereafter. The Project Digital Strategy will be updated on an annual basis to reflect learnings from project implementation, guidance received from the AMP Regional Project on digital/data tools and solutions, and insights gained from minigrid pilot(s) data. This includes:

- ? payments data (via the mobile money platform provider)
- ? energy usage behavior data (kWh consumption patterns - via the smart meter infrastructure)
- ? generation system data (including metrics like battery voltage levels- via the smart meter infrastructure)

**Activity 4.1.2. Draw recommendations for a national-level digital strategy for minigrid development**

Upon implementation of the Project Digital Strategy and based on lessons learned around opportunities to leverage digital tools and solutions for minigrid sector development, the project will develop a set of evidence-based recommendations for rolling out digital solutions for minigrids at the national level. These recommendations will be shared with key national stakeholders and provide the basis for developing a digital strategy for minigrid development post-project.

*Output 4.2. A ?Minigrids Digital and Data Management Platform? is implemented to run tenders and manage data from pilots, and to support minigrids scale-up and cost-reduction*

A Minigrids Digital and Data Management Platform is planned to be procured by World Bank's HASK? project and implemented by ANPER. At project implementation launch, the PMU should work with the ANPER and World Bank team to assess the platform. Based on these, the activities under this output could be adapted.

This digital platform would serve different purposes including:

**Specifically, for minigrid investment pilots under Component 2:**

- ? Running digital tenders by which minigrid developers will be selected as beneficiaries to receive support under the project

- ? Managing all technical and financial data related to minigrid sites
- ? Provide minigrid developers - selected to implement minigrid pilots with support from the project - access to a set of best-in-industry digital tools for analyzing minigrids (e.g., demand forecasting, system optimization, distribution network design, detailed financial modeling at the site and portfolio level)
- ? Capacity building for minigrid developers and government stakeholders around the use of the minigrids data management platform

The implementation of this data management platform by ANPER, the Implementation Partner, to run and manage minigrid tenders and then systematically monitoring minigrid pilots and collected data from pilots, is expected to result in improved project design and system optimization, reduced uncertainties and more transparency in minigrid tenders attracting more bidders and increasing competition, and lower transaction costs associated with bidding.

**For the project and minigrid sector more generally:**

- ? Provide a centralized database for all distributed energy projects/programs at national level including sector-wider, large-scale tenders or result-based financing mechanisms.
- ? Collect, manage and aggregate data from all minigrid sites
- ? Run digitized tenders and administer grants (other than for Component 2 pilots)
- ? Performance verification of minigrid systems for improved sector oversight
- ? Real-time monitoring and evaluation of electrification projects/programs
- ? Applying advanced analytics of minigrid portfolios to generate critical insights to advance the sector

Similarly, as part of the roll-out of the data platform, minigrid developers (as well as key government and other stakeholders) will receive capacity-building and in-depth training to use analytical tools and data management technologies.

The AMP Regional Project will make its own data management platform available to aggregate data from all national project pilots based on a common M&E framework.

This output includes the following activities:

**Activity 4.2.1. Support the development of Terms of Reference (TORs) for procuring a Minigrids Digital Platform**

The PMU will coordinate with HASK?, ANPER and all relevant stakeholders (National Dialogue) to co-develop relevant ToR. An adaptive approach will be used here at project at AMP project launch to assess the status of the procurement of the Minigrids Digital Platform.

The standardized TOR provided by the AMP Regional Project will be shared with ANPER, HASK? and any other relevant partner, and tailored to the specific country/project needs. Box 7 below provides indicative specifications for the Digital Platform.

The project will specifically ensure that some specific questions are added to the tendering process of sites, including key value chains on the site and their energy needs (supported by the results of output 2.2.), existence of a telecom tower, a school and a health center, gender-related aspects, etc.

**Activity 4.2.2. Ensure that the selected Minigrids Digital Platform matches the requirements**

The project will ensure that the country-level minigrids digital platform enables (i) convening and capacity building for key stakeholders (public/private), (ii) collecting and managing technical and financial data related to minigrid pilot(s) based on the project's Quality Assurance and Monitoring Framework (QAMF), including linking to the AMP Regional Project, and (iii) acting as the mechanism for running digital tenders for minigrid developers/sites.

**Box 2 - Indicative Specifications for the Project's Digital Platform**

**Activity 4.2.3. Develop and operationalize a rural electrification platform**

One of the many findings during PPG was a lack of a centralized repository of documents around rural electrification (including market assessment, regulatory and legal texts, knowledge documents, feasibility studies, training materials and webinars, relevant events and conferences, etc.) and to avoid double work in the future. Relevant documentation would be collected and uploaded by relevant ANPER

staff. Such a platform, located under ANPER, and accessible to relevant stakeholders, would be complementary to the specific Minigrids Digital and Data Management Platform. The latter would be integrated into the rural electrification platform.

*Output 4.3. A Quality Assurance and Monitoring Framework for measuring, reporting and verification of the sustainable development impacts of all minigrids pilots supported, including GHG emission reductions, is adopted and operationalized based on standardized guidance from the regional project*

This output includes the following activities:

**Activity 4.3.1. Provide inputs and feedback to the AMP Regional Project on the development of a standardized Quality Assurance and Monitoring Framework for application across AMP national projects (AMP-QAMF)**

A standardized Quality Assurance and Monitoring Framework for application in all minigrid pilots supported under AMP national projects (AMP-QAMF) will be developed in year 1 of the AMP Regional Project and disseminated to all national project staff. This AMP-QAMF will build upon the minigrid Quality Assurance Framework (QAF), which is a set of technical and financial performance monitoring indicator, developed by NREL, SEFA and others, as well as the considerable data gathering, pooling and analysis work ongoing by partners such as RMI, SE4All and AMDA.

It is expected that national project staff will provide both inputs and feedback on the development of this framework as well as on how best to operationalize the commitment to its adoption by the minigrid operators receiving support from the national project. Concerns around data privacy or sensitive data on the part of minigrid operators will be considered and addressed in each case.

**Activity 4.3.2. Operationalize the AMP-QAMF**

The adoption and utilization of this framework and associated data reporting protocols will be a mandatory requirement for all minigrid pilots supported under AMP (e.g., applicable to all national projects) and each minigrid operator/sponsor who is the beneficiary of investment subsidies and technical support by the project will be required to formally commit to using the QAF as a condition of assistance. The adoption of the QAF by all minigrid operators/sponsors supported under AMP national projects will ensure that the regional project can aggregate common data metrics and track a standardized set of key performance indicators across all minigrid pilots supported by AMP across all partner countries and report this data to the donor on a programmatic level.

To operationalize this, the parties operating the minigrids will be supported with the installation of smart meters and/or remote monitoring equipment as appropriate. Provision will also be made to support the operators to access this data and extract potentially valuable insights on their minigrid operations. If appropriate, provision will be made to train relevant government agency representatives (and members of the Communities of Practice) in the use of a national minigrid dashboard reporting data on all of Niger's minigrid projects.

*Output 4.4. Engage with regional project, including, but not limited to, via (i) participating in Communities of Practice and (ii) capturing and sharing lessons learned*

The AMP regional project will support and facilitate knowledge management and information sharing between the regional child project and national child projects, among national child projects, and between the program and the larger minigrid community. Knowledge tools and good practices around minigrid cost-reduction in a variety of regulatory environments, and research and development tools, such as policy packages, template tender documents, and guidelines on productive use program designs will be made available. The toolkits will support both public and private sector (e.g. minigrid developers) and the overall minigrid market.

**Activity 4.4.1. Participate in AMP Communities of Practice (CoP)**

One of the primary ways national project staff will interface with the AMP Regional Project is via the Communities of Practice (CoPs) and associated activities/platforms. While it is expected that many of

the activities under the Regional Project Component #3 will be undertaken virtually (via internet-based platforms, webinars or digital platforms) it is also expected that the CoPs will include actual in-person workshops, meetings or training events. Among the topics to be covered, quality standards developed and enforced in other AMP countries around CEMG equipment and ancillary products should be included.

**Activity 4.4.2. Share research and lessons learned with the AMP regional project**

Research and lessons learned will be systematically shared with the regional project based on guidelines that will be defined by the regional project and shared at the project's Inception Workshop. Capacity building will be provided to the national project PMU to compile lessons learned and share knowledge effectively.

**Activity 4.4.3. Collaborate with the regional project on an 'Insight Brief'**

Every AMP national project is expected (during the four-year implementation cycle) to collaborate with regional project staff on the development of at least 1 'insight brief' capturing (in an accessible format) selected key highlights from a successful national project activity. The 'insight brief' can cover any activity of the project and take the form of a written brief or video brief. The regional project has budgeted resources to produce 'insight briefs' (under its Component #1 Knowledge Tools), but the success of regional staff in producing insight briefs highlighting national project activities will be dependent on content and data provided by the national project team and stakeholders.

To facilitate such collaboration, the project will hire a consultant or local firm to gather data and audio-visual content (video footage, photos, etc.) on the subject for the 'insight brief'. The information and data collected at the national level will be provided to the regional project staff who will utilize this content and produce an 'insight brief' according to a standardized communications format for all AMP knowledge products for external audiences. The 'insight brief' will be produced in both the local/national language of the relevant national project as well as English for dissemination by the regional project to regional stakeholders and publishing on the AMP website.

*Output 4.5. Awareness raising campaigns, including lessons learned, are developed and disseminated at all levels nationally (including intervention zones) and with the regional project*

This output includes the following activities:

**Activity 4.5.1. Design a communication strategy**

A communication strategy will be elaborated based on awareness raising campaigns and lessons learned. The awareness raising campaign experiences around sustainable energy across Niger and other AMP countries will be identified and leveraged where necessary. Available communication materials will be adapted. The communication strategy should include communication towards members of the GoN as well as the political sphere (National Assembly etc.) to showcase how critical electricity in rural areas is to contribute to sustainable development. It should also cover communication campaigns for the general public and have a yearly communication work plan designed to support the PMU and UNDP Niger to monitor and implement the activities.

This includes radio spots in local languages and banners. In addition, with at least 2 telecom operators (out of 4), SMS campaigns will be rolled out ? 1 SMS per operator per month over the entire duration of the project. SMS content will be provided by the PMU. Digital means will also be leveraged to raise awareness for instance with the national digital promotion agency, Agence Nationale pour la Soci?t? de l'Information (ANSI), and some youth and women associations.

The project will develop its own website or a dedicated part in the AMP regional website.

Field visits will be organized on pilot sites to see, understand and discuss with local communities on their experience with the minigrids and energy access.

The leveraging role of schools and children will be envisaged to communicate the need to shift to renewable sources of energy and the catalyzing role of access to energy in rural areas to have access to lighting, cooking, productive use, etc.

**Activity 4.5.2. Implement and monitor the communication strategy**

The communication strategy will be rolled out and specific indicators defined in the communication strategy will be tracked to ensure the expected impacts. The communication strategy will be adapted if necessary, according to potential gaps that may arise during project implementation.

---

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

---

*Output 5.1. Monitoring and Evaluation (M&E) and Reporting, including (i) Conducting Inception workshop and preparing report, (ii) Ongoing M&E, (iii) Mid-Term Evaluation and (iv) Terminal Evaluation*

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

### **Activity 5.1.1. Hold an inception workshop and prepare a report**

A project inception workshop held to officially launch the project and, among other aims, familiarize key stakeholders with the detailed project strategy, roles and responsibilities of the project team, and project planning instruments such as the Total Budget and Work Plan (Annex H), multi-year work plan (Annex 4), Monitoring Plan (Section 9), the Procurement Plan (Annex 11), the communication plan, ESMF (Annex 9) and the gender action plan (Annex 10) among others. The national inception workshop will be carried at the beginning of project implementation (within 60 days of CEO endorsement of this project). The workshop will be organized by the PMU with support from the IP and planned with support from the AMP Regional Project staff. Staff from the AMP Regional Project PMU will participate either remotely or in-person in the Inception Workshop and will provide support to the project PMU to plan the workshop and develop materials and content that will facilitate project planning activities including the template for the Inception Workshop Report. The Inception workshop report will be prepared by the PMU and submitted to UNDP within (within 90 days of CEO endorsement of this project).

### **Activity 5.1.2. Undertake ongoing project monitoring**

As set out in the Monitoring and Evaluation Plan (Section 9), data on Results Framework Indicators will be systematically collected and analyzed to provide decision-makers, managers, and project stakeholders with: (i) information on progress in the achievement of agreed objectives and the use of allocated resources, and (ii) regular feedback on performance of projects and programs taking into account the external environment. Information from systematic monitoring serves as a critical input to ongoing PMU management decisions (adaptive management), evaluation, and learning.

The GEF Core indicators included in the Results Framework (Annex A below) as per this CEO Endorsement Request (Annex F below) will be used to monitor global environmental benefits and will be updated for reporting to the GEF prior to the project's evaluations. Namely, the mid-term review (MTR) and terminal evaluation (TE) described under Activity 5.1.3 and Activity 5.1.4 below.

The project is accompanied by various plans including Stakeholder Engagement Plan (Annex 8 of the Prodoc), mitigation plan for project risks (Risk Register in Annex 6 of the Prodoc), and Gender Action Plan (Annex 10 of the Prodoc). These plans will be reviewed according to the monitoring and evaluation requirements.

According to the project's social and environmental risk rating, there is a need to carry out continuous monitoring of the social and environmental safeguards as proposed in the Environmental Social Management Framework (ESMF) and other SES frameworks/plans (Annex 9 of the Prodoc). The environmental and social management plan (ESMP) that will emanate from the application of the ESMF will also be monitored under this activity.

Data collected by monitoring GEF Core indicators, Results Framework indicators, project plans and social and environmental safeguards will be used to prepare the annual Progress Implementation Report (PIR) to report back to UNDP and/or GEF.

### **Activity 5.1.3. Conduct a Mid-term review (MTR) of the project**

An independent mid-term review (MTR) will take place at the half-way mark of project implementation and will be conducted according to guidance, rules and procedures for such evaluations established by

UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects. The MTR will be made widely available to all project stakeholders in the relevant language.

**Activity 5.1.4. Conduct a Terminal evaluation (TE) of the project**

An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The project's terminal GEF PIR along with the 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 lessons learned and opportunities for scaling up.

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

The proposed strategy is aligned with the GEF Strategic Focal Areas CCM-1-1 "Promote innovation and technology transfer for sustainable energy breakthroughs for decentralized renewable power with energy storage", and CCM-1-3 "Promote innovation and technology transfer for sustainable energy breakthroughs for accelerating energy efficiency adoption". It also contributes to GEF-7 Programming Directions to accelerate "the speed and scale of sustainable energy investment in developing countries", to develop "innovative business models that go beyond business as usual" and to foster innovation. The overall contribution towards supporting "transformational shifts towards low emission and climate-resilient development pathways" is particularly important given access to affordable and reliable renewable energy is unavoidable for sustainable development, particularly in a context where Comoros is struggling to secure reliable energy access to off-grid communities. At the very heart of AMP lies innovation which can only unleash its potential and impact combined with a conducive environment and enabling conditions through policy and regulatory framework reforms. As renewable minigrids will be developed and operational, supported by innovative business models that can be scaled-up, the programme also aligns with the objective to focus "on the demonstration and early deployment of innovative technologies to deliver sustainable energy solutions that control, reduce or prevent GHG emissions".

