Part I: Project Information

Name of Parent Program
GEF-7 Africa Minigrids Program

GEF ID
11043

Project Type
MSP

Type of Trust Fund
GET

CBIT/NGI
CBIT **No**
NGI **No**

Project Title
Nation child project under the GEF Africa Mini-grids Program_ Democratic Republic of the Congo (DRC)

Countries
Congo DR

Agency(ies)
UNDP

Other Executing Partner(s)
Agence Nationale de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)

Executing Partner Type
Government

GEF Focal Area
Climate Change

Sector
Renewable Energy

Taxonomy

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

Rio Markers

Climate Change Mitigation

Principal Objective 2

Climate Change Adaptation

No Contribution 0

Biodiversity

Land Degradation

Submission Date

9/22/2023

Expected Implementation Start

6/1/2024

Expected Completion Date

5/30/2028

Duration

48In Months

Agency Fee($)

36,784.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CCM-1-1	Promote innovation and technology transfer for sustainable energy breakthroughs for de-centralized renewable power with energy storage	GET	408,716.00	61,142,000.00
		Total Project Cost($)	**408,716.00**	**61,142,000.00**

B. Project description summary

Project Objective

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

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
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 renewable energy minigrids.	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 Output 1.2 Minigrid DREI techno-economic analyses carried out to propose most cost-effective basket of policy and financial derisking instruments Output 1.3 Capacity building provided to public officials to design procurement/tender processes that incorporate cost-reduction levers and innovative business models	GET	268,316.00	712,300.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2. Business Model Innovation with Private Sector	Technical Assistance	Innovative business models based on cost reduction operationalized, with strengthened private sector participation in renewable energy mini-grid development	Output 2.1 Feedback loop established between the project and the PDL-145T minigrid pilots	GET	14,500.00	54,045,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 3. Digital, and Knowledge Management	Technical Assistance	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	Output 3.1: A project Digital Strategy is developed and implemented, including linkages to and following guidance from the AMP Regional Project Output 3.2: A ?Minigrids Digital and Data Management Platform? implemented to run tenders and manage data, and to support minigrids scale-up and cost-reduction. Output 3.3: A Quality Assurance and Monitoring Framework for measuring, reporting and verification of the sustainable development impacts of minigrids Output 3.4 Engage with the regional AMP	GET	49,500.00	163,380.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
			project, via (i) Communities of Practice and (ii) capturing and sharing lessons learnt			
Component 4. Monitoring and Evaluation	Technical Assistance	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	Output 4.1 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	40,000.00	32,000.00
				Sub Total ($)	**372,316.00**	**54,952,680.00**
Project Management Cost (PMC)						
				GET	36,400.00	6,189,320.00
				Sub Total($)	**36,400.00**	**6,189,320.00**
				Total Project Cost($)	**408,716.00**	**61,142,000.00**

Please provide justification

NA

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Donor Agency	African Development Bank	Grant	Investment mobilized	592,000.00
Recipient Country Government	PDL-145T rural electrification component implemented by UNDP on behalf of the Congolese government	Grant	Investment mobilized	60,050,000.00
GEF Agency	UNDP (TRAC)	Grant	Investment mobilized	500,000.00
			Total Co-Financing($)	**61,142,000.00**

Describe how any "Investment Mobilized" was identified

The African Development Bank (AfDB) is actively promoting and financing sustainable minigrid projects to provide universal electricity access in Africa, especially in rural areas. It uses various financing mechanisms, including multiple trust funds and results-based incentives, to mitigate risks and ensure commercial viability, and collaborates with organizations like the UNDP Africa Minigrids Program for country-level implementations. A grant of 998,000 was approved under AfDB?s Sustainable Energy Fund for Africa (SEFA) for implementation to start in 2018. UNDP has received confirmation from the AfDB SEFA team that the TA support will be extended into 2024 with a remaining balance of $592,000. For that reason, the co-financing letter refers to US$998,000 but the amount UNDP has included as co-financing is limited to the remaining balance of the SEFA grant as of November 2023. The Local Development Program dedicated to the 145 territories (PDL-145T) is a Congolese government investment program for infrastructure in rural areas adopted at the thirty-fourth meeting of the Council of Ministers held on December 24, 2021. The United Nations Development Program (UNDP) is implementing a part of this program in 9 provinces across 54 rural territories, on the basis of a cost-sharing agreement signed with the Government of the DRC on February 28, 2022. During the project preparation phase, a clear opportunity was identified for the AMP as a specialized minigrid technical assistance initiative to support the implementation of the minigrid component of the PDL-145T, therefore guiding and strengthening the program?s results.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNDP	GET	Congo DR	Climate Change	CC STAR Allocation	408,716	36,784	445,500.00
			Total Grant Resources($)		**408,716.00**	**36,784.00**	**445,500.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount ($)

50,000

PPG Agency Fee ($)

4,500

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNDP	GET	Congo DR	Climate Change	CC STAR Allocation	50,000	4,500	**54,500.00**
			Total Project Costs($)		**50,000.00**	**4,500.00**	**54,500.00**

Please provide justification

N/A

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?e (direct)	0	665103	0	0
Expected metric tons of CO?e (indirect)	0	3550936	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?e (direct)				
Expected metric tons of CO?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?e (direct)		665,103		
Expected metric tons of CO?e (indirect)		3,550,936		
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)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
Solar Photovoltaic		11.97		
Energy Storage		29.19		

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		171,084		
Male		171,084		
Total	0	342168	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

Details on the results and methodology used for estimating project contributions to the applicable GEF-7 Core Indicators are presented and explained in ?Annex 12 ? GHG Emissions Reductions and Project?s target contributions to GEF-7 Core Indicators?and a calculation spreadsheet has been uploaded to the portal. A brief summary is provided below: Indirect GHG emissions reductions (ER) Indirect GHG ER for this project are the result of the broad adoption of the project?s outcomes and do not depend on the scale or scope of the minigrid investments funded by the project?s budget and/or by co-financing. As such, indirect GHG ER are the result of investments in solar PV minigrids that are expected to occur over the 10 years after the project has ended due to enabled investment environments for minigrid development to which the project has contributed. It is estimated that 380 MW of installed solar PV capacity could be installed after the project implementation period ends; this is assuming minigrids will help electrify 18,994,662 people (3,798,932 connections) which is 25% of the total currently unelectrified population. Assuming a 20-year technology lifetime period, these RE minigrids will reduce 887,734 tCO2e annually resulting in 17,754,680 tCO2e of emissions reduced over the technology?s 20-year lifetime. A causality factor of 20% was used to estimate what percentage of these emissions reductions can be attributed to enabling conditions to which the project has contributed. As a result, a total of 3,550,936 tCO2e of emissions reductions can be attributed to the project. Direct GHG ER, increase in RE capacity, and Number of direct beneficiaries In contrast, Direct GHG ER, increase in RE capacity, and Number of direct beneficiaries will result from the minigrid pilots undertaken with co-financing form the PDL-145T (not with project budget). Therefore,

expected results are a function of the available co-financing allocated to minigrid pilots. The minigrid pilots that will be undertaken by the PDL-145T are expected to result in direct GHG ER of 665,103 tCO2e over the technology?s 20-year lifetime, an increase of 11.971 MW in Solar PV installed capacity and of 29.187 MWh in battery storage capacity, and benefit a total of 342,168 direct beneficiaries who will gain access to electricity via 69,133 new minigrid connections (of which 67,250 are estimated to be residential, 269 social, and 1,614 commercial/PUE).

Part II. Project Justification

1a. Project Description

Component 1: Policy and Regulation	
Outputs at Concept Note Stage	Output 1.1: An inclusive national dialogue to identify mini-grid delivery models is facilitated, clarifying priority interventions for an integrated approach to offgrid electrification Output 1.4: Pre-feasibility studies conducted for selected mini-grid sites to enhance sector planning and decision-making on a delivery model for minigrid development Output 1.7: Minigrid DREI techno-economic analyses carried out to propose most costeffective basket of policy and financial derisking instruments and contribute to AMP Flagship Report on Cost Reduction
Budget at Concept Note	GEF $90,000 UNDP TRAC $90,000
Outputs at CEO Endorsement Request Stage	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 Output 1.2 Minigrid DREI techno-economic analyses carried out to propose most cost-effective basket of policy and financial derisking instruments Output 1.3 Capacity building provided to public officials to design procurement/tender processes that incorporate cost-reduction levers and innovative business models
Budget at CEO Endorsement Request Stage	GEF $ 344,216 UNDP TRAC $ 30,000
Change and Justification	Removed: Output 1.4: Pre-feasibility studies conducted for selected mini-grid sites to enhance sector planning and decision-making on a delivery model for minigrid development Output Added: Output 1.3 Capacity building provided to public officials to design procurement/tender processes that incorporate cost-reduction levers and innovative business models During the project preparation phase, an opportunity was identified to deploy the specialized expertise of the AMP on minigrids to strengthen the minigrid component of the PDL-145T. As such, pre-feasibility studies for minigrids were removed as these are already part of the PDL-145T and capacity building was added to strengthen the relevant public sector institutions. The budget changed accordingly.
Component 2: Business Model Innovation with Private Sector Engagement	
Outputs at Concept Note Stage	Output 2.1 Pilots developed, including on productive use/innovative appliances and modular hardware/system design, leading to cost-reduction in mini-grids Output 2.2 National report on opportunities to boost economic activities through electricity access and productive use
Budget at Concept Note	GEF INV $121,560 GEF TA $30,000 UNDP TRAC $250,000

Outputs at CEO Endorsement Request Stage	Output 2.1 Feedback loop established between the project and the PDL-145T minigrid pilots
Budget at CEO Endorsement Request Stage	GEF INV $ - (No GEF budget allocated to this output. This output will be funded by co-finacing contributing to project results in the amount of $43,265,000) GEF TA $15,000 UNDP TRAC $ -
Change and Justification	Removed: Output 2.2 National report on opportunities to boost economic activities through electricity access and productive use Changed: Output 2.1 (now, Feedback loop established between the project and the PDL-145T minigrid pilots) to align with the PDL-145T Minigrid Component and establish the feedback loop necessary to report on the outcome indicators related to minigrid pilots developed with government co-financiing under the PDL-145T project. Those minigrid investments are not part of the project results framework but nevertheless play a key role within the AMP project to demonstrate a particular minigrid delivery model, contribute to developing an enabling environment for further minigrid scale-up and provide data from which the program can extract insights and lesons learned that can be shared and disseminated more widely among AMP participating countries. The budget was revised based on these changes.
(Component 3: Scaled-up Financing)	
Outputs at Concept Note Stage	Output 3.4 Feasibility study support provided to minigrid developers, creating a pipeline of investible assets Output 3.5 Domestic financial sector capacity building on business and financing models for minigrids
Budget at Concept Note	GEF $75,000 UNDP TRAC $55,000
Outputs at CEO Endorsement Request Stage	-
Budget at CEO Endorsement Request Stage	-
Change and Justification	Component Removed including: Output 3.4 Feasibility study support provided to minigrid developers, creating a pipeline of investible assets & Output 3.5 Domestic financial sector capacitybuilding on business and financing models for minigrids The activities under this category were removed to focus on the project?s key activities related to support for the implementation of the PDL-145T. This component on scaled-up financing was no longer prioritized for this project considering the focus is on strengthening institutional capacity to oversee minigrid development and for a specific delivery model, based on government funded minigrids operated and maintained by private sector.

Component 3: Digitalization, Knowledge Management	
Outputs at Concept Note Stage	Output 4.1 A Digital Strategy is developed and implemented, including linkages to and following guidance from the regional project Output 4.2: 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 Output 4.3: Engage with regional project, including, but not limited to, via (i) participating in Communities of Practice and (ii) capturing and sharing lessons learnt. Output 4.4: M&E and Reporting, including (i) Conducting inception workshop and preparing report, (ii) Ongoing M&E, (iii) Mid Term Evaluation and (iv) Terminal Evaluation
Budget at Concept Note	GEF $55,000 (including M&E) UNDP TRAC $55,000
Outputs at CEO Endorsement Request Stage	Output 3.1 A Digital Strategy is developed and implemented, including linkages to and following guidance from the regional project Output 3.2: 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 Output 3.3: Engage with regional project, including, but not limited to, via (i) participating in Communities of Practice and (ii) capturing and sharing lessons learnt.
Budget at CEO Endorsement Request Stage	GEF $49,500 UNDP TRAC $166,000
Change and Justification	Change: Output 4.4: M&E and Reporting, including (i) Conducting inception workshop and preparing report, (ii) Ongoing M&E, (iii) Mid Term Evaluation and (iv) Terminal Evaluation Output 4.4 was moved to a separate M&E component (Component 4) to delineate this activity from others in the category. The other outputs were retained but their numbering was changed to reflect the removal of the component on scaled-up financing.
Component 4: Monitoring and Evaluation	
Change and Justification	A separate component was created to delineate this activity from others under the previous component.
Project Management Costs	
Concept Note Budget	$37,156
Budget at CEO Endorsement Request Stage	GEF $ - UNDP TRAC $238,00 No GEF budget allocated to PMC. PMC will be funded by UNDP cash co-financing in the amount of $238,000.

Change and Justification	UNDP co-financing has been allocated to ensure the appointment of one full-time project manager and one full-time project assistant which will provide sufficient capacity to manage the project?s administrative and reporting requirements and the level of coordination with PDL-145T counterparts that is required for the successful implementation of this project.

1. The global environmental and/or adaptation problems, root causes and barriers that need to be addressed

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

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

2. Baseline scenario and any associated baseline projects

2.1. Country context

The Democratic Republic of Congo (DRC), with a population of 96 million, is the largest country within Sub-Saharan Africa. Situated in the heart of Central Africa, the DRC shares borders with nine nations and spans an area of 2.3 million km2, an expanse equivalent to the size of Western Europe. Comprising 26 provinces and 145 territories, the DRC is endowed with substantial natural resources. These include the richest and most diverse mineral reserves globally, significant hydropower potential, extensive arable land, rich biodiversity, and the world's second-largest rainforest. Since 2006, the nation adheres to a semi-presidential governance structure, with the President functioning as the state leader and the Prime Minister serving as the principal government executive. The executive power in the 26 provinces is held by democratically elected governors and their corresponding provincial ministers.

The DRC remains a nation fraught with political fragility, underscored by its extensive history of instability, political turmoil, and armed conflict. This enduring political instability stems, in large part, from various political factions and groups intent on exploiting the DRC's rich natural resources. Consequently, the majority of the DRC's population has been denied the benefits of their country's natural wealth. Widespread poverty pervades the nation, positioning it amongst the five poorest countries

globally. In 2022, approximately 63% of its inhabitants were reported to be living in poverty, subsisting on less than $2.15 per day[1][1]. As per the 2021-2022 Human Development Index, the DRC occupies the 179th position out of a total of 191 countries and territories[2][2]. DRC?s Social Institutions and Gender Index (SIGI) value of 46.9. place it among countries with high gender inequality reflecting a discriminatory family code, and inequality in physical integrity, access to resources and assets, and citizen rights.

[1] World Bank. 2023. Poverty & Equity Brief ? Democratic Republic of Congo.

[2] UNDP (United Nations Development Programme). 2022. Human Development Report 2021-22: Uncertain Times, Unsettled Lives: Shaping our Future in a Transforming World. New York.

Between 2010 and 2020, the DRC experienced average economic growth of around 4%, surpassing the 2.6% African average, driven by structural reforms and institutional stability amid fluctuating commodity prices[3][3]. However, this growth was limited to certain sectors, mainly extractive and agricultural, resulting in limited socio-economic improvement. The reliance on natural resource exports, including copper, cobalt, and coltan, has its drawbacks, including few employment opportunities and low productivity in the informal sector[4][4].

The country?s infrastructure is in a state of significant disrepair and access to essential services remains very low, even when compared to other countries in Sub-Saharan Africa. This acts as a significant impediment to sustainable, inclusive growth, and the delivery of services. The disparities are especially notable in the sectors of road transport, internet availability, electricity provision, and access to water and sanitation facilities. These substantial infrastructural deficiencies, coupled with ineffective governance, have led to geographical seclusion and socioeconomic discrepancies among provinces, as well as between urban and rural regions. Furthermore, they pose a considerable obstacle to business operations and amplify the expenses associated with any large-scale infrastructure projects[5][5].

DRC has the second largest population without access to electricity in Africa with 76 million people lacking access, the majority of which (51 million) are located in rural areas. Moreover, the electrification rate in rural areas stands at 1%, the lowest in the African continent, while the national electrification rate stands at 21%.[1]

[1] IEA, IRENA, UNSD, World Bank, WHO. 2023. Tracking SDG 7: The Energy Progress Report.

2.2. Programme de d?veloppement local des 145 territoires (PDL-145T)

To address the lack of infrastructure in rural territories, in 2021 the government launched a substantial initiative to curtail spatial disparities and improve the living standards of rural Congolese inhabitants. The Programme de d?veloppement local des 145 territoires (Local Development Program for 145 Territories, PDL-145T) embodies the government's sustained efforts to significantly reduce poverty,

mitigate territorial inequality, and promote development across the DRC's 145 territories. The program, estimated to cost around US$1.7 billion (constituting 2.7 percent of GDP), aligns with the stipulations of the National Strategic Development Plan.[6][6] An overview of the expected results is provided in Table 1 below.

Table 1: Expected results for the PDL-145T.

Results	Values	Units
Rehabilitation of farm feeder roads	8.844	km
Maintenance of agricultural feeder roads	30.091,5	km
Construction of engineering structures (bridges, ferries and dalots)	444	Numbers
Construction of solar minigrids	418	Minigrids
Street lighting with solar system (1 to 3 km)	471	km
Construction of 150 m boreholes with integrated pumps	3.071	Boreholes
Development of water sources	447	Numbers
Construction of modern markets with living space	238	Markets
Construction of an administrative building in each territorial capital	145	Buildings
Construction of an administrative building in each sector capital	636	Buildings
Construction of housing for territory management staff	1.450	Housing
Construction, rehabilitation and equipping of health centers	788	Health centers
Construction, rehabilitation and equipping of schools	1.210	Schools
Structuring and professionalization of local producers by promising agricultural sectors	500.000	Households
Area developed and equipped by territory and for 4 sectors	43.500	ha
Supply of inputs and seeds to local producers	500.000	tons
Acquisition of production, processing and transformation equipment	4.340	Equipment

Three specific implementing agencies have been tasked by the government to implement the PDL-145's interventions. These include two subunits of the Finance Ministry, the Bureau central de coordination (Central Coordination Bureau, BCeCo) and the Cellule d?ex?cution des financements en faveur des ?tats fragiles (Unit for Execution of Funding towards Fragile States, CFEF), alongside the United Nations Development Program (UNDP). UNDP will implement the program in nine provinces spanning 54 rural territories, following a cost-sharing agreement with the DRC Government. The remaining provinces (14) will be managed by the other implementing agencies.

The PDL-145T's operational tasks will be executed under four components: (i) Development of basic socio-economic infrastructure, (ii) Revitalization of local and rural economies, (iii) Strengthening of local governance, and (iv) Development of a geo-referenced information system for PDL-145T monitoring. The program's implementation is expected to substantially reduce poverty and spatial disparities, improve rural populations' access to essential socio-economic infrastructure and services, augment rural agricultural producers' income, enhance food security, bolster access to income-generating activities for the youth and women, and improve management of risks confronting rural populations. Furthermore, the program will help to fortify local governance and the resilience and initiative capacity of vulnerable communities.

The funding for PDL-145 is partially sourced from the International Monetary Fund?s Special Drawing Rights (SDR) allocation of August 2021. The government resolved to allocate half of the SDR towards bolstering international reserves, whilst directing the other half (approximately US$714 million) as budgetary support. A segment of this budgetary support was earmarked for partially financing the PDL-145 initiative. The PDL-145 allocates $511 million towards the construction of schools, administrative buildings, and health centers, and $105 million is reserved for the electrification of rural territories[7][7].

2.3. Energy Sector

2.3.1. Overview

The power sector in the DRC faces substantial hurdles, including insufficient generation and transmission capacity, substandard electricity supply quality, and limited electricity access in the country's rural areas. Although the nation is endowed with a significant hydropower potential of 40 GW, only a marginal fraction of this capacity has been harnessed thus far.[8][8]

The installed electricity generation capacity stands at approximately 3,067 MW. The state-operated utility, Soci?t? nationale d??lectricit? de la RDC (SNEL), controls 2,624 MW (85.5%) of this capacity, with private producers controlling 363 MW (11.9%) and other public entities controlling 80 MW (2.6%). The nation's generation capacity predominantly relies on hydroelectricity (> 98%), followed by thermal generation (< 2%) and photovoltaic generation (< 1%). A considerable proportion of the country's generation capacity is frequently offline due to technical issues resulting from underinvestment and a lack of proper maintenance.

Industrial customers, primarily from the extractive industry, dominate electricity consumption, accounting for 68% of the total. The remaining consumption is shared between the residential sector (17.5%) and public and commercial services (14.5%). Over the past half-decade, the DRC has experienced a steady rise in electricity consumption, resulting in a cumulative growth rate nearing 40 percent between 2017 and 2021. This consumption surge is fueled by the extractive sector, which nearly doubled, while residential and service sector consumption remained stable, notwithstanding population growth and the expansion of the capital Kinshasa and other major cities.

Across all customer segments, the DRC's power system fails to satisfy both existing and projected demand. A considerable portion of residential demand remains unfulfilled due to the pronounced lack of energy access. Industrial customers also grapple with inadequate energy access, often resorting to self-

generated power using imported fossil fuels. Furthermore, demand in both sectors is projected to increase dramatically over the coming decade, underscoring the urgency to enhance the state of the power system[9][9].

Urbanization serves as a critical factor in the DRC's energy sector dynamics. Approximately 43% of the country's population resides in urban areas, a figure that is increasing annually. The national energy access rate stands at 21%, with 44% of the urban population enjoying energy access, contrasted by 1% of the rural population[10][10].

2.3.2. Legal and institutional framework

The foundation of the DRC?s energy sector is the Electricity Sector Act of 2014. This law liberalized the country's energy sector, providing market access to power generation, transmission, and distribution. Additionally, it initiated a decentralized electrification program across the nation's 145 territories and opened the regional integration of the electrical system to investor engagement. The legislation's overarching objective is to facilitate universal access to electricity and catalyze substantial enhancements in the country's energy sector.

The Soci?t? Nationale d'?lectricit? (SNEL) serves as a critical actor within the DRC's power infrastructure. As the principal industrial and retail power supplier with a customer base exceeding 800,000, SNEL oversees approximately 85% of the country's electrical infrastructure.

Institutional governance of the electricity sector is a multi-tiered structure involving the central government, the country's 26 provinces, the Electricity Regulatory Authority (ARE), the National Agency for Rural and Peri-Urban Electrification (ANSER), and the National Energy Commission (CNE). At the central government level, responsibility is partitioned amongst the Ministry of Water Resources and Electricity (MRHE), the sector's supervising entity; the Ministry of Portfolio (MPF), representing the state as the sole shareholder in SNEL; the Ministry of Economy, responsible for tariff-related issues; and the Ministry of Environment and Sustainable Development (MEDD), in charge of environmental concerns. Additionally, the Project Coordination and Management Unit of the MRHE (Unit? de Coordination et de Management des Projets du Minist?re, UCM) is dedicated to the coordination and management of all donor-financed energy projects. The main governmental body in charge of mainstreaming gender into the energy sector is the Gender, Energy and Development Cell (CGED) of the MRHE.

