

Funding Proposal

FP168: Leveraging Energy Access Finance (“LEAF”) Framework

Multiple Countries | Afican Development Bank (AfDB) | Decision B.29/02

16 July 2021



Funding Proposal

Project/Programme title:	Leveraging Energy Access Finance (LEAF) Framework Unlocking Local Currency Debt Capital to Scale up Decentralized/Distributed Renewable Energy in Africa
Country(ies):	Nigeria, Kenya, Ghana, Tunisia, Ethiopia, Guinea
Accredited Entity:	African Development Bank
Date of first submission:	2020/12/27
Date of current submission	2021/05/20
Version number	V8



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Note to Accredited Entities on the use of the funding proposal template

- Accredited Entities should provide summary information in the proposal with cross-reference to annexes such as feasibility studies, gender action plan, term sheet, etc.
- Accredited Entities should ensure that annexes provided are consistent with the details provided in the funding proposal. Updates to the funding proposal and/or annexes must be reflected in all relevant documents.
- The total number of pages for the funding proposal (excluding annexes) **should not exceed 60**. Proposals exceeding the prescribed length will not be assessed within the usual service standard time.
- The recommended font is Arial, size 11.
- Under the [GCF Information Disclosure Policy](#), project and programme funding proposals will be disclosed on the GCF website, simultaneous with the submission to the Board, subject to the redaction of any information that may not be disclosed pursuant to the IDP. Accredited Entities are asked to fill out information on disclosure in section G.4.

Please submit the completed proposal to:

fundingproposal@gcfund.org

Please use the following name convention for the file name:

“FP-[Accredited Entity Short Name]-[Country/Region]-[YYYY/MM/DD]”

A. PROJECT/PROGRAMME SUMMARY			
A.1. Project or programme	Programme	A.2. Public or private sector	Private
A.3. Request for Proposals (RFP)	Not applicable Not applicable		
A.4. Result area(s)	<p>Check the applicable GCF result area(s) that the <i>overall</i> proposed project/programme targets. For each checked result area(s), indicate the estimated percentage of GCF budget devoted to it. The total of the percentages when summed should be 100%.</p>		
	<p>Mitigation: Reduced emissions from:</p> <p><input checked="" type="checkbox"/> Energy access and power generation:</p> <p><input type="checkbox"/> Low-emission transport:</p> <p><input type="checkbox"/> Buildings, cities, industries and appliances:</p> <p><input type="checkbox"/> Forestry and land use:</p> <p>Adaptation: Increased resilience of:</p> <p><input type="checkbox"/> Most vulnerable people, communities and regions:</p> <p><input type="checkbox"/> Health and well-being, and food and water security:</p> <p><input type="checkbox"/> Infrastructure and built environment:</p> <p><input type="checkbox"/> Ecosystem and ecosystem services:</p>	<p>GCF contribution:</p> <p>100%</p> <p>0%</p> <p>0%</p> <p>0%</p> <p>0%</p> <p>0%</p> <p>0%</p> <p>0%</p>	
A.5. Expected mitigation impact	28.8 million tCO ₂ e	A.6. Expected adaptation impact:	N/a
A.7. Total financing (GCF + co-finance)	959.9 USD	A.9. Project size	Large (Over USD 250 million)
A.8. Total GCF funding requested	170.9 USD <i>For multi-country proposals, please fill out annex 17.</i>		
A.10. Financial instrument(s) requested for the GCF funding	<p>Mark all that apply and provide total amounts. The sum of all total amounts should be consistent with A.8.</p> <p><input checked="" type="checkbox"/> Grant <u>10.9 million US\$</u> <input type="checkbox"/> Equity <u>Enter number</u></p> <p><input checked="" type="checkbox"/> Loan <u>80 million US\$</u> <input type="checkbox"/> Results-based payment <u>Enter number</u></p> <p><input checked="" type="checkbox"/> Guarantee <u>80 million US\$</u></p>		
A.11. Implementation period	<p>a) Disbursement/commitment/implementation period: 6 years</p> <p>b) Repayment period, if applicable: up to 12 years</p>	A.12. Total lifespan	25 years