In addition, the program follows GEF's advice to deliver focused interventions "through programmatic approaches or regional projects".

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

The business-as-usual scenario would see the persistence of the aforementioned barriers and challenges (see points 1 and 2 above) including the fact that in the future pilot sites as well as other villages, either electrification is not planned in the medium run by NIGELEC or the access to an available, reliable, affordable and greener energy is not granted. Autonomous low carbon minigrids are at their early stage as part of the solution of sustainable and universal energy access in Niger (14 minigrids so far and not all operational).

However, the pace is accelerating with a numerous technical and financial partners working in the minigrids area in Niger, incl.:

Rural electrification project by decentralized solar energy in Niger financing of the Islamic Development Bank (IsDB)

Rural electrification project using hybrid micro power plants in 47 localities in Agadez, Diffa, Dosso, Maradi, Tahoua, Tillab?ry and Zinder regions financed by the West African Development Bank (BOAD)

Rural electrification project using solar Photovoltaic systems and individual kits in 100 localities in Niger by IRENA/ADFD

Rural Electrification Project by Solar Photovoltaic Systems in the Regions of Dosso, Tahoua and Tillab?ry, financed by EBID/Exim Bank

Photovoltaic rural electrification project in Niger - Keita and Illela departments financed by the Italian Agency for Development Cooperation

Electricity Access Acceleration Project (HASK?), Component 2. Strengthening the Ecosystem for the Development of Rural Solar Photovoltaic Mini-grids and Sub-component 4.2. Institutional Strengthening and Technical Assistance financed by the World Bank

Niger Solar Electricity Services Access Project (NESAP), Component 2: Rural Electrification through Solar Hybrid Mini-grids following a Delegated Service Operator Model, Component 3: Solar Photovoltaic Hybridization of Isolated Thermal Mini-grids and Expansion of Access, financed by the World Bank

Rural electrification project by solar photovoltaic system of 250 villages in the Republic of Niger under financed by EXIM BANK INDIA

Liptako-Gourma rural electrification project financed by SIDA and implemented by UNDP and UNOPS, that will be strengthening institutions in charge of rural electrification and supporting the improvement of the regulatory framework for mini-grids and installing and operating two pilot mini-grids within the Niger borders of the Liptako-Gourma region

Multinational Desert to Power programme by African Development Bank Group through the Sustainable Energy Fund for Africa (SEFA)

Multinational Africa Mini- Grid Acceleration Programme by African Development Bank Group through the Sustainable Energy Fund for Africa (SEFA)

The AMP project is a lever to test and validate the suitable proof of concept of various types of renewable minigrids in Niger (technology, management, costs, etc.) and to stimulate the scale-up of Nigers' nascent minigrids market. Stakeholder consultations including at top management level at ANPER, the Ministry in charge of energy and ANERSOL paved the way for seriously considering innovative business models and reduced costs of minigrids for autonomous renewable minigrids as an effective means for access to available, reliable, affordable and greener energy in rural areas with no or insufficient electricity.

The incremental project reasoning covers various critical aspects:

- Complementing the undergoing review of the policy and regulatory framework with missing aspects to create a conducive environment for an adapted development and scaling up of renewable minigrids

in Niger (Component 1), while remaining compliant with national policies, strategies and positions (e.g. homogenized tariffication grid across the country and the equity principle)

- Contributing to the adoption of innovative technology solutions and business models of minigrids while leveraging cost reductions through existing and successful projects in Niger, in other countries, technology transfer, South-South cooperation and strategic partnerships, as well as supporting investment in carefully selected pilot sites during implementation (Component 2)
- Building the necessary capacities of relevant stakeholders: institutional staff, communities, project developers and implementers, youth and women (across all Components)
- Promoting community engagement and private sector investment in isolated renewable minigrids, and creating the necessary linkages and contracts (Components 1 and 2)
- Supporting innovative supply and demand financing contributing to the scaling up of minigrids in the country (including ancillary renewable energy equipment) (Component 3)
- Sharing knowledge and raising awareness at large scale in the country (national awareness raising campaigns) and for targeted stakeholder through Communities of Practice sharing with other ones under the AMP umbrella and further (Component 4)

#### Expected contributions from co-financing

The project will work with a variety of partners and initiatives to achieve the project's objective including the global environmental benefits, many in the form of co-financing (see Annex 13 co-financing letters of the Prodoc). Through their various contributions including solar power plants and grid enhancement among others, co-financiers will support access to renewable energy in rural areas.

An overview of the co-financiers, their current efforts to overcome the development challenge, their expected role in the project as well as the expected results to be achieved, can be found in the table below. It is worth mentioning that each of the partner and partner type will be represented at the National Dialogue Platform.

Total co-financing for the project is USD 136,757,017.

Partnerships: The project will work with a variety of partners and initiatives to achieve the project's objective and results (see table below)

Table 3 - Identified partners for the AMP in Niger

<b>Partner name</b>	<b>Description and contributions</b>	<b>Relevant project outputs</b>
Ministry in charge of renewable energy	The Ministry has in charge the setting up of policy, legislative, regulatory, institutional, strategic and planning framework to promote the development of access to electricity in rural areas through renewable energy sources. A steering committee will be set up to monitor the implementation of the project. The Ministry is the beneficiary of component 1.	All outputs relevant to component 1 and even all the overall outputs of the project since the Ministry has the management of the steering committee in charge



Partner name	Description and contributions	Relevant project outputs
Ministry in charge of environment & Bureau National pour les Etudes et Evaluation (BNEE)	<p>BNEE is responsible for evaluating all development projects and programs in Niger before they are implemented.</p> <p>The developer submits the project notice to the BNEE, which analyzes it. Following this analysis, the project is classified in one of the following categories A, B, C and D. Projects in categories C and D do not need an evaluation study. The evaluation of a project generates additional costs which, in the field of energy, would increase the cost per kwh. Therefore, it is important to provide all the necessary information in the project notice so that the project is classified in the appropriate category</p>	Contribute to the achievement of output 1.3 ; 1.5
Ministry in charge of vocational training	In Niger each municipality has a vocational training center. There are also in each region technical college and higher vocational training center. Hence different levels of training centers are available. They will contribute to the training of technicians to ensure the maintenance and repair of minigrids.	Contribute to the implementation of output: 1.7 ; 2.3
Ministry in charge of gender promotion	The ministry in charge of gender promotion implements the national gender policy. To this end, it will ensure that gender is taken into account in the implementation of the project.	Outputs: 1.1; 1.5; 2.1; 4.24.4;4.6
National Agency for the Promotion of Rural Electrification (ANPER)	ANPER's mission is to design, implement and monitor rural electrification development programs in Niger. To this end, With the support of the Government, it mobilizes funding and the private sector to promote the development of rural electrification. ANPER is currently in the process of awarding by leasing several minigrids already built to private operators. Currently, it is implementing several minigrid projects, financed by development partner including the World Bank, ADB, IDB, EBID, BOAD, Italian Cooperation, etc. With its own funds, ANPER is implementing a project to install two minigrids of 140 kWc each in two localities.	ANPER is the implementing institution of the Niger AMP project. Hence it coordinates all the outputs.

<b>Partner name</b>	<b>Description and contributions</b>	<b>Relevant project outputs</b>
Africa Green Tec/private enterprise	This enterprise has already built a pilot containerized minigrid solar in the village of Amaloul with a digital monitoring system. Two technicians provide on-site maintenance. The tariff system is not based on cost reflective as stated in the electricity law but based on the ability to pay. It is currently developing a feasibility study for the electrification of 50 rural localities.	It could be a significant player in contributing to the achievement of outputs 1.1, 1.2, all the outputs of component 2, outputs 3.2; 3.3; 4.1; 4.2
National Agency for Solar Energy/ANERSOL	<p>ANERSOL's mission is to promote and develop solar energy in all sectors of the national economy, in particular: Propose and popularize standards and labels for renewable energy equipment. Carry out quality control of renewable energy equipment. Control the compliance of installations and certification of private operating in the field of solar energy. Contribute to capacity building for actors in the field of solar energy.</p> <p>Through the support of partners, it has set up a technical platform used for quality control of renewable energy equipment and has set up communication activities to promote the development of off-grid solar market. This project could strengthen the capacities of the technical platform.</p>	It will contribute to the implementation of the following outputs: 1.1; 1.2; 1.5; 1.6; 1.7; 2.3; 3.3.; 4.2
Professional Solar Association (APE-Solaire) and other non-members operating in solar energy	They have no experience in building solar minigrids but have very good experience in stand-alone systems for domestic, institutional, and productive use. They showed a strong desire to participate in the implementation of the project and specially to acquire additional technical skills required for the development of minigrids. Their participation and contribution would be decisive especially in the regulatory framework, pricing and the mobilization of financial resources. As part of the SEFA project, there are 3 private promoters who have benefited from support in carrying out feasibility studies for solar minigrids. They need to be trained for feasibility study, management and operating minigrid and suitable environment and financial mechanisms schemes.	They will play an important role, among others, in the following outputs: 1.1; 1.2; 1.4; 2.1 2.2; 2.3; 2.4; 3.2; 4.2; 4.5

<b>Partner name</b>	<b>Description and contributions</b>	<b>Relevant project outputs</b>
NGO Plan International Niger	It has built the first solar minigrid in Niger. The minigrid was handed over to ANPER. It supports rural communities in the Tahoua and Maradi regions with access to solar electricity (micro-grid) for both households and productive use. Through a partnership, it also trains beneficiaries women to ensure maintenance and operation of solar equipment/installations.	Contribute to the implementation of outputs 1.1 ; 2.1 ; 2.3 ; 3.2 ; 4.2 ;
Ecole des Mines de l'Industrie et de la Géologie	Train engineers in renewable energy.  It could integrate training modules specific to solar mid-grids into its curricula	Could contribute to the achievement of outputs 1.1; 1.5; 2.3; 2.4; 4.2
Fédération des Coopératives Maraîchères du Niger	It carries out activities in the agricultural value chain, in particular IGAs. There is a possibility of taking into account in the selection criteria for the pilot sites the establishment of the production activities of the cooperatives. This association could raise grant funds from its partners such as the FAO or FISAN to contribute to the financing of the projects.	Activities centered on the productive use of energy. Take this into account as a criterion in the choice of pilot sites. Outputs: 1.1; 2.1; 2.3 and 4.2
World Food Organization/FAO	Supports actors in the silvo-agro-pastoral development chain, particularly in irrigation, livestock, farming, production and conservation of market garden products. The source of energy used are diesel or solar power in rural areas. Currently, FAO is implementing regional projects focusing on the value chain. Within the framework of this project implementation, there could be opportunities to replace diesel generators used for water pumping, for example. It would therefore be very interesting to explore potential synergies for the installation of a pilot minigrid on market gardening sites.	Outputs: 1.1 ; 2.1 ; 2.2 ; 2.3 ; 3.2 ; 4.2.
Multifunctional Platform Project/PTFM	Works in the promotion of PTFM for access to energy services, in particular: electrification, mills for processing cereal grains. Training artisans and beneficiaries in the upkeep and maintenance of PTFMs. The training of beneficiaries and the setting up of management committees. Possibility of co-financing if the sites selected correspond to their criteria	Contribute to output 2.1 by integrating the choice of pilot sites including its criteria

Partner name	Description and contributions	Relevant project outputs
National Financial Institutions	Through partners such as Power Africa and the NESAP project, some banking institutions have benefited from capacity building in energy access. They have also taken an active part as stakeholders in studies in the energy sector. In addition, as partners, for example through the NESAP project, SONIBANK, BSIC and Capital finance have benefited from credit lines opened for private operators and consumers.	Contribute to the achievement of outputs 3.1 ; 3.2 ; 3.3
World Bank	The World Bank is an institution that supports the government of Niger not only to set up an environmental framework favorable to the promotion of the energy sector but also in the financing of electricity access projects.  Within the implementation of Hask? project, it is planned to revise the electricity code but also to support ANPER in setting up a digital platform to, for example, facilitate the management of tender documents	Contributes to the implementation of outputs 1.2; 3.1 and 4.2
Fonds d'Investissement pour la Sécurité Alimentaire et Nutritionnelle/FISAN	This institution manages trust funds from development partners to promote the development of the silvo-agro-pastoral and tertiary sector. It provides grants to beneficiaries. These interventions indirectly concern the energy sector in the value chain. It could be an important partner in the implementation of this project.	Could help provide subsidies to minigrid beneficiaries in these target sites  Output: 3.1;3.2
Power Africa	It has built the capacity of potential promoters of the renewable energy sector, particularly solar, to promote investment and the development of rural electrification.  It also supported ANPER in carrying out feasibility studies for the development of solar minigrids built around telecommunication antennas. Possibility of selecting pilot sites among the feasibility studies sites carried out by Power Africa.	The following outputs  2.3; 3.1; 3.2; 3.3 and 4.2

Other ongoing initiatives as listed in the ANPER co-financing letters are directly implemented by ANPER.

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

Regarding, global environmental benefits, the project contributes to the following GEF-7 Core Indicators:

? *Core indicator 6: Greenhouse gas emissions mitigated* captures the amount of GHG emissions expected to be avoided through the GEF project's investment in renewable energy minigrids. Mitigation benefits include:

o *Direct emissions reductions* attributable to the investments made in the GEF-supported minigrid pilots during the project's supervised implementation period, totalled over the respective lifetime of the investments (20 years), assuming two types of pilots, a) greenfield minigrid systems (solar PV-battery), and b) PUE to minigrid overlay (solar PV-battery).

o *Indirect emissions reductions* that could result from a broader adoption of the outcomes of a GEF project plus longer-term emission reductions from behavioural change in the post-project period. Broader adoption of a GEF project proceeds through several processes including sustaining, mainstreaming, replication, scaling-up and market change.

? *Sub-indicator 6.4: Increase in installed renewable energy capacity per technology* captures the increase in solar capacity and battery storage capacity.

? *Core indicator 11: Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment* captures the total number of direct beneficiaries including the proportion of women beneficiaries. Direct beneficiaries are all individuals receiving targeted support from the pilot project.

?