The governors and provincial energy ministers of each of the DRC's 26 provinces are, within the legal boundaries, responsible for the promotion, regulation, and monitoring of sectoral activities and ensuring the nationwide application of the Electricity Act and its accompanying regulations[11][11].

Table 2: Overview of institutional actors in the DRC's energy sector

Institution	Mandate
Ministry of Water Resources and Electricity (MRHE)	Ministry with responsibility for the design and implementation of energy policy. Responsibilities include design and implementation of electricity master plans, regulatory mechanisms, sector reforms, and monitoring and control of water and electricity production, transmission, and distribution. Within MRHE, the CGED oversees gender mainstreaming in the energy sector.
Ministry of the Environment and Sustainable Development (MEDD)	In relation to the energy sector, the ministry is responsible for: ? the design and implementation of policies related to environmental management ? assessment and review of environmental and social studies related to projects.
Ministry of the Portfolio (MPF)	The MPF is the sole shareholder of SNEL and as such responsible for SNEL?s administration and management.
Electricity Regulatory Authority (ARE)	ARE is the DRC?s energy regulator established as part of the 2014 Electricity Sector Act and operationalized in 2020. Its tasks include promoting competition and private-sector involvement in the energy industry, ensuring compliance with concession contracts and licenses, overseeing network access, monitoring industry standards, facilitating dispute resolution, and proposing tariffs based on cost elements provided by operators.
National Agency for Electrification and Energy Services in rural and suburban areas (ANSER)	ANSER is the DRC?s rural electrification agency established as part of the 2014 Electricity Sector Act and operationalized in 2020. Its objective is to promote and finance electrification in rural and peri-urban areas. Its tasks include collecting and sharing national energy potential data, creating electrification plans, supporting initiatives through technical and financial assistance, managing tender processes, facilitating project implementation, and handling financing and relationships with lenders. In 2022, ANSER adopted a Gender Strategy and Gender Action Plan.
National Energy Commission (CNE)	CNE is an advisory and coordination body created in 1981. Its mission includes defining energy policy, coordinating energy-related departments and organizations, promoting research and development of national energy resources, planning energy activities, implementing energy programs, disseminating energy sector information, addressing various energy issues, and providing practical training for executives.
Provincial governors and ministers provincial energy	Provinces are responsible for promoting, controlling, and monitoring electricity activities within their jurisdictions, ensuring compliance with electricity sector laws and regulations. They collaborate closely with MRHE, ARE, ANSER, and CNE. Provinces grant concessions for energy sources or power grids of local interest, following specifications provided by ARE and approved by provincial authorities. Concessions must align with national electricity policy and avoid negative environmental impacts on other provinces or neighboring countries. Provinces also grant licenses for production or marketing of electrical energy to decentralized territorial entities or provinces, with applications reviewed by ARE before final decisions by provincial authorities. Concessions and licenses are awarded through a tender process following public procurement procedures.

2.4. Minigrid Sector

2.4.1. Overview

In the DRC, the traditional model of centralized power generation and grid expansion has faced significant challenges as described above, resulting in a power system unable to meet demand and in very low energy access rates in rural areas of the country. In the wake of the liberalization of the energy sector with the 2014 Electricity Sector Act, off-grid solutions like renewable energy minigrids have gained traction in rural and peri-urban energy markets. They provide electricity to residential and institutional needs, support productive energy uses, and serve key community service providers.

Given the opportunity presented by minigrids, numerous initiatives and programs are being executed or planned by the public and private sector as well as international organizations (See Section 2.3.3).

2.4.2. Minigrid legal and institutional framework

The DRC government hasn't established a distinct minigrid model or a dedicated policy framework; thus, minigrids currently adhere to the regulations stipulated in the 2014 Electricity Sector Act. Despite this, the government and relevant energy sector institutions have been proactively fostering minigrid development, implementing multiple initiatives in tandem with various international organizations. The significant role of the private sector is a consistent theme across these initiatives.

Under current regulations, private minigrid developers can apply for Concession, License, and Authorization (CLA) for both solicited and unsolicited projects with ANSER, who review the applications alongside either the national minister or the provincial governor. Additionally, private entities must submit a tariff determination application to the ARE. Various local, regional, and national regulations may also apply, including environmental impact assessment requirements.

Though regulations are theoretically clear, private operators have encountered difficulties navigating these institutional and regulatory procedures due to the recent operational commencement of key institutions like ANSER and ARE in 2019 and 2020. This resulted in limited familiarity with complex topics, inadequate capacity, and poor coordination with other institutions, particularly provincial governments. Furthermore, the absence of a minigrid-specific framework poses challenges, given that on-grid projects often require more extensive application materials than smaller minigrid operations can feasibly provide.

Table 3: Overview of the DRC's minigrid delivery model

Aspect	Current Status
Ownership and Operation	Not defined. At this stage, the country has not identified a preferred delivery model(s). The electricity sector has been liberalized since 2014 and it is expected that private sector participation will play a significant part in the minigrid delivery model.

Tariff mechanisms	Not defined. Minigrid developers have to submit a tariff application to the national regulator which is reviewed in the same way as applications for larger on-grid projects. To apply for a tariff, developers submit an application to ARE for review. There is no standardized template or methodology for the preparation of the tariff application, i.e. developers their own justification for the tariff and ARE has to review them on an ad-hoc basis. The only requirement is that the tariff application distinguishes the costs among the different components of the tariff, i.e. generation, transmission, distribution, etc.
Subsidy mechanisms	There are several subsidy mechanisms in place, but to date it is not clear which mechanism will be implemented in the long term. The top-down approach entails the preparation of larger sites for tendering to international bidders, allowing the government to develop the project while deploying private capital and operators to build and operate the assets. The bottom-up approach entails a results-based subsidy facility, the Mwinda fund.
Regulations	Not defined. The electricity sector has been liberalized since 2014, but no specific regulations for off-grid or minigrid uses have been stipulated. To date, minigrids have to adhere to the prevailing (on-grid) regulations.

The government and the various institutions in the energy sector have been working actively to catalyze minigrids and are implementing several initiatives in parallel and in collaboration with a variety of international organizations. The common thread in these initiatives is that private sector participation plays a significant part, ranging from providing public subsidy support to unsolicited private sector projects to procuring private firms to operate and maintain government-owned assets.

The principal institution in the DRC?s minigrid sector is ANSER with the mission to increase energy access in the country?s rural and peri-urban areas. It is responsible for reviewing and approving applications for concessions in concurrence with national or provincial government counterparts. Additionally, ANSER performs electrification planning exercises in collaboration with the national energy ministry MRHE as well as the national energy advisory body CNE.

The regulator ARE is responsible for reviewing and approving tariff applications.

The policy regime for minigrids is summarized in the table below. In brief, as for on-grid projects, private actors can apply for Concession, License and Authorization (CLA) for solicited or unsolicited projects to ANSER who will review it in collaboration with either the national minister or the provincial governor. In a separate process, private actors have to apply for a tariff determination with the ARE. Additionally, local, regional, and national regulations may apply to such projects, such as requirements to perform environmental impact assessments.

While the existing regulations and responsibilities are clear in theory, in practice private operators have had difficulty navigating these institutional and regulatory processes. This is a result of the recent operationalization of the main institutions ANSER and ARE, which began in 2019 and 2020, causing a lack of capacity and familiarity with these complex subjects and a lack of coordination with the other responsible institutions, particularly provincial governments. Additionally, the lack of a minigrid specific framework presents challenges, as on-grid projects typically require more burdensome application materials than is feasible for smaller minigrid operations.

Table 4: Overview of the regulatory framework governing the on-grid and off-grid electricity sectors

Legal regimes	Activities	Responsibility	
Concession	Production established in the public domain, as well as those for the transport and distribution of energy and electricity.	**National Government**	**Provincial Government**
		For energy sources or electricity networks of national interest, the national government grants the concession.	For energy sources or electricity networks of provincial or local interest, the provincial government grants the concession.
License	- Independent production of electrical energy with a power equal to or greater than 1,000kW is carried out outside the public domain. - Import and export of electrical energy. - Commercialization of electrical energy.	**National Government**	**Provincial Government**
		The license for importing or exporting is granted by the central government.	The license for the production or for the sale of electrical energy to cover the needs of an ETD is granted by the provincial government.
Authorization	- Self-production installation outside the public domain, with an installed capacity of between 100kW and 999.99kW. - Establishment of private power lines using or crossing a public road, or a point located less than 10 meters horizontal distance from an existing power, communication, or telecom line on a public domain.	**Provincial Government**	**Decentralized Territorial Entity (ETD)**
		Granted by the province under the conditions set by regulation, on a proposal from ARE.	Granted by ETDs under the conditions set by regulation, on a proposal from ARE.
Declaration	Power to be installed by a self-generator, outside the domain. It needs to be between 51 and 99Kw.	**Decentralized Territorial Entity (ETD)**	
		Make a written declaration to the local administration in charge of electricity, which has to acknowledge receipt.	
Unregulated	- Installation of power plants whose power is less than or equal to 50Kw. - The installation of private power lines is free when the structures are fully established on private land concession.	Not applicable	

2.4.3. Existing and planned minigrid initiatives and programs

Government initiatives

PDL-145T

As described in the country context section, the most significant government investment initiative on minigrids to date is the rural electrification component of the PDL-145T. Through this project, the government is allocating $105 million, a substantial sum in relation to the government?s overall budget, to the development of minigrids throughout rural areas. For 54 rural territories in 9 provinces, this initiative is being executed through UNDP, as one of the three selected implementing agencies. The implementation arrangement in all provinces includes ANSER, which will be responsible for the operations and maintenance as well as monitoring aspects of the program. Details on this implementation arrangement are provided in the strategy section.

ANSER

Since its operarationalization in 2020, ANSER has taken an active role in shaping and catalzying the country?s minigrid sector. While the government has not decided upon one specific minigrid delivery model, ANSER states that that the bulk of the investment for rural electrification will have to come from the private sector and describes its own role as a facilitator for these private investments[12][12].

ANSER is spearheading a number of initiatives related to minigrids which include[13][13]:

? Electrification Plan 2030 and Priority Investment Plan

o ANSER developed an Electrification Plan 2030 in 2021 with a detailed analysis of the sector and demand growth predictions for each province. Based on the Electrification Plan, a number of high-priority projects were condensed into a Priority Investment Plan which has guided ANSER?s work over the last two years.

? Mwinda Fund

o The Mwinda Fund is a result-based subsidy fund aiming to accelerate the electrification of the country, deploying funding for minigrids, solar home systems (SHS), and other off-grid systems based on verified enabled energy access of end users. The fund has been piloted and is currently being expanded. ANSER is furthermore in discussions with donor organizations to increase the investment volume of the fund.

? Decentralization

o ANSER has opened six regional offices to increase the organizations presence and effectiveness throughout the country. These offices will support the coordination and alignment of ANSER?s work with provincial, territorial, and local governments.

? Deployment of investment budget

o ANSER has deployed its first government-funded investment budget to develop 20 minigrid pilot projects. These pilot projects serve to generate learnings in the areas of minigrid delivery models,

project development, technical and economic indicators as well as impacts, which will guide ANSER?s ongoing work in the off-grid sector.

In addition to these initiatives, ANSER is collaborating with a variety of development partners in multiple areas of technical assistance, as described below.

Regarding minigrid policy frameworks, ANSER and ARE have established a working group to identify revisions to existing laws and regulations to enable mini-grid specific approval processes. This working group commenced recently and it is expected that it will take several years to finalize recommendations, after which the findings need to be discussed among all national and provincial energy institutions for finalizing the new policy and initiating the required legislative processes.

Private sector initiatives

The following table lists the most important private-sector led minigrid projects in the DRC:

Private-sector Actor	**Details**
Nuru	Nuru owns 1.69 MWp production and distribution assets across 4 solar sites plus battery storage system and gensets around Goma, Beni and Haut-Uele province providing 24/7 services with 99% system uptime with more than 2600 connections. Nuru has attracted investment from major energy access investors, including Renewable Energy Performance Platform (REPP), Proparco and E3 Capital.
Fonds de Promotion de industries (FPI)	FPI is building a 10MWp solar project around Tshipuka, Kasai with a value of $19 million.
Equatorial Power	Ugandan minigrid developer, Equatorial Power has successfully developed a system to power agricultural projects on Idjwi Island in DRC since 2019 which serves more than 300 homes and small businesses.
Bboxx	Bukavu project: 29.7 kWp of solar, 88.8 kWh of lithium-ion battery storage capability in a 20-foot container. Bboxx plans to launch 24 additional mini-grid projects with the telecommunications company Orange across the DRC over the coming months, electrifying 150,000 people by 2024.
Manono PV powerplant	1MW project commissioned in 2018 and under the management of SNEL. The project was built by Congo Energy in the Province of Tanganyika

In general, the private sector minigrid developers and associated firms are very active and keen to expand the sector. At the moment, they are hampered by barriers that are described further below.

Initiatives by international organizations

There are numerous international organizations who are actively participating in the DRC?s minigrid sector:

World Bank Group

The World Bank (WB) is a longstanding development partner of the government of DRC, particularly regarding the energy sector. In the area of energy access, the WB is currently executing the Access Governance and Reform for the Electricity and Water Sectors Project with the following components:

? Top-down Electrification of Selected Provincial Capitals: Led by the International Finance Corporation (IFC), the WB is deploying approximately $200 million through its Scaling Minigrids Program (SMG) to build metrogrids in the cities of Kananga (population 1.2 million) and Mbuji-Mayi (population 3 million). The SMG approach entails the comprehensive upstream preparation of these two projects via detailed feasibility assessments and site studies as well as the financial and guarantee facilities. The goal is to prepare a high-quality and bankable tender offering for these two sites, reducing risks for developers and allowing for high-quality bids.

? Bottom-up Electrification: The WB is additionally providing capital for the Mwinda Fund, a results-based facility to which minigrid operators can apply for subsidies for unsolicited projects based on meeting certain criteria.

? Capacity Building: In line with the two components above, the WB is providing capacity building to the institutions involved in the minigrid sector[14][14].

In addition to these activities, the World Bank is leveraging its convening authority to hold regular meetings with other development partners to coordinate on projects in the energy sector.

UKAID/FCDO Essor Programme

Essor was a five-year program funded by the UK?s Foreign, Commonwealth & Development Office to improve incomes of the poor in the DRC, with a dedicated program component to increase energy access. As part of this component, Essor deployed $100 million to finance the construction of three minigrids in the cities of of Bumba, Gemena, and Isiro, located in the north of the country. These projects will have an estimated combined power capacity of 35 MW and 23,100 connections within 5 years, and approximately 46,000 connections within 22 years.

The Essor project spearheaded the development of the DRC?s minigrid sector by creating bankable projects that attracted credible investors and developers, upfront de-riskinging of projects, and close coordination with all stakeholders in the sector[15][15].

Sustainable Energy For All

Sustainable Energy For All (SE4All) created the Universal Energy Facility (UEF), a results-based finance (RBF) facility established to significantly speed up and scale up energy access across Sub-Saharan Africa. The UEF provides incentive payments to eligible organizations deploying energy

solutions and providing verified end-user electricity connections (including mini-grids and stand-alone solar systems) and clean cooking solutions based on pre-determined standards[16][16].

An UEF application window for the DRC was launched in the fourth quarter of 2022. In July 2023, SE4All announced that a $3.8 million grant agreement was signed with Electrilac S.A.S, a subsidiary of Green Enesys, for 6,500 connections[17][17]. Additional grant agreements are under considerations with other bidders.

United States Agency for International Development (USAID)
USAID and its Power Africa initiative are pursuing multiple projects related to minigrids in the DRC:

1. Empower East and Central Africa (EECA): The EECA project seeks to increase the availability of and access to affordable, reliable, sustainable, and clean energy in East and Central Africa in order to reach measurable development outcomes. Its primary activities consist of providing technical assistance to support the off-grid energy sector. Project implementation is expected to commence in early 2024.

2. Health Electrification and Telecommunication Alliance (HETA): Through the HETA projects, health facilities will be outfitted to provide renewable energy and digital connectivity to improve healthcare service delivery. The systems will include solar, battery, and other innovative energy technology to provide reliable energy to the mobile networks and health facilities. The HETA model will generate surplus energy allowing nearby businesses and homes to purchase the excess electricity. The project is currently being implemented in other countries in Africa and is expected to be deployed in the DRC in 2024.

3. Productive Use of Energy: USAID is currently preparing a project focused on productive use of energy (PUE) opportunities in the off-grid energy sector.

4. Capacity building: In line with the projects above and the approach of the Power Africa initiative, USAID supports the provision of embedded advisors to provide capacity building to institutions in the energy sector.

5. USAID Power Africa Off-Grid Program supported ANSER to develop its gender equality strategy and action plan.

Global Energy Alliance for People and the Planet (GEAPP)
GEAPP has recently begun operations in the DRC and is building a regional office in Kinshasa. Its activities are focused on minigrids and metrogrids, with a specific focus on providing technical assistance for off-grid policy framework, for minigrid cost reduction, and for PUE applications. Additionally, GEAPP has initiated a development partner coordination forum to ensure that all international organizations are aware of each other?s activities and coordinate on current and planned projects.

United Nations Development Programme (UNDP)

UNDP has been a core development partner of the DRC government in the area of energy and energy access. With respect to off-grid energy and minigrids, the UNDP is currently executing three projects:

? "Programme de D?veloppement Local des 145 territoires (PDL-145T)": As described in previous sections, UNDP is one of the implementing agencies for the PDL-145T, a major government initiative to increase access to infrastructure such as health clinics, schools, and electricity in all rural areas of the country. UNDP?s mandate involves the implementation of the PDL-145T in 9 provinces of the country, as described in the previous section.

? ?Promotion of mini & micro hydropower plants in Congo DR?: This project is financed primarily by GEF and aims to promote investment into mini and micro hydropower plants in the DRC. The project?s activites includes the strengthening of regulatory frameworks to promote investment for small-scale hydropower systems, supporting the capacity of the local workforce and local technology production, and the development of pilot hydropower projects. Several micro hydropower plants are operational (Masisi, Mitwaba) and feasibility studies for other sites have been completed. The project also supported the development of a national energy policy for the DRC of which the final version is currently being reviewed by the government. The learnings from this project are reflected in the design of this AMP project and will also serve to inform the implementation of this AMP project[18][18].

? ?Access to Green Energy to Reduce the Impacts of COVID-19?: This project is financed by UNDP?s Rapid Financing Facility whose objective is to address the COVID-19 pandemic, and it focuses on promoting access to better health infrastructure, drinking water conditions, hygiene, and economic opportunities. The project targets the territory of Mambasa in Ituri province, with a population of 950,000. One urban center in the territory, Mambasa center, will be electrified with a minigrid.

The African Development Bank (AfDB)

The African Development Bank (AfDB) announced in 2019 that it had approved the allocation of $89 million of which $40 million in loans (AfDB window and GCF), $32 million in grants and $15 million equity to support renewable-based, minigrid solutions to the off-grid cities of Isiro, Bumba and Genema. AfDB?s Green Mini-Grid Program will ?serve as the pilot to an innovative private-led electrification approach to deploy renewable-based mini-grid solutions in the central African nation. The program will supply power to cities with sizeable populations, some of them with a few hundred thousand inhabitants, without any access to modern energy?.

The AfDB is also providing a $1m grant for ?advisory services to the Government of the Democratic Republic of Congo for the procurement of solar PV mini-grid system?. Under this project, 5 minigrid sites were prepared for procurement. At the moment, the procured consulting firm for this assignment is developing a minigrid tariff methodology and tool to assist the government to review tariff applications from minigrid developers.

Renewable and Appropriate Energy Lab (RAEL) at the University of California Berkeley

During the 27th Conference of the Parties (COP 27), a formal agreement was established between ANSER and RAEL. This collaboration aims to devise methods for gathering essential socio-economic

information to pinpoint potential value chains and productive applications to be advanced in ANSER's electrification projects as well as to collaboratively examine the influences of such electrification projects on the growth of the identified regions.

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2.4.4. Risks and barriers to minigrid development

Despite the significant potential, several risks and barriers exist for renewable minigrid development and scaling up. These have been assessed for the DRC based on the Derisking Renewable Energy Investment (DREI)[19]19 methodology developed by UNDP, and are summarized in the table below. The summary is based on a baseline analysis as well as comprehensive stakeholder consultations with public and private stakeholders as well as development partners.

Table 5. Key risks and barriers to develop renewable energy minigrids

Risk Category	**Underlying Barriers**	**Description**	**Risk Level**
Energy Market Risk	Market access, competition and grid expansion	Currently no specific regulatory framework is in place for minigrids and projects must be developed in line with prevailing (on-grid) regulations. The absence of a minigrid-specific regulatory framework generates uncertainty for investors and developers. Additionally, under the existing frameworks, processes and authorities are often not clearly delineated, leading to extended timelines for securing necessary permits or approvals. Developers are also often required to coordinate between various institutions on the national, provincial, and local level regarding permits and approvals, adding further complexity to the development process.	High
	Tariffs	There are no minigrid-specific tariff regulations in place. Developers must apply for a review of the proposed tariff to the regulator ARE with the same documentation as on-grid projects. ARE and ANSER are currently in discussions to coordinate on new regulations that would allow for minigrid-specific tariff determination processes. It is not clear when such a framework will be implemented.	High
Social acceptance risk	Unfamiliarity with minigrids	Rural populations in the DRC are unfamiliar with minigrids and related technologies such as prepaid payment systems and the integration of mobile payment systems.	Medium

Hardware risk	Availability and quality of hardware	Minigrid hardware must be imported and the transport of relevant equipment through rural areas presents a major challenge to the development of minigrids. Transportation infrastructure is very limited and thus negatively impacts the availability to access core components and spare parts.	Medium
	Customs	The import of products related to electrical infrastructure is generally exempt from import duties. In practice, however, private sector actors have described that relevant government officials are often unfamiliar with the relevant regulations, increasing uncertainty.	Medium
Labor risk	Inadequate capacity	There is a shortage of skilled technicians and engineers in the DRC, particularly in remote areas. This limits the ability of developers to install, operate, and maintain minigrids effectively.	Medium
Financing risk	Capital scarcity	Financing avenues for minigrid projects in the DRC are constrained. Commercial banks and financial institutions often exhibit reluctance towards lending to developers, citing the perceived high risks associated with minigrid investments. Moreover, venture investors willing to take risks provide capital at steep costs, making it challenging for developers to offer competitive and affordable services. These high capital costs can deter many households from connecting to the grid, and consequently, low-income households may remain unconnected even when electricity becomes available in their vicinity.	High
	Limited experience with minigrids	Investors are generally unfamiliar with minigrids and related financing options and are reluctant to invest in these assets.	High
Sovereign risk	Various uncertainties not specific to minigrids	Decades of political instability and conflict have made it challenging for investors to operate in certain regions, limiting the potential for minigrid development.	Medium

2.4.5. Alignment with national priorities

The table below provides an overview of the policy context for minigrids in the DRC.

Table 6. Policy context for renewable energy minigrids in the DRC

Policy / planning document		**Relevance**
Sector Policies	National Energy Policy	A National Energy Policy is currently under preparation.