A.13. Expected date of AE internal approval	7/30/2021	A.14. ESS category	<i>Refer to the AE's safeguard policy and GCF ESS Standards to assess your FP category.</i> I-2
A.15. Has this FP been submitted as a CN before?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	A.16. Has Readiness or PPF support been used to prepare this FP?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
A.17. Is this FP included in the entity work programme?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	A.18. Is this FP included in the country programme?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
A.19. Complementarity and coherence	<i>Does the project/programme complement other climate finance funding (e.g. GEF, AF, CIF, etc.)? If yes, please elaborate in section B.1.</i> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
A.20. Executing Entity information	<i>If not the Accredited Entity, please indicate the full legal name of the Executing Entity(ies) and provide its country of registration and ownership type. Note that there can be more than one Executing Entity. Also indicate if an Executing Entity is the National Designated Authority. Refer to the definition of Executing Entity in the Accreditation Master Agreement.</i> The Accredited Entity, the African Development Bank, is the executing entity for the majority of the transactions under the LEAF Framework. For transactions whereby partner funds or financial institutions (FIs) finance a portfolio of DRE companies, the fund or FI will be the executing entity.		
A.21. Executive summary (max. 750 words, approximately 1.5 pages)			

Provide an executive summary of the project/programme including:

1. *Climate change problem*
2. *Proposed interventions*
3. *Climate impacts/benefits*

The Climate Change problem facing Africa is substantial, with over 570 million people lacking access to electricity, notably in Sub-Saharan Africa where the problem is particularly acute. Failure to address this situation will continue to undermine Africa's growth and stability as a continent. There exists a tremendous opportunity to make a tangible, sustainable difference to the people of Africa through the proposed LEAF Framework, which will deliver Distributed and Decentralised Renewable Energy (DRE) solutions to tackle the energy shortfall whilst dramatically reducing carbon emissions and simultaneously boosting local economies and businesses. Sub-sectors considered for LEAF financing include solar home systems, solar solutions for commercial and industrial use and mini-grids.

Proposed intervention

Levering Energy Access Finance (LEAF) is a US\$ 900+ million¹ Framework with the overarching objective to unlock local currency debt and overcome market barriers to support the growth of DRE. In particular, the Framework, via a US\$ 334.9 million funding contribution from the GCF and AfDB, aims to: (i) enhance local markets by de-risking the DRE space through guarantees and subordinated debt, unlocking local currency debt finance and scaling up investments; and (ii) create capacity within local banks and financial institutions to engage and finance DRE businesses, structure strong financing transactions, and support governments to create enabling policies for private investment. This Framework is part of the Bank's wider off-grid strategy which includes the SEFA Fund and the Green Mini Grid Programme. This proposal focuses on decentralised and distributed renewable energy generation in six countries: Nigeria, Kenya, Ghana, Tunisia, Ethiopia and Guinea, based on the market potential for renewables and project pipeline of DRE initiatives being developed by AfDB.

Climate change mitigation. Scaling-up renewable energy is a necessity to meet growing electricity demand while mitigating greenhouse gas emissions. Despite significant investment over the last decade in power generation and distribution, many African countries still face considerable challenges in achieving universal access to sustainable, clean, affordable, and reliable sources of electricity. Power distribution networks across Africa are unable to reliably serve the existing industrial, urban and rural customer base. Rural communities often rely on fossil-fuel based solutions such as kerosene and diesel as well as disposable batteries (lead acid batteries) as energy sources, all of which cause damage to humans, the climate and pollute the environment. According to IEA's 2020 Africa Energy Outlook report, Africa was the world's second largest diesel importer, and with burning of wood biomass accounting for over 80% of energy consumption in SSA, primarily for cooking. While African countries are facing growing demands for energy to meet their infrastructure deficit, doing so currently leads to an increasing emission trajectory as a result of use of fossil-based energy and biomass energy sources². The countries have an opportunity to "leapfrog" the fossil-fuel-based growth strategies of developed countries³ by investing in green energy. The LEAF Framework contributes to climate mitigation by promoting and supporting the transition from high-carbon electricity solutions to cleaner and more sustainable low-carbon technologies. It also contributes to clean energy solutions for rural populations who currently do not have access to electricity.

Climate change adaptation co-benefits. Increasing the access of a population to clean and reliable energy (mini-grid and off-grid technologies) and solar-powered productive assets is expected to strengthen households' adaptive capacity and resilience through economic, social and environmental co-benefits. The electricity systems and appliances can unlock access to additional income-generating activities, new businesses and foster economic growth, improving the people's socio-economic resilience impacted by such electrification. Access to knowledge and information via information technology enabled through electricity, helps communities connect with formal and informal support networks (government, aid agencies etc.) and recover faster from the impacts of disasters. Additionally, women and other marginalised groups such as young girls, children and the elderly are known to improve their circumstances and health from energy access, mainly through reduced vulnerability to pollution associated with charcoal and fuelwood consumption, increased security and learning time for schools.