Table 4 ? project results and gef indicators

Pilot #	Niger Greenfield MG Pilot	Niger PUE overlay Pilot
<b>Type of Pilot</b>	<b>Greenfield MG</b>	<b>PUE overlay</b>
Indicative number of minigrids	3.3	2
Minigrid Technology:	Solar PV + Battery	Solar PV + Battery
System sizing assumptions	Standard Medium-size MG	PUE Overlay to a Standard Medium-size MG
<b>Project Budget Allocated to pilot</b> (about 45% of CAPEX as subsidy) - GEF INV (USD)	\$488,790	\$71,485
Estimated Pilot CAPEX needs (\$)	\$1,054,706	\$135,824
Estimated co-financing required (\$)	\$565,916	\$64,339
Greenhouse Gas Emissions Mitigated (metric tons of CO <sub>2</sub> e)	16,319 (direct)	696 (direct)
Increase in installed renewable energy capacity per technology (kW ? solar) (kWh - storage)	0.294 (solar PV) 0.716 (storage)	0.04 (solar PV) 0.098 (storage)

Pilot #	Niger Greenfield MG Pilot	Niger PUE overlay Pilot
<b>Type of Pilot</b>	<b>Greenfield MG</b>	<b>PUE overlay</b>
Indicative number of minigrids	3.3	2
Minigrid Technology:	Solar PV + Battery	Solar PV + Battery
System sizing assumptions	Standard Medium-size MG	PUE Overlay to a Standard Medium-size MG
<b>Project Budget Allocated to pilot</b> (about 45% of CAPEX as subsidy) - GEF INV (USD)	\$488,790	\$71,485
Number of direct beneficiaries disaggregated by gender (and customer segment) as co-benefit of GEF investment (number of people)	8,398 people ----- 8,250 people (residential) 28 people (social) 120 people (commercial/PUE) ----- 1,650 connections (residential) 7 connections (social) 40 existing connections (commercial/PUE) 0 new connections (commercial/PUE) <u>1,697 connections (total)</u>	5,136 people ----- 5,000 people (residential) 16 people (social) 120 people (commercial/PUE) ----- 1,000 existing connections (residential) 4 existing connections (social) 24 existing connections (commercial/PUE) 16 NEW connections (commercial/PUE) <u>1,044 connections (total)</u>

*Note:* Of the 8,398 beneficiaries, 51% will be women. For details on assumptions and calculation methods, the reader is referred to Annex 12 of the UNDP Project document.

As the project is national child project, the global environmental benefits as well as some adaptation benefits will be summed up and leveraged at regional AMP level. Hence, creating a multiplier effect.

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

### Innovativeness

Innovation is inherent to AMP's DNA and applied in various aspects:

1. The project's rationale focuses on the cost-reduction niche of minigrids' hardware, soft and financial costs - as an efficient and effective solution to attract private investment and *in fine* to enable rural communities in Niger to have access to sustainable, reliable, affordable and greener energy.
2. A particular focus and *sine qua none* condition of minigrid projects under AMP is energy for productive use (PUE). Given the rampant extreme poverty in Niger's rural areas, productive use is the first entry point for any pilot site. PUE is a pillar of the financial viability of minigrids in rural areas. Productive uses include both commercial (e.g., solar pumping, agricultural produce conservation and processing, telecom towers, artisans and shops) and social (e.g., health and education facilities).
3. The cost optimization aspect is combined with innovative minigrid business models. The innovative aspect of business models relies, on the one hand, on cleantech solutions such as the key maker model and all-inclusive containerized solutions (see Component 2), and on a hybridized setup whereby a close

collaboration between communities and private sector, as well as with the government and public sector (development, management and operations) is created.

4. Innovative suitable financing solutions targeting minigrids both for supply and demand are put forward including crowdfunding and -lending, mobile money, etc. (see Component 3) under a Minigrid Funding Facility umbrella.

5. A market-based intervention is applied to effectively contribute to sustainability of the minigrids. As such the private sector plays a key role from PIF and PPG phase up to implementation and post-project phase.

6. A participatory approach is applied since the preparation of the project to ensure collaboration with and between all relevant stakeholders, commitment and ownership, as well as the project's sustainability (including post-project). Adaptive project management shall be applied as several months fall between project formulation and implementation, and while some efforts impacting the minigrid environment are undergoing with other partners' support (see chapters above). In other words, some activities could be adapted and modified based on a quick assessment of the new baseline at project inception.

7. Gender mainstreaming and social and environmental safeguards are incorporated to the entire project design and implementation to ensure social inclusivity, gender equity and environmental protection.

8. The regional programmatic approach, with a regional chapeau project, facilitates access and sharing of expertise, best practices, lessons learned, training materials as South-South cooperation etc., *inter alia* through a pool of experts, AMP Communities of Practice, a regional digital platform, etc.

#### Sustainability

The project sustainability is safeguarded through the active participation of the private sector to establish viable and innovative business models in the minigrid industry in Niger. By seeking durable profitability, private sector players will ensure the activities continue well after the end of the project. The market-based approach around pilot projects (Component 2) along with technical and financial assistance provided by the GEF and its partners (including co-financiers) will highly contribute to the sustainability of the project outcomes and objective. The replicability plan (including an investment plan under Output 4.7.) developed during project implementation will further support the project's exit strategy and continuity. Hands-on capacity building (technical and managerial) of private sector players (developers, solar installers and other energy services providers as well as businesses using energy for productive uses) and communities (including youth and women rural electricians) is another lever contributing to sustainability. The Minigrid Funding Facility and its various innovative financial mechanisms from various financial institutions and potential donors is designed to last.

The conducive environment created by a suitable policy and regulatory framework and the relevant institutional capacities around minigrids will also support the market scale-up and durability at national level.

At institutional level, the creation of a structured national RE services providers association (with industry associations, such as AMDA) as well as the National Dialogue platform should be able to survive after the project because of its utility. The platform shall be integrated at the Ministry of Energy and Renewable Energies (Responsible Party of Project Component 1).

The structural anchorage of RE and electrification at lower cost and increased reliability as priorities for the GoN and its various strategies and plans at national level as well as in international conventions signed by Niger should also enable the long-term thinking and implementation of minigrids as a solution for universal, reliable, affordable and green energy access across the country.

#### Potential for scaling-up

Scaling-up the minigrids market, especially through private sector investment and innovative business models, is the main objective of AMP. As such the potential for scaling-up has been thought through during project formulation phase (PIF and PPG) and a holistic scaling-up plan is elaborated below.

Figure 4 - Scaling-up approach



? *Vertical scaling up* is envisaged in the context of actions targeting institutionalized capacity building at policy, political, legal, regulatory, and budgetary planning levels as well as via the creation and operationalization of a functioning private sector association for RE service providers in Niger. Component 1 envisages creating a National Dialogue around minigrids and rural electrification, which will facilitate synergies and common action through a multi-stakeholder dialogue, a cross-sectoral approach as well as offering targeted needs-based capacity building. In Component 2, vertical scale-up is ensured by structuring the private sector along the RE value chain by establishing an umbrella association of all these players. Dissemination and advocacy will be ensured (Component 4) and will provide the necessary scale-up effect.

? *Horizontal scale-up* expansion/ replication ? will be fostered and promoted especially through the support to innovative and viable business models, and CEMG pilot projects considering cost-reduction and energy for productive use (commercial and social). Thanks to capacity building, education and large-scale public awareness campaigns, the outreach and impact will be bigger and contribute to the expansion and replication of demonstrated business models and pilot projects. Awareness raising, capacity building, technical and financial assistance of businesses along with the catalyzing role of the private sector will facilitate the replication of the innovative business models and pilot projects to other geographical areas and to other communities in Niger. The replication plan (output 4.7.) will crystalize and support market development and business model replication.

? *Diversification* in the scaling-up potential is also sought by the project. Business models that are evaluated to be viable would be promoted in the context of the project strategy for diversification or functional scaling-up. For example, adding energy efficiency measures and appliances was discussed. Continuous improvement and additional innovations will be further added in the context of the pilot projects? implementation (Component 2) as well as best practices and knowledge sharing with AMP Communities of Practice or any other knowledge network, trainings and community outreach activities (Component 4).

? *Spontaneous scaling-up* may also be realized as part of the direct project results and beyond, and these will be documented through the knowledge management actions under Component 4. Therefore, as part of project implementation, the scaling-up strategy and its roll-out will be drawn. The project will also support systematic monitoring of planned activities. It will, based on achieved results, document the profiles of minigrid business models which could be promoted for scaling-up, and to be included in the replication plan (Output 3.3.).

[1] <https://data.worldbank.org/indicator/SP.POP.GROW?locations=NE>, visited on 4 May 2022

[2] <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=NE>, visited on 4 May 2022

[3] <https://www.worldbank.org/en/country/niger/overview#1> visited on 4 May 2022

[4] <https://www.concernusa.org/story/poverty-in-niger/> visited on 4 May 2022

[5] <https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS?locations=ML-NE-BF-TD-MR> visited on 4 May 2022

[6] <https://www.worldstopexports.com/nigers-top-10-exports/#:~:text=The%203%20biggest%20exported%20products,of%20Niger's%20overall%20export%20revenues> visited on 4 May 2022

[7] <https://ourworldindata.org/co2/country/niger>, visited on 4 may 2022

[8] <https://www.coface.com/Economic-Studies-and-Country-Risks/Niger>, visited on 4 may 2022

[9] IRENA, Niger Renewables Readiness Assessment 2013, available at [http://www.irena.org/DocumentDownloads/Publications/RRA\\_Niger.pdf](http://www.irena.org/DocumentDownloads/Publications/RRA_Niger.pdf)



[10] [https://www.se4all-africa.org/fileadmin/uploads/se4all/Documents/Country\\_IPs/PI\\_SeforALL\\_Niger\\_FINAL\\_\\_1\\_.pdf](https://www.se4all-africa.org/fileadmin/uploads/se4all/Documents/Country_IPs/PI_SeforALL_Niger_FINAL__1_.pdf) viewed on 15 August 2022

[11] IEA, IRENA, UNSD, World Bank, WHO. 2022. Tracking SDG 7: The Energy Progress Report. World Bank, Washington DC)

[12] <https://iea.blob.core.windows.net/assets/e2e30d7e-3051-4a25-9720-d608c7d6b2f4/TrackingSDG7TheEnergyProgressReport2022.pdf> viewed on 15 August 2022

[13] <https://www.afdb.org/en/news-and-events/sefa-grants-us-1-million-to-promote-green-mini-grids-in-niger-15990>

[14] <https://projects.worldbank.org/en/projects-operations/project-detail/P174034>

[15] <https://projects.worldbank.org/en/projects-operations/project-detail/P160170>

[16] <https://africamda.org/>

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

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

The exact pilot sites (e.g. intervention zones) in rural areas in Niger will be selected at implementation phase based on objective criteria validated during the validation workshop in June 2022.

## **1c. Child Project?**

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

The current project is part of the ?Africa Mini-grid Programme (AMP)?, as summarized above.

The Child Project of Niger aligns with the AMP Regional Project to foster knowledge sharing, learning, and synthesis of experiences in a multi-directional manner, i.e., flowing from the AMP Regional Project to AMP Niger, and vice versa, and between AMP Niger and other national projects within the Program. The main role of the AMP 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 while providing technical and operational support for national projects? on-the-ground implementation. A full detailed elaboration of these offerings and the protocols attached to each service will be communicated to the project at AMP Niger inception workshop. The areas of support, the listing of available firms/individual consultants under contract by the regional project and the protocol for how the project can request and/or access such expertise (if needed/requested) will be elaborated in the first year of regional project implementation and disseminated to this project and the staff of all other participating AMP national projects.

## **2. Stakeholders**

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

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated,

and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

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

**Consulted only; Yes**

**Member of Advisory Body; Contractor;**

**Co-financier; Yes**

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

**Executor or co-executor;**

**Other (Please explain) Yes**

The participatory and inclusive approach adopted by the project since PPG is part of its DNA. A stakeholder analysis (to be continuously updated) was conducted to identify all relevant stakeholders at the PPG phase. Extensive and numerous stakeholder consultations, one-on-one, focus groups and workshops (inception and validation) were carried out at PPG phase and will be pursued during project implementation to ensure ownership and sustainability during and after project closure. Comments, questions, requests and commitments are stimulated at every project stakeholder.

Particular efforts were put since design phase and will continue during the entire project implementation phase:

? Promote effective engagement, as well as inclusive and meaningful consultation. This encompasses a two-way process between the stakeholders and the PMU, the IP, the RP and UNDP as GEF executing agency to ensure continuous insights, feedback and involvement of project stakeholders. Sharing information and knowledge is critical and supported at PPG as well as during implementation through different specific tools and activities.

? Forge stronger partnerships, particularly with civil society, communities and the private sector. It requires continuous work, based on transparency, engagement and dialogue, outreach, awareness building, listening, and respect for the importance and contributions of all stakeholders.

? Harness the knowledge and expertise of stakeholders which includes acknowledging the fact that stakeholders are a great source of information and knowledge, and that these should be shared through various means including via knowledge management and monitoring & evaluation (Component 4).

Stakeholder engagement since PPG put a high emphasis on conducting it in an inclusive and gender responsive manner. During the PPG phase, relevant stakeholders were asked to provide inputs and comments on the project and their specific role in contributing to overcome the development challenge together. This largely contributed to nourishing the project document and adapting it to local realities and needs as much as possible. At the validation workshop and after sharing the final draft of the project document and annexes, feedback was provided by stakeholders and integrated into the final version of the document. During project implementation, stakeholders will continue to actively contribute and engage in achieving the overall goal of the project. The Stakeholder Engagement Plan in Annex 8 of the Prodoc provides further details on the stakeholder groups, their roles and responsibilities.

Different actions are provided to stimulate and sustain stakeholder engagement throughout project duration (and even after):

? Inception workshop at project launch gathering all key stakeholders to present the project and the inception report to facilitate project implementation. Participants will be invited to share their insights

and updates to adapt the workplan. The official project launch and main outcomes of the inception workshop will be broadcasted to a larger audience as part of the awareness raising campaign (Component 4).

? The National dialogue platform (Component 1) is a powerful tool to support exchanges between project stakeholders and with the PMU on various topics (especially through sub-committees). This multi-stakeholder media is critical to effectively and efficiently contribute to the development of a nascent minigrids market in Niger. Sub-committees will be created to further facilitate implementation, ownership and engagement.

? The national Community of Practice is another means to engage with all relevant stakeholders and motivate them to be involved in the project, sharing their experience, learning, and growing.

? Continuous stakeholder interactions and consultations through meetings, workshops, training, awareness raising campaigns, etc. will also be used to foster stakeholder engagement. This includes during preparation, construction and implementation of the pilot sites under Component 2.

? The Project Board/Steering Committee is the ultimate platform for stakeholder engagement and decision-making including beneficiary representatives, the project executive and the development partner (see chapter on governance below). Topics such as workplan, activities and results will be debated, decisions taken together, and necessary corrective measures proposed.

ANPER, the project IP, will directly coordinate with all ongoing (and future) initiatives with other partners (as listed in its co-financing letter). As such, it will ensure that AMP Niger brings the necessary additionality to ongoing (and future) initiatives in Niger's (green) minigrid market.

South-South cooperation is particularly fostered in this project. AMP is a regional programme in Sub-Saharan Africa with a minimum of 18 countries participating. Various knowledge sharing tools among AMP countries and AMP's regional project will be provided (Component 4). Cooperation and partnerships with other initiatives and organizations promoting South-South cooperation will be offered under the AMP umbrella including RMI, AfDB, IRENA, SE4All, AMDA, etc. Discussions with ECREEE should be developed at project launch. Cooperation with AMP Burkina Faso, Mali (and beyond) for francophone training on specific topics as well as with Senegal's successful national dialogue platform on energy will be fostered.