Policy / planning document		Relevance
Strategies and Plans	National Strategic Development Plan (PNSD) 2019-2023	The focus is to harness the potential of the extractive and agricultural sectors, with an ambition to establish a diversified economy characterized by inclusive growth and middle-income status to eradicate poverty. This developmental journey is structured in three phases: ascending to a middle-income nation through agricultural transformation and subsequently attaining emerging country status through the accumulation of knowledge. The PNSD is founded upon five key pillars. For electrical infrastructures, four sectoral objectives have been identified: ? Objective 1: Ensure dependable electricity access for all socio-economic demographics. ? Objective 2: Convert the electricity and water sector into a cornerstone for rejuvenating and growing the Congolese economy. ? Objective 3: Foster sub-regional interconnection to enable electricity exports. ? Objective 4: Encourage the utilization of gas and all sources of renewable energy.
	PDL-145T	The main aims of the PDL are to reduce spatial inequalities, revitalize local economies, and transform the living conditions and environment of Congolese populations living in areas hitherto poorly served by basic infrastructure and social services. In particular, the program calls for the construction of 418 solar photovoltaic micro power plants and 471 km of 100% solar-powered, autonomous public lighting networks.
	National Adaptation Plan 2020-2024 (PNA)	Climate change policy, strategy and action plan to strengthen resilience, the production and monetization of carbon credits and the management of large tropical peatlands in line with REDD+ mechanisms and the reduction of emissions from deforestation and forest degradation. In terms of energy transition, the government favours the modern and sustainable use of renewable energy models.
	Plans Locaux d?Electrification (PLE)	The PLE defines the projects and the various optimal electrification strategies adapted to each territory across the country to bring the rate of access to electricity to 30% by 2025 and 60% by 2030.

Policy / planning document		Relevance
	NDC Update 2021	Five goals: 1. RE promotion for rural, peri-urban and urban electrification: increase from 3GW hydropower (2020) to 4GW (2030); increase from 2.9 MW solar, geothermal, wind (2020) to 42.7 MW (2030) 2. Promotion of improved cookstoves: increase average efficiency from 12% to 30%; 3m households use improved cookstoves 3. Adaptation of electricity law from 2014 to RE 4. LPG and biogas for cooking (goal not quantified); briquettes from agricultural or household organic waste (goal not quantified) 5. 130,000 ha bioenergy plantations
	Practical Action Guide for Gender Mainstreaming in the Energy Sector in DRC	In absence of a national strategy on gender and energy (which should be issued in the coming years) this document, drafted by CGED, serves as a guide to government orientations on mainstreaming gender equality in the energy sector.
Laws	2014 Electricity Sector Act	Law No. 14-011 of June 17, 2014, relating to the electricity sector, amended, and supplemented by Law 18/031 of December 13, 2018, liberalizes the power sector, removing SNEL?s monopoly status, and provides a new legal and regulatory framework to promote public-private partnerships.
	Loi n? 18-031 modifiant et compl?tant la n? 14 011 sur l??lectricit?	Modifies clause 52 of 2014 law: 2014 law had imposed maximum duration of 30 years for concessions. This maximum duration has now been removed.
	Decree n?16/014, dated 21 April 2016	Creation of the National Agency for the Electrification of Rural and Peri-urban areas (Agence Nationale des Services Energ?tiques Ruraux, ?ANSER?), with the mandate of increasing access to energy services in rural and peri-urban areas and to oversee accompanying the private or community project leaders.
	Decree n?16/013, dated 21 April 2016	Creation of the Electricity Regulatory Authority (Autorit? de R?gulation de l?Electricit?, ?ARE?), with the mandate of monitoring sector reforms and private sector participation, including tariff determination.

Policy / planning document		Relevance
	Other relevant laws	A number of sector-specific laws complete the legal framework for the electricity sector: Law 18-020 of July 9, 2018 on price freedom and competition; Law 11-009 of July 9, 2011 on the fundamental principles of environmental protection; Act 02-004 of February 21, 2002 on the Investment Code Law 73-021 of July 20, 1973 on the general property, land and real estate regime and the security regime, as amended and supplemented to date. There are no specific laws or regulations on renewable energies, energy efficiency or the off-grid projects.
	Concessions	Decree No. 18/052 of December 24, 2018, setting the procedures for selecting operators, awarding, modifying and cancelling concessions, licenses and authorizations. Ministerial Order No. 85/CAB/MIN/ENRH/18 of 27 December 2018 on standard concession and delegation contracts, models of licenses and authorizations for the electricity sector
	Tariffs	The final price of electricity is regulated by interministerial order 009/CAB/MINECONAT/2018 and 013/CAB/MIN-ENRH/2018 of March 15, 2018 determining the rules, procedures and terms for setting and revising electricity purchase tariffs for electricity producers, tariffs for access to electricity transmission and distribution networks, and tariffs for the sale of electricity to end consumers. Electricity tariffs are set according to the principles of fair pricing, equality, equity and nontransferability of charges. True pricing means that tariffs must reflect all costs, including operating costs incurred in supplying electricity to consumers. These costs are accounted for clearly and transparently, and verified by the AER. Equality means that tariffs represent, for each category of consumer, the costs incurred to supply them with electricity. Fairness means that tariffs are deemed acceptable for each category of consumer. Non-transferability means that tariffs reflect the structure of costs incurred at different voltage levels.
	Public Procurement	Law 10-010 of April 27, 2010 on public procurement lays down new fundamental rules for the preparation of projects, the awarding of public contracts, their execution and monitoring, inspired by the systems adopted by the Organization for Economic Cooperation and Development (OECD). The functions of managing, awarding and controlling public contracts are strictly separated from each other

Policy / planning document		Relevance
	Public private partnerships	Law 18-016 of July 9, 2018 on public-private partnerships regulates the institutional framework for public-private partnerships. The law includes the integration of the notion of partnership contract into the Congolese legal taxonomy and the creation of supporting institutions for the design and conclusion of public-private partnership contracts.
	Customs	Decree No. 18/054 of December 27, 2018 specifies that materials, equipment, tools and spare parts used for electrical infrastructure are exempt from customs duties and value added tax (VAT) on import.

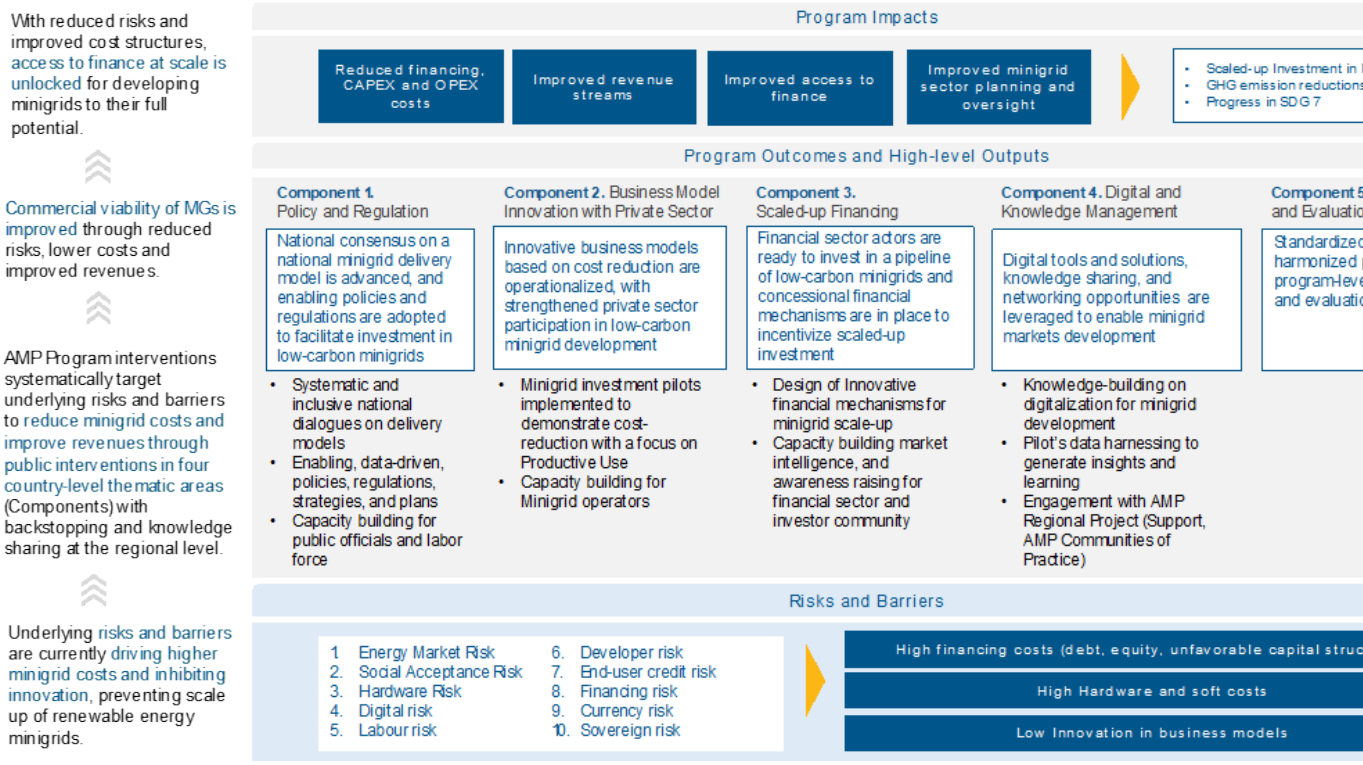
3. Proposed alternative scenario with a description of outcomes and components of the project

3.1. Programmatic approach and Project?s Theory of Change (TOC)

This project is part of the broader **Africa Minigrids Program (AMP)**, a regional technical assistance 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.

This project will follow the AMP Theory of Change (TOC), developed in the Program Framework Document (PFD) and set out in **Figure 3** 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. 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 3. Africa Minigrids Program?s Theory of Change



3.1.1. UNDP?s Derisking Renewable Energy Investment (DREI)

The Program?s TOC draws on UNDP?s Derisking Renewable Energy Investment (DREI) Framework by focusing on cost reduction levers across the themes of policy and regulation, business model innovation and private sector as well as innovative finance that can be employed to reduce risk (e.g. policy derisking), compensate for risk (e.g. financial incentives) or transfer risk (e.g. financial derisking). DREI is an innovative, quantitative framework to support policy makers to cost-efficiently promote private investment in renewable energy. 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.

Box 1. UNDP?s DREI Framework

A central focus of the DREI framework is on private sector financing costs (equity and de
energy which are often high in early-stage markets due to underlying investment risks an
financing costs and reduce the competitiveness of minigrids relative to alternative source
diesel generators). All else being equal, the need for higher returns that reflect these ris
higher energy prices that, in turn, or require larger subsidy requirements for rural electrifi

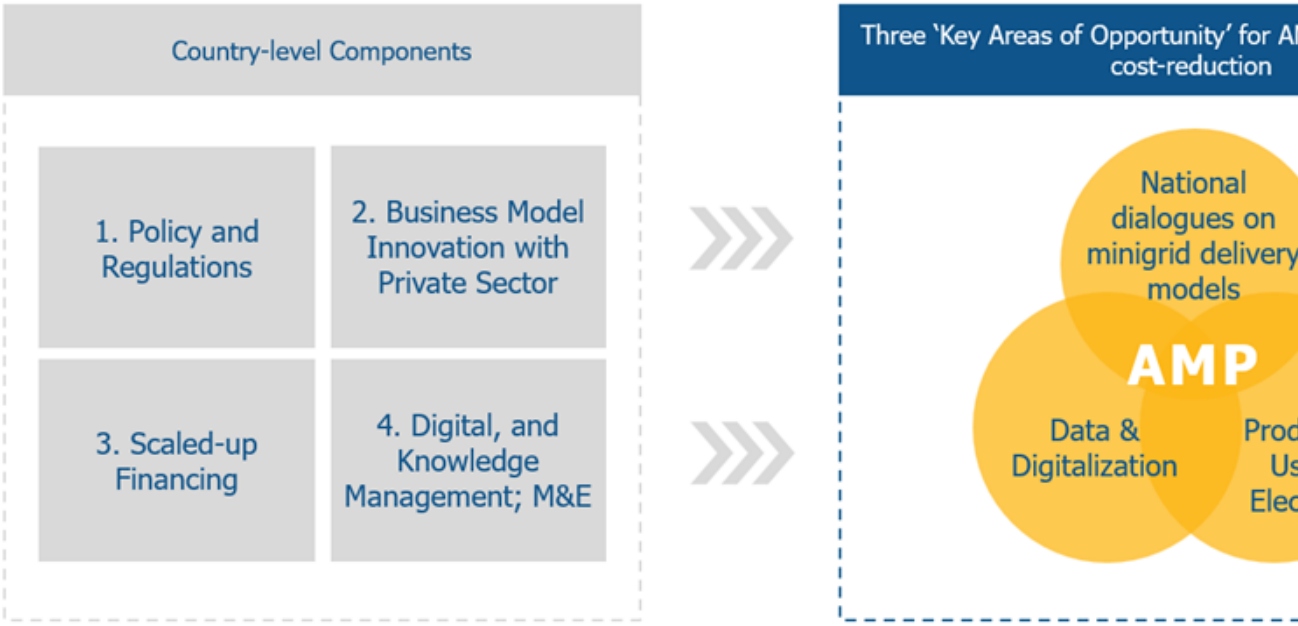
An opportunity is for policymakers to systematically address these investment risks, lo
costs and leading to competitive investment. Although there are both public and private str
investment risks, the DREI framework is concerned mainly with public strategies, and iden
ways – often used in combination – that the public sector can improve the risk-return profil
investment opportunities: (i) Reducing risk, targeting underlying barriers that create inves
instruments are typically policies, such a legislation, or technical programmes ("policy
Transferring risk, shifting risk from the private to public sector. These include inst
guarantees, or credit lines to commercial banks for on-lending ("financial derisk
Compensating for risk, increasing the return of investments. These are typically targe
renewable energy ("direct financial incentives"). As RE minigrid markets mature, an oppo
for diversifying risk through aggregation of multiple mini-grid assets ("portfolio derisking

DREI provides a structure for policymakers to identify and understand investment risks
selecting public instruments that can derisk and promote investments in RE minigrids. Th
table introduces a taxonomy of ten independent investment risks, 17 underlying barrier
stakeholder groups; it then sets out matching policy and financial derisking instruments.

3.1.2. Program?s ?Key Areas of Opportunity?

The AMP has adopted a common architecture of four key components - a combination of enabling policy and regulations, business model innovation with private sector involvement, innovative financing and digital innovation - as the levers to lower investment risks, thereby reducing financing, hardware and soft costs while increasing revenues and improving system efficiencies. Within this architecture, AMP will emphasize - and seek to develop comparative advantages - in three ?key areas of opportunity?: (i) an emphasis on advancing national dialogues on minigrid delivery models, (ii) promoting productive uses of electricity, and (iii) leveraging data and digital solutions for minigrid cost-reduction. Collectively these three areas can guide AMP?s overall direction, creating a niche identity for the program. This approach, illustrated below in Figure 4, is structured to advance the program objectives of cost-reduction and innovation for minigrids and give effect to the TOC. The way in which this project will address these areas of opportunity is described in detail further below.

Figure 4. AMP?s Key Areas of Opportunity



3.1.3. National dialogues on minigrid delivery models.

A delivery model (refer concept in Box 2) that is suitable to country expectations and context for minigrids has proven critical to establish an enabling and attractive investment environment for minigrids. Equally, a delivery model that has not been defined or is not consistent with the national context, will be an impediment to scaled-up investment. An important focus of the AMP is therefore to encourage a national dialogue between key stakeholders, including relevant women?s groups, in support of a suitable delivery model being defined.

Box 2. The Concept of a Minigrid Delivery Model

The concept of a minigrid ?delivery model? is a key concept for this project. This text box seeks to set out a common understanding of the concept and its importance to the project.

Definition: A minigrid delivery model, determined by the national government, is the cornerstone of a country?s over-arching minigrid regulatory framework. It defines who owns, finances, builds, and who operates and maintains the minigrids. Where applicable, it seeks to engage the private sector. A minigrid delivery model is closely associated to other key components of a minigrid framework, including tariff structures/mechanisms and subsidy levels/mechanisms.

In each country, identifying one (or more) delivery models will provide a framework for all sector stakeholders to plan for the longer term, particularly with regard to mobilizing private investment as one of the main objectives of the project. The figure below describes the spectrum of design options for delivery models, across a number of different elements (ownership, policies, finance etc.)

Figure 5. Conceptual outline of minigrid delivery models

Source: JAKOB SCHMIDT-REINDAHL, Mini-grids Policy Expert, INENSUS

This decision-making process around identifying a delivery model is complex and should ideally be done in the form of a national dialogue involving all relevant stakeholders to varying degrees (different ministries such as energy, finance, health and environment, local authorities, the public, the media, the beneficiary communities, utilities, the private sector, and other key stakeholders) in order to build a national consensus on the basis of which large-scale deployment of mini-grids can be accelerated and have a sustainable impact.

Minigrid pilots planned under this project will also seek to fit into this framework. The more clarity there is on the part of the government regarding the choice of delivery model, the easier it is to develop or plan business models which can reduce minigrid costs. A clearly identified delivery model minimizes the risk of investments being made based on assumptions that are not in line with government expectations and may lead to conflicts and economic losses down the line. It also helps the government to answer the important questions related to the rural electrification sector to provide clarity for private investors and operators and build confidence.

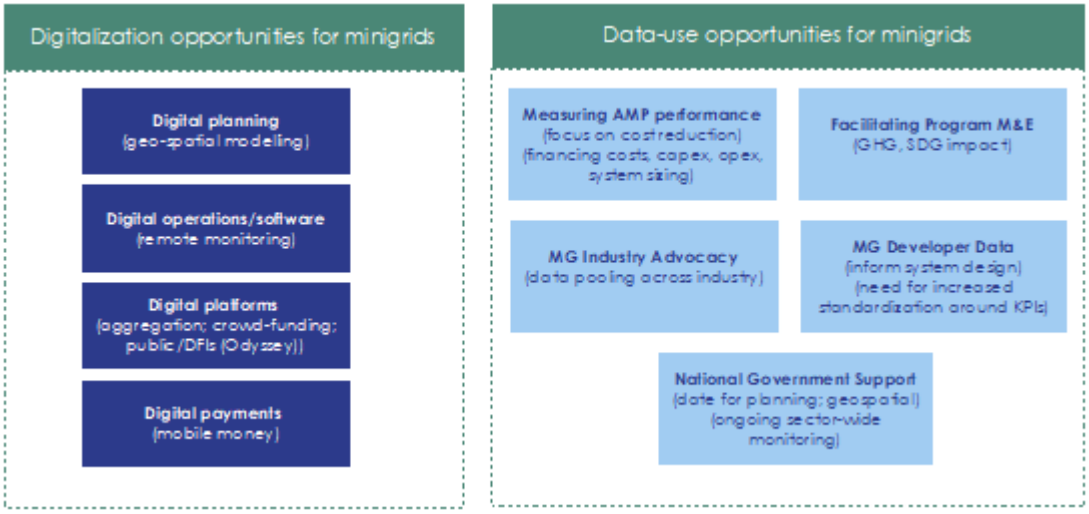
3.1.4. Digitalisation (digital solutions and tools) and harnessing the data opportunity.

The emergence of minigrids as a viable solution to electrify remote and isolated communities relies strongly on digital tools and solutions . Digital technologies and solutions are fundamental to enabling off-grid electrification and offer significant potential to lower minigrid costs, reduce risks, and address barriers to scale. Many of the opportunities around digitalization are related to leveraging the large amount of data generated by minigrid projects to surface insights, learning and optimization. Data is a tremendously valuable asset in the minigrid sector that remains underutilized. The programmatic approach allows the AMP to make an impactful contribution to growing a data asset and harmonized digitalisation in the sector. Employing digital integration as catalyst for the minigrid sector reflects the UNDP digital transformation strategy that initiated a comprehensive process of connecting knowledge within the organisation and across networks, creating opportunities, improving operational efficiencies and building and maintaining partnerships and alliances. It also echoes the broader UN data-driven strategy and commitment to advance global ?data action? with insight, impact and integrity.

Box 3: Digitalization and Minigrids

Digital opportunity for minigrids. Figure 6 below shows different categories of digital solutions in the minigrid sector: (i) digital planning, (ii) digital operations, (iii) digital aggregation platforms, and (iv) digital payments. In common to all these is the potential of digital technologies ? whether used by policy makers, financiers or minigrid developers - to lower minigrid costs, reduce risks, and address barriers to scale.

Figure 6. Digital and data opportunities for minigrids in the AMP



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

Opportunities across the Program, and with the AMP regional project. The AMP provides a unique opportunity to develop a single set of metrics and guidelines for data collection and use them to collect data from minigrid investment pilots across different national projects which the AMP Regional Project can then aggregate, derive insights from, and systematically disseminate knowledge with participating AMP countries and with the broader minigrids sector in Africa. At the same time, the link between the regional project and the various national projects provides a unique ?distribution channel? opportunity across Africa for AMP to mainstream the use of digital tools and solutions for minigrids cost-reduction and scale-up.

3.1.5. Productive uses of energy (PUE)

While PUEs are widely recognized as a key element to improve the viability and sustainability of minigrids, the AMP focus is uniquely tailored, taking a deliberate, integrated approach across a broad ambit of the Sustainable Development Goals (SDGs) . With the benefit of global experience and best practices, the AMP pursues solutions where productive uses are embedded in agricultural value chains or around which economic activity can be anchored. The AMP?s emphasis on energizing agricultural production is based on the demonstrated impacts and amplified benefits resulting from (i) improved

product quality and increased yields, (ii) contributions to value addition, (iii) increased value retention within the rural communities, and (iv) contributions to socio-economic developmental objectives for rural areas, which in turn has a positive effect on the minigrid revenue model. Further recognizing that these multiple benefits cannot be assumed with energy access, but depend on wider development programmes, the AMP approach combines the delivery of electricity infrastructure with innovative business models and various interventions aimed at encouraging economic activity, support business development and stimulate rural economic transformation with an emphasis on improved wellness, empowering women and youth as well as ensuring sound social and environmental stewardship.

3.1.6. PDL-145T minigrid investment pilots contribution to the Program?s TOC

Minigrid pilots have a key role within AMP by contributing to demonstrate cost-reduction which can be leveraged to improve the financial viability of renewable energy minigrids. In this project, that role is played by minigrid pilots which will be developed as part of a separate project, the PDL-145T, and considered as co-financing to this project. Although minigrid pilots are not developed as part of this project, this project?s activities have been designed to align with, complement, and contribute to the sustainability and scalability of minigrids developed under the PDL-145T.

The minigrid pilots (to be developed under the PDL-145T) are aligned with the following key areas of opportunity mentioned above by demonstrating: (i) a particular delivery model or elements of a delivery model around which the government wishes to build capacity and mobilize further investment; and (iii) opportunities around digitalization and the use of data for minigrid cost reduction. Feedback loops to other national project activities (e.g. national dialogues, capacity building) and with the AMP Regional Project (e.g. Community of Practice) are intended to actively disseminate the learnings from the pilots to inform both the policy and regulatory environment as well technical capacity building.

3.2. AMP National Project in the DRC

3.2.1. Overview

The project is aligned with and will directly support the implementation of the minigrid component of the ?Local Development Program dedicated to the 145 territories? (PDL-145T), the largest rural infrastructure investment program of the government to date aiming to improve living conditions in rural territories hitherto underserved by basic infrastructure and social services.