Climate impacts/benefits

By unlocking local currency debt and increasing the availability of financing, the LEAF Framework will increase access to clean and reliable energy and support the diversification of renewable energy options, contributing to climate change mitigation and adaptation co-benefits in the selected countries. Direct mitigation benefits include an additional 386MW of generating capacity through renewable energy solutions, resulting in approximately 28.8 million tCO₂ emission reductions over the lifetime of the systems. The Framework aims to provide 1.18 million households and businesses with green, reliable energy solutions and productive use appliances.

B. PROJECT/PROGRAMME INFORMATION

B.1. Climate context (max. 1000 words, approximately 2 pages)

Climate change problem

Climate change problem: Describe the climate change problem the proposal is expected to address. Describe the mitigation needs (GHG emissions profile) and/or adaptation needs (climate hazards and associated risks based on impacts, exposure, and vulnerabilities) that the proposed interventions are expected to address. Also describe the most likely scenario (prevailing conditions or other alternative) that would remain or continue in the absence of the proposed interventions. Include baseline information. The methodologies used to derive such information, including the mitigation and adaptation needs, should be included in the feasibility study.

Opportunity provided by decentralised renewable energy

Despite significant investment over the last decade in power generation and distribution, many African countries still face considerable challenges in achieving universal access to sustainable, clean and reliable sources of electricity. Africa's current electricity generation sources rely mainly on fossil fuel (79%) and hydro (16%)⁴ (see Figure 1). Without a massive transformation to renewables, an increase in electricity demand would increase Africa's GHG emissions leading to an upward emission trajectory. The shortfall in generation capacity and access to the grid results in over 570 million people that lack access to electricity, mostly concentrated in rural regions in Sub-Saharan Africa. In these communities people often rely on a range of unsustainable, expensive, high carbon and harmful (to human health and the environment) energy sources to meet their power needs, including fossil-fuel based solutions such as kerosene and diesel as well as disposable batteries. Scaling-up renewable energy penetration is a necessity to meet electricity demand whilst reducing GHG emissions and ultimately promoting sustainable development.

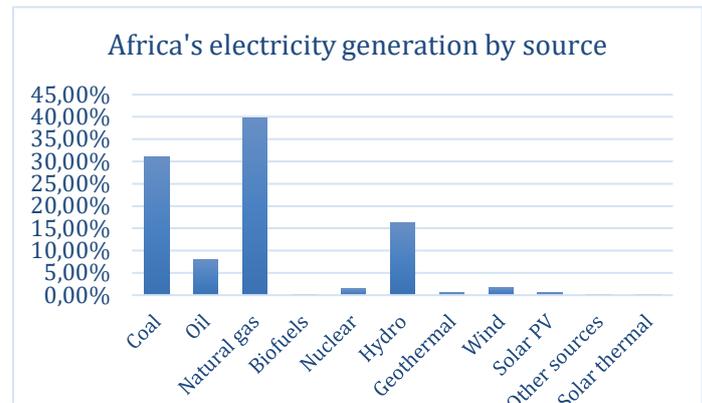


Figure 1: Africa's electricity generation by source (source, IEA, 2020)

⁴ <https://www.iea.org/data-and-statistics?country=WEOAFRICA&fuel=Energy%20supply&indicator=TPESbySource>

While many African countries have targeted ambitious electricity access goals and a transition to renewable energy, the cost of grid extensions remains prohibitive. With Africa having abundant solar resources, the potential for solar solutions at different scales i.e. households, industrial and utility-scale is enormous (see figure 2). For rural populations distant from the grid, decentralized renewable energy solutions such as mini-grids and solar home systems represent cost-effective solutions to increase access to electricity. The IEA (2017) estimates that by 2040 approximately 25% of households' electricity access needs to come from off-grid solutions. With demand for these solutions increasing, technology advancing and innovative business and supply models being developed, the off-grid sector has attracted a considerable number of private developers. For example, MKOPA in Kenya has introduced the pay-as-you-go model, using mobile payments for solar home system (SHS) technology, a model that has disrupted the way payments are collected in rural areas; mini-grid developers are using smart technologies for energy efficient measures and pre-payments of electricity; and developers are exploring energy-as-a-service models to improve affordability of captive power for businesses. As a result of these dynamics, the off-grid sector has seen considerable growth in recent years, leading African countries to include off-grid solutions as part of their electrification strategies, with the aim of achieving SDG 7 and to reducing their carbon emissions.