In addition, to bring the voice of Niger to global and regional fora, the project will explore opportunities for meaningful participation in specific events where UNDP could support engagement with the global development discourse on low carbon minigrid and rural electrification. The project will, furthermore, provide opportunities for regional cooperation with countries that are implementing initiatives on low carbon minigrids in geopolitical, social and environmental contexts relevant to the proposed project in Niger.

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

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

According to the 2020 UN Human Development Reports data, Niger ranks 189 of 189 on the Human Development Index and 154 of 162 on the Gender Inequality Index[1]. In the rural settings where the Niger minigrid program will be implemented, women and girls are central to three key electricity service delivery opportunities that can reduce gender gaps, increase human capital, and provide foundations for economic growth: Water, agriculture, and social institutions.

? **Water:** Much of Niger exhibits a harsh climate with water scarcity, and the rural population has a high degree of susceptibility to climate variability. Women and girl children bear the majority of the daily burden of fetching water in Niger[2] with water fetching for household use among the reasons that female children are withdrawn from school. Water (irrigation) is also an extremely important agriculture input that women have less access to than men. And it is needed in school and health care settings for washing, sanitation, drinking, and cooking. Only 22.7% of schools have access to drinking water and 26.7% access to sanitation facilities[3]. Girls and women especially may avoid going to schools or healthcare settings where water, sanitation and hygiene (WASH) services are absent. Girls, in particular,

may miss school when they are menstruating. Fee-for-service water pumping and/or purification can be added elements to minigrad design and, if water can be stored, can also aid in load profile management.

? **Agriculture:** 97% of rural households in Niger earn at least some of their income from agriculture[4], but women supply only about 24% of the labor for crop production (excluding tending livestock or processing harvests)[5]. Women own agricultural land at lower rates than men (35% compared to 63%[6]), and their plots are smaller. This is a result of population pressure and privatization taking place against a mixed backdrop of customary, Islamic, and statutory legal regimes. Woman-managed plots are on average 19% less productive than men's, mostly due to women's challenges using male labor and the large amounts of their time devoted to childcare[7], both of which are a result of prevailing gender norms. Electricity investments can boost women's productivity when used for efficient irrigation of high value off-season crops and watering certain livestock, post-harvest processing, and packaging and conservation?but discriminatory gender norms can impede the success of these initiatives. The cooperative-based model of mechanized processing, notably adopted by most multi-functional platforms, addresses or sidesteps multiple barriers faced by women in agriculture.

? **Social Institutions:** Health clinics and schools constitute critical infrastructure in a country where 50% of the population is under the age of 14 and the Human Capital Index, measuring the amount of human capital (health and education) a child born today can be expected to attain over 18 years, is 0.32, among the lowest in the world[8]. The mean average schooling for women is 1.4 years, while men's is twice as high[9], though overall education attainment is increasing and the gender gap is closing. Electrification not only enables lighting, cooling, medical equipment, and information technology in these settings for the benefit of students and patients seeking healthcare, but it also plays a role in attracting and retaining professionals who work in these institutions.

These three spheres of opportunity?water, agriculture, social institutions and Income Generating Activities (IGA)?will be included as gender focus areas of Component 2 (Business Model Innovation with Private Sector) and Component 3 (Scaled-up Financing), especially as it relates to demand-side solutions. Cost-reduction levers (and benefit maximization ones) are critical to these areas, and perhaps more so for women because women have less disposable income, access to finance, and decision-making power. The relationship between intra-household dynamics (e.g., fertility rates and dependency ratios, gender norms governing time use and bargaining power) and reproductive work on the one hand, and economic productivity on the other, can be further explored through this project.

A workable business model for improved water or cooking fuel provisioning, for example, is hard to achieve so long as the shadow price of those goods is unaccounted for and household members can be compelled to supply ?free? labor to fetch them. Alternatively, it may be impossible for women to devote enough time to succeed with productive uses of electricity until they can first free up their time from domestic chores, either by receiving more help from other family members or by adopting new appliances, or have access to multifunctional platforms for instance. Both these examples demonstrate that gender equality, in particular valuing women's time and labor, can function as a key for unlocking the economic potential of electricity sector investments; thus the project can tackle gender equality from the outset rather than assume it will be a natural byproduct of energy access.

For Component 1 (Policy and Regulation), efforts will be made to meaningfully include women in the National Dialogue (for participation and decision-making) and training activities, especially practical, hands-on learning activities. Work on regulations and tariffs will be informed by and grounded in realities faced by women, such as widowhood, divorce, or living in polygynous arrangements. To the extent possible, gender-relevant data layers will be added to complement existing pre-feasibility studies of minigrad sites to inform design choices and appropriate levels of program support/concessionality.

Component 4 (Digital and knowledge management) can seek innovative ways to capture data beyond the meter. This includes understanding users (not just customers) and their behaviors and needs. Possibilities include low-cost phone-based surveys (e.g., via interactive voice recordings or SMS) or the use of female community liaisons to collect information on users, appliances, payment responsibilities, and more. Gender mainstreaming is among the topics where insights can be shared to/from the regional AMP.

- 
- [1] <https://hdr.undp.org/sites/default/files/Country-Profiles/NER.pdf>, visited in June 2022
- [2] Graham, Jay P., Mitsuaki Hirai, and Seung-Sup Kim. 2016. "An Analysis of Water Collection Labor among Women and Children in 24 Sub-Saharan African Countries."
- [3] UNICEF Niger. N.D. "Water, Sanitation & Hygiene."
- [4] Backiny-Yetna, Prospere, and Kevin McGee. 2015. "Gender Differentials and Agricultural Productivity in Niger."
- [5] Palacios-Lopez, Amparo, Luc Christiaensen, and Talip Kilic. 2017. "How Much of the Labor in African Agriculture Is Provided by Women?"
- [6] Slavchevska, Vanya, Cheryl R. Doss, Ana Paula de la O Campos, and Chiara Brunelli. 2021. "Beyond Ownership: Women's and Men's Land Rights in Sub-Saharan Africa."
- [7] Backiny-Yetna, Prospere, and Kevin McGee. 2015. "Gender Differentials and Agricultural Productivity in Niger."
- [8] <https://databank.worldbank.org>, visited in June 2022
- [9] <https://hdr.undp.org/data-center/documentation-and-downloads> visited in June 2022

**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; Yes**

**Improving women's participation and decision making Yes**

**Generating socio-economic benefits or services or women Yes**

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

Yes

#### **4. Private sector engagement**

**Elaborate on private sector engagement in the project, if any**

The project formulation launch workshop held on April 7, 2022, brought together the various stakeholders, including representatives of the private sector. The private sector was represented by the Association of Solar Professional (APE-Solaire) and other non-members of APE-Solaire.

Throughout the process of the Project formulation, representatives of the private sector were consulted. They welcomed this initiative very well. Thus, the stake around the project was shared with them and in return they provided very useful information which contributed to enriching the document.

During the project document validation workshop which took place on June 16, 2022, private sector representatives were also participants. This meeting was an opportunity for the private sector to fully appreciate the objective and expected results of the AMP Niger project and above all to understand the different activities planned by component but also their expectations and their role to be played in the implementation of the project. They noted and remained hopeful that the implementation of the project will make it possible, if not to completely curb, to mitigate the negative impacts of the various obstacles, in particular the regulatory framework, financing, capacity building and dialogue between partners to promote the development of minigrids in Niger. The private sector has also expressed its deep concern about the marginalization to which it is subject in the awarding of contracts for the construction of minigrids under the pretext that it does not have the experience in minigrid. It is therefore recommended

that the AMP Niger project considers the adequate involvement of local businesses in the implementation of pilot projects to strengthen their technical skills and ensure proper ownership of minigrid technology.

## **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 overall risk profile of the Project has been assessed as 'substantial'. Based on the risk categorization assigned to the various country projects and the associated environmental and social risks, the following procedures for screening, assessing and managing those risks must be undertaken during project implementation of each country project. (1) Screening of social and environmental risks and impacts and determining applicable social and environmental standards and requirements (including UNDP SES). The screening process utilizes UNDP's SESP and develops a specific screening procedure for the forthcoming type of sub-projects/activities. (2) Appropriate types of social and environmental assessment to identify, document and address potential social and environmental risks and impacts. (3) Preparing and approving time-bound action plans for avoiding, and where avoidance is not possible, reducing, mitigating, and managing adverse impacts, including development of specific management plans according to applicable policies and regulations, including UNDP's SES (i.e., Environmental and Social Management Plans which would be completed post-assessment).

Specifically, the SESP identified 14 risks, 6 of which assessed as 'substantial' and 8 as 'moderate'. The DREI framework identifies 10 risks, 7 of which assessed as 'high', 2 as 'moderate' and 1 as 'low'.

Social and environmental risks are primarily linked to human rights given the challenges to secure social inclusiveness and incorporate vulnerable people. Among other root causes, underlying factors include very low income levels of rural people living in small communities which rely on subsistence farming and collection; undefined or absence of land tenure titles and associative structures enabling people to claim their rights; demographic pressure which may lead to local movements of people as a result of electrification, potentially separating them from their food sources.

While electricity supply is a socio-economic enabler, the nexus between productive uses and electricity supply needs to be further articulated including according to gender. To address this risk, the Project design incorporates sustained community engagement during the preparation phase of the proposed pilots. This activity will draw upon country knowledge and positive experiences in other sectors (e.g., agricultural development) to make these available to the energy sector in Niger.

For more details, reference is made to the ATLAS Risk Log, Annex 6 of the Prodoc

## **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.**

### **Section 1: General roles and responsibilities in the projects? governance mechanism**

Implementing Partner: The Implementing Partner for this project is ANPER.

The Implementing Partner 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 Implementing Partner 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 Implementing Partner 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.
- ? Overseeing the management of project risks as included in this project document and new risks that may emerge during project implementation.
- ? 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.

#### Responsible Parties:

The Ministry of Energy and Renewable Energies is responsible for implementing component 1. To this end, it is responsible for the implementation of activities related to component 1. All activities will be implemented in close collaboration with the stakeholders concerned by component 1. It will mobilize all the stakeholders concerned by the activities of this component. It reports on the implementation of the component to ANPER through the project management unit. The Ministry will also set up the steering committee, which will be under its chairmanship. Indeed, the Ministry is the administrative tutor of ANPER and has the ability to develop an order to create the project steering committee.

A HACT micro-assessment of the Ministry can be found in Annex 17 of the Prodoc.

#### Project stakeholders and target groups:

The participatory and inclusive approach adopted by the project since PPG is part of its DNA. Extensive and numerous stakeholder consultations, one-on-one, in groups and at workshops (inception and validation) were carried out at PPG phase and will be pursued during project implementation to ensure ownership and sustainability of the project after closure. Comments, questions, requests and commitments are stimulated at every project stakeholder.

During PPG phase, relevant stakeholders were asked to provide inputs and comments on the project and their specific role in contributing to overcome the development challenge together. This largely contributed to nourishing the project document and adapting it to local realities and needs as much as possible. At the validation workshop and after sharing the final draft of the project document and annexes, feedback was provided by stakeholders and integrated into the final version of the document.

During project implementation, stakeholders and target groups will continue to actively contribute and influence the decision making for the project. Different media will be used to do so:

- ? Inception workshop at project launch gathering all key stakeholders to present the project and the inception report to facilitate project implementation. Participants will be invited to share their insights and updates to adapt the workplan. The official project launch and main outcomes of the inception workshop will be broadcasted to a larger audience as part of the awareness raising campaign (Component 4).
- ? The National dialogue platform (Component 1) is a powerful tool to support exchanges between project stakeholders and with the PMU on various topics (especially through sub-committees). This multi-stakeholder media is critical to effectively and efficiently contribute to the development of a nascent minigrids market in Niger. Sub-committees will be created to further facilitate implementation and decision making.
- ? The Project Board/Steering Committee is the ultimate platform for decision making including beneficiary representatives, the project executive and the development partner (see below). Topics such as

workplan, activities and results will be debated, decisions taken together, and necessary corrective measures proposed.

? Continuous stakeholder interactions and consultations through meetings, workshops, trainings, awareness raising campaigns, etc. will also be used to facilitate decision making based on stakeholders' insights.

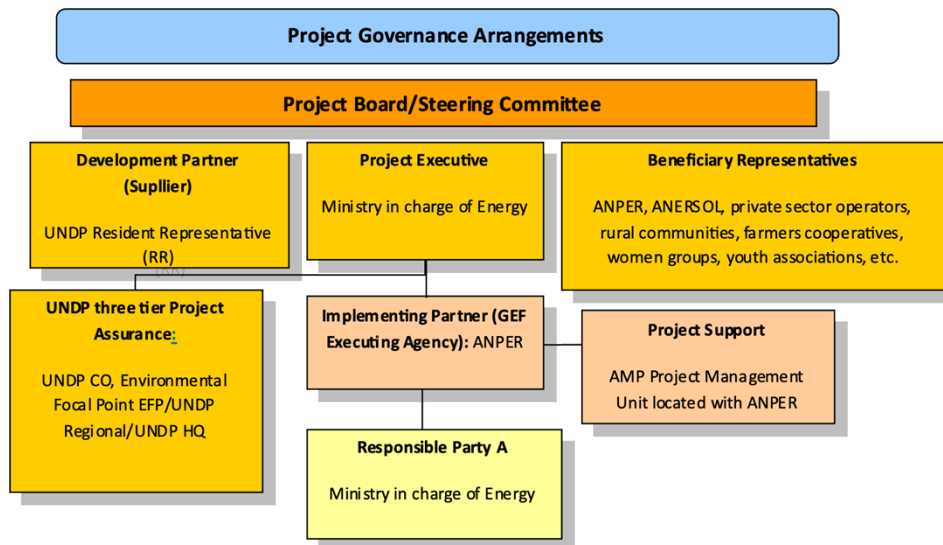
? Regular progress and monitoring reports that can be disseminated to specific partners and players

UNDP: UNDP is accountable to the GEF for the implementation of this project. This includes overseeing project execution undertaken by the Implementing Partner to ensure that the project is being carried out in accordance with UNDP and GEF policies and procedures and the standards and provisions outlined in the Delegation of Authority (DOA) letter for this project. **The UNDP GEF Executive Coordinator, in consultation with UNDP Bureaus and the Implementing Partner, retains the right to revoke the project DOA, suspend or cancel this GEF project.** UNDP is responsible for the Project Assurance function in the project governance structure and presents to the Project Board and attends Project Board meetings as a non-voting member.

A firewall will be maintained between the delivery of project oversight and quality assurance performed by UNDP and charged to the GEF Fee and any support to project execution performed by UNDP (as requested by and agreed to by both the Implementing Partner and GEF) and may be charged to the GEF project management costs (only if approved by GEF). The segregation of functions and firewall provisions for UNDP in this case is described in the next section.

## Section 2: Project governance structure

Table 7 ? Project Governance arrangements



Second line of defense:

? Regional Bureau oversees RR and Country Office compliance at portfolio level

? BPPS NCE RTA oversees technical quality assurance and GEF compliance. BBPS NCE PTA oversees RTA function



? UNDP GEF Executive Coordination and Regional Bureau Deputy Director can revoke DOA/cancel/suspends project or provide enhanced oversight

The UNDP Resident Representative assumes full responsibility and accountability for oversight and quality assurance of this Project and ensures its timely implementation in compliance with the GEF-specific requirements and UNDP's Programme and Operations Policies and Procedures (POPP), its Financial Regulations and Rules and Internal Control Framework. A representative of the UNDP Country Office will assume the assurance role and will present assurance findings to the Project Board, and therefore attends Project Board meetings as a non-voting member.