The minigrid component of the PDL-145T foresees the construction of 418 solar photovoltaic minigrids with a budget of $105 million. UNDP is implementing part of this component on behalf of the government, developing 172 minigrids with a budget of $43 million.

The AMP DRC Project will be targeted to the UNDP-led minigrid component of the PDL-145T to build the capacity of public institutions involved in rural electrification, particularly ANSER, to roll-out and oversee minigrid programs using different delivery and business models, and coordinating effectively with national, provincial, and local governments. The specific activities will entail the coordination among stakeholders, techno-economic analysis, capacity building, and the provision of digital and data management tools.

The close alignment of the AMP DRC Project with the PDL-145T will ensure its effective implementation and its successful operation in the long term, thus enabling minigrids, government or privately owned, to be developed across the country.

3.2.2. Rationale

This strategy is a result of extensive consultations with the public and private sectors as well as international organizations active in the DRC. Although no minigrid-specific regulations are in place to date and not many new projects have been developed, the catalyzation of the minigrid sector has become a priority for all energy sector stakeholders, resulting in a multitude of initiatives with similar objectives and activities. The initiatives generally all center on market formation (creating effective minigrid policy and regulatory frameworks), cost reduction (improving efficiencies), productive uses of energy (increasing demand), subsidy regimes, and capacity building. Several of these initiatives focus on creating enabling conditions that will allow for private investment at scale to address urban energy access gaps through deployment of large minigrids. A key recommendation from stakeholders of all sectors has been to ensure that new projects do not replicate existing activities and that there is an urgent need for coordination among the various organizations.

As outlined in the previous section, the AMP is structured in a flexible way to allow consideration for national constraints and priorities and ensure that the project?s impacts are maximized in each country. In the DRC, the benefit of this flexible approach enables the project to complement rather than overlap with the variety of existing activities in the country.

As a result of these consultations, the minigrid component of the PDL-145T has been identified as a key opportunity for the AMP DRC Project to support the country?s minigrid sector and its electrification goals in rural and underserved territories. Despite the number of minigrid initiatives currently being executed, none focus on this complex, large-scale government investment program. The AMP DRC Project will thus tailor its activities to support the implementation of the UNDP-led minigrid component of the PDL-145T and thus contribute to the overall national objective of catalyzing the minigrid sector.

3.2.3. UNDP-led PDL-145T

An overview of the implementation agreement for the PDL-145T is provided in Figure 8**.** The Government of the DRC designed the overall program and strategy and is providing its funding. It has selected three separate agencies for implementing the program, among them UNDP. An overview of UNDP?s implementation zone is provided in Figure 7.

UNDP?s strategic approach for executing its mandate relies on an elaborate theory of change and an assortment of operating principles aimed at achieving the transformational goals of the program. This includes the use of special procedures to minimize contracting and execution times as well as an integrated product offering to develop infrastructure through a single platform[20]. UNDP is coordinating this work with the other implementation agencies through program-level steering committees as well as on individual components of the program.

The timeline of the PDL-145T envisions that the minigrids will be developed and operations and maintenance contracts put in place over the period 2023 ? 2025.

With respect to the minigrid component of the PDL-145T, UNDP?s approach involves the commissioning of detailed feasibility studies which will provide guidance on details of the project?s implementation, including planning, siting, procurement, technology, monitoring, the obtaining of approvals and permits, and all other aspects of minigrid deployment. As instructed by the government, UNDP and the two other implementing agencies are closely coordinating their work on minigrids with ANSER, given the complexity of these projects and ANSER?s expertise in the sector[21].

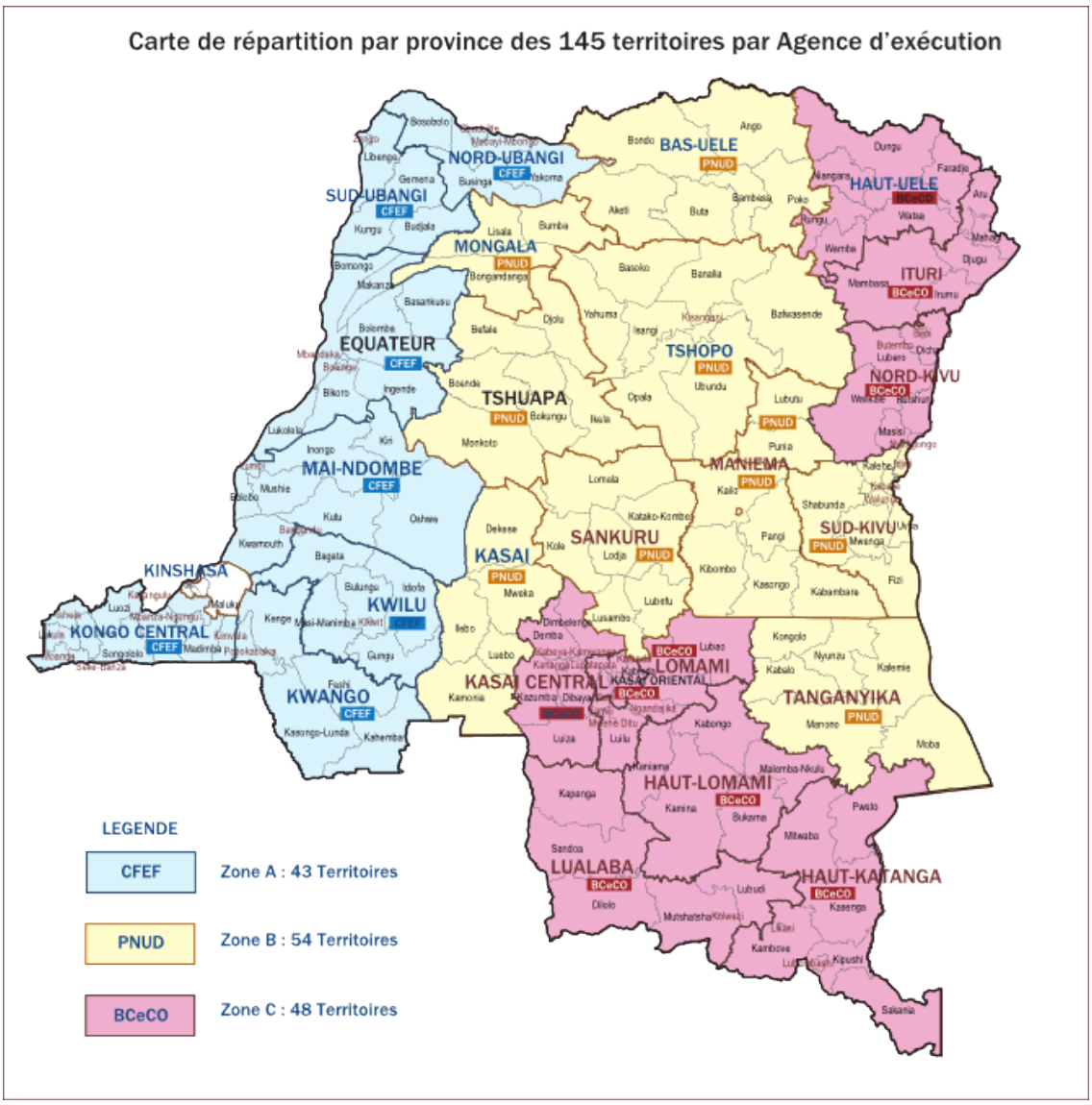


Figure 7: Overview of the zones of the three implementation agencies for the PDL-145T.

The implementation arrangement for the UNDP-led PDL-145T minigrids project is depicted in Figure 8. In the first phase of the program, UNDP is responsible for the procurement and construction of the 172 minigrids. Based on the commissioned feasibility studies, UNDP will prepare a procurement for the 172 minigrid sites in batches and oversee their construction. Depending on the findings of the feasibility study and stakeholder discussions, the procurement process may entail services beyond the construction of minigrids, e.g. the provision of custom software to operate and maintain the procured systems.

In the second phase of the project, UNDP will hand over the minigrids to ANSER. After handover, ANSER will be responsible for procuring private operators to perform operations and maintenance (O&M) on all sites. Additionally, ANSER will be responsible for monitoring the minigrid sites and ensuring that the private operators are meeting key performance indicators (KPIs).

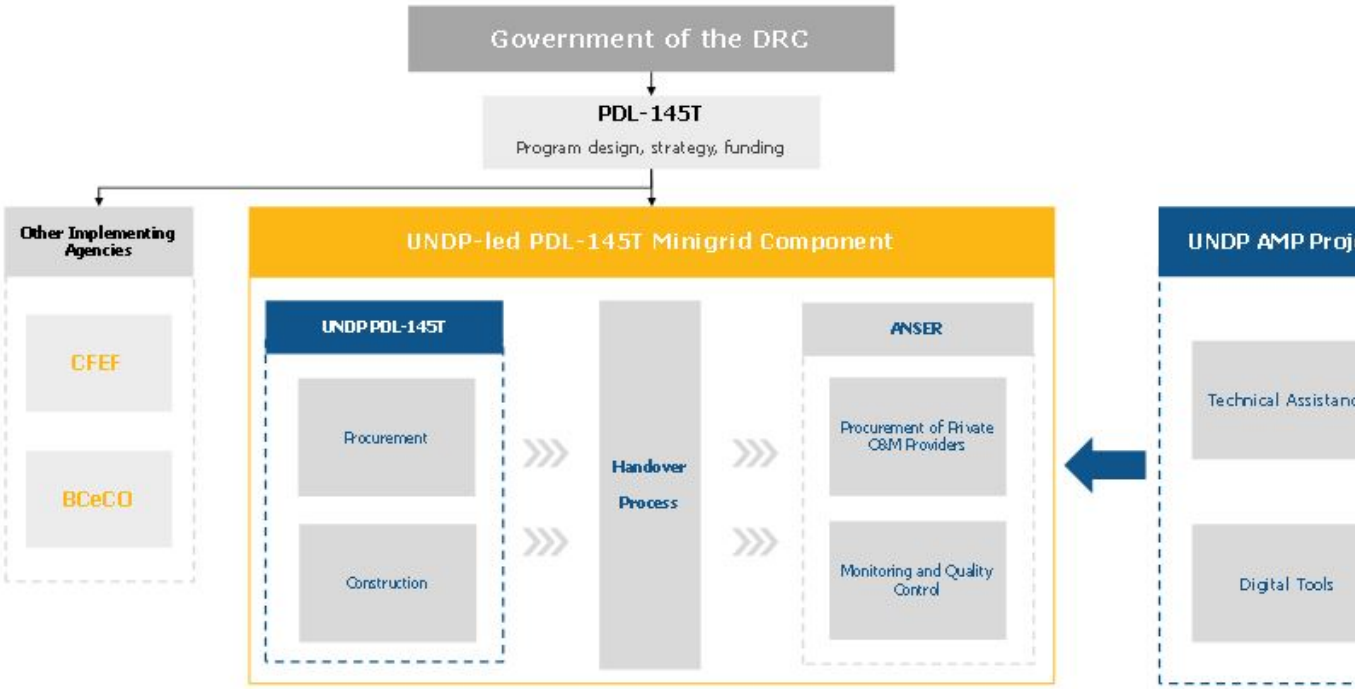


Figure 8: Overview of the implementation arrangement for the UNDP-led PDL-145T minigrid component.

The alignment of the AMP DRC Project with the UNDP-led minigrid component of the PDL-145T will contribute to the development of key insights from the various minigrid delivery models currently being implemented in the DRC. The PDL-145T?s minigrid delivery model includes the development of publicly-owned and privately-operated minigrids. Other delivery models have a stronger focus on private sector delivery and include private ownership and operation that is supported with subsidies from the government (Mwinda Fund) or international organizations. The AMP DRC Project will strengthen ANSER?s capacity to oversee the sector and to advance different types of minigrid delivery models. Additionally, it will create the first national forum in which a specific minigrid delivery model will be

discussed among all stakeholders on a continuous basis, paving the way for coordination and alignment on minigrids in the country.

3.2.4. Minigrid Pilots Plan and key principles for minigrid pilot implementation

In general, all AMP national projects include investment support for minigrid pilot projects which will demonstrate different types of delivery models, various approaches to minigrid development or hybridization, or the addition of Productive Use of Energy approaches to existing sites. In the context of the AMP DRC Project, direct minigrid investments will be funded by government co-financing allocated within PDL-145T for the development of an estimated 172 minigrids across 45 territories and 9 provinces. This is a result of the alignment of the project with the UNDP-led minigrid component of the PDL-145T. In addition to the PDL-145T, numerous pilots are being planned or executed by government institutions and development partners. As such, the addition of further pilots was deemed ineffective, and project activities have been directed to providing technical assistance to strengthen ANSER?s capacity to oversee PDL-145T as well as broader minigrid development in DRC and enable larger minigrid roll-outs.

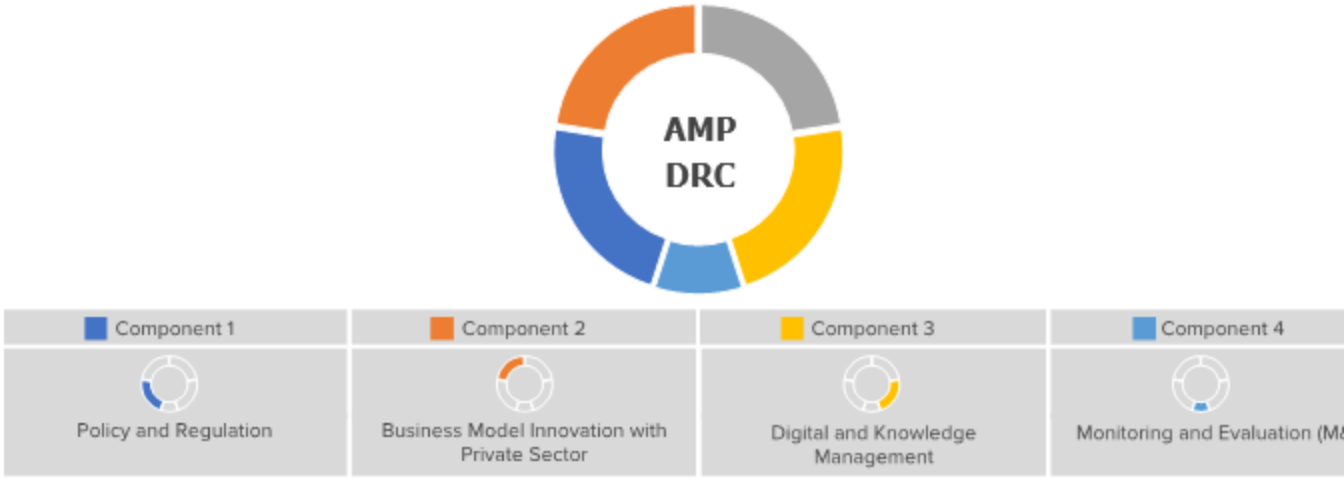
The 172 minigrid sites will be developed by UNDP and thus in accordance with UNDP Policies and Procedures and requisite environmental, social, and gender performance standards. In addition to these, the AMP framework has developed the principles described in the box below for the development of minigrid pilots within AMP national projects.

During the project implementation of the AMP DRC Project, efforts will be undertaken to ensure that these principles are reflected in the development of minigrid sites. This will include the development of a Minigrid Pilot Plan, which in other AMP national projects serve as the activity to plan the respective project?s pilots. In the case of the AMP DRC Project, a Minigrid Pilot Plan will be developed to ensure that the minigrids of the PDL-145T are aligned, as applicable, with AMP principles and key areas of opportunity. The Minigrid Pilot Plan will also seek to ensure that the co-financing and results for the minigrids will be tracked such that the project complies with reporting requirements.

Box 4: Key principles for AMP minigrid pilot implementation

- **Principle 1. Digital platforms**. The use of digital platforms for tendering the pilots is a central element of t AMP and digital strategy for the project. With digital platforms emerging as critical enabler for procure operation of cost-effective and viable minigrids, using a digital platform for pilot projects provides an oppo build capacity of key stakeholders in using this facility which can then set the foundation for later usi platforms for sector-wide, large-scale tenders or results based financing programs. Digital platform sof manage the selection, Monitoring and Evaluation (M&E) and payments of pilots including capacity build Implementation Partner, Project Management Unit and minigrid developers.
- **Principle 2. Productive use: third party ownership model**. For pilots that will financially support the pu productive use equipment using an allocation under the GEF INV, it is required that the project will only p support via a third-party ownership model, as opposed to a self-ownership model. Third party ownershi involve the minigrid asset owner purchasing the productive use equipment, and then effectively leasing it b end-user, as part of an "energy as a service" offer.
- **Principle 3. Clear methodological basis for additionality for calculating the level of subsidization of pilots**. AMP CAPEX subsidies are meant to mobilize and catalyze investment from other sources, including t sector, with the goal of making investments in AMP pilots commercially viable and sustainable. It is critic appropriate use of grant funding to the pilots be ensured, requiring a methodological basis for which th subsisdy will be determined during implementation using the principle of minimal concessionality so th concessional resources (AMP CAPEX subsidies) are allocated efficiently.
- **Principle 4. Minigrid pilots data sharing**. Pilot beneficiaries (e.g. minigrid operators) receiving support project will be required to share minigrid performance data with the national and regional project. Specific conditions for data-sharing and how best to operationalize the commitment and its adoption by the benefici be defined and agreed upon with minigrid operators during project implementation, with support from Regional Project.
- **Principle 5. Compliance with UNDP Social and Environmental Safeguards and Gender requireme** projects receiving project funding are required to comply with all the relevant national standards of the count as UNDP standards as it pertains to social and environmental safeguards and gender equity. In support of this an Environmental Safeguards Management Framework (ESMF), developed for the program, and a gender a accompany this ProDoc (Annexes 10 and 11). The ESMF will have to be incorporated and considered in d the environmental and social management plans for pilot projects. A critical consideration under this framew need to ensure environmentally sound management of replaced equipment, including batteries, inverters panels, after their usage. The responsible handling of waste with recycling of batteries and other recyclable e should be clearly documented, budgeted and monitored in compliance with national and UNDP s requirements.

3.3. Project components, outcomes, outputs and activities



1.1 An inclusive national dialogue to identify minigrid delivery models is facilitated, clarifying priority interventions for an integrated approach to off-grid electrification	2.1 Feedback loop established between the project and the PDL-145T minigrid pilots	3.1: A project Digital Strategy is developed and implemented, including linkages to and following guidance from the AMP Regional Project	4.1 M&E and Reporting, including (i) Conducting inception workshop and preparing report, (ii) Ongoing M&E, (iii) Mid Term Evaluation and (iv) Terminal Evaluation
1.2 Minigrid DREI techno-economic analyses carried out to propose most cost-effective basket of policy and financial derisking instruments		3.2: A ?Minigrids Digital and Data Management Platform? implemented to run tenders and manage data, and to support minigrids scale-up and cost-reduction	
1.3 Capacity building provided to public officials to design procurement/tender processes that incorporate cost-reduction levers and innovative business models		3.3: A Quality Assurance and Monitoring Framework for measuring, reporting and verification of the sustainable development impacts of minigrids	
		3.4 Engage with the regional AMP project, via (i) Communities of Practice and (ii) capturing and sharing lessons learnt	

3.3.1. Component 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.

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 DRC is at a critical juncture regarding its minigrid delivery model, with various approaches being implemented across different projects and discussions underway among the key energy sector stakeholders and development partners (World Bank, AfDB, UNDP) to align on minigrid specific regulatory frameworks.

The AMP DRC Project will contribute to this dialogue by providing technical assistance to the UNDP-led minigrid component of the PDL-145T. The deployment of the program?s 172 minigrids will be based on a unique delivery model: The UNDP will, on behalf of the government, procure the construction of the minigrid sites; subsequently, UNDP will initiate a handover process to ANSER, whereby ownership remains with the government and ANSER will be tasked with procuring private operators for the operation & maintenance of these assets. ANSER will furthermore be responsible for ensuring that the operators meet key performance indicators.

To ensure the effective implementation of this complex and large-scale investment program that involves different types of procurement processes, the AMP DRC Project will create a working group for this project for all stakeholders in the sector. This will ensure that 1) the project incorporates relevant feedback from stakeholders, strengthening the structuring of the program, 2) increases awareness of the state and timeline for the project, ensuring the private sector is prepared to contribute to tenders when they are launched, and 3) will share learnings about the project, particularly about the specific minigrid delivery model and its strengths and weaknesses this contributing to the broader national-level dialogue on delivery models for minigrids. This working group will be the first national forum involving all minigrid stakeholders, ensuring that there is continuous exchange of knowledge and learnings and enhancing collaboration and coordination in the sector. It will integrate women?s organizations (NGO and business association) to represent women?s and gender equality concerns in the discussions on the minigrid delivery model.

The following specific objectives are expected to be achieved:

? National coordination: The minigrid component of the PDL-145T is an immense public infrastructure investment initiative that targets hard-to-access rural areas of the country and aims to provide them with state-of-the-art off-grid energy systems that can be operated and monitored remotely. On the national level, this project will require coordination, collaboration, and alignment between many stakeholders to ensure the successful implementation. The coordination group on the national level will meet monthly, whereby ANSER will be responsible for setting the agenda based on potential challenges it foresees. On the government coordination side, examples of such challenges include: coordinating of UNDP?s siting of minigrids in line with ANSER?s electrification plan and priorirty investment plan as well as related plans of the CNE; obtaining of concessions, permits, and

licenses in alignment with the regulator ARE and other government institutions; ensuring that public procurement processes are coordinated appropriately (currently only ARE is legally permitted to issue tenders in the energy sector, i.e. ANSER will need to prepare tender documents and provide them to ARE to initiate the procurement process).

? Provincial coordination: The project will additionally require coordination on the provincial level. This is needed on the government side as certain approval processes, for example concession and license application, are reviewed by provincial governors and their associated staff. Given the nascence of minigrids and the relative complexity of the minigrid development process, a continuous exchange of information will be required between stakeholders at the provincial level to ensure that the projects can be implemented effectively. This provincial-level coordination will benefit from the regional offices that ANSER opened and operationalized over the last two years.

? Local coordination: The project will additionally require coordination on the local level for each minigrid. While local coordination is expected to be more ad-hoc and less frequent than national and provincial-level coordination, it is nevertheless critical to ensure that projects are implemented effectively. The experience of stakeholders in the DRC has demonstrated that local officials are often unfamiliar with minigrid systems and need support from a trusted source to guide their decision-making and associated approval processes.

? Coordination with the private sector: The involvement of the private sector throughout the implementation of the minigrid component of the PDL-145T is critical to ensure the success of the program. The private sector is an important part of the project, as private sector service providers will be requested to bid for performing operations and maintenance services on the constructed minigrids. Additionally, the private sector is an important resource for the project, given the longstanding experience and expertise of minigrid developers with all aspects of the development process, including choice of minigrid systems and technologies, the obtaining of required permits and approvals, the recruitment of local staff, the operation of remote minigrid sites, and others. The private sector could in particular provide feedback to the procurement process for the construction of minigrids, advising on required standards and characteristics for equipment.

? Coordination with donors: The coordination among donors as well as the coordination between donor-led and government-led activities is a high priority for all stakeholders in the sector. The national-level coordination forum will, in the first instance, ensure that donors are aware of the current status of the AMP DRC Project and can, if applicable, align their activities to provide additional technical assistance and support. More broadly, the national-level coordination forum will serve to create a national dialogue on minigrids and minigrid initiatives, providing an opportunity for donors to share their current and planned projects and aligning them with other ones in the DRC.