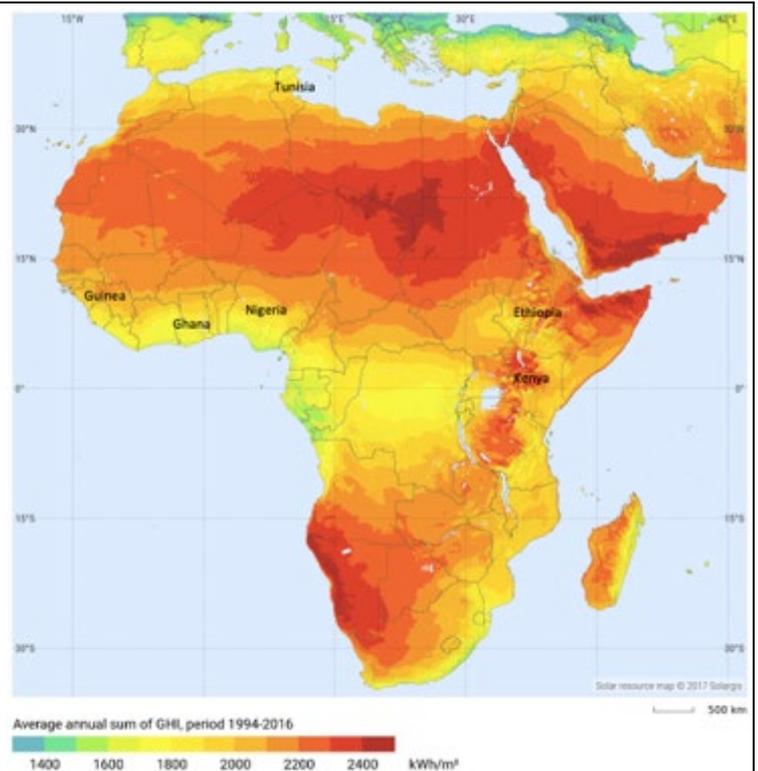


Figure 2 Solar potential Africa (Source: Solargis, 2019)

Green mini grids are the most effective and least-cost way to provide access to energy in off-grid areas with high levels of population density and economic activity. They can be easily deployed, they are flexible, scalable, and can connect to the main grid when the national grid expands. They contribute to carbon emission reductions, reduce pollution and environmental degradation, and create new jobs and business opportunities. Most mini grid systems have a productive life span of 15 to 25 years, which can be extended with new investments.

Solar Home Systems (SHS) provide rural, low-density populations with affordable and safe solar electricity. They usually span from basic packages, offering lighting and phone charging, to larger packages including solar powered appliances such as fans and TVs. SHS are usually paid on a pay-as-you-go basis (prepayment of electricity consumed through mobile money) allowing SHS companies to reduce the costs and risks associated with payment collection. SHS are equipped with remote controllers that can block electricity supply once prepaid electricity is consumed or a payment is missed. They present an electricity solution for sparsely populated areas and communities with low purchasing power. They provide a cleaner source of energy by replacing low-quality kerosene lamps with modern light and a proper electricity installation. SHS may support additional revenue-generating activities and small business activities.

Whilst **commercial and industrial solar** for businesses (C&I or captive power) is a nascent market in Africa, Bloomberg (2019) estimates that the sector is expected to grow considerably. A combination of falling solar module prices and high energy costs for both diesel generators and the grid in the focus countries are paving the way for solar systems for self-consumption. C&I solar presents a clean electricity solution for businesses that currently rely on diesel generators for electricity access or as backup power in case of power cuts. Solar C&I helps to displace diesel generators in Sub-Saharan Africa and support businesses to transition to clean electricity and reducing electricity costs.

Despite market growth, cost reduction in technologies and improved policies, there remain challenges related to access to private capital and a lack of a conducive enabling environment that are hindering the deployment at scale of DRE.

Access to finance needs

Scaling DRE solutions requires significant private sector investment. Most African countries rely on hard currency debt for the financing of energy infrastructure, typically creating significant exchange rate risks (especially as most of their revenue from consumers' payments is in local currency) that are difficult to hedge and which can have profound implications for

energy costs if they crystallize. The SHS, Green Mini-Grid (GMG)⁵ and C&I sub-sectors have different financing requirements, for instance in terms of scale, working and investment capital, tenor or term; and represent different risk profiles from a debt provider perspective. The growth in the SHS market has led to the emergence of established players operating at a scale that requires access to local currency and commercial finance to support the sustainable growth of their organisations, rather than just raising more equity. In particular, these companies are looking to leverage the value of their consumer receivable assets - the bundle of loans that they have given to their customers to buy their products. They can either do this by borrowing on-balance sheet, using the value of the receivables as collateral, or by applying an off-balance sheet securitisation approach involving the creation of an SPV. Most of the transactions in the C&I space have involved businesses making outright purchases of solar equipment, which is prohibitive to scaling up the sector. With the emergence of leasing and solar-as-a-service business models by C&I providers, these companies seek to raise local currency financing from local/ regional banks. The green mini-grid market is at early stages of development and the viability of the projects vary significantly based on technology, consumption and location. GMG developers require longer tenor loans to scale their operations and to complement commercial equity. GMG projects often require grants or subsidies to improve the viability of the project.