### **Section 3: Segregation of duties and firewalls vis-?-vis UNDP representation on the project board:**

As noted in the [Minimum Fiduciary Standards for GEF Partner Agencies](#), in cases where a GEF Partner Agency (i.e. UNDP) carries out both implementation oversight and execution of a project, the GEF Partner Agency (i.e. UNDP) must separate its project implementation oversight and execution duties, and describe in the relevant project document a: 1) Satisfactory institutional arrangement for the separation of implementation oversight and executing functions in different departments of the GEF Partner Agency; and 2) Clear lines of responsibility, reporting and accountability within the GEF Partner Agency between the project implementation oversight and execution functions.

In this case, UNDP is only performing an implementation oversight role in the project vis-?-vis our role in the project board and in the project assurance function and therefore a full separation of project implementation oversight and execution duties has been assured.

### **Section 4: Roles and Responsibilities of the Project Organization Structure:**

**Project Board:** All UNDP projects must be governed by a multi-stakeholder board or committee established to review performance based on monitoring and evaluation, and implementation issues to ensure quality delivery of results. The Project Board (also called the Project Steering Committee) is the most senior, dedicated oversight body for a project.

The two main (mandatory) roles of the project board are as follows:

- 1) **High-level oversight of the execution of the project by the Implementing Partner** (as explained in the [?Provide Oversight?](#) section of the POPP). This is the primary function of the project board and includes annual (and as-needed) assessments of any major risks to the project, and decisions/agreements on any management actions or remedial measures to address them effectively. The Project Board reviews evidence of project performance based on monitoring, evaluation and reporting, including progress reports, evaluations, risk logs and the combined delivery report. The Project Board is responsible for taking corrective action as needed to ensure the project achieves the desired results.
- 2) **Approval of strategic project execution decisions of the Implementing Partner** with a view to assess and manage risks, monitor and ensure the overall achievement of projected results and impacts and ensure long term sustainability of project execution decisions of the Implementing Partner (as explained in the [?Manage Change?](#) section of the POPP).

### **Requirements to serve on the Project Board:**

- ? Agree to the Terms of Reference of the Board and the rules on protocols, quorum and minuting.
- ? Meet annually; at least once.
- ? Disclose any conflict of interest in performing the functions of a Project Board member and take all measures to avoid any real or perceived conflicts of interest. This disclosure must be documented and kept on record by UNDP.
- ? Discharge the functions of the Project Board in accordance with UNDP policies and procedures.

? Ensure highest levels of transparency and ensure Project Board meeting minutes are recorded and shared with project stakeholders.

#### **Responsibilities of the Project Board:**

? Consensus decision making:

- o The project board provides overall guidance and direction to the project, ensuring it remains within any specified constraints, and providing overall oversight of the project implementation.
- o Review project performance based on monitoring, evaluation and reporting, including progress reports, risk logs and the combined delivery report;
- o The project board is responsible for making management decisions by consensus.
- o 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.
- o In case consensus cannot be reached within the Board, the UNDP representative on the board will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed

? Oversee project execution:

- o Agree on project manager's tolerances as required, within the parameters outlined in the project document, and provide direction and advice for exceptional situations when the project manager's tolerances are exceeded.
- o Appraise annual work plans prepared by the Implementing Partner for the Project; review combined delivery reports prior to certification by the implementing partner.
- o Address any high-level project issues as raised by the project manager and project assurance;
- o Advise on major and minor amendments to the project within the parameters set by UNDP and the donor and refer such proposed major and minor amendments to the UNDP BPPS Nature, Climate and Energy Executive Coordinator (and the GEF, as required by GEF policies);
- o Provide high-level direction and recommendations to the project management unit to ensure that the agreed deliverables are produced satisfactorily and according to plans.
- o Track and monitor co-financed activities and realization of co-financing amounts of this project.
- o Approve the Inception Report, GEF annual project implementation reports, mid-term review and terminal evaluation reports.
- o Ensure commitment of human resources to support project implementation, arbitrating any issues within the project.

? Risk Management:

- o Provide guidance on evolving or materialized project risks and agree on possible mitigation and management actions to address specific risks.
- o Review and update the project risk register and associated management plans based on the information prepared by the Implementing Partner. This includes risks related that can be directly managed by this project, as well as contextual risks that may affect project delivery or continued UNDP compliance and reputation but are outside of the control of the project. For example, social and environmental risks associated with co-financed activities or activities taking place in the project's area of influence that have implications for the project.
- o Address project-level grievances.

? Coordination:

- o Ensure coordination between various donor and government-funded projects and programmes.
- o Ensure coordination with various government agencies and their participation in project activities.

**Composition of the Project Board:** The composition of the Project Board must include individuals assigned to the following three roles:

1. **Project Executive:** This is an individual who represents ownership of the project and chairs (or co-chairs) the Project Board. The Executive usually is the senior national counterpart for nationally implemented projects. The Project Executive is the Director General of ANPER.
2. **Beneficiary Representative(s):** Individuals or groups representing the interests of those groups of stakeholders 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. Often representatives from civil society, industry associations, or other government entities benefiting from the project can fulfill this role. There can be multiple beneficiary representatives in a Project Board. The Beneficiary representatives include (non-exclusive list that will be adapted at project launch):

- ? Representative of the pilot communities (possibly via an association in the community and on a rotational basis)
- ? Renewable energy service providers
- ? Consumers Association
- ? Ministry of Energy and Renewable Energy
- ? Ministry of Technical Education and Vocational Training
- ? FISAN
- ? Ministry of Plan
- ? Ministry of Finance
- ? Ministry of Promotion of Women and Child Protection
- ? ANERSOL
- ? Representative of University or High learning school delivering renewable energy courses
- ? Representative of NGOs operating in the field of minigrids & CSOs
- ? Representative of Financial Institutions
- ? Representative of technical and financial partners

**Development Partner(s):** Individuals or groups representing the interests of the parties concerned that provide funding, strategic guidance and/or technical expertise to the project. The Development Partner(s) is the UNDP Niger Resident Representative who will ensure the policies of UNDP and the GEF are complied with.

-

**Project Assurance:** Project assurance is the responsibility of each project board member; however, UNDP has a distinct assurance role for all UNDP projects in carrying out objective and independent project oversight and monitoring functions. UNDP performs quality assurance and supports the Project Board (and Project Management Unit) by carrying out objective and independent project oversight and monitoring functions, including compliance with the risk management and social and environmental standards of UNDP. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. Project assurance is totally independent of project execution.

A designated representative of UNDP playing the project assurance role is expected to attend all board meetings and support board processes as a non-voting representative. It should be noted that while in certain cases UNDP's project assurance role across the project may encompass activities happening at several levels (e.g. global, regional), at least one UNDP representative playing that function must, as part of their duties, specifically attend board meeting and provide board members with the required documentation required to perform their duties. The 2 UNDP representative playing the main project assurance function are the Deputy Resident Representative - representing the management side at UNDP Niger- and the CO programme officer - representing the relevant technical expertise around the project at UNDP Niger.

**Project Management ? Execution of the Project:** The Project Manager (PM) (also called project coordinator) is the senior most representative of the Project Management Unit (PMU) and is responsible for the overall day-to-day management of the project on behalf of the Implementing Partner, including the mobilization of all project inputs, supervision over project staff, responsible parties, consultants and sub-contractors. The project manager typically presents key deliverables and documents to the board for their review and approval, including progress reports, annual work plans, adjustments to tolerance levels and risk registers.

A designated representative of the PMU is expected to attend all board meetings and support board processes as a non-voting representative.

The primary PMU representative attending board meetings is the Project Manager supported where needed by the Project Coordinator or the Administrative Assistant.

## 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.

AMP Niger is consistent with national strategies and relevant conventions from below:

Table 6 - Policy context for renewable energy minigrids in Niger

Policy / planning document		Relevance
Sector Policies	Strategic Vision / Development Plan: <i>Stratégie de Développement Durable et de Croissance Inclusive 2035 (SDDCI), 2017 and Plan de Développement Economique et Social (PDES)</i>	Electricity considered as crucial for human capital development as well as rural economy (access to water, irrigation, productive use/ income generating activities, women empowerment, youth employment)  Acknowledgement that women are more vulnerable especially towards access to economic activities.
	National electricity policy: <i>Document de Politique Nationale de l'Electricité (DPNE), 2018</i>	Access to electricity for all; development of national energy resources; mobilization of the private sector. By 2021, the country aimed to electrify 1,400 localities, thereby achieving a 22% household access rate to electricity at the national level, including 10% in rural areas.
	Decree n°2019-027/PRN/MESU/DD of January 11, 2019 on the application modalities of the law n°2018-28 of May 14, 2018 determining the fundamental principles of environmental assessment in Niger	Determines the administrative environmental assessment procedure.

Policy / planning document	Relevance
Strategies and Plans	<p>National Electrification Strategy: <i>Stratégie Nationale d'Accès à l'Électricité (SNAE)</i>, 2018</p> <p>Access to affordable, reliable and modern electricity services for all Nigeriens, based on the principle of social justice and equity. The target is at least 80% of the population by 2035 with the support of the private sector.</p> <p>Universal electricity coverage should be achieved as follows: 85% by grid extension from NIGELEC, 5% by MG and 10% by individual kits.</p> <p>Electricity services can be delegated, in the form of concession, leasing/affermage, interested management company or any other form of delegation, according to the conditions fixed by the application decree of the present law particularly in the field of green minigrids. This possibility is open not only to the State but also to local authorities.</p> <p>Pre-financing of meters to connect households, especially the most vulnerable ones, including for MG.</p>
Energy and Electricity Sector Master Plan : <i>Plan Directeur d'Accès à l'Électricité (2019-2035 / PDAE)</i> , 2019	<p>Increase the electricity access through 3 main options (i) densification (ii) new electrification via grid extension and MG development (iii) individual solutions for remote localities.</p> <p>Location ranking and prioritization to be electrified, according to the 3 options above.</p> <p>Budget planning.</p> <p>About 400 projects covering around 1,000 localities have been identified for MG development.</p>
Nationally Determined Contribution (NDC) - <i>CDN révisée</i> , 2021	<p>Key priorities for mitigation measure mainly around agriculture, forestry, water and energy.</p> <p>Regarding energy measures planned are around: improve access to electricity to 60% by 2030, reach 402 MXc for renewable energy production by 2030, reach 100MW for the off grid capacity by 2030, energy efficiency in the residential industry, household, transport and tertiary sectors; reduction of transmission and distribution losses;</p> <p>These measures in the energy sector should lead to a reduction of GHG emission of 5 324 ktCO<sub>2</sub> by 2030.</p>
National strategy and actions plan of renewable energy, adopted in 2004	<p>Aims to have 10% of the national power mix RE by 2020</p>

Policy / planning document	Relevance
National Action Plan for RE - <i>Plan d'Actions Nationale des Energies Renouvelables</i> , 2015	Increase contribution of renewables in the power mix up to 30%; Increase off-grid technologies capacity; Create a Renewable Energy national policy and a fiscal regime for renewables; Develop a strategic framework for PPPs
Laws Electricity Sub-sector Law(s) and its application decrees <i>Code de l'Electricite</i> , 2016	Ends the monopoly of NIGELEC, opening up the sector to private sector participation, particularly in generation and rural electrification  Various application texts designed but not adopted at the same time or not yet adopted leading to misunderstandings
Environmental legislation (pertinent to the energy sector): <b>Environmental Management Law</b> , 1998	Article 3.1. Activities, projects and development programs which, because of their size or impact on the natural and human environment, may affect the latter, are subject to prior authorization by the minister responsible for the environment.  This authorization shall be granted on the basis of an assessment of the consequences of the activities, project or program updated by an environmental impact assessment prepared by the promoter and approved by the Ministry in charge of the environment.
National Dialogue - <i>Arr?t? sur la cr?ation, organisation et composition du cadre national de concertation sur les ?nergiesdomestiques et alternatives</i> , 2002	National Dialogue focusing on domestic and alternative energy supply.
<b>Specific electricity tax</b> , 2015	A tax applicable to all grids including off-grid that are under a delegation of services agreement. This tax of 2f/kWh is used at 60% to finance rural electrification and 40% to finance development and maintenance of public lighting, traffic lights, grid extension, payment for power costs of municipalities
<b>Decree around homogenized tariffs for NIGELEC</b> , <a href="#">2017</a>	A homogenized tariffication grid for all ? urban and rural areas ? has been developed and applied by NIGELEC across the country
Dedicated regulations (minigrids)	Not applicable for minigrids <i>per se</i> . Only in the <i>projets d'Electrification Rurale Autonome hors r?seaux au Niger</i> PERAN (see below), minigrid developers are allowed to offer cost-reflective tariffs (CAPEX & OPEX).