This output includes the following activities:

Activity 1.1.1. **Establish multi-stakeholder working groups related to the minigrid component of the PDL-**145T. Support the establishment of a working groups at the national, provincial, and local levels that includes all relevant stakeholders from Government, local authorities, private sector, and development partners, including women?s groups.

Activity 1.1.2. **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. Minigrid DREI techno-economic analyses carried out to propose most cost-effective basket of policy and financial derisking instruments and contribute to AMP Flagship Report on Cost Reduction

As noted in the AMP PFD, UNDP?s Derisking Renewable Energy Investment (DREI) is an innovative, quantitative framework to support policy makers to cost-efficiently promote private investment in renewable energy. In late 2018, UNDP expanded the DREI framework to include solar PV-battery minigrids, releasing open-source analytic and financial modelling tools to track investment risks, financing costs, and to support the private sector and policymakers in modelling levelized costs, tariffs and subsidies for minigrids.

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. When carrying out the risk and barrier analysis, AMP will carry out a further analysis and consider the gender dimension of the different investor risks. The DREI analysis will qualitatively assess how the added dimension of gender increases/decreases the probability and impact of the risks categories defined in the DREI framework and the implications this has for the selection of policy derisking instruments.

DREI, by interviewing the private sector, is a well-suited tool for this task. The risk environment and instrument selection stages of DREI deliver quantitative insights into financing costs and the impact of public instruments in lowering these costs. The financial modeling stage captures hardware and soft costs to determine the levelized cost of electricity (LCOE) of the technology being assessed.

DREI conclusions and recommendations will feed into the development of policies, regulations and sector plans (Output 1.2) and be considered as part of the national policy dialogue on delivery models (Output 1.1).

This output includes the following activities:

Activity 1.2.1. **Initial, full quantitative national DREI analysis (Year 1)**. A full quantitative DREI application will be conducted in the first year of project implementation. The PMU will assemble a task team to perform the national DREI analysis including consultants (international, national), government stakeholders, and members of PMU. Deliverables will include interviews, completed financial models, and national reports/knowledge products. TORs for these consultants will be made available by the

AMP Regional Project and should include a provision for an additional DREI analysis dimension that considers the gender lens. This national analysis will be funded by the national project. The AMP Regional Project can in turn provide various support on DREI to the national project, including: (i) finalizing TORs for the country-level; and (ii) sharing recommendations (in the form of a vetted roster of consultants) on international consultants that are trained on DREI already, as well as resources and tools (Excel models etc.) to conduct the DREI analysis. Results from the full quantitative national DREI analysis will be shared with the regional project to feed into a regional flagship AMP knowledge product across all AMP countries (funded by the regional project), on DREI and lowering minigrid costs. This full quantitative analysis can act as a mechanism to engage national stakeholders in a comprehensive dialogue around the derisking measures necessary to advance the market, and to also allow for the project team to engage in early adaptive management in project design, as needs be.

Activity 1.2.2. **Dissemination of DREI analyses and adaptive management (Year 2)**. In the first half of Year 2, the project will disseminate the national DREI analysis and, in the second half of Year 2, the flagship DREI regional knowledge product (south-south learning) through dissemination activities at the national level. Together, these dissemination activities will encompass 3 or 4 round-table workshops with government, private sector and other key stakeholders, over a 12-month period. Along-side these dissemination activities, the PMU will utilize the findings of the national DREI analysis to inform any adaptive management of the national project?s outputs/activities, to address identified needs for public measures arising from the national DREI analysis.

Activity 1.2.3. **Coordination 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 1.3. Capacity building provided to public officials (regulator, ministries) specifically to design procurement/tender processes that incorporate cost-reduction levers and innovative business models

The UNDP-led minigrid component of the PDL-145T is a complex and large-scale investment program that involves different types of procurement processes and interfacing between UNDP and ANSER, as well as other stakeholders. Based on discussions with the relevant stakeholders, four specific processes were identified to which the AMP DRC Project?s technical assistance is targeted:

? Procurement of EPC services to construct minigrids

o While the construction of minigrids is under the purview of UNDP, ANSER is closely collaborating with the UNDP PDL-145T to ensure that its experiences and understanding of the sector are utilized to strengthen the procurement process and the procurement?s Terms of Reference. Because of the complexity of the procurement, capacity building to ANSER will be required to ensure that it foresees all challenges and opportunities of this process and can provide high-quality feedback to UNDP to improve the procurement.

o For 172 sites, minigrid equipment needs to be procured, installed, and commissioned. This is a complex undertaking by itself, and it is complicated by the location of the sites in rural areas of the DRC, which is a geographically large country with very limited transportation infrastructure. The required equipment thus needs to conform to high-quality standards applicable for use in off-grid contexts, with consideration for difficulty of access and thus limited availability of quick maintenance services and spare parts.

o Another important consideration is the need to comply with all the relevant national standards of the country as well as UNDP standards as it pertains to social and environmental safeguards and gender equity. In support of this principle, an Environmental Safeguards Management Framework (ESMF), developed for the program, and a gender action plan accompany this ProDoc (Annexes 10 and 11). A critical consideration under this framework is the need to ensure environmentally sound management of replaced equipment, including batteries, inverters and solar panels, after their usage. The responsible handling of waste with recycling of batteries and other recyclable equipment, should be clearly documented, budgeted and monitored in compliance with national and UNDP safeguards requirements.

o An additional consideration is to ensure that the procurement includes the provision or creation of operational software. Different minigrid system components (generation, battery energy storage systems, inverters, smart meters, mobile payment systems, etc.) often have their own firmware, requiring that the developers or operators either procure systems that can integrate all system components or design their own, proprietary software. Given the project?s procurement of a large number of minigrids, it is worthwhile to include the provision of such software in the overall deliverables. However, the specifications for the software need to be discussed in detail with ANSER and private sector operators to ensure that key learnings are integrated into its design.

o The deployment of such a large number of minigrids additionally allows for training to be included. The tender documents could contain clauses requiring the awardee to train certain people about the technical aspects of the equipment, maintenance and repair guidelines, and the use of operational software. Contract clauses could also include the provision of O&M services for a certain amount of time (e.g., 1 year) during which local staff will be trained in O&M processes.

? Handover process from UNDP to ANSER

o The commissioned minigrids will be handed over to ANSER, after which ANSER will be responsible for procuring private operators for O&M and for quality and performance control of the sites. The handover will be a complicated process to ensure that rights and responsibilities are clearly delineated and ANSER has the resources it needs to proceed to the next steps in the project effectively.

? Procurement of private operators to provide O&M services

o After the handover process, ANSER will be responsible for procuring private operators to provide O&M services for all minigrid sites. To ensure that the procurement process reflects best practices, the AMP DRC Project will provide technical assistance during this process.

? Monitoring of minigrid sites

o ANSER will be responsible for monitoring the performance of the minigrid sites, ensuring that the private O&M providers are fulfilling their obligations to ANSER and to the end-users and that the assets are being maintained. ANSER does not yet have a process to monitor minigrid performance. The AMP DRC project will provide support to create such guidelines and processes, including a quality assurance and monitoring framework and digital tools that will be used for these activities, as described in the digital tools section below.

Gender issues/ opportunities related to minigrids, agricultural value chains, and unpaid work.

? AMP will provide capacity building on gender aspects related to minigrid, including PUEs, agricultural value chains and labour saving technologies to alleviate women?s unpaid work.

The capacity building activities will be targeted at ANSER as well as other institutions relevant to the rural electrification sector in the DRC, such as ARE, UCM, etc.

This output includes the following activities:

Activity 1.3.1. **Capacity needs assessment.** At the beginning of the project?s implementation, a capacity needs assessment will be conducted across institutions based on the objectives of the PDL-145T and the required workflows to implement it. Based on the findings of the assessment and the priorities of the project, ANSER will determine which capacity building topics to pursue and which organizations to include. Particular attention will be paid to capacity building related to digital and data management platforms as part of the Project?s Activity 4.2 to ensure the most effective use of these systems.

Activity 1.3.2. **Provide capacity building on technical aspects of minigrids with support from the AMP Regional Project.** This activity seeks to enhance knowledge and competences relevant to the technical aspects of minigrids. This knowledge will be important for the involved stakeholders to guide their approaches in the various procurement processes and other activities.

Activity 1.3.3. **Provide capacity building on procurement processes and other aspects of the implementation of the PDL-145T**. This activity will support relevant public officials throughout the various procurement processes described above. Support will entail the identification of specifications for relevant terms of reference, coordination of workshops to obtain stakeholder feedback on the projects, and other assistance as needed and requested by the relevant institutions. Capacity building could include the following topics:

- ? leadership: inspiring a motivating work environment for staff
- ? transparency: accountability to the public, transparency in decision-making and in tracking applications/projects
- ? efficiency: development of KPIs to measure institutional efficiency (number of days between request and response, number of internal feedback cycles/loops) and way to improve them; streamlining and standardizing processes that are not currently standardized (application, complaints management, tariff revision)
- ? information management: databases and integration of live information in websites, automatic data sharing through APIs/public interfaces
- ? Increase impact: understand the bottle necks for integrating gender equality and providing access to vulnerable groups would allow for identification of strengthening livelihood opportunities
- ? project management: training of technical staff (engineers, lawyers) in project management; potentially, certification of institutions in quality management system
- ? HR: attract highly capable talent, improve diversity (women, collaborators from DRC?s regions)
- ? gender and environmental and social (E&S) safeguards: understanding of safeguards related to minigrid development and implementation; design, implementation, and creation of compliance systems for gender and E&S safeguards

3.3.2. 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.

Component 2.

Output 2.1. Feedback loop established between the project and the PDL-145T minigrid pilots

The project will establish a feedback loop with the PDL-145T as it relates to the development of minigrid investment pilots to ensure the flow of information that will allow this project to better target its technical assistance to the PDL-145T minigrid component, and to harness data and lessons learned from pilot implementation.

Various aspects of the approach that will be followed by the PDL-145T to develop minigrid investments are yet to be defined. The UNDP PDL-145T PMU will determine the location, sizing, configuration, and all other details based on findings from a comprehensive feasibility study which is currently being executed and which is expected to be finalized in Q4 2023 / Q1 2024. At the time of writing, the following information is available for the PDL-145T minigrids:

? The construction of all minigrids will be fully funded by the government through the PDL-145T.

? Once construction is completed and the responsibility of the sites is handed over from UNDP to ANSER, ANSER will be required to procure private sector operators to operate and maintain them.

? All minigrids will be based fully on solar energy and batteries, i.e., the projects will not utilize fossil fuel backup generation.

? The total budget for the 172 sites is $43 million.

? Several gender actions are proposed including data collection (time-use surveys), ensuring women are represented in decision-making local bodies, training and capacity building, market analysis for dissemination of PUEs.

As such, activities under components 1 and 3 are intended to complement the deployment of minigrid investments undertaken under the PDL-145T and contribute to their success and sustainability. At the same time, this project is intended to capitalize on the minigrid pilots and their contribution to demonstrate cost-reduction, innovative business models, and key aspects of the delivery model underpinning those investments. To meet those goals, this component will establish a feedback loop between the project and the PDL-145T minigrids so that information can flow between the projects.

This output includes the following activities:

Activity 2.1.1. Compile the project?s ?Minigrid Pilot Plan?.

The PMU will lead and develop, in close collaboration with other stakeholders and support from the AMP Regional Project, a detailed plan (the project?s ?Minigrid Pilot Plan?) for advancing project activities that are directly related to the minigrid pilots. Since the pilots will be developed by the PDL-

145T the Minigrid Pilot Plan will serve to capture information on the PDL-145T minigrid investments that is not yet available at this stage of project preparation. It will also allow the PMU to assess progress in the UNDP-led minigrid component of the PDL-145T and identify adaptive management measures as needed to ensure technical assistance activities under components 1 and 3 are aligned to the needs arising from the construction as well as O&M phases of the minigrid pilots. It will validate alignment with AMP key principles and areas of opportunity and assess consistency with UNDP social and environmental safeguards policies and requirements (SES) and gender principles. 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 in year 1.

Activity 2.1.2.

Building on the initial design information in this project document and its annexes, including the key principles for minigrid pilot implementation described in Box 4, the project?s Minigrid Plan Pilot Plan will confirm and/or clarify, among other aspects, the following:

- ? Clear objective for the pilots in the context of PDL-145T and in relation to expected minigrid market transformation;
- ? Details for the deployment of the PDL-145T minigrids based on completed detailed feasibility studies (e.g., location for all sites, system sizing and configuration, community engagement activities, social and environmental safeguards (SES) assessments, gender assessments);
- ? Details and status of the procurement process to engage EPC contactor(s) and status of minigrids deployment;
- ? Details and status of the procurement process to engage O&M operator(s);
- ? Alignment with AMP Key Principles described in **Box 4**;
- ? Approach to productive uses of electricity (PUE) in PDL-145T minigrids;
- ? Approach to data sharing from PDL-145T minigrids;
- ? The project?s approach to ensure financial and operational sustainability of minigrids under private sector O&M.

Activity 2.1.3. **Monitor pilots, collect and aggregate data shared by pilots**. After commissioning of minigrids and before/after handover from UNDP to ANSER, data generated by the pilot(s) will be collected using the relevant digital platform, connecting directly - to the extent possible -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.

ANSER will require minigrid operators to share minigrid performance data with the national project following a common data reporting framework (See Component 4, Output 4.3). Specific terms and conditions for data-sharing and how best to operationalize the commitment and its adoption by the minigrid operators will be defined and agreed upon during project implementation.

Data collected from the pilot(s) will be used by ANSER to, among other purposes: (i) track the performance of the minigrid systems; (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.

3.3.3. Component 3: Digital and Knowledge Management

Outcome 3: 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.

Component 3.

Output 3.1. A project digital strategy is developed and implemented, including linkages to and following guidance from the AMP Regional Project

Digital tools are critical for the minigrid sector, supporting the consolidation and provision of information, the design and execution of procurement processes, the monitoring of minigrid sites, and other uses. In the DRC, off-grid energy sector stakeholders are familiar with digital tools for minigrids. The World Bank supported the pre-screening of minigrid sites through software deploying GIS and satellite imaging. Additionally, various options for digital procurement processes have been piloted with various institutions.

ANSER recently launched a procurement process for the provision of a digital platform to support its activities. The platform will incorporate existing information obtained through prior projects (location of electrical infrastructure, electrification rates, information on existing projects, generation potential, demand potential, transport infrastructure, etc.) and deploy them in a GIS database, allowing different levels of access to the information through a web portal for different user types. Once this digital platform is developed, ANSER is planning to expand it to include the provision e-tendering for future projects, such as the procurement of government-funded minigrids or the procurement of private-sector minigrid operators.

In regard to the UNDP-led minigrid component of the PDL-145T, the relevant stakeholders expressed the need for the following digital tools:

? Monitoring of minigrids performance: The current efforts on digital tools for minigrids focus on the consolidation and provision of information and on procurement processes. Stakeholders expressed a need to devise a strategy to enable the monitoring of minigrid sites. This will be particularly relevant for the minigrid component of the PDL-145T, as ANSER will be responsible for monitoring the performance of the private sector O&M service providers.

? Minigrid O&M software: Given the large-scale procurement of minigrids through the PDL-145T, some stakeholders proposed the development of a minigrid O&M software as part of the procurement. In addition to being deployed for the PDL-145T minigrids, this software could be provided to other developers and O&M service providers. The objective would be to assign ownership of the software to ANSER, who will oversee its development and continuous upgrading, while it is being provided at low cost to private actors for minigrid O&M. This would additionally simplify ANSER?s mission of remotely monitoring minigrid sites.

This output includes the following activities:

Activity 3.1.1. **Develop and implement a project digital strategy (the ?Project Digital Strategy?)**. All AMP national 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. In the context of the AMP DRC Project, the development of the digital strategy will entail close consideration for the digital needs of the UNDP-led minigrid component of the PDL-145T, including for relevant procurement and O&M processes.

As part of this activity, an assessment will be conducted that will analyze how digital tools can support the effective implementation of the project and ANSER?s mission overall. The assessment will include consideration of existing digital tools for the off-grid sector (such as the one ANSER is currently procuring), other planned procurements of such systems from government or donor organizations, and the collaboration on these systems across institutions (e.g., between ANSER and CNE).

The project can request guidance from the AMP Regional Project to conduct, as a preliminary step for developing a digital strategy, a digital readiness assessment (DRA) to assess the country?s and sector?s readiness to adopt technology and digital solutions into the implementation of minigrids, and to identify and prioritise digital interventions in all aspects of the project. The outcome of the DRA exercise will aid in enhancing digital interventions and adoption. The Method used to perform a DRA will be a SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats), particularly for the implementation of minigrids and digital adoption.

The strategy will be reviewed by a gender consultant so that it highlights the importance of collecting users? data to document the different needs and usages of men and women. This should be reflected in one of the strategy?s objectives, in action points or activities and the strategy M&E plan.

Activity 3.1.2. **Develop 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. The national-level digital strategy will review existing and planned initiatives regarding digital tools for the minigrid sector, with particular consideration for ANSER?s ongoing efforts in creating relevant databases and platforms.

Output 3.2. A ?Minigrids Digital and Data Management Platform? implemented to run tenders and manage data, and to support minigrids scale-up and cost-reduction

Most AMP national projects will deploy and use a digital and data management platform with the overall objective of digitizing and streamlining the management of the country?s minigrid programs. With digital platforms emerging as critical enabler for minigrid sector management, using a digital platform for the projects provides an opportunity to build capacity of key stakeholders in using this facility which can then set the foundation for later using digital platforms for sector-wide, large-scale tenders or results based financing programs.

As ANSER is already working with the World Bank to procure and implement a data management platform for minigrids, the project will review its implementation and, if applicable, support its operationalization. In addition, the project will review if the existing digital and data management platforms support the following objectives:

? Provide a centralized database for all distributed energy projects/programs at national level hosting all available technical and financial data on existing and potential minigrid sites (e.g. GIS, surveys, operations)

? Support sector-wide digital tenders or result-based financing programs

? Collect, manage and aggregate data from all minigrid sites

? 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

In case any gaps are identified, the project will provide support in identifying potential solutions with stakeholders and procuring the relevant services.

This output includes the following activities:

Activity 3.2.1. **Develop Terms of Reference (TORs) for procuring digital tools/platforms.** Box 6 provides indicative specifications for a Minigrids Digital Platform which is used by AMP national projects. In the context of the AMP DRC Project, the development of

the TORs will be based on these specifications as well as on the digital strategy (Activity 4.1) and include a review of existing digital tools being used by ANSER and other institutions. The objective is to ensure that the procured digital tools will support the effective implementation of the UNDP-led PDL-145T minigrids while building on existing approaches and tools that have already been developed.

Activity 3.2.2. **Procure digital tools/platforms**. The project will procure a minigrids digital platform based on the TORs developed under 4.2.1. The platform will serve several purposes, including supporting ANSER in the procurement of private O&M operators and monitoring the privately-operated minigrids to ensure fulfilment of key performance indicators. Based on the developed digital strategy and existing approaches, the platform will entail additional components.

Box 6: Indicative Specifications for AMP Projects Digital Platform

In the context of the AMP, the project digital platform will provide key functionality for the project in terms of acting as the (i) national digital convening platform for key stakeholders (public/private), (ii) providing ongoing data gathering and M&E on minigrids, including linking to the AMP regional project and (iii) acting as the mechanism for tenders for minigrid developers/sites.

Functionality	Details
National digital convening platform for key stakeholders	• Set up of a country-specific, web-based platform to manage all technical and financial data related to minigrid sites at the site and portfolio level • Single site register of minigrid sites, with geospatial views and technical/financial benchmarks for site assessment • Set of best-in-industry tools for analyzing minigrids, including demand forecasting, minigrid system design and optimization, and financial modeling • Capacity-building and in-depth training of key government and other stakeholders to use analytical tools and data management technologies
National monitoring and evaluation platform (remote monitoring & analytics)	• Direct integration with smart meters and remote monitoring systems for live data feeds and monitoring (with options to address lack of remote monitoring systems or other restrictions) • Big data analytics and customized reporting to calculate and report on standardized metrics for pilot performance, based on project QAMF • Quality assurance of data quality, accuracy, relevance, consistency • Interactive tools to analyze data, filter, and view at varying levels of granularity • All pilot-specific data can be rolled up into national view, and all country-specific data can be rolled-up into regional view
Financing platform for running tenders to select minigrid pilot beneficiaries	• Complete end-to-end management of e-tenders for mini-grids customized to specific project/pilot needs (e.g. customized technology solutions, customized workflow, customized KPIs for pilot monitoring) • Automated proposal analysis for quantitative proposal components • Remote verification of connections through smart meter integrations • Automated M&E analytics for all RBF program indicators (connections deployed, amounts paid, gender/environmental impact metrics, etc.)

Output 3.3. 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

The AMP Regional Project will develop a Quality Assurance and Monitoring Framework (QAMF) for application in AMP minigrid pilots (AMP QAMF). The AMP QAMF will focus on measuring key performance indicators related to the fundamental challenge of delivering safe, reliable, and affordable power to remote customers through financially sustainable mini-grids. To that end it will: (i) **Define distinct levels of service** with thresholds for power quality, reliability, and availability that will serve as a standardized technical framework for classifying minigrids and energy customers; and (ii) **Establish a standardized framework for accountability and performance reporting** including a transparent process for validating power delivery, monitoring and evaluating minigrid operators, and providing reliable information to customers, funders, and regulators through data aggregation. 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.

The project will build on the AMP-QAMF developed in year 1 (2023 ? 2024) of the AMP Regional Project, and disseminated to all AMP national projects, and tailor it to the DRC and PDL-145T context. The framework will have a clear emphasis on minigrid operators accountability and enabling ANSER and other government agencies, to assess the safety and reliability of the minigrid systems and determine if they are delivering the agreed-upon services as specified in the O&M contracts and relevant service agreements with end-users. The operationalization of such a framework includes implementation of technical and business reporting to ensure a well-defined and secure methodology for minigrid operators to convey relevant and important information to ANSER.

This output includes the following activities:

Activity 3.3.1. **Develop a standardized Quality Assurance and Monitoring Framework for application in PDL-145T**. Building off the AMP-QAMF developed in year 1 of the AMP Regional Project and disseminated to all national projects, the PMU will adapt it to the country context considering PDL-T145 specific needs to monitor the performance of minigrid systems operated and maintained by private sector.

It is expected that national project staff will provide both inputs and feedback on how to tailor this framework to the DRC and PDL-145T context as well as on how best to operationalize the committing to its adoption by the private sector minigrid operators engaged by ANSER to operate the PDL-145T minigrids. Concerns around data privacy or sensitive data on the part of minigrid operators will be considered and addressed in each case.

Activity 3.3.2. **Operationalize the AMP-QAMF.** The adoption and utilization of this framework and associated data reporting protocols will be a requirement for all minigrid pilots and ANSER will ensure that minigrid operators formally commit to using the QAMF as a

condition of the respective O&M contract. The adoption of the AMP-QAMF 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.

The operationalization of the framework includes implementation of technical and business reporting and the project will provide support to ensure ANSER and minigrid operators are able to implement the framework succesfully. Key aspects of technical reporting for minigrids include evaluating power quality, reliability, energy production, consumption, generation sources, and system efficiencies. Reporting business information is just as important as it allows to monitor financial and operational sustainability. The main elements of business reporting for minigrids include payment collection rates, electrification rates, customer characteristics, service calls, safety concerns, etc.