Policy / planning document	Relevance			
<p><i>D?cret portant sur les Modalit?s de r?alisation des projets d'?lectrification Rurale Autonome hors r?seaux au Niger (PERAN), 2019</i></p>	<p>Partially specifies the different delivery models around minigrids and individual kits with (1) public funding, (2) private funding and (3) private funding with a spontaneous application (without tender). In all cases the national PPP unit is involved. Minigrids should be based in priority on RE or hybrid solutions. They should be built complying with the state of the art and norms and regulations in Niger (which are non-existent yet for minigrid components) and should be designed to be potentially interconnected with the grid. When there is public financing involved, the MG developer can produce, transport, and distribute electricity in the given locality through a delegation of services for 5-10 years (renewable). The selection of the MG operator is based on a transparent tendering process. Minigrid developers are allowed to offer cost-reflective tariffs (CAPEX &amp; OPEX).</p>			
<p>Market exit regulation at grid arrival</p>	<p>Not yet existent.</p>			
<p>Concessional Regime for minigrids - <i>Conditions et modalit?s de conclusion des conventions de d?l?gation et d'attribution des licences, 2020</i></p>	<p>States all conditions and modalities for agreements around the delegation of electricity public services and the attribution of licenses in the energy sector including for minigrids</p>			
<p>Environmental review process for minigrid projects</p>	<p>The need for an environmental and social impact study for CEMG (Clean Energy MiniGrids) projects could be lifted according to the pilot size and location according to the relevant office at the Ministry in charge of Environment. A request for lifting (based on objective arguments) should be provided for each pilot in advance and approved by this office.</p>			
<p>Standards</p> <table border="1" data-bbox="397 1352 656 1755"> <tr> <td data-bbox="397 1352 656 1509"> <p>Generation technology requirements for minigrids</p> </td> </tr> <tr> <td data-bbox="397 1509 656 1635"> <p>Quality standards for solar minigrid components</p> </td> </tr> <tr> <td data-bbox="397 1635 656 1755"> <p>Standard waste management and recycling procedures</p> </td> </tr> </table>	<p>Generation technology requirements for minigrids</p>	<p>Quality standards for solar minigrid components</p>	<p>Standard waste management and recycling procedures</p>	<p>Not clearly stated but added to a certain extent on the specifications in tenders</p>
<p>Generation technology requirements for minigrids</p>				
<p>Quality standards for solar minigrid components</p>				
<p>Standard waste management and recycling procedures</p>				

Policy / planning document	Relevance
<p>Specific grid codes for technical operation of minigrids</p> <p>Interconnection standards</p> <p>Quality of service standards</p>	
<p>Cross-cutting policy and regulation</p> <p>Fiscal policy for minigrid components : <i>Arrêt conjoint N°0029/ME/MF du 13 septembre 2017 portant liste des équipements et matériels énergies renouvelables exonérer des droits et taxes perçus en douane, 2017</i></p>	<p>List of RE MG components (not exhaustive) that are exempted from any custom taxes and duties. Each year the list is updated. As quality standards are not clearly set, some components of lower qualities are imported and compete with prices that can go up to 7 times less than others.</p>
<p><b>Public-Private Partnerships Law or Framework: PPP Contracts Law, 2018</b></p>	<p>Minigrids with public financing go through a PPP contract and the dedicated unit to support and monitor the PPP. It is also stipulated that the sectoral law (Electricity Code) for the energy industry prevails over the PPP Contracts Law. The original financial eligibility threshold of 5bn Francs has been taken out after a revision of the law. While a maximum contribution of the State of 5% to any PPP is set, for MGs, a partnership with a subsidy of 50-80% has been designed whereby the Ministry of Energy signs the convention and transfers the subsidy then to ANPER.</p>
<p>National Gender Policy - <i>Politique Nationale de Genre, 2017</i></p> <p><i>Plan d'Actions National pour l'intégration du genre dans l'accès à l'énergie, 2020.</i></p>	<p>In its analysis chapter, the document acknowledges the crucial role of access to energy and its negative impact on income generating activities, additional burden for domestic activities and health of women. It is critical to have a gender-based approach towards access to modern energy. There are no sex disaggregated data around energy and electricity in Niger.</p>



Policy / planning document		Relevance
	National Climate Change Policy - <i>Politique Nationale en mati?re de Changements Climatiques</i> , 2012	The policy relies on 6 key pillars all relevant to AMP Niger. (i) improvement of knowledge, promotion of R&D, production and dissemination of information on climate change; (ii) strengthening and developing the adaptive capacities of populations (iii) strengthening and developing actions to mitigate GHG emissions and promote  (iv) the integration of climate change issues into national, regional and local planning tools; (v) capacity building of actors on climate change and (vi) the strategy for mobilizing financing for the implementation of the policy.

## 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.**

Knowledge management plays a significant role of the AMP national child project and the regional programme (among AMP countries). Component 4 is especially dedicated to knowledge development and sharing ? reflected in the name of the component ?Digitalization and Knowledge Management?. Knowledge shall be shared at different levels:

- ? Locally among the project stakeholders in Niger as well as the population at large (nation-wide awareness raising campaign)
- ? AMP level between AMP countries Community of Practices as well as the regional knowledge sharing platform
- ? Regionally and internationally through energy, renewable energy and minigrids communities, networks and platforms.

A variety of knowledge products will be developed throughout the project life and further:

- ? A minigrids digital platform to share knowledge and data around minigrids projects (incl. pilot sites of AMP from tendering to results), training and capacity-building at national level, with the support of World Bank?s HASK? project, ANPER and other partners
- ? A Community of Practice sharing best practices, lessons learnt, trainings, etc. on rural energy access and minigrids with other Communities of Practice of other AMP countries and the larger energy and minigrids community, including the ECOWAS region and ECREEE. This shall be done mainly online through webinars or digital platforms
- ? Design of an ?Insight Brief? to showcase the AMP project or a specific activity via a video or pictures to be covered by the regional project and shared within Niger as well as at regional and international level

? Awareness raising efforts at community level as well as nationwide on renewable energy, minigrids, pilots projects, SDG7, GHG emission reduction, etc.

? 2 independent evaluations at mid-term and at the end of the project which constitute important data and analysis for the scaling up of the minigrids market in Niger

The knowledge and experience gained in the project will be carefully documented, including by the Project Management Unit and relevant consultants and contractors.

This will include a regular and systematic data collection at the project pilot sites which will be systematically filed and archived by PMU with easy retrieval system, smart meters and other monitoring efforts (through a Quality Assurance and Monitoring Framework).

The project will also seek two-ways knowledge sharing with other projects at national and regional level. This includes other UNDP projects e.g. multi-functional platforms for women in rural areas or the SIDA financed project in the Liptako-Gourma area with UNOPS, as well as for instance through the training on renewable energy and project management provided by the Ministry in charge of vocational training with the support of Plan International and the Schneider Foundation.

Evaluation reports of past and ongoing project (when available) along with close collaboration should support a steep learning curve and avoid ?reinventing the wheel?. The National Dialogue Platform should encompass representatives from other projects to discuss, share and leverage best practices and lessons learnt.

The learning process throughout the collection of data, analysis, assessment and reporting will also benefit the GoN in view of its desire to support access to available, reliable, affordable and greener energy and hence contributing to sustainable development in rural areas especially. The experiences of working with communities and the private sector to reduce GHG emissions, promote gainful employment as well as demonstrating the proof of concept of renewable minigrids will provide opportunities for the government and other key stakeholders to adopt them for upscaling.

The Project will also emphasize strong communications with a broader range of stakeholders. Key elements of the project?s communication strategy are outlined in the table below:

Key element	Relevant group	Means	Timeframe
<b>1. Project governance meetings; PSC meetings</b>	All stakeholders that are members of the PSC or its	Meetings	Periodically, depending on PSC and Advisory

<b>and its Working Group meetings</b>	Working Groups are invited to attend		Committee frequency of meetings
<b>2. Seminars/workshops and training events, including the Inception workshop, and final project workshop</b>	National and sub-national government officials Private sector; NGOs and CSOs	Workshop, meeting, seminar, training On-the-job training Budget:	Typically, workshops will be held to start up an activity and/or at the end to present results. The timeline of each activity is given in Annex 4 of the Prodoc
<b>3. Project documents, thematic reports and publications; Technical and other reports</b>	Government departments and decision-makers at the national and subnational level Development partners Research institutes and academia; individual experts; NGOs	Direct dissemination (e.g., email or hard copy/ USB-drive) Access via website to reports and documents and database and info systems	Technical reports will typically be published at the end of an assignment (see Annex 4 of the Prodoc )
<b>4. Project knowledge capturing and info dissemination and two-way KM and info exchange with regional AMP project</b>	Government officials Financial and private sector Development partners NGOs and CSOs	Online access; Printed materials Media	Thematic reports and knowledge products are published at the end of one or more outputs to provide a summary of findings, results, and lessons learnt

The knowledge management approach is rolled out throughout the project duration and should be pursued post-project thanks to various tools: replication plan, data strategy and collaboration with the AMP regional platform and other projects. The tracking of key indicators at pilot site levels through digital monitoring systems at minigrid level should be pursued through the lifetime of the minigrid for increased and sustainable performance and viability. The related budget is mainly covered under Component 4 for a GEF financed amount of USD 263,960.

## **9. Monitoring and Evaluation**

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

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the [UNDP POPP \(including guidance on GEF project revisions\) and UNDP Evaluation Policy](#) **The UNDP Country Office is responsible for ensuring full compliance with all UNDP project M&E requirements including project monitoring, UNDP quality assurance requirements, quarterly 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 M&E plan and budget included below 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 ? including during the Project Inception Workshop - and will be detailed in the Inception Report.

### **Minimum project monitoring and reporting requirements as required by the GEF:**

1. **Inception Workshop and Report:** A project inception workshop will be held within 2 months from the First disbursement date, with the aim to:

1. 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.
2. Discuss the roles and responsibilities of the project team, including reporting lines, stakeholder engagement strategies and conflict resolution mechanisms.
3. Review the results framework and monitoring plan.
4. 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 OFP and other stakeholders in project-level M&E.
5. Update and review responsibilities for monitoring project strategies, including the risk log; SESP report, Social and Environmental Management Framework (where relevant) and other safeguard requirements; project grievance mechanisms; gender strategy; knowledge management strategy, and other relevant management strategies.
6. Review financial reporting procedures and budget monitoring and other mandatory requirements and agree on the arrangements for the annual audit.

7. Plan and schedule Project Board meetings and finalize the first-year annual work plan. Finalize the TOR of the Project Board.
8. Formally launch the Project.

2. 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. UNDP will undertake quality assurance of the PIR before submission to the GEF. The PIR submitted to the GEF will be shared with the Project Board. UNDP will conduct a quality review of the PIR, and this quality review and feedback will be used to inform the preparation of the subsequent annual PIR.

3. GEF Core Indicators: The GEF Core indicators included as Annex F below will be used to monitor global environmental benefits and will be updated for reporting to the GEF prior to MTR and TE. Note that the project team is responsible for updating the indicator status. The updated monitoring data should be shared with MTR/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](#).

4. Independent Mid-term Review (MTR): The terms of reference, the review process and the final MTR report will follow the standard UNDP templates and UNDP guidance for GEF-financed projects available on the [UNDP Evaluation Resource Center \(ERC\)](#). The evaluation will be "independent, impartial and rigorous". The evaluators that UNDP will hire 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 under review. The GEF Operational Focal Point and other stakeholders will be actively involved and consulted during the evaluation process. Additional quality assurance support is available from the BPPS/NCE-VF Directorate. The final MTR report and MTR TOR will be publicly available in English and will be posted on the UNDP ERC by December 2023. A management response to MTR recommendations will be posted in the ERC within six weeks of the MTR report's completion.

5. 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](#). TE should be completed 3 months before the estimated operational closure date, set from the signature of the ProDoc and according to the duration of the project. Provisions should be taken to complete the TE in due time to avoid delay in project closure. Therefore, TE must start no later than 6 months to the expected date of completion of the TE (or 9 months prior to the estimated operational closure date). The evaluation will be "independent, impartial and rigorous". The evaluators that UNDP will hire 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/NCE-VF Directorate. The final TE report and TE TOR will be publicly available in English and posted on the UNDP ERC by September 2026. A management response to the TE recommendations will be posted to the ERC within six weeks of the TE report's completion.

6. 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 lessons learned and opportunities for scaling up.

Table 7 - Monitoring and Evaluation Budget for project execution

GEF M&E requirements to be undertaken by Project Management Unit (PMU)	Indicative costs (US\$)	Time frame
<b>Inception Workshop and Report</b>	3,000 (including PMU work to organize and held the workshop_ <b>Covered by GEF Funds</b> )	Inception Workshop within 2 months of the First Disbursement
<b>M&amp;E required to report on progress made in reaching GEF core indicators and project results included in the project results framework</b>	None (part of the PMUs work)	Annually and at mid-point and closure.
<b>Preparation of the annual GEF Project Implementation Report (PIR)</b>	4,000 (part of the PMUs work_ <b>Covered by GEF Funds</b> )	Annually typically between June-August
<b>Monitoring of environmental and social risks, gender action plan, and corresponding management plans as relevant</b>	n.a. as under Output 4.3. QAMF	On-going.
<b>Supervision missions</b>	20,000 <b>(covered by UNDP)</b>	Annually
<b>Learning missions</b>	None (part of AMP regional budget)	As needed
<b>Independent Mid-term Review (MTR):</b>	30,000 (covered by UNDP)	December 2024
<b>Independent Terminal Evaluation (TE):</b>	50,000 (covered by UNDP)	September 2026
<b>Project Closure workshop including TE presentation</b>	5,256 <b>(covered by UNDP)</b>	
<b>TOTAL indicative COST</b>	112,256 (out of which \$7,000 covered by GEF funding)	Equivalent to TBWP component (M&E)

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

## 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)?**

Socioeconomic benefits of the project are considerable as it encompasses a large part of the population by focusing on households, private sector business and cooperatives as well as public services including schools and health centers/hospitals in rural areas.

The successful implementation of the project will:

- ? Ensure access to an available, reliable, affordable and greener energy in the future pilot sites and further
- ? Potentially improve the stability of the grid as less pressure will be exerted on it through the implementation of minigrids in the medium and long run
- ? Secure existing incomes and provide additional incomes to MSMEs and cooperatives
- ? Empower women and youth by building their capacity and promoting entrepreneurial activities including as rural electrician, money collector, etc. directly related to the minigrid and adding income generating opportunities through access to energy such as food conservation, processing and selling; handicraft, services and trade; etc.
- ? Increase greater awareness on climate change and environment protection, minigrids, gender mainstreaming
- ? Grant access to better public services especially schools and health centers/hospitals
- ? Facilitate access to telecom and Internet services
- ? Improve livelihoods of vulnerable populations e.g., women, youth, people with disabilities

The socioeconomic benefits of the project are not only measurable at the local and national levels but also at the regional and global level. At regional level, through the regional AMP umbrella socio-economic benefits, lessons learnt, and best practices will be shared upon national projects. In addition, knowledge and experience sharing will be taking place within the ECOWAS region, between LDCs and various partners (IRENA, RMI, etc.). Finally at global level, environmental benefits generated by this project will support the efforts in reducing GHG emissions and thus improving livelihoods.

## **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
-----	-----------------------------	-----	----

<b>High or Substantial</b>
----------------------------

**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
<b>Annex 9_ESMF for 3 UNDP AMP National Projects-clean</b>	<b>CEO Endorsement ESS</b>	
<b>Annex 5_Niger_SESP-22 07 2022-hm lb</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></p> <ul style="list-style-type: none"> <li>? SDG7: Ensure access to affordable, reliable, sustainable and modern energy for all</li> <li>o SDG 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services</li> <li>o SDG 7.2 By 2030, increase substantially the share of renewable energy in the global power mix</li> <li>? SDG13: Take urgent action to combat climate change and its impacts;</li> <li>? SDG5: Achieve gender equality and empower all women and girls</li> </ul>				
<p><b>This project will contribute to the following country outcome (UNDAF[1]/CPD[2], RPD[3]):</b></p> <p><i>UNDAF Outcome: By end of 2022, the target rural populations will have access to innovative supply chains that generate decent jobs, participate in crisis and disaster management mechanisms related to food and nutrition insecurity and sustainable management of natural and energy resources adapted to climate change</i></p> <p><i>By 2022, targeted rural populations have access to innovative value chains for decent job creation, participate in preventive mechanisms for the management of food and nutrition insecurity crises and disasters and the sustainable management of natural resources and energy adapted to climate change.</i></p> <p>? <i>Output 1.2.: Vulnerable communities in targeted rural areas, particularly women and youth, are empowered to sustainably manage natural resources by improving access to renewable energy and alternative technologies</i></p> <p><i>Vulnerable communities in targeted rural areas, particularly women and youth, have required capacities to sustainably manage natural resources with increased access to renewable energy and alternative technologies.</i></p>				
	<p><b>Objective and Outcome Indicators (no more than a total of 20 indicators)</b></p>	<p><b>Baseline</b></p>	<p><b>Mid-term Target</b></p>	<p><b>End of Project Target</b></p>
<p><b>Project Objective:</b></p>	<p>Supporting access to clean energy by increasing the financial viability, and promoting scaled-up commercial investment, in renewable energy minigrids in Niger with a focus on cost-reduction levers and innovative business models.</p>			
	<p><u>Mandatory GEF Core Indicators</u></p> <p><b>Indicator 1: Greenhouse gas emissions mitigated</b></p> <p>Units of measure: metric tons of carbon dioxide equivalent (tCO2e)</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>Direct: 17,015 tCO2e Indirect: 2,052,000 tCO2e</p>

	<p><b>Indicator 2: Number of direct beneficiaries benefitting from energy access via minigrids, disaggregated by gender and by customer segment (residential, social, commercial/productive use) as co-benefit of GEF investment</b></p> <p>Units of measure: number of people</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>13,534 people (of which 50% women) ----- 13,250 people (residential) 44 people (social) 240 people (commercial/PUE) ----- 2,650 connections (residential) 11 connections (social) 80 connections (commercial/PUE) <u>2,741 connections (total)</u></p>
	<p><b>Indicator 3: Increase in installed solar PV capacity and battery storage</b></p> <p>Units of measure: MW(solar PV) and MWh (battery storage)</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>Solar PV: 0.334 MW Battery storage: 0.814 MWh</p>
	<p><b>Indicator 4</b> Local residents trained in different aspects of minigrid development and operation (e.g. sales, distribution, operations, management) disaggregated by gender. Units of measure: Absolute number of people employed</p>	<p>Zero, since the project has not yet started</p>	<p>Female: 80 [people] Male: 60 [people] Total: 140 [people]</p>	<p>Female: 140 [people] Male: 100 [people] Total: 240 [people]</p>
<p><b>Project Component 1</b></p>	<p><b>Policy and Regulation</b></p>			

<p>Outcome 1</p> <p><b>Stakeholder ownership in a national minigrid delivery model is advanced, and appropriate policies and regulations are adopted to facilitate investment in low-carbon minigrids</b></p>	<p><i>Indicator 5:</i> A minigrid delivery model to enable minigrid development is endorsed/adopted by the national government through a consultative process involving key stakeholders (e.g., relevant ministries, local authorities, rural populations, private sector, media, etc.)</p> <p>Units of measure: binary (1/0)</p>	<p>Zero, since the project has not yet started</p>	<p>Multi-stakeholder, national dialogue platform on minigrid delivery models established and active.</p>	<p>At least one minigrid delivery model is identified and endorsed by the government through the work of the multi-stakeholder platform and dialogue.</p>
	<p><i>Indicator 6:</i> Number of policy derisking instruments for minigrid investments - whose development has been supported by the project - are endorsed/adopted by the national government</p> <p>Units of measure: Absolute number of policy derisking instruments</p>	<p>DREI analysis finalized in summer 2022 hence no derisking instruments implemented yet</p>	<p>3 policy derisking instrument ----- Promotion of productive use of energy National industry association created and operational Technical assistance provided to financial institutions</p>	<p>6 policy derisking instrument(s) ----- Public programmes developed for competitive, skilled labour market in minigrids Standards developed for equipment Access to finance for end-users (ancillary products etc.) Promotion of productive use of energy National industry association created and operational Technical assistance provided to financial institutions</p>

<p>Outputs to achieve Outcome 1</p>	<p>Output 1.1: An inclusive national dialogue to identify minigrid delivery models is facilitated, clarifying priority interventions for an integrated approach to off-grid electrification</p> <p>Output 1.2: A minigrid regulatory framework, including tariff model, tax regime, and grid expansion risk, is developed in close coordination with the authorities concerned and other development partners</p> <p>Output 1.3: Analysis of existing (pre)-feasibility studies conducted for selected minigrid sites to enhance sector planning and decision-making on a delivery model for minigrid development</p> <p>Output 1.4: Targeted policy and financial derisking instruments of the Minigrid DREI techno-economic analyses implemented and contributing to AMP Flagship Report on Cost Reduction</p> <p>Output 1.5: Capacity building provided to public officials (regulator, ministries) to support cost-reduction levers and innovative business models</p> <p>Output 1.6: Domestication of quality standards and norms for solar minigrid components, and institutional capacity of ANERSOL strengthened</p> <p>Output 1.7: Public programmes (apprenticeships, certificates, university programs) to develop competitive, skilled labour market in minigrids facilitated</p>			
<p>Project Component 2</p>	<p>Business Model Innovation with Private Sector</p>			
<p>Outcome 2</p> <p>Innovative business models based on cost reduction are operationalized, with strengthened private sector participation in renewable energy minigrid development</p>	<p><i>Indicator 7:</i> Minigrid pilots implemented that demonstrate a delivery model, cost-reduction measure(s) and/or productive use of electricity</p> <p>Units of measure: binary (1/0)</p>	<p>Some pilot projects have been implemented under ANPER's supervision/collaboration with other partners. However, not yet by the projects (0)</p>	<p>The project's detailed design plan (the 'Minigrid Pilot Plan') for advancing the minigrid pilots is developed and cleared by UNDP and the Project Board. (1)</p> <p>Any project tendering process, as applicable, for minigrid pilots is launched. (1)</p>	<p>100% of the planned minigrid pilots, as identified in the project's Minigrid Pilot Plan, are commissioned. (1)</p>

	<p>Indicator 8: Capacity of minigrid developers and/or operators and communities is enhanced</p> <p>Units of measure: binary (1/0)</p> <p>Units of measure: binary (1/0)</p>	<p>Some capacity building efforts have been undertaken with some local minigrid developers and operators but some capacities need to be reinforced and additional ones are lacking (e.g. operations, maintenance)</p>	<p>Planned capacity building activities for year 1 and 2 are implemented. (1)</p> <p>The capacity of targeted recipients is assessed by survey towards the end of year 2. On a scale of 1 to 5, an average score of at least 2 is achieved.</p> <ul style="list-style-type: none"> <li>- 1 represents a low level of capacity</li> <li>- 5 represents a strong capacity to understand relevant issues and apply knowledge and skills to find effective solutions. (1)</li> </ul>	<p>Planned capacity building activities for year 3 and 4 are implemented. (1)</p> <p>The capacity of targeted recipients is assessed by survey towards the end of the project. On a scale of 1 to 5, an average score of at least 4 is achieved.</p> <ul style="list-style-type: none"> <li>- 1 represents a low level of capacity</li> <li>- 5 represents a strong capacity to understand relevant issues and apply knowledge and skills to find effective solutions. (1)</li> </ul>
<p>Outputs to achieve Outcome 2</p>	<p>Output 2.1 Pilots developed, including on productive use/innovative appliances and modular hardware/system design, leading to cost-reduction in minigrids</p> <p>Output 2.2 National report on opportunities to boost economic activities through electricity access and productive use</p> <p>Output 2.3 Capacities of private minigrid developers and communities are strengthened</p> <p>Output 2.4 Support provided to establish and grow a national industry association for private sector developers</p>			
<p>Project Component 3</p>	<p>Scaled-up Financing</p>			

<p>Outcome 3</p> <p>Financial sector actors are ready to invest in a pipeline of low-carbon minigrids and concessional financial mechanisms are in place to incentivize scaled-up investment.</p>	<p><i>Indicator 9:</i> Capacity of financial institutions is enhanced through training, knowledge sharing, and/or awareness raising events aimed at increasing the financial sector's capacity to evaluate investments in minigrids.</p> <p>Units of measure: binary (1/0)</p>	<p>Local financial institutions barely benefited so far from capacity building to better understand and invest in CEMGs</p>	<p>Planned capacity building activities for year 1 and 2 are implemented. (1)</p> <p>The capacity of targeted recipients is assessed by survey towards the end of year 2. On a scale of 1 to 5, an average score of at least 2 is achieved.</p> <ul style="list-style-type: none"> <li>- 1 represents a low level of capacity</li> <li>- 5 represents a strong capacity to understand relevant issues and apply knowledge and skills to find effective solutions. (1)</li> </ul>	<p>Planned capacity building activities for year 3 and 4 are implemented. (1)</p> <p>The capacity of targeted recipients is assessed by survey towards the end of the project. On a scale of 1 to 5, an average score of at least 4 is achieved.</p> <ul style="list-style-type: none"> <li>- 1 represents a low level of capacity</li> <li>- 5 represents a strong capacity to understand relevant issues and apply knowledge and skills to find effective solutions. (1)</li> </ul>
	<p><i>Indicator 10:</i> Number of government- or impact investor-supported financing mechanisms offering concessional finance for low-carbon minigrids</p> <p>Units of measure: binary (1/0)</p>	<p>Zero, since the project has not yet started</p>	<p>At least one complementary funding instrument is designed and operational. (1)</p>	<p>At least one complementary funding instrument is designed and operational. (1)</p>
<p>Outputs to achieve Outcome 3</p>	<p>Output 3.1 Support financing mechanisms to scale-up RE minigrids investment</p> <p>Output 3.2. Domestic financial sector capacity-building on business and financing models for minigrids</p> <p>Output 3.3.: Replication plan (including investment plan) for scaling up rural energy access developed</p>			
<p>Project Component 4</p>	<p>Digital &amp; Knowledge Management</p>			

<p>Outcome 4</p> <p>Digitalization and data are mainstreamed, across stakeholders, into local minigrid market development. Increased knowledge, awareness and network opportunities in the minigrid market and among stakeholders, including benefiting from linkages to international good practice</p>	<p><i>Indicator 11:</i> A project digital strategy is prepared and implemented by the PMU to contribute to project implementation and local minigrid market development. <i>Units of measure:</i> binary (1/0)</p>	<p>Not applicable, since the project has not yet started</p>	<p>The project digital strategy is developed and being implemented. (1)</p>	<p>The project digital strategy is implemented. (1)</p> <p>Recommendations for rolling out digital solutions for minigrids at national level have been shared with key national stakeholders. (1)</p>
	<p><i>Indicator 12:</i> Number of minigrid pilots sharing data on minigrid performance with the regional project and other stakeholders following best practices and received from the AMP Regional Project. <i>Units of measure:</i> binary (1/0)</p>	<p>Zero, since the project has not yet started</p>	<p>The project's Minigrids Digital and Data Management Platform? is procured and operational, ready for data collection from the project's minigrid pilot(s), and for data sharing with the AMP regional project's digital platform. (1)</p>	<p>100% of the planned minigrid pilots, as identified in the project's Minigrid Pilot Plan, are collecting and sharing data with the project's digital platform (1)</p>
<p>Outputs to achieve Outcome 4</p>	<p>Output 4.1 A project digital strategy is developed and implemented, including linkages to and following guidance from the AMP Regional Project</p> <p>Output 4.2 A Minigrids Digital and Data Management Platform? is implemented to run tenders and manage data from pilots, and to support minigrids scale-up and cost-reduction</p> <p>Output 4.3: A Quality Assurance and Monitoring Framework for measuring, reporting and verification of the sustainable development impacts of all minigrids pilots supported, including GHG emission reductions, is adopted and operationalized based on standardized guidance from the regional project</p> <p>Output 4.4: Engage with regional project, including, but not limited to, via (i) participating in Communities of Practice and (ii) capturing and sharing lessons learned</p> <p>Output 4.5. Awareness raising campaigns, including lessons learned, are developed and disseminated at all levels nationally (including intervention zones) and with the regional project</p>			
<p>Project Component 5</p>	<p><i>Monitoring and Evaluation</i></p>			
<p>Outputs under Component 5</p>	<p>Output 5.1: M&amp;E and Reporting, including (i) Conducting inception workshop and preparing report, (ii) Ongoing M&amp;E, (iii) Mid Term Evaluation and (iv) Terminal Evaluation</p>			

[1] United Nations Development Assistance Frameworks (UNDAF)

[2] Country Programme Document (CPD)

[3] Regional Programme Document (RPD)

**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).**

Council Member Comment	Response
France	
<p>This program targets the same topic and the same geographical areas as some AFD projects in Burkina Faso, Madagascar, Mali, and Niger.</p> <p>? Coordination with AFD would be necessary in the countries where AFD has projects on this theme (with links to the EU and other donors): Mali, Niger, Burkina Faso (Madagascar: project under preparation).</p> <p>There are some interesting points on data collection and on the capitalization of lessons learnt and practical experience</p>	<p>A key objective of AMP is to align and complement with the support of existing development actors in minigrids. AFD's activities in minigrids are well-noted, and AMP national projects will benefit from lessons learnt in countries where AFD has provided support.</p> <p>Specifically in Niger, according to a consultation with AFD Niger's deputy country director Mrs Emilie Garet during the PPG mission, AFD decided to work on the national grid expansion in communes and villages and 20MW solar power plant generation and not to invest specifically on decentralized systems.</p> <p>The AMP will continue consultation with development partners by having a formal coordination focus on minigrids that will integrate AFD. This activity is under Component 1 as the set-up of a national dialogue platform.</p>



The proposal covers countries in very different contexts, without an analysis of the specific situation and needs of each country. It is therefore a very wide range of subjects that are proposed to be tackled:

? Technical assistance on regulations, tariffs, risk analysis, geospatial planning, techno-eco modeling, prefeasibility, formulation of rural electricity strategies, issues with subsidies of fossil fuel, derisking instruments, institutional reform, capacity building, quality standards, customs procedures, waste management, digitalization, professional training, design support, market intelligence, etc.

? Investments: Development of pilots (especially on productive uses)

Even if these different points are indeed subjects which require technical assistance and grant financing, the formulation of the project raises some questions: there does not seem to be any will. It would be relevant to analyze the successes and gaps of certain countries, for example the successes of Kenya on its regulations, in order to replicate the approach. It would also be necessary to identify relevant public actors in each country (utility vs rural electricity agency) as the approaches to recommend will be very different depending on the case.

The AMP's PFD includes a menu representing a wide-range of possible outputs that AMP national projects may select from. The early-stage concepts included in the PFD Addendum in turn reflected an initial selection of these outputs.

Now at the CEO ER stage, the outputs selected are adapted to Niger's context and reflect further detailed consultations and stakeholder engagement, and are expressly tailored to national objectives, country context and a baseline analysis of the specific barriers and risks for Niger.

Political will of developing minigrids is expressed through the adoption of a national electricity access strategy and action plan, of which mini-grids are considered as a priority. In terms of minigrids and investments, hundreds of feasibility studies have been financed from various development partners for the past years for minigrids sites but only 14 are currently being built. Therefore, there is a will to develop minigrids by the government but there is a lack of a strong delivery model for Niger that the project could improve.

In this context, AMP Niger decided to adopt an adaptative management approach to have a rapid assessment at the start of the project as things are progressing fast. This approach have been validated by the relevant stakeholders during consultations and the validation workshop. This includes initial activities to assess the current situation at project launch and who does what to ensure the additionality and avoid duplication of efforts; as well as benchmarking efforts and knowledge sharing within AMP countries and beyond.

The funding is focused on a few countries: Benin with MCC and SE4All (total \$ 58M), Zambia (GCF and EU, \$ 53M), Mali (UNDP, SIDA: \$ 2.6M). Elsewhere, funding seems too small to induce the structural changes envisaged.