Output 3.4. Engage with the regional project, including, but not limited to, via (i) participating in Communities of Practice and (ii) capturing and sharing lessons learnt.

The AMP Regional Project will support and facilitate knowledge management and information sharing between the regional project and national projects, among national projects, and between the program and the broader minigrid community. Its aim is to ensure that the latest developments, cutting-edge guidance and good practices in minigrids, as they relate to the program?s main thematic areas and areas of focus, are captured and made available to the project and to relevant stakeholders.

To that end, the project, as well as other AMP national projects, will engage with the AMP Regional Project by sharing information and lessons learned from project implementation, requesting and receiving operational and technical support for project implementation, participating in the Program?s Communities of Practice, and sharing monitoring and evaluation data.

Activity 3.4.1. **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.

Activity 3.4.2. **Sharing of 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 3.4.3. **Collaborate with the regional project on an ?Insight Brief?**. Every AMP national project is expected (in the course of the four year implementation cycle) to collaborate with regional project staff on the development of at last 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 for the production of ?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.

In order 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.

3.3.4. Component 4: Monitoring and Evaluation (M&E)

This component will contribute to ensuring compliance with all mandatory UNDP/GEF monitoring, evaluation and reporting requirements, including the following: (i) conducting an Inception workshop and preparing an inception workshop report, (ii) ongoing monitoring of the project, (iii) conducting a project Mid-Term Evaluation (MTR) at the half-way mark of project implementation; and (iv) conducting a project Terminal Evaluation (TE) at the end of the implementation period. To that end, Component 5 includes a single output comprised of activities to meet each of the aforementioned requirements. which are described in more detail further below.

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.

Component 4.

Output 4.1. M&E and Reporting, including (i) Conducting inception workshop and preparing report, (ii) Ongoing M&E, (iii) Mid Term Evaluation and (iv) Terminal Evaluation

This output includes the following activities:

Activity 4.1.1. **Conducting inception workshop and preparing report**. A project inception workshop will be 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 (Section IX), multi-year work plan (Annex 4), Monitoring Plan (Section VI), and the Procurement Plan (Annex 11), among others. The national inception workshop will be carried at the beginning of project implementation within 60 days of CEO endorsement of this projectThe workshop will be organized by the PMU with support from the IP, and planned with support from the UNDP CO and 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 4.1.2. **Ongoing project monitoring of Results Framework indicators**. As set out in the Monitoring and Evaluation Plan (Section VI), data on Results Framework Indicators will be systematically collected and analyzed to provide the Project Board, project stakeholders, and the GEF 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 (see Prodoc, Annex 16) included in the Results Framework (Section V) will be used to monitor impact at the Project Objective level. Progress towards these indicators will be determined annually for Project Implementation Review (PIR) reporting to the GEF as well as prior to the Mid-term Review (MTR) (Activity 4.1.4) and Terminal Evaluation (TE) (Activity 4.1.5).

Activity 4.1.3. **Ongoing project monitoring of key project plans**. Annual progress monitoring and reporting should also cover any gender, environmental and social risks and related management plans. The project is accompanied by various plans including Stakeholder Engagement Plan (Annex 8), mitigation plan for project risks (Risk Register in Annex 6), and Gender Action Plan (Annex 10). 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). 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 4.1.4. **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 make widely available to all project stakeholders in the relevant language.

Activity 4.1.5. **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 program is aligned with Objective 1 of the Climate Change Focal Area to ?Promote innovation and technology transfer for sustainable energy breakthroughs?, through CCM 1-1 - Promote innovation and technology transfer for sustainable energy breakthroughs for de-centralized renewable power with energy storage. 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.

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

The GEF-7 Trust Fund allocation for the AMP DRC project is $408,716. In addition to that $500,000 has been committed from UNDP TRAC resources as cash co-finance for the project. A further $61,048,000 in co-finance have been committed by two co-financiers as detailed in the co-finance table. Out of this co-financing, $43,000,000 will fund the development of publicly owned minigrids to be operated and maintained by provate sector companies under the oversight of ANSER. In addition to implementing the project scope already described, the combined project finance of $61,956,716 will unlock the global environmental benefits described below.

The GEF and UNDP TRAC funds allocated for implementing the project in DRC ($908,716) will be used to fund strategic minigrid technical assistance activities in the DRC, as elaborated on the Theory of Change of the AMP. The AMP?s Theory of Change is premised on a baseline context where risks and barriers are driving high financing costs (equity and debt) and reducing the competitiveness of minigrids with respect to fossil-fuel based alternatives. 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.

In the context of the DRC, the AMP national child project will focus on two of the AMP?s ?Key Areas of Opportunity?: (i) an emphasis on advancing national dialogues on minigrid delivery models and (ii)

leveraging data and digital solutions for minigrid cost-reduction. These key areas of opportunity will be targeted through the alignment of the AMP national child project with the PDL-145T project. The minigrid component of the PDL-145T foresees the construction of 418 solar photovoltaic minigrids with a budget of $105 million. UNDP is implementing part of this component on behalf of the government, developing 172 minigrids with a budget of $43 million. The AMP DRC Project will be aligned with the UNDP-led minigrid component of the PDL-145T to build the capacity of public institutions involved in rural electrification, particularly ANSER, to roll-out and oversee minigrid programs using different delivery and business models, and coordinating effectively with national, provincial, and local governments. The specific activities will entail the coordination among stakeholders, techno-economic analysis, capacity building, and the provision of digital and data management tools.

The benefit of this design of the AMP DRC Project are threefold: First, the close alignment of the AMP DRC Project with the PDL-145T will ensure its effective implementation, thus spearheading the successful development of renewable energy minigrids in many parts of the country. By supporting the development of 172 minigrids, a wide variety of stakeholders will become familiarzed and involved in the development, construction, and operation of minigrids. This spearheading of a new type of off-grid electrification in the DRC will increase the capacity of stakeholders to understand and implement related minigrid processes and ease the way for future minigrid development, regardless of which minigrid delivery model is deployed. It will additionally familiarize stakeholders to a specific type of minigrid delivery model which might become the leading model for electrification of the country, as determined by the national dialogue on the subject.

Second, by focusing national dialogues on minigrid delivery models, the AMP DRC Project will significantly contribute to improving the conditions for developing minigrids in the country and lower their costs. The AMP DRC Project?s activities related to coordination among stakeholders for the implementation of the PDL-145T will create national, regional, and local dialogues on minigrids. The creation of these networks and bringing together of stakeholders will initiate the conversations required to decide on one or multiple minigrid delivery models and implement them going forward. As described in earlier sections, the selection of one or more minigrid delivery models is crucial as it defines who owns, finances, builds, and who operates and maintains the minigrids, and how the private sector is engaged. Once one or multiple delivery models are selected, risks and costs to develop minigrids will decrease, catalyzing public and private investment in the sector.

Third, the AMP DRC Project will provide digital tools and resources to ANSER, improving its capacity to oversee, guide, and support the nascent minigrid sector. The emergence of minigrids as a viable solution to electrify remote and isolated communities relies strongly on digital tools and solutions . Digital technologies and solutions are fundamental to enabling off-grid electrification and offer significant potential to lower minigrid costs, reduce risks, and address barriers to scale. In the context of the DRC and the government-focused minigrid delivery model of the PDL-145T project, digital tools will be critical to ensure that ANSER has the required capacity to oversee the sector and support government or private sector initiatives to develop minigrids.

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

and

This project will result in GHG emissions reductions which will be measured via the GEF7 Core indicator 6: Greenhouse Gas Emissions Mitigated and 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[22]. Please refer to the annex to find the methodology used to define targets for direct and indirect GHG emissions mitigated.

The AMP DRC Project will have broader positive impacts as part of its overall contribution to rural electrification in the country. Rural regions remain significantly underserved in terms of energy access, and the potential of rural electrification is therefore significant, promising to catalyze socio-economic development, enhance educational opportunities, and improve healthcare access:

? Economically, rural electrification in the DRC will suport local economies, facilitating the transition from subsistence agriculture to diversified economic activities. Access to reliable electricity enables the operation of machinery and equipment, reducing manual labor and increasing productivity. It can also s rural industrialization, promoting entrepreneurial ventures and generating employment opportunities.

? Rural electrification is also important for improved educational outcomes. The lighting of schools extends learning hours, while access to digital resources enhances the quality of education.

? Healthcare in rural areas of the DRC will also improve with increased electricity access. The operation of medical equipment, preservation of medicines, and extension of healthcare services into the night become possible, directly contributing to improved health outcomes and reduced mortality rates. This is particularly crucial in the DRC, where health systems are strained and access to healthcare is limited.

? Rural electrification also plays a critical role in empowering women and promoting gender equality. By reducing the time and labor required for household chores through electrified appliances, women and girls gain the opportunity to engage in educational and economic activities.

? From an environmental perspective, the transition to renewable energy minigrids reduces dependence on harmful fuels such as kerosene and diesel, mitigating emissions and indoor air pollution.

In conclusion, the impacts of rural electrification in the DRC are multifaceted, promising to unlock economic potential, enhance educational access, improve healthcare, empower women, and foster environmental sustainability.

7. Innovativeness, sustainability and potential for scaling up. ?

Innovativeness

Innovation is at the core of the AMP Program given its focus on cost-reduction and enhanced business models to reduce minigrid cost to increase affordability of RE-based electricity. Business involvement is sought to access private capital to leverage public investment and grant funding. De-risking of RE investments in combination with cost reduction translates into lower financing costs for the investor and increases economic and financial sustainability. Hardware, project development, and operational cost reductions are sought through competitive selection of minigrid project proponents to set a trend towards lower unit energy costs (LCOE) in the region. The incorporation of productive energy uses provides opportunities for income generation in communities improving local capacity to pay for, and sustain, the service.

The focus on the utilization of digital technologies is another innovation of the AMP, harnessing the opportunities of digitalization for improved efficiencies, lower costs and risks, facilitate the flow of investment and revenue streams, and thereby contribute to sector development in the region. So far, the minigrid market has not fully exploited the potential of digital tools and solutions to accommodate

multiple, decentralized and distributed 'data points' in the minigrid system. Finally, the regional approach enables national projects and implementation partners to engage, learn and share experiences and best practices as input for national and regional policy agendas and programs.

Sustainability

The sustainability of the of the project and its activities will be ensured through the project?s close alignment with the PDL-145T and the increased capacity of ANSER. While renewable energy minigrids are already being supported by the government and various international donors with different delivery models, the PDL-145T is the largest minigrid program to date, deploying more than $100 million to develop minigrids in all rural areas of the country. Given the complexity of this activity, the AMP is ideally suited to support its implementation and strengthen the overall program. As a result, the program will spearhead the necessary development and approval procedures for more than 400 minigrids, ensuring that relevant government officials across all levels of government (national, provincial, and local) become familiar with minigrids, minigrid business models, minigrid technologies, tariffs, and other aspects related to their implementation. This will pave the way for future minigrid development that might or might not rely on the same minigrid delivery model. Similarly, the AMP DRC Project will strengthen the capacity of ANSER to implement its mandate of the PDL-145T and as a result, have increased capacity to direct the minigrid sector in the country.

Potential for Scale-up

The potential for scale-up is significant, given the large energy access deficit in DRC, is very significant. The country has the second largest number of unlectrified people (76 million) in Sub-Saharan Africa, second only to Nigeria, and the lowest rural electrification rate (1%). By leading the development of a large number of minigrids across all rural areas of the country, the DRC government is building the capacity of public institutions involved in rural electrification, particularly ANSER, and also ensuring that national, provincial, and local governments become familiarized with minigrid technologies, business models, and operations. The close alignment of the AMP DRC Project with the PDL-145T will ensure its effective implementation and its successful operation in the long term, thus setting the basis for further deployment of minigrids across underserved rural areas. This project will thus contribute to leverage planned government-funded minigrid investments in ways that continue to contribute to minigrid market development enabling minigrids, both government and privately owned, to be developed across the country closing wide energy access gaps.

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[1] World Bank. 2023. Poverty & Equity Brief ? Democratic Republic of Congo.

[2] UNDP (United Nations Development Programme). 2022. Human Development Report 2021-22: Uncertain Times, Unsettled Lives: Shaping our Future in a Transforming World. New York.

[3] World Bank. 2023. DataBank.

[4] IMF (International Monetary Fund). 2023. IMF Country Report No. 23/244 ? Democratic Republic of the Congo.

[5] World Bank. 2022. Project Appraisal Document ? Access, Governance, and Reform for the Electricity and Water Sectors Project ? Democratic Republic of Congo.

[6] Gouvernement de la R?publique D?mocratique du Congo. 2023. Programme de developpement local des 145 territoires.

[7] IMF (International Monetary Fund). 2023. IMF Country Report No. 23/244 ? Democratic Republic of the Congo.

[8] Commission ?conomique des Nations Unies pour l?Afrique & Fondation RES4Africa. 2022. Analyse du cadre politique et r?glementaire du secteur de l??lectricit? en R?publique d?mocratique du Congo : attirer les investissements du secteur priv?.

[9] World Bank. 2020. Increasing access to electricity in the Democratic Republic of Congo. Opportunities and challenges.

[10] IEA, IRENA, UNSD, World Bank, WHO. 2023. Tracking SDG 7: The Energy Progress Report.

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[12] ANSER (Agence Nationale de l?Electrification et des Services Energetiques en milieux Rural et periurbain). 2022. Rapport annuel 2021.

[13] ANSER (Agence Nationale de l?Electrification et des Services Energetiques en milieux Rural et periurbain). 2023. Rapport annuel 2022.

[14] World Bank Group. 2022. Project Appraisal Document ? Access, Governance, and Reform for the Electricity and Water Sectors Project ? Democratic Republic of Congo.

[15] FCDO (UK Foreign, Commonwealth & Development Office). 2022. Essor?s Access to Electricty (A2E) Mini-Grids Intervention ? Case Study.

[16] Sustainable Energy for All. 2023. Universal Energy Facility.

[17] Sustainable Energy for All. 2023. Universal Energy Facility to grant up to USD 10.4 million for renewables in Democratic Republic of the Congo, Madagascar and Sierra Leone.

[18] UNDP (United Nations Development Programme). 2016. Document de projet ? Promotion de mini et microcentrales hydro?lectriques en RDC.

[19] UNDP (2018) Derisking Renewable Energy Investment: Off-Grid Electrification

[20] UNDP (United Nations Development Programme). 2021. Project Document ? PDL-145T.

[21] ANSER (Agence Nationale de l?Electrification et des Services Energetiques en milieux Rural et periurbain). 2023. Rapport annuel 2022.

[22] Unlike for the 1st and 2nd Rounds of AMP national projects, the indirect GHG emission reduction targets for 3rd round AMP national projects (DRC, Liberia, Burundi) correspond to 100% of the indirect GHG benefits calculated for the project. For the 1st and 2nd Rounds of AMP national projects, 10% of the estimated indirect GHG mitigated of each 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 Program Framwork Document (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. For the 3rd Round projects such allocation was not possible because the regional project had already been CEO Endorsed by the time of the submission of the 3rd round PFD Addendum and its accompanying Concepts (submitted for approval in the June 2022 GEF Council).
[23] A first round of 11 national projects approved at the concept stage in the GEF December 2019 work programme (Angola, Burkina Faso, Comoros, Djibouti, Ethiopia, Eswatini, Madagascar, Malawi, Nigeria, Somalia and Sudan). A second round of 7 national projects have been approved at the concept stage in the GEF June 2021 work programme (Benin, Chad, Niger, Mali, Mauritania, Sao Tome & Principe, and Zambia). A third round of 3 national projects (Burundi, DRC, Liberia) have been approved at the concept stage in the GEF June 2022 work programme.

[24] IEA (2022), Tracking SDG7: The Energy Progress Report, 2022, IEA, Paris https://www.iea.org/reports/tracking-sdg7-the-energy-progress-report-2022

1b. Project Map and Coordinates

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

See Annex.

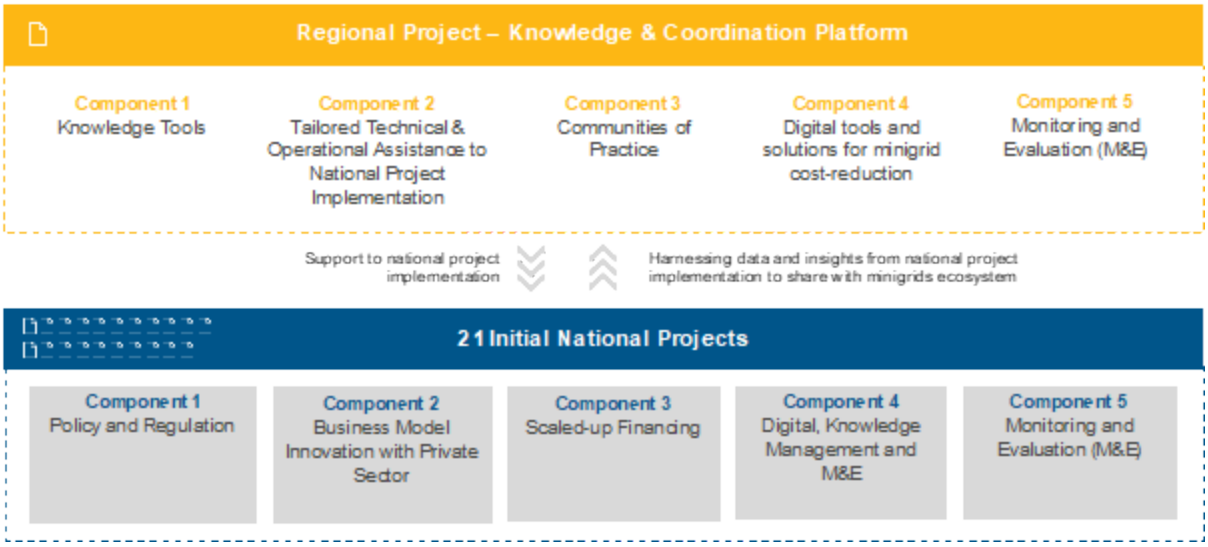
1c. Child Project?

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

This project is part of the broader **Africa Minigrids Program (AMP)**, a regional technical assistance 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 (iv) digital and knowledge management, and (v) monitoring and evaluation (M&E).

Figure 9. Africa Minigrids Program?s Architecture



The program is initially supporting three rounds of national projects, totalling 21[23] in number, which together host an estimated total of **396 million people without electricity**,[24] or more than two thirds out of the 587 million total people without access to electricity in Africa. The initial AMP participating countries are show in Figure 2 below.

Linkages to the AMP Regional Project

The project will align 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 the DRC project, and vice versa, and between the DRC project 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. Box 5 below provides a summary of the technical and operational support that will be available to the project. A full detailed elaboration of these offerings and the protocols attached to each service will be communicated to the project at the DRC project?s inception workshop. The areas of support, listing of available firms/individual consultants under contract by the regional project and protocol for how the project can request and/or access such expertise (if needed/requested) will be elaborated in the first year of regional project implementation and disseminated to this project and the staff of all other participating AMP national projects.

Digital, Knowledge management and monitoring and evaluation (M&E)

- **Knowledge building/sharing**. The regional project will curate, develop and share knowledge with the project on program's thematic areas (Policies and regulation, innovative business models, financing, digitalization).
- **Insight Briefs development and dissemination**. National projects will gather data and audio-visual content (video footage, photos, etc.) highlighting national project activities which will be the subject of an 'insight brief' to be developed and widely disseminated by the AMP Regional Project.
- **Communities of Practice**. One of the primary ways national project staff will interface with the regional project is via the 'Communities of Practice' (CoPs) and associated activities/platforms. While it is expected that many of the activities will be undertaken virtually (via internet-based platforms, webinars or digital platforms) it is also expected that the CoPs will include actual in-person workshops, meetings or training events that project staff will participate on.
- **Common M&E Framework/QAMF**. The AMP Regional Project will develop, with inputs from national projects, a Quality Assurance and Monitoring Framework (QAMF) for measuring, reporting and verification of the sustainable development impacts of all minigrid pilots supported by national projects, including GHG emission reductions.
- **Data aggregation platform**. The AMP Regional Project will deploy and use a web-based data management platform to aggregate data from all national project pilots based on the QAMF to track Results Framework indicators as well as program objectives, SDG impacts and GHG emission reductions.
- **Systematic data analytics and insights.** The regional project will harness data shared by the national projects to extract insights and learnings which will be disseminated across all national projects and within the broader minigrids ecosystem.

Technical and operational support for national projects' implementation

- Access to specialized expert international consultants in selected areas hired, retained, contracted and paid for by the AMP regional project and made available to all participating national project staff and selected beneficiaries on as needed basis. This support may range from virtual assistance to in-country missions.
- **Database of qualified international consultants and firms** provided for information purposes to the project in an effort to assist in identifying high-quality experts and firms who may be available for contracting by national governments under their own procurement rules and modalities.
- **Generic terms of reference (ToR)** for various standard activities will be provided to projects for information purposes.
- **Specialized advisory support for implementing UNDP's minigrid DREI analyses**. During project implementation, the UNDP DREI Core team, working with the regional project, will make available to national teams and consultants the resources and tools to conduct full quantitative DREI applications, and will provide ongoing support and quality assurance.
- **Operational support for national projects**. The AMP Regional Project will provide support to the project, on an ad-hoc and as-needed basis, through its PMU staff or by hiring or recommending subject matter experts, for the project to execute activities. Further details on specific support around M&E activities provided in Section VI (Monitoring and Evaluation Plan).

Box 5: AMP Regional Project Indicative Service Offering

2. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

A Stakeholder Engagement Plan is provided as Annex 8, embedded in the ProDoc.
As part of the project preparatory process, the following core stakeholder categories were identified: national government (MRHE, MEDD, MPF, ARE, ANSER, CNE), provincial and local governments

(provincial governors and ministers of energy, other related officials), development organizations (World Bank, USAID, GEAPP, AfDB, FCDO), private sector, and academia. The Stakeholder Engagement Plan is attached as a separate document. This Plan will be used as a tool for reference and be further detailed during the Project?s inception phase and updated annually. The Plan is a starting point for the design of the Project communication strategy and specific communication plans.

A number of engagement methods and communication mediums will be employed to ensure active engagement with stakeholders. These include:

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

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

In implementing the SEP, the following requirements will apply:
- All communication will be available in French. English will be used to facilitate a common and broader project understanding outside of the country borders.
- At the discretion of the PMU, translations of printed material, written and spoken communication will be available in local languages. At the very least, communications to impacted communities, i.e. beneficiaries of the pilot projects, must be available in both French and the local language.

In addition, the project will contribute to UNDP?s South-South Triangular Cooperation platform and facilitate dissemination through global ongoing South-South and global platforms, such as Africa Solutions Platform, the UN South-South Galaxy knowledge sharing platform and PANORAMA[1]. The project through the knowledge portal and other learning tools will make information, lessons learned, and practical experiences available for uptake to the UNDP?s solution provider mechanism designed to leverage south-south exchange.