? It seems difficult to imagine that such a program will be effective outside of the 3 countries with the most funding..

Specifically for the case of Niger, there is in fact a wide range of donors World Bank, SIDA, BOAD, IsDB, Abu Dhabi Development Fund, Saudi Development Fund, Exim Bank of India etc. These are captured indirectly in the ANPER co-financing. Please refer to the co-financing letters and table The amount of all the development partners working in the off-grid space in Niger is approximately USD 136 million. Therefore there is significant amount of development partners in the space to have an effective change.

<p>Finally, the added value of UNDP on access to energy in rural areas, through mini-grids, should have been made more explicit in the selection of implementing agency</p>	<p>Each agency's selection as implementation agency is decided by the GEF OFP's. UNDP has a considerable historical track-record in supporting off-grid electrification, and through the AMP is currently GEF implementation agency to 19 countries on solar-battery mini-grids.</p>
<p><b>Germany</b></p>	
<p>Germany approves the following PIF in the work program but asks that the following comments are taken into account:</p> <p> </p> <p>Suggestions for improvements to be made during the drafting of the final project proposal:</p> <p>? In order to avoid duplication of efforts and leverage synergies, Germany strongly recommends (to continue) coordinating with the following local country offices of GIZ during project preparation as well as implementation: Benin, Mali and Zambia.</p>	<p>A key objective of AMP is to align and complement with the support of existing development actors in minigrids.</p> <p> </p> <p>Specifically in Niger, during the PPG, there was consultation with the GIZ Representation in Niger, who was invited to attend the Prodoc validation workshop. GIZ have also indicated the possibility to collaborate on the Energising Development ?EnDev? initiative around access to energy (minigrid and clean cooking). Following two additional missions in late 2022, GIZ have now confirmed the design of EnDev acknowledges the AMP Niger project and EnDev is interested to participate in AMP Niger's national dialogue platform (activity under component 1) with all development partners.</p>

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

<i>Project Preparation Activities Implemented</i>	<i>GEF/LDCF/SCCF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
<p>Preparatory Technical Studies &amp; Reviews. Formulation of the UNDP-GEF Project Document, CEO Endorsement Request, and Mandatory, Project Specific Annexes, <i>The project document package was prepared by a team of national and international consultants.</i></p>	<p>38,000</p>	<p>15,801</p>	<p>22,199</p>
<p>Validation Workshop and Report Delivery of final outputs</p>	<p>7,000</p>	<p>0</p>	<p>7,000</p>
<p>HACT assessment of the Implementing partner</p>	<p>5,000</p>	<p>0</p>	<p>5,000</p>



<b>Equipm ent</b>	2.4. Furnitures and other goods for the association's office		7,394				7,394		7,394	Nig?rien ne Agency for the Promotio n of Rural Electrific ation / Agence National e Pour l??lectrif ication Rurale (ANPER )
<b>Equipm ent</b>	1.6. Various training equipment incl. solar PV panels etc.	6,000					6,000		6,000	Nig?rien ne Agency for the Promotio n of Rural Electrific ation / Agence National e Pour l??lectrif ication Rurale (ANPER )
<b>Equipm ent</b>	2.1. CAPEX subsidies for the 4 CEMG pilot sites2.3. Various training equipment incl. solar PV panels etc.		568,275				568,275		568,275	Nig?rien ne Agency for the Promotio n of Rural Electrific ation / Agence National e Pour l??lectrif ication Rurale (ANPER )

<b>Equipm ent</b>	2.3. IT hardware and software useful for trainings2.4. laptop, printers, software for a functioning association office		7,800				7,800	7,800	Nig?rien ne Agency for the Promotio n of Rural Electrific ation / Agence National e Pour l??lectrif ication Rurale (ANPER )
<b>Equipm ent</b>	4.2. Server, domain name and other costs for rural electrification platform				5,500		5,500	5,500	Nig?rien ne Agency for the Promotio n of Rural Electrific ation / Agence National e Pour l??lectrif ication Rurale (ANPER )
<b>Sub- contrac t to executi ng partner</b>	2.1. 50% of Project Assistant/Coordin ator of the PMU covering pilot project related topics from A to Z		37,188				37,188	37,188	Nig?rien ne Agency for the Promotio n of Rural Electrific ation / Agence National e Pour l??lectrif ication Rurale (ANPER )

<b>Contractual services - Company</b>	1.1. 4 trainings 1.3. Analysis to cluster existing (pre-) feasibility studies and recommendations 1.7. Local company to conduct study on existing training offer and relevant gaps, as well as recommendations to overcome them	56,000				56,000		56,000	Nigerien ne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)
<b>Contractual services - Company</b>	2.2. Analysis on key national rural economic outputs and their value chains, and social activities incl. field visits on key value chains and stakeholder consultations 1 mission to Niger for the study, field visits inside the country 2.3. Provision for additional capacity building needed for communities/local private sector developers & operators 2.4. Development of the Private Sector RE association and relevant communications strategy and roll-out	50,200				50,200		50,200	Nigerien ne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)

<b>Contractual services - Company</b>	3.1. Conduct a benchmarking of existing financial products supporting access and use of energy in Niger and abroad, and other industries, Identify innovative financing schemes that are relevant and applicable to support the development of the minigrid market in Niger. Selection of 1-2 financing mechanisms and technical assistance around these			76,700		76,700	76,700	76,700	Nigerienne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)
---------------------------------------	--	--	--	--------	--	--------	--------	--------	---

<p><b>Contractual services - Company</b></p>	<p>4.1. Digital strategy  4.2. National monitoring and evaluation platform (remote monitoring &amp; analytics)  300/site/year data collection, storage, and management fee (can vary by number of connections at site); additional training and support of IP &amp; co (3k) and Rural electrification platform development (year 1) and maintenance fee for Years 2-4  4.3. Setting up the Quality Assurance and Monitoring Framework for the project complying and in coordination with the AMP regional requirement.  Training the PMU and other targeted consultants  4.5. Gather data and audio-visual content for the "insight brief" (local company), incl. translation into English  4.6. Awareness raising campaign targeting different segments including general public.  Communication strategy and roll out (including short video production and digital marketing)</p>				<p>99,880</p>	<p>99,880</p>	<p>99,880</p>	<p>Nigerienne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)</p>
--	--	--	--	--	---------------	---------------	---------------	--



<p><b>International Consultants</b></p>	<p>1.1. Senegalese delegation of 2 consultants paid at USD 500/day for 5+2travel days to provide training and advisory for the national dialogue platform 1.2. 25 days for necessary studies based on short assessment under activity 1.2.1. (provision) 1.5. International consultants for knowledge gap analysis, developing comprehensive modular training materials, conducting training and ToT - 40 days 1.6. 30 days to conduct a review (and benchmark) and to develop the relevant standards, 5 days for the preparation &amp; holding of the workshop 1.7. 12 days of Training facilitator/Capacity building specialist to train the trainers of relevant institutions in Niger</p>	<p>71,200</p>				<p>71,200</p>	<p>71,200</p>	<p>Nigerien Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)</p>
---	---	---------------	--	--	--	---------------	---------------	--

<b>International Consultants</b>	2.3. 40 days - Pedagogical engineering, Training and ToT on business models, cost-reduction levers, new technologies depending on the topics, tariff negotiation, understanding of anchor loads, remote monitoring, etc. all services - several modules ; and knowledge transfer		24,000				24,000	24,000	Nigerienne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Électrification Rurale (ANPER)
<b>International Consultants</b>	3.2. 35 days to develop and conduct relevant training on business models and innovative finance solutions for national financial institutions 3.3. 15 days of work - remotely on replication plan		30,000				30,000	30,000	Nigerienne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Électrification Rurale (ANPER)

<p><b>Local Consultants</b></p>	<p>1.1. \$300 per meeting x 20 meetings over 4 years - acting as local coordinator for the National Dialogue Platform  1.2. 35 days for necessary studies based on short assessment under activity 1.2.1. (provision) + 20 days for adapting the PP law to facilitate CEMG investments  1.4. 15 days Selection &amp; implementation of DREI instruments to be covered by AMP  1.5. 60 days national consultants knowledge gap analysis, developing comprehensive modular training materials, conducting training  1.6. 31 days to conduct a review (and benchmark) and to develop the relevant standards, 5 days for the preparation &amp; holding of the workshop</p>	<p>54,000</p>				<p>54,000</p>		<p>54,000</p>	<p>Nigerienne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)</p>
---------------------------------	--	---------------	--	--	--	---------------	--	---------------	--

<p><b>Local Consultants</b></p>	<p>2.3. 100 days - Capacity building for the communities incl. becoming rural electricians (60 days) and for local private sector developers (40 days) with pedagogical engineering, Training and ToT on business models, cost-reduction levers, new technologies depending on the topics, tariff negotiation, understanding of anchor loads, remote monitoring, etc. all services - several modules ; and knowledge transfer 2.4. An assistant (or similar) in charge of the bureau and association, updates the website, organizes meetings etc. / part time for 3 years</p>		40,080				40,080	40,080	<p>Nigerienne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Électrification Rurale (ANPER)</p>
<p><b>Local Consultants</b></p>	<p>3.3. 40 days with field visits incl. pilot sites and some eligible communities for replication plan</p>		12,000			12,000	12,000	12,000	<p>Nigerienne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Électrification Rurale (ANPER)</p>

<p><b>Local Consultants</b></p>	<p>4.3. 2 consultants - 1 SES and 1 Gender - 29 days per year per consultant for 4 years in charge of monitoring and recommending corrective measures where needed</p>				<p>69,600</p>	<p>69,600</p>		<p>69,600</p>	<p>Nigerienne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)</p>
<p><b>Local Consultants</b></p>	<p>PMU - full time for 4 years (Grille harmonis?e de r?mun?ration brute + taxes of 20%): Project Manager, Project Assistant/Coordinator (incl. M&amp;E),- PC is split between PMC and PC2 (50%-50%) - Year 1: \$1560 +20% (PM), \$1215/2 +20% (PC); Year 2: \$1625 +20% (PM); \$1265/2 +20% (PC);; Year 3 \$1700 +20% (PM), \$1315/2 +20% (PC); Year 4 : \$1755 +20% (PM); \$ 1370/2 +20% (PC)</p>					<p>-</p>	<p>132,804</p>	<p>132,804</p>	<p>Nigerienne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)</p>

<b>Trainings, Workshops, Meetings</b>	1.1. Various meetings, trainings and workshops for National Dialogue Platform members including workshop with Senegalese delegation for 2 days and various expenses to organize workshops, dissemination/communication materials, etc.1.2. Stakeholder validation workshop for the regulatory framework and a workshop on customs procedures etc.1.4. DREI Workshop in Year 11.5. 1 training session incl. ToT each year and related training supplies1.6. 2 workshops around standards1.7. 2 ToT	40,000					40,000	40,000	Nigerienne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)
<b>Trainings, Workshops, Meetings</b>	2.2. Half day workshop on the analysis and recommendations to boost economic and social activities through electricity access and productive use2.3. Training and ToT sessions through project duration for communities & local private sector developers & operators2.4. Venue, breaks for meetings & study tour, fees to attend conferences, fairs etc.	19,000				19,000	19,000	19,000	Nigerienne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)

<b>Trainin g, Worksh ops, Meetin gs</b>	3.1. Conduct workshops related to the study on financing mechanisms and technical assistance on 1-2 selected financing mechanisms3.2. Venue and related costs for the 3 training sessions3.3. Replication plan validation workshop			17,000			17,000	17,000	Nig?rien ne Agency for the Promotio n of Rural Electrific ation / Agence National e Pour l??lectrif ication Rurale (ANPER )
<b>Trainin g, Worksh ops, Meetin gs</b>	4.1. Data Strategy validation workshop			2,500		2,500	2,500	2,500	Nig?rien ne Agency for the Promotio n of Rural Electrific ation / Agence National e Pour l??lectrif ication Rurale (ANPER )
<b>Trainin g, Worksh ops, Meetin gs</b>	Inception workshop					3,000	3,000	3,000	Nig?rien ne Agency for the Promotio n of Rural Electrific ation / Agence National e Pour l??lectrif ication Rurale (ANPER )

Travel	<p>1.1. One Exchange visit with Senegal's successful national dialogue platform. 2 people for 5 days (excluding travel time). DSA at USD 187 in Niger in June 2021; USD 1,000 for the travel Dakar-Niamey. No local travel costs for participants located in Niamey but for representatives in relation to pilot sites</p> <p>1.2. 1 10 day-mission for international consultant</p> <p>1.5. 2 missions to Niger - 1 for initial phase and ToT, 1 for ToT on Year 21.</p> <p>1.6. 5 day mission for international consultant</p> <p>1.7. 2 training missions of 4 days each</p>	20,228				20,228		20,228	Nigerienne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)
Travel	<p>2.3. 1 mission to Niger; local travels on pilot sites</p> <p>2.4. Travel costs for study tours, and relevant fairs and conferences for 5 people of the association</p>	21,683				21,683		21,683	Nigerienne Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)



										Niger Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)
<b>Travel</b>	3.2. 3 visits for 3 trainings in Niger 3.3. Field visits over 15 days incl. vehicle with driver and gas			12,144			12,144		12,144	
<b>Travel</b>	4.3. Field visits and stakeholder consultations, incl. DSA - 2 missions on the ground on pilot sites per year - and car with driver for the 2 experts doing the missions together 4.5. Regional AMP workshops, meetings or training events				65,480		65,480		65,480	Niger Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)
<b>Office Supplies</b>	PMU Office supplies						-	720	720	Niger Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)

<b>Other Operating Costs</b>	2.4. Accounting, audit, etc. incl. for funding purposes - 2000 per year		8,000				8,000	8,000	Nigerien ne Agency for the Promotio n of Rural Electrific ation / Agence National e Pour l'??lectrif ication Rurale (ANPER )	
<b>Other Operating Costs</b>	Audit costs						-	12,000	12,000	Nigerien ne Agency for the Promotio n of Rural Electrific ation / Agence National e Pour l'??lectrif ication Rurale (ANPER )
<b>Other Operating Costs</b>	1.5. Printing training materials 1.6. Printing training materials & infographics/leaflets on quality standards for users 1.7. Printing training materials	3,000					3,000	3,000	Nigerien ne Agency for the Promotio n of Rural Electrific ation / Agence National e Pour l'??lectrif ication Rurale (ANPER )	

<b>Other Operating Costs</b>	2.2. Printing of the report executive summary 2.3. Printing training materials		3,000				3,000	3,000	Nigerien Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)	
<b>Other Operating Costs</b>	4.6. For the GoN & political sphere for the 1st year and for the national promotion campaign for the entire project duration (4 years)				21,000		21,000	21,000	Nigerien Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)	
<b>Other Operating Costs</b>	Monitoring & Evaluation related printing costs					4,000	4,000	4,000	Nigerien Agency for the Promotion of Rural Electrification / Agence Nationale Pour l'Electrification Rurale (ANPER)	
		250,428	786,620	147,844	263,960	7,000	1,455,852	145,524	1,601,376	

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit a 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).