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[1] https://panorama.solutions/en

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

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor;

Co-financier;

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

Executor or co-executor;

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

A gender analysis was completed for DRC and a Gender Action Plan developed (Annex 10) provided as a separate document). The gender analysis considers existing gender-related institutions and policies by the government, including the main governmental body in charge of mainstreaming gender into the energy sector, the Gender, Energy and Development Cell (CGED) of the MRHE, which published the Practical Action Guide for Gender Mainstreaming in the Energy Sector in DRC; and the Gender Strategy and Gender Action Plan of ANSER, which aims to mainstream gender within ANSER?s governance, operations, and work culture and increase women?s access to energy in rural and peri urban areas. Based on analyses by these institutions and an assessment of gender risks related to the AMP DRC Project, it was identified that the lack of a clear and consistent gender mainstreaming strategy presents the greatest gender equality-related risk. As a result, the Gender Action Plan sets forth Gender Actions for each of the AMP DRC Project?s activities, ranging from the inclusion of integration of women?s organizations into the multi-stakeholder working group to reviewing the gender effects of subsidies in the PDL-145T minigrids.

The PDL-145T will have its own Gender Action Plan, separate form this project?s, including gender actions related to the estimated 172 minigrid sites to be developed by the UNDP PDL145T Project Management Unit. These minigrids will be developed in accordance with UNDP Policies and Procedures and requisite environmental, social, and gender performance standards. The PDL145T has a cross-cutting component considering the gender, environment, and fundamental human rights dimensions of that program. The gender dimension will be taken into account throughout the program cycle to ensure that interventions benefit men and women equitably, with a particular focus on young people.

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

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

Private sector engagement is central to the project. The targeted minigrid delivery model involves public procurement and construction of minigrids after which ANSER will procure private operators to perform O&M services. A critical component of the project is to ensure that the private sector is consulted throughout all stages of the project and can provide input in particular for the prorcurement stages, such that learnings of existing private minigrid developers can be incorporated and strengthen the overall the development process. Additionally, the proposed coordination working groups will ensure that the private sector is informed and will be in position to respond to the tenders for procuring minigrid operators. In the long term, the project will contribute to the coordination between public and private stakeholders, ensuring that there is alignment on public-private as well as other minigrid delivery models, and contribute to catalyzing the expertise and capacity of the private sector to contribute to the government?s mingrid electrification objectives.

Private sector entities involved in the minigrids sector in DRC were identified as part of the stakeholder engagement plan (Annex 8 to the ProDoc) (e.g., Nuru, Fonds de Promotion de industries (FPI), Equatorial Power). These entities were invited to participate and some of them attended the project?s inception and validation workshops (See attendance lists included in the stakeholder engagement plan).

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):

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

The most significant risks that might prevent the project objectives from being achieved and the proposed measures that address these risks, were identified during the project design as:

#	Category	Event	Cause	Impact(s)	Risk Treatment
1	4. ORGANIZATIONAL (4.2. Execution capacity)	There is a risk that the timeline of the PDL-145T will be delayed.	This might be caused by the government not providing the agreed upon funding to the UNDP PDL-145T PMU, a change in government strategy regarding the PDL-145T, or a change in government resulting in the reallocation of these funds.	In case of a significant delay of more than four years, it might occur that the PDL-145T minigrid investment do not occur during the timeframe of the AMP DRC Project. This would impact the overall delivery of the program, as the AMP DRC Project targets its TA activities toward the implementation of the PDL-145T project.	Risk Treatment 1.1: The PMU will ensure close collaboration with the UNDP PDL-145T and the government offices formally overseeing the implementation of the PDL-145T, including the Office of the President. In case of any perceived delays or other challenges, the PMU will coordinate with higher-level UNDP representatives to obtain information about any potential changes and subsequently, if applicable, review and adjust the timeline of activities.

#	Category	Event	Cause	Impact(s)	Risk Treatment
2	7. STRATEGIC (7.3. Stakeholder relations and partnerships)	There is a risk that public institutions will fail to sufficiently coordinate on the implementation of the PDL-145T minigrids.	Currently there is some friction among public-sector institutions in the energy sector in the wake of the recent liberalization of the energy sector and the creation of ARE and ANSER as regulator and rural electrification agency. These changes have shifted mandates and responsibilities, which las led to a certain degree of disapproval among existing institutions.	A lack of sufficient coordination might have significant impacts. For example, the tariff for all minigrid projects must be reviewed by ARE, which must be sufficiently prepared to review a large number of applications and process them in a feasible timeframe. Another example is the mandate to launch procurement within the energy sector, which is currently the responsibility of ARE, and which must be considered for procurements which ANSER wants to launch as part of the PDL-145T.	Risk Treatment 2.1: A key activity of the AMP DRC Project is to create coordination forums at the national, provincial, and local levels to anticipate and pre-empt such coordination challenges as early as possible.

#	Category	Event	Cause	Impact(s)	Risk Treatment
3	4. ORGANIZATIONAL (4.2. Execution capacity)	There is a risk that the implementing partner ANSER will face challenges implementing the project.	ANSER is a new organization that was operationalized in 2020. The agency has not yet implemented many development projects and thus might lack certain capacities.	A lack of implementation capacity would hinder the overall progress of the project and reduce its impact.	Risk Treatment 3.1: Capacity building is a key part of the AMP DRC Project. In case the PMU identifies the lack of appropriate capacity to execute the project as a challenge, the capacity building activity can be used to improve ANSER?s capacity in this regard.
4	4. ORGANIZATIONAL (4.2. Execution capacity)	There is a risk that the deployed minigrids will be discontinued before their lifetime and that batteries and other equipment will not be properly replaced during their lifetime	Minigrids are expensive capital projects with high upfront costs and small revenue, creating a risk that even subsidized systems might not generate sufficient revenue to fund their operation. Additionally, the maintenance of minigrids in rural areas presents a challenge due to the difficulty of obtaining qualified staff and required hardware, equipment, and spare parts.	If PDL-145T minigrids are not maintained properly and can?t operate, the project will not achieve its intended objectives of reducing GHG emissions and providing electricity access via minigrids.	Risk Treatment 4.1: This is a key risk which will be mitigated through the operations and maintenance contracts for the minigrids. ANSER will need to ensure that the tender incorporates and mitigates this risk, e.g. by setting certain requirements to ensure sufficient capitalization and professionalism by the selected firms and by ensuring that the tariff methodology allows for a viable, long-term business model to ensure the minigrids? operation.

#	Category	Event	Cause	Impact(s)	Risk Treatment
5	6. REGULATORY (6.1. Changes in the regulatory framework within the country of operation)	Energy market risk. Currently, no minigrid-specific regulations are in place in the DRC, requiring minigrid developers to follow relatively onerous processes for obtaining approvals and permits.	The government liberalized the electricity sector in 2014, but has not passed any regulations specific to off-grid energy.	The lack of minigrid specific regulation and frameworks will likely impact the development timelines for the minigrids.	Risk Treatment 5.1: ANSER is in discussion with ARE to create minigrid specific regulations and approval processes. The AMP DRC Project will support this dialogue through its coordination and capacity building activities.
6	1. SOCIAL AND ENVIRONMENTAL	Social acceptance risk. It is unclear how familiar rural households are with RE technologies and specifically minigrids. Since minigrids typically charge a higher tariff than subsidized grid connections, operators might face resistance to these tariffs. Surveys are needed to determine people?s willingness to pay, price elasticity, and acceptable tariff levels. Detailed studies and recommendations can help minigrid developers to prepare financially feasible proposals for concession.	Given the very low energy access rates in rural areas of the DRC, these populations are often not familiar with RE technologies.	This might impact the deployment of minigrids and might require intensive sensitization of the community to minigrids and their respective technologies and business models.	Risk Treatment 6.1: The UNDP PDL-145T PMU is conducting detailed feasibility studies to better understand local contexts and local understanding of minigrid systems. The deployment of minigrids will be based on these findings and entail comprehensive consultations with communities.

#	Category	Event	Cause	Impact(s)	Risk Treatment
7	4. ORGANIZATIONAL (4.9. Procurement)	Hardware Risk. Harsh conditions in rural areas could lead to an early deterioration of minigrid equipment and components.	Failure to select appropriate rugged minigrid equipment for off-grid uses	This would severely impact the maintenance requirements of the systems and as such negatively impact the financial viability of the minigrids.	Risk Treatment 7.1: Detailed feasibility assessments will be undertaken by the UNDP PDL-145T PMU ahead of the procurement for the construction of the minigrids, ensuring that the Terms of Reference incorporate appropriate language to ensure the appropriateness of the equipment.
8	4. ORGANIZATIONAL (4.9. Procurement)	Labor Risk. A lack of skilled technicians might lead to several minigrid sites not being able to procure operators.	There is a shortage of skilled technicians and engineers in the DRC, particularly in remote areas.	The implementation arrangement for the PDL-145T minigrid component foresees the procurement of private operators for the minigrids. A lack of sufficient operators would lead to minigrids that are constructed and commissioned, but cannot be operated.	Risk Treatment 8.1: A key activity of the AMP DRC Project is to ensure that the private sector is included in the implementation of the PDL-145T minigrid component. As such, both the UNDP PDL-145T and AMP DRC Project PMUs will be in regular communication with the private sector to understand its current capacities. In case of a shortage of capacity, this can therefore be anticipated at an early stage and addressed with other activites.

#	Category	Event	Cause	Impact(s)	Risk Treatment
9	8. SAFETY AND SECURITY (8.2. Political instability)	Sovereign risk. Political instability and conflict might lead to several minigrids becoming unoperational.	Decades of conflict have led to political instability. Conflicts might flare up in certain territories.	Certain minigrids could become unoperational due to conflict.	Risk Treatment 9.1: UNDP has longstanding experience in the DRC. The selection of minigrid sites will be based on this experience and thus try to avoid areas with any significant possibility of instability.

#	Category	Event	Cause	Impact(s)	Risk Treatment
10	REGULATORY (6.3 Deviation from UNDP internal rules and regulations)	Minigrid investments will be implemented through government co-financing, through the PDL-145T, a separate project implemented by UNDP on behalf of the DRC government.	Environmental and social risks materialize, associated with the co-financed minigrid investments implemented under PDL-145T.	Potential for the AMP Project to be associated with co-financing activities inconsistent with UNDP?s SES.	Risk Treatment 10.1: The UNDP PDL-145T PMU will conduct detailed Environmental and Social Impact Assessments (ESIA) and Environmental and Social Management Plans (ESMP) for the minigrid pilots. Risk Treatment 10.2: This project will strengthen ANSER's capacity to monitor compliance with relevant E&S standards with a focus on environmentally sound disposal of used batteries and equipment. Risk Treatment 10.3: The Minigrid Pilot Plan developed by the PMU will assess compliance with relevant E&S standards as well as progress in the implementation of gender actions under the PDL-145T. Risk Treatment 10.4: The AMP PMU will monitor this risk through close coordination and communication with the PDL-145T team to

#	Category	Event	Cause	Impact(s)	Risk Treatment
					ensure continued consistency with the SES. This will be done through the DRC Country Office team as well as the Technical Advisory Committee.

Project social and environmental risk categorization. A Social and Environmental Screening Procedure (SESP) has been developed for the project to identify potential social and environmental risks associated with planned project activities and assess their likely significance (See Annex 5). Based on the SESP the overall risk profile of the Project has been assessed as ?Moderate?. This is attributable to the nature of the AMP intervention as an enabling technical assistance project aligned with the minigrid component of the UNDP PDL-145T.

Note on social and environmental risks stemming from co-financed activities (i.e., minigrid pilots developed under the PDL-145T). The environmental and social risks of developing the planned 172 minigrids under the PDL-145T have been initially assessed in the respective risk screening instrument (SESP) applied by the PDL-145T project (not included in this Project SESP). Additional screening and assessment of social and environmental risks are ongoing as part of the feasibility studies conducted by the PDL-145T.

One of the key social and environmental risks of solar PV minigrids is related to the disposal of used batteries and equipment. Operation of minigrids will lead to the generation of different types of waste, in particular electronic waste (?e-waste?) in the form of solar panels and/or batteries at the end of their useful lives. Depending on the type of panels used, they may include heavy metals like lead and cadmium may be leachable if not disposed of properly. Lithium batteries, while generally safe when used, stored, and charged appropriately, can cause fires when improperly discarded or otherwise mismanaged at the end of their lives. Without proper handling directives, disposal and/or recycling mandate for obsolete equipment, this could result in additional waste generation, including of hazardous/phase-outs materials, chemicals or other pollutants (e.g., from batteries). Failure to recycle non-hazardous waste could also contribute to additional waste generation.

To treat this and other social and environmental risks, once the minigrid sites are confirmed, the PDL-145T PMU will complete detailed site-specific screenings/assessments and develop Environmental and Social Management Plans (ESMP) for the minigrid pilots. The relevant Social and Environmental Management Framework for the PDL-145T is currently under development.

These risks stemming from co-financed activities have been included in the project Risk Log (table above). Risk 10 captures risks associated to the implementation of minigrid pilots under the PDL-145T and the social and environmental impacts that could materialize. Although this risk will be managed by the PDL-145T and not by the Project, to mitigate these risks the project provides support to strengthen ANSER's strategic role in the PDL-145 electrification component, including its capacity to monitor compliance with all the relevant social and environmental standards. A special focus of capacity building efforts in this respect will be on the need to ensure environmentally sound management of replaced equipment, including batteries, inverters, and solar panels, after their usage. For more details, reference is made to the Project Risk Log (Annex 6).

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 Project will be implemented under the Full National Implementation Modality (Full NIM).

Implementing Partner: The Implementing Partner for this project is the Agence Nationale de l'Electrification et des Services Energ?tiques en milieux rural et p?riurbain (National Agency for Electrification and Energy Services in Rural and Peri-urban Areas, ANSER). 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

No Responsible Parties have been identified during project design.

Project stakeholders and target groups

The AMP DRC Project project management unit (PMU) will closely collaborate with the UNDP PDL-145T PMU to ensure the effective implementation of the project. Given the implementation arrangement of the PDL-145T project, a close coordination between the implementating partner ANSER and the UNDP PDL-145 is critical to ensure that the various workstreams are coordinated and aligned between the agencies. This coordination work is already ongoing, with ANSER and the UNDP PDL-145T PMU meeting at regular intervals (1-2 times per month). Over the course of the AMP DRC Project, it is expected that this coordination will continue and, during certain parts of the project, intensify to meeting every week.

As described in the strategy section, public and private sector stakeholders as well as donor organizations will be closely involved in the implementation of the project.

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

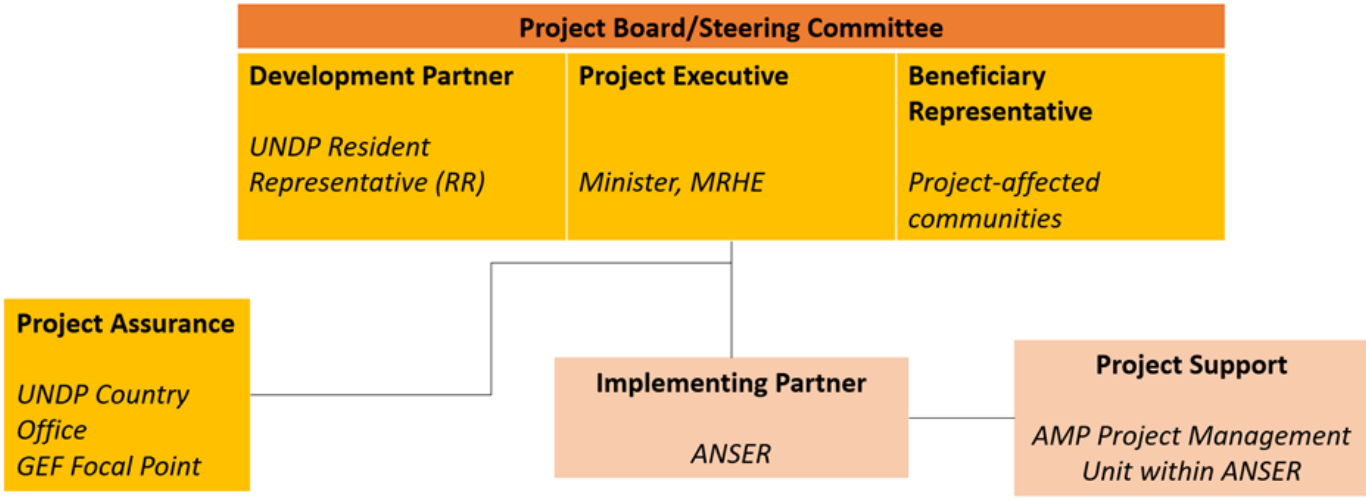

Figure 10: Project governance structure

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 Responsiblities of the Project Organization Strucutre:

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).

1. 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.

2. Responsibilities of the Project Board:

? Consensus decision making:
o The project board provides overall 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 realisation 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.

3. 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 (typically from the same entity as the Implementing Partner), and it must be UNDP for projects that are direct implementation (DIM). In exceptional cases, two individuals from different entities can co-share this role and/or co-chair the Project Board. If the project executive co-chairs the project board with representatives of another category, it typically does so with a development partner representative. **The Project Executive will be the Minister or a high-level representative of the Ministry in charge of Energy, i.e., General Secretary.**
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 fulfil this role. There can be multiple beneficiary representatives in a Project Board. The Beneficiary representative will be the head or high-level representative of one or more non-governmental or civil society organizations which will be selected by the Project Board by consensus. The Project Board will include civil society organizations or associations as part of the Beneficiary Representatives. Specific organizations or associations could not yet be determined, as the siting of the 172 minigrids is still being finalized. Once sites are confirmed, organizations or associations will be identified by the PMU and Board membership decided upon by the other members of the Project Board (executive, development).
3. **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 fulfil this role. There can be multiple beneficiary representatives in a Project Board. The Beneficiary representative iwill be the head or high-level representative of one or more non-governmental or civil society organizations which will be selected by the Project Board by consensus.

4. **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 is the UNDP DRC Country Office Resident Representative.**

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 UNDP representative playing the main project assurance function will be a relevant staff member in the UNDP Country Office or in the UNDP PDL-145T Team, as designated by the Resident Representative.

[CG1]Since the name has not been defined I have deleted last sentence.

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: *AMP Project Manager*

Technical Advisory Committee (TAC):

The function of the Technical Advisory Committee (TAC) is to provide technical advice and support to inform decision making by the Project Board. The TAC will consist of energy and other infrastructure experts from UNDP, and/or development partners, or other experts as defined by the Project Board who have experience in the DRC and can leverage their expertise to improve project outcomes. At least one senior expert of the UNDP PDL-145T unit involved in rural electrification will serve on the TAC. The TAC is expected to meet quarterly, and upon convening by the Project Board .

In addition to providing technical guidance, the TAC will serve as a coordination unit to align the project activities between the UNDP-led PDL-145T minigrid component and the AMP DRC Project. This coordination is critical to ensure that the timelines and outputs of the various activities of the AMP DRC

Project are in sync with the PDL-145T. The TAC serves to formalize this coordination to ensure proper processes and procedures are followed and the coordination takes place during regular intervals.

7. Consistency with National Priorities

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

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

Policy / planning document		Relevance
Sector Policies	National Energy Policy	A National Energy Policy is currently under preparation.
Strategies and Plans	National Strategic Development Plan (PNSD) 2019-2023	The focus is to harness the potential of the extractive and agricultural sectors, with an ambition to establish a diversified economy characterized by inclusive growth and middle-income status to eradicate poverty. This developmental journey is structured in three phases: ascending to a middle-income nation through agricultural transformation and subsequently attaining emerging country status through the accumulation of knowledge. The PNSD is founded upon five key pillars. For electrical infrastructures, four sectoral objectives have been identified: ? Objective 1: Ensure dependable electricity access for all socio-economic demographics. ? Objective 2: Convert the electricity and water sector into a cornerstone for rejuvenating and growing the Congolese economy. ? Objective 3: Foster sub-regional interconnection to enable electricity exports. ? Objective 4: Encourage the utilization of gas and all sources of renewable energy.
	PDL-145T	The main aims of the PDL are to reduce spatial inequalities, revitalize local economies, and transform the living conditions and environment of Congolese populations living in areas hitherto poorly served by basic infrastructure and social services. In particular, the program calls for the construction of 418 solar photovoltaic micro power plants and 471 km of 100% solar-powered, autonomous public lighting networks.
	National Adaptation Plan 2020-2024 (PNA)	Climate change policy, strategy and action plan to strengthen resilience, the production and monetization of carbon credits and the management of large tropical peatlands in line with REDD+ mechanisms and the reduction of emissions from deforestation and forest degradation. In terms of energy transition, the government favours the modern and sustainable use of renewable energy models.

Policy / planning document		Relevance
	Plans Locaux d?Electrification (PLE)	The PLE defines the projects and the various optimal electrification strategies adapted to each territory across the country to bring the rate of access to electricity to 30% by 2025 and 60% by 2030.
	NDC Update 2021	Five goals: 1. RE promotion for rural, peri-urban and urban electrification: increase from 3GW hydropower (2020) to 4GW (2030); increase from 2.9 MW solar, geothermal, wind (2020) to 42.7 MW (2030) 2. Promotion of improved cookstoves: increase average efficiency from 12% to 30%; 3m households use improved cookstoves 3. Adaptation of electricity law from 2014 to RE 4. LPG and biogas for cooking (goal not quantified); briquettes from agricultural or household organic waste (goal not quantified) 5. 130,000 ha bioenergy plantations
	Practical Action Guide for Gender Mainstreaming in the Energy Sector in DRC	In absence of a national strategy on gender and energy (which should be issued in the coming years) this document, drafted by CGED, serves as a guide to government orientations on mainstreaming gender equality in the energy sector.

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 is core to the program. Components 3 and 4 are focused on data, knowledge management and monitoring and evaluation. A key aspect of the regional project is to collate and share knowledge across participant countries as well as support the development of the clean energy minigrid industry more broadly. Accordingly, knowledge management is very deliberately included into the project design with four outputs defined in support of knowledge management and dissemination.

To achieve this, an early activity is the development of a data strategy to guide data collection throughout the project. Data and knowledge resources that will be shared at both national and regional level are described in the following Outputs:

- 3.1: A Quality Assurance and Monitoring Framework for measuring, reporting and verification of the sustainable development impacts of the PDL-145T minigrids, including GHG emission reductions, is adopted and operationalized based on standardized guidance from the regional project.

- 3.2: A Digital Strategy is developed and implemented, including linkages to and following guidance from the regional project.

? 3.3: Minigrids digital platform implemented to manage data from pilots, and to support minigrids scale-up and cost-reduction.

? 3.4: Active interface with regional project established.

? 3.5: Knowledge network established to promote minigrid development / rural energy access.

Linkage or feedback loops within the national project structure as well as the regional project were also incorporated in the project design and noted in each of the above outputs. Access to and support available from the regional will further facilitate knowledge management and sharing. Structures have been put in place to ensure consistent data collection, monitoring and reporting across all child projects.

Similarly, data collected for the DREI study (Output 1.2) will be collated at regional level, combining the insights from all AMP partner countries. Linkage or feedback loops within the national project structure as well as the regional project were also incorporated in the project design. Access to and support available from the regional project will further facilitate knowledge management and sharing. Structures have been put in place to ensure consistent data collection, monitoring and reporting across all child projects.

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**
1. Project governance meetings; PSC meetings and its Working Group meetings	All stakeholders that are members of the PSC or its Working Groups or are invited to attend	Meetings	Periodically, depending on PSC and Advisory Committee frequency of meetings
2. Seminars/workshops and training events, including the Inception workshop, and final project workshop	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.
3. Project documents, thematic reports and publications; Technical and other reports	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.

4. Project knowledge capturing and info dissemination and two-way KM and info exchange with regional AMP project	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

Table 7 presents an overview of the timelines of various project activities related to knowledge management. The activity with a primary focus on knowledge management is Output 3.4, Engagement with the regional project. As described above, a key aspect of the regional project is to collate and share knowledge across participant countries as well as support the development of the clean energy minigrid industry more broadly. This activity supports this obkective. The total budget for Output 3.4 is $21,000.

Table 7: Timeline of KM Activities

Outputs	Year 1 (2023/2024)				Year 2 (2024/2025)				Year 3 (2025/2026)				Year 4 (2026/2027)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1.2: Minigrid DREI techno-economic analyses																
Output 3.1: Project digital strategy																
Output 3.2: Minigrids digital platform																
Output 3.3: QAMF																
Output 3.4: Engagement with regional project																
Output 4.1: M&E and Reporting																

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.

GEF Core Indicators: The GEF Core indicators included as Annex 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 groundtruthing. The methodologies to be used in data collection have been defined by the GEF and are available on the GEF website.

Box 7: GEF-7 Core Indicators

As reflected in the Results Framework, 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. It should be measured above a baseline value. Mitigation benefits include:
    - **Direct emissions reductions** attributable to the investments made during the project's supervised implementation period, totaled over the respective lifetime of the investments.
    - **Indirect emissions reductions** that could result from a broader adoption of the outcomes of a GEF project plus longer-term emission reductions from behavioral change[1] in the post-project period. Broader adoption of a GEF project proceeds through several processes including sustaining, mainstreaming, replication, scaling-up and market change.
- **Context Sub-indicator 6.4: Increase in installed renewable energy capacity per technology** captures the increase in renewable energy generation or storage capacity and should be disaggregate by type of renewable energy technology (biomass, geothermal, ocean, small hydro, solar photovoltaic, solar thermal, wind power, and storage).
- **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 a given project.

1. 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 the date included on cover page of this project document. A management response to MTR recommendations will be posted in the ERC within six weeks of the MTR report?s completion.

2. 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 the date included on cover page of this project document). A management response to the TE recommendations will be posted to the ERC within six weeks of the TE report?s completion.

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

4. Agreement on intellectual property rights and use of logo on the project?s deliverables and disclosure of information**:** To accord proper acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy[3] and the GEF policy on public involvement[4].

5. ? It is important to note that some of the abovementioned project results will be realized by co-financing activities with resources that do not flow through UNDP accounts. Namely, minigrid pilots developed under the government-funded and UNDP-implemented PDL-145T minigrid component. UNDP is accountable to monitor all project results, including results to be delivered by these co-financing activities, to ensure consistency with UNDP and GEF policies and procedures, including social and environmental safeguards policies and requirements (SES). Once the co-financing activities will have started, risks will need to be monitored and results achieved through co-financed activities will be monitored and reported in the annual GEF PIR, the independent mid-term review and the independent terminal evaluation.

6. M&E linkages to the AMP Regional Project.

Box 8: M&E linkages to the AMP Regional Project

National AMP Projects will provide on an annual basis (and to the extent feasible if requested on an ad-hoc basis) the following M&E information to the AMP regional project staff:

- Standard reporting on all indicators in the results framework for aggregation and reporting to GEF (by the regional project) on the impacts of all participating national projects for the program as a whole; and
- Reporting on any and all additional Key Performance Indicators (KPIs) adopted by the project under the common M&E framework.

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

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

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[1] See https://www.thegef.org/gef/policies_guidelines

[3] See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/

[4] See https://www.thegef.org/gef/policies_guidelines

Monitoring and Evaluation Budget for project execution:		
GEF M&E requirements to be undertaken by Project Management Unit (PMU)	**Indicative costs (US$)**	**Time frame**
Inception Workshop and Report	*6,000 (TRAC Fund)*	Project inception workshop within 2 months of the first disbursement and closure workshop (2 workshops @ $3,000 each)
M&E required to report on progress made in reaching GEF core indicators and project results included in the project results framework	*N/A*	
Preparation of the annual GEF Project Implementation Report (PIR)	*N/A*	
Supervision missions	*N/A*	
Learning missions	*N/A*	
Independent Mid-term Review (MTR):	*18,000 (TRAC Fund)*	1 June 2026
Independent Terminal Evaluation (TE):	*40,000 (GEF)*	30 May 2028
Travel for PMU for M&E related activities:	*8,000 (TRAC Fund)*	
TOTAL indicative COST	*$72,000*	

10. Benefits

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

The project will have the following socioeconomic benefits both at the national and local level:

? Clean energy and energy access. Through the development of minigrids, 172 communities will receive first time access to high-quality energy services.

? Knowledge. As a result of the various technical assistances and interventions, and starting from ANSER to the end-users, the project will be a platform where knowledge about minigrids and rural electrification will be at the forefront.

? Digitalization. Through various activities planned for the project the digitalization of the energy sector and in particular the offgrid sector will result in a more accessible and transparent data, which will enable a more informed decision making.

11. Environmental and Social Safeguard (ESS) Risks

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

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
	High or Substantial		

Measures to address identified risks and impacts

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

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
Annex 05_AMP DRC SESP _2023 09 02_ CLEAN	CEO Endorsement ESS	

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

This project will contribute to the following Sustainable Development Goal (s): ? SDG7: Ensure access to affordable, reliable, sustainable and modern energy for all ? SDG 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services ? SDG 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix ? SDG13: Take urgent action to combat climate change and its impacts; ? SDG5: Achieve gender equality and empower all women and girls
This project will contribute to the following country outcome (UNDAF[1]/CPD[2], RPD[3]): UNSDCF Outcome 1.1: By 2024, the Congolese people enjoy sustainable inclusive economic growth driven by agricultural transformation, economic diversification open to innovation and the promotion of entrepreneurship among young people and women. CPD Output 2.4: Solution adopted to improve access to clean affordable and sustainable energy

	Objective and Outcome Indicators	**Baseline**	**Mid-term Target**	**End of Project Target**
Project Objective:	Supporting access to clean energy by increasing the financial viability, and promoting scaled-up commercial investment, in renewable energy minigrids in DRC with a focus on cost-reduction levers and innovative business models.			
	Mandatory GEF Core Indicators *Indicator 1:* Greenhouse gas emissions mitigated Units of measure: metric tons of carbon dioxide equivalent (tCO2e)	Zero, since the project has not yet started	Zero, since the project pilot(s) have not yet been commissioned	Direct: 665,103 tCO2e Indirect: 3,550,936 tCO2e

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target
	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 Units of measure: number of people	Zero, since the project has not yet started	Zero, since the project pilot(s) have not yet been commissioned	342,168 people (of which 50% women) ------- 336,250 people (residential) 1,076 people (social) 4,842 people (commercial/PUE) 342,168 people (total)
	Indicator 3: **Increase in installed solar PV capacity and battery storage** *Units of measure: MW(solar PV) and MWh (battery storage)*	Zero, since the project has not yet started	Zero, since the project pilot(s) have not yet been commissioned	Solar PV: 11.971 MW Battery storage: 29.187 MWh
Project Component 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.	*Indicator 5:* A minigrid delivery model to enable minigrid development is endorsed/adopted by the national government through a consultative process involving key stakeholders (e.g. relevant ministries, local authorities, rural populations, private sector, media, etc.) Units of measure: binary (1/0)	Zero, since the project has not yet started	Multi-stakeholder, national dialogue platform on minigrid delivery models established and active.	At least one minigrid delivery model is identified and endorsed by the government through the work of the multi-stakeholder platform and dialogue.
Outputs to achieve Outcome 1	Output 1.1: An inclusive national dialogue to identify mini-grid delivery models is facilitated, clarifying priority interventions for an integrated approach to off-grid electrification Output 1.2: Minigrid DREI techno-economic analyses carried out to propose most cost-effective basket of policy and financial derisking instruments and contribute to AMP Flagship Report on Cost Reduction Output 1.3: Capacity building provided to public officials (regulator, ministries) specifically to design procurement/tender processes that incorporate cost-reduction levers and innovative business models			

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target
Project Component 2	Business Model Innovation with Private Sector			
Outcome 2 Innovative business models based on cost reduction are operationalized, with strengthened private sector participation in renewable energy minigrid development	*Indicator 7:* PDL-145T Minigrid pilots implemented that demonstrate a delivery model, cost-reduction measure(s) and/or productive use of electricity Units of measure: binary (1/0)		The project?s detailed design plan (the ?Minigrid Pilot Plan?) for advancing the project?s activities related to PDL-145T minigrid pilots is developed, and cleared by UNDP and the Project Board. (1) O&M tendering process for minigrid pilots is launched. (1)	100% of the planned minigrid pilots, as identified in the project?s Minigrid Pilot Plan, are under O&M contracts. (1)
Outputs to achieve Outcome 2	Output 2.1 Feedback loop established between the project and the PDL-145T minigrid pilots			
Project Component 3	*Digital and Knowledge Management*			
Outcome 3 Digitalization and data mainstreamed, across stakeholders, into local minigrid market development. I ncreased knowledge,	*Indicator 11:* A project digital strategy is prepared and implemented by the PMU to contribute to project implementation and local minigrid market development. *Units of measure: binary (1/0)*		The project digital strategy is developed and being implemented. (1)	The project digital strategy is implemented. (1) Recommendations for rolling out digital solutions for minigrids at national level have been shared with key national stakeholders. (1)

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target
awareness and network opportunities in the minigrid market and among stakeholders, including benefitting from linkages to international good practice	*Indicator 12:* Number of minigrid pilots sharing data on minigrid performance with the regional project and other stakeholders following best practices received from the AMP Regional Project. *Units of measure: binary (1/0)*		The project?s ?Minigrids Digital and Data Management Platform? is procured and operational, ready for data collection from the project?s mini-grid pilot(s), and for data sharing with the AMP regional project?s digital platform. (1)	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)
Outputs to achieve Outcome 3	Output 3.1: A project digital strategy is developed and implemented, including linkages to and following guidance from the AMP Regional Project Output 3.2: - Minigrids digital platform implemented to run tenders and manage data from pilots, and to support minigrids scale-up and cost-reduction Output 3.3: 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 Output 3.4: Engage with regional project, including, but not limited to, via (i) participating in Communities of Practice and (ii) capturing and sharing lessons learnt.			
Project Component 4	*Monitoring and Evaluation*			
Outcome 4 Compliance with all mandatory monitoring and reporting UNDP/GEF requirements	Output 4.1: M&E and Reporting, including (i) Conducting inception workshop and preparing report, (ii) Ongoing M&E, (iii) Mid Term Evaluation and (iv) Terminal Evaluation			

[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).

DRC: National Child Project under the GEF Africa Mini-grids Program (AMP)
RESPONSES TO COMMENTS SUBMITTED BY COUNCIL MEMBERS ON THE GEF TRUST FUND JUNE 2022 WORK PROGRAM

Comment & Response	Response / Reference
GERMANY	
Germany approves the following PIF in the work program but asks that the following comments are taken into account: Germany welcomes the proposal, which addresses the major issues for improving the policy and regulatory environment as well as capacities of the private and financial sector to facilitate and accelerate deployment of low-carbon minigrids in the partner countries. Suggestions for improvements to be made during the drafting of the final project proposal: 1. To avoid duplication of efforts and leverage synergies, Germany recommends coordinating project preparation as well as implementation with the following local country offices of GIZ: Burundi, the Democratic Republic of the Congo (DRC), Liberia and Mali. Also the local project teams of the Energising Development Partnership (EnDev, endev@giz.de) can be involved as needed. 2. The impact of the proposed program in terms of the increase in RE capacity installed as compared with the total program cost appears rather low. Why is that the case?	During the project preparation phase, the project?s design has been closely aligned with a larger government-funded infrastructure project (PDL-145T) which will deploy US$43 million in minigrids following a delivery model based on government owning and financing minigrids and engaging private sector for operations and maintenance. The design phase included extensive consultations with public, private, and development organizations active in the DRC including outreach to GIZ and KfW. Given the project?s focus on minigrids for underserved rural areas, through the PDL-145T, specific synergies with KfW and GIZ were not identified at the design stage, considering their focus on areas other than minigrids (e.g., grid extension, improved cookstoves). Nevertheless, the project will continue to engage with the development partner community, including GIZ and KfW, during implementation via (i) national dialogue and coordination on PDL-145T (a project activity), and (ii) by participating in partner coordination groups led by GEAPP, and World Bank among others.

RESPONSES TO STAP COMMENTS PROVIDED AT THE PFD STAGE

Comment & Response	Response / Reference
STAP	

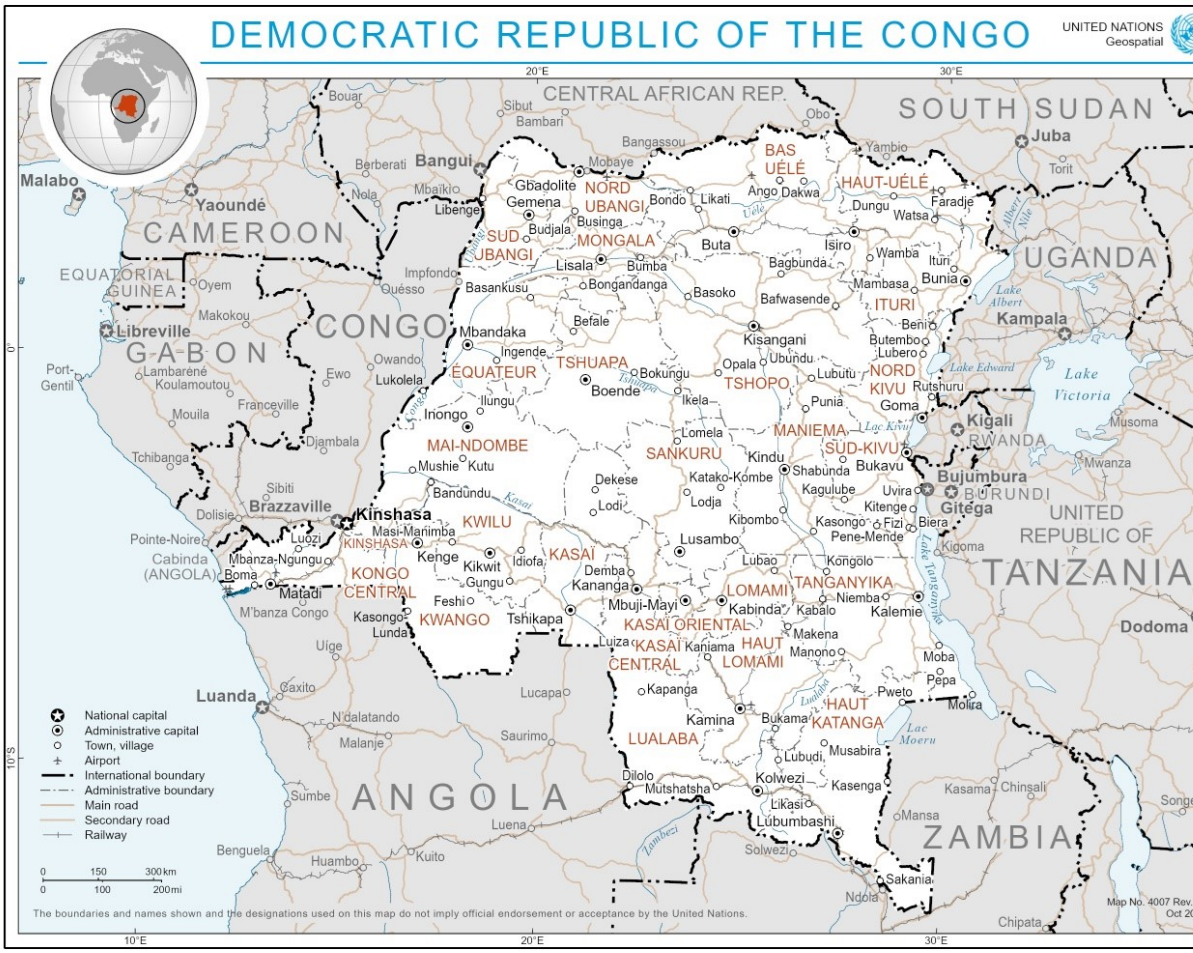
Comment & Response	Response / Reference
1. The proposal presents an adequate list of stakeholders. However, the diesel generator industry is quite widespread in Africa and the project proponents need to consider how to ensure that they do not hinder project success. The project also needs to consider incentives for alternative livelihoods for people involved in diesel generator business.	During the stakeholder engagement process as part of the project?s preparation, the diesel generator industry was not flagged by any stakeholder as a source of concern. Moreover, given the immense energy access challenge at hand in the DRC, diesel generators will continue to play an important role for those communities, businesses, and households which will not have the benefit of being selected for the development of a renewable energy powered minigrid. Regarding incentives for people in the diesel generator business, the involvement of the private sector for both the construction and the operations and maintenance phase of the PDL-145T project present significant opportunities. Given the experience of the diesel generator business with off-grid communities and off-grid productive uses of energy, related professionals are uniquely suited to become familiar with solar-battery generation systems and use their knowledge regarding all other aspects of minigrid and off-grid energy development.
2. What are the backups to prevent diesel generators from still being frequently used.	In the villages in which the PDL-145T minigrids will be deployed, it is assumed that all connected households and other consumers will no longer select to use diesel generators as the minigrid tariff will be competitive due to the 100% capital subsidy by the government. It is also worth noting that the PDL-145T minigrids will not include diesel as backup.

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

Project Preparation Activities Implemented	*GEF/LDCF/SCCF Amount ($)*		
	Budgeted Amount	*Amount Spent To date*	*Amount Committed*
International Consultants	27,500	21,900	5,600
Local Consultants	7500	7500	0
Travel	3000	2562.03	437.97
Professional services	5000	0	5000
Training Workshops and Conference	7000	0	7000
Total	**50,000**	**31,962**	**18,038**

ANNEX D: Project Map(s) and Coordinates

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



GEO LOCATION INFORMATION

The Location Name, Latitude and Longitude are required fields insofar as an Agency chooses to enter a project location under the set format. The Geo Name ID is required in instances where the location is not exact, such as in the case of a city, as opposed to the exact site of a physical infrastructure. These IDs are available on the GeoNames? geographical database containing millions of placenames and allowing to freely record new ones. The Location & Activity Description fields are optional. Project longitude and latitude must follow the Decimal Degrees WGS84 format and Agencies are encouraged to use at least four decimal points for greater accuracy. Users may add as many locations as appropriate. Web mapping applications such as OpenStreetMap or GeoNames use this format. Consider using a

conversion tool as needed, such as:https://coordinates-converter.com Please see the Geocoding User Guide by clicking here.

Location Name	Latitude	Longitude	Geo Name ID	Location & Activity Description

ANNEX E: Project Budget Table

Please attach a project budget table.

Expenditure Category	Detailed Description	Component (USDeq.)							M & E	Sub-Total	PMC	Total (US Deq.)	Responsible Entity
		Component 1			Component 2	Component 3							(Executing Entity receiving funds from the GEF Agency) [1]
		Outcome 1			Outcome 2	Outcome 3							
		Output 1.1	Output 1.2	Output 1.3	Output 2.1	Output 3.1	Output 3.3	Output 3.4					
Equipment	Office equipment (1 x meeting room furniture including large desk and chairs @ $7,000/piece; 2 x office room furniture including desk, chair, and document and IT storage @ $3,700/piece)										14,400	14,400	Agence Nationale de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)

Equipment	Laptops, software, etc. (1 x meeting room IT equipment @ $3,000; 2 x staff computers and laptops @ $2,000 each; computer equipment such as monitors, keyboards and mice for $2,000; required software for all hardware @ $1,000)										10,000	10,000	Agence National de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)
Contractual services-Company	1 local capacity building consultant to to support capacity needs assessment (10 days @ $300/day)			109,566						109,566		109,566	Agence National de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)

Contractual services-Company	Costs for mission for international and local consultant (1 international return flight @ $2,000 each; 2 national travels @ $200 each; 20 days DSA @ $250/day)			7,500						7,500		7,500	Agence Nationale de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)
Contractual services-Company	Project inception and closure workshop (2 workshops @ $3,000 each)							9,000		9,000		9,000	Agence Nationale de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)
International Consultants	1 national Consultant (20 days, @ $400/day)		37,500							37,500		37,500	Agence Nationale de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)

International Consultants	Office equipment (1 x meeting room furniture including large desk and chairs @ $7,000/piece; 2 x office room furniture including desk, chair, and document and IT storage @ $3,700/piece)								40,000	40,000		40,000	Agence Nationale de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)

International Consultants	Procurement of digital tools based on digital strategy (initial procurement and development of the digital tools/platform @ $100,000; additional funding for ongoing tech support and revisions and upgrades to the system for three years @ $40,000)				14,500					14,500		14,500	Agence Nationale de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)

International Consultants	Server, domain name and other costs (1 x purchase of domain name @ $1,000; 1 x purchase and installation of server @ $16,000; maintenance and hardware upgrade costs @ $9,000)					18,750				18,750		18,750	Agence National e de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)
International Consultants	Travel for PMU for M&E related activities (per year: 3 days of national travel @ $200 each; 4 days DSA @ $250/day; 8 days car rental @ $50/day)						3,750			3,750		3,750	Agence National e de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)

Local Consultants	1 international consultant to review the final implementation plan of the PDL-145T and incorporate it into the AMP project via the Minigrid Pilot Plan (10 days @ $750/day)1 international gender and E&S consultant to review PDL-145T gender and social and environmental approach and documentation and verify alignment with UNDP SES (10 days @ $750/day)			3,000						3,000		3,000	Agence Nationale de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)

Local Consultants	3 national consultants (one in capital Kinshasa, 2 in ANSER's regional offices) to support national, provincial, and local working groups (each 5 days per month @ $200/day)	67,600								67,600		67,600	Agence Nationale de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)
Local Consultants	Costs for missions (2 international flights @ $2,000 each; 4 national travels @ $200 each; 11 days DSA @ $250 each)		8,000							8,000		8,000	Agence Nationale de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)

Training, Workshops, Meetings	Gather data and audio-visual content for the "insight brief" (local company), incl. translation into English (1 contract with national firm @ $3,000 per year)					3,000				3,000		3,000	Agence Nationale de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)
Training, Workshops, Meetings	Various meetings, trainings and workshops hosted at ANSER HQ or regional offices (per year: 20 events @ $250 each)	20,000								20,000		20,000	Agence Nationale de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)
Travel	Costs to hire firm for capacity building, all expenses included		7,750							7,750		7,750	Agence Nationale de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)

Travel	International consultant to align the AMP-QAMF to the specific case of DRC (5 days @ $750/day)					3,000				3,000		3,000	Agence National e de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)
Travel	International consultant to develop a digital strategy for the project and to align the AMP-QAMF to the specific case of DRC (25 days @ $750/day)			7,400						7,400		7,400	Agence National e de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)
Travel	Project Manager - 1 FTE for 4 years (FTE @ $2,000/m + 20% taxes)Financial Assistant - 1 FTE for 4 years (FTE @ $1,500/m + 20% taxes)							12,000		12,000		12,000	Agence National e de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)

Other Operating Costs	Audit costs (annual audit @ $3,000/year)										12,000	12,000	Agence National e de l?Electrification et des Services Energ?tiques en milieux Rural et P?riurbain (ANSER)
	Total	**87,600**	**53,250**	**127,466**	**14,500**	**24,750**	**3,750**	**21,000**	**40,000**	**372,316**	**36,400**	**408,716**	

ANNEX F: (For NGI only) Termsheet

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

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys 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).