There is a strong case for developing the capacity and capabilities of local financial intermediaries to provide competitively priced term credit products. Despite the potential of DRE solutions and growing market demand, there are particular market hurdles currently preventing local financial intermediaries from engaging the sector. The risks associated with renewables projects are perceived to be high by commercial investors and financial institutions, mainly due to a lack of capacity to assess such projects and a lack of historical track record. In particular, financing of DRE projects has been limited given a variety of factors including: (i) limited access to private capital and local currency financing; (ii) tenor mismatch; (iii) high costs of capital and collateral requirements which impact the affordability of proposed energy solutions; (iv) risk related to consumers' default payments; and (vi) the high transaction costs for financiers and developers, including development finance institutions. Low savings rates across the region and capacity limitations at local financial institutions also restrict the availability of finance (especially in local currency). These market barriers have so far prevented the participation of local financial intermediaries to finance DRE businesses.

Credit enhancement instruments can play an instrumental role in increasing the supply of finance from local banks and commercial investors by derisking and strengthening the bankability of projects, thereby catalysing the participation of commercial investors in the sector. Guarantees and subordinated debt will mitigate the risk of payment defaults for LFIs and commercial investors, allowing for lower collateral requirements and tenor extensions and, where possible, improving the financing terms on offer from lenders and investors.

Mitigation and Adaption Needs and Benefits

The Framework will contribute to climate change mitigation and reduced carbon intensity through scaling-up renewable energy to meet the growing electricity demand. LEAF will mitigate greenhouse gas emissions in the selected countries through enabling the deployment of SHS and green mini-grids at scale, providing households and small businesses with emissions-free access to energy and displacing fossil fuel energy solutions. Captive power solutions will displace diesel generators and the fossil fuel-based grid for commercial and industrial use, helping businesses transition to clean electricity, reducing over time their electricity bills when systems are paid back, and promoting DRE in each country. The Framework is expected to establish 386MW generating capacity through off-grid renewable energy solutions, thereby avoiding a total of 28.8 million tCO₂ (over the lifetime of the DRE equipment installed as a result of the LEAF projects).

The first phase of the Framework focuses on six countries – Nigeria, Kenya, Ghana, Tunisia, Ethiopia and Guinea. Climate observations and projected changes in these countries include rising temperatures and evaporation rates, increased interseasonal and unpredictable rainfall patterns, more severe dry seasons and rising sea levels. This leads to increased droughts, floods, landslides, storms, and wildfires in the countries. In Kenya, Nigeria, Ghana, Guinea and Ethiopia, agriculture is dominated by small-scale subsistence farmers who remain heavily dependent on rain. Only 1-3 percent of cultivated land is irrigated in these countries. This leaves the sector, that is the primary livelihood for the majority of households, highly vulnerable to changing climate and weather patterns, including severe climate induced drought and shorter rainy seasons. Furthermore, increased evaporation rates and more severe droughts threaten hydropower production in Kenya, Nigeria, Ghana and Guinea. Hydro production, which accounts for about one-half of domestic electricity production in Kenya, reduced e.g. by up to 40 percent in drought years, leading to persistent power outages and reliance on more expensive petroleum-based thermal generation. Lastly, climate change will likely exacerbate health issues related to respiratory infections (already responsible for 19 percent of deaths in Nigeria) as air pollution is expected to worsen with rising temperatures.

⁵ Green mini grids are mini-grids that generate their power from renewables using battery storage

By increasing access to electricity and solar powered productive tools and appliances, the LEAF framework is expected to provide adaptation co-benefits by: i) increasing economic and educational opportunities, and enabling the creation of new livelihood strategies, diversifying and increasing income streams; ii) encouraging more active engagement in society and access to information related to climate, agro-climate and early warning information through solar powered communications and ICT (radios, TVs, and mobile devices); iii) improving health by displacing harmful fossil-based solutions with clean energy solutions, thereby eliminating indoor pollution; and iv) providing affordable, reliable and clean energy, reducing dependence on hydropower production that is sensitive to climate change. Depending on opportunities in the countries, LEAF may in particular provide adaptation co-benefits to farmers through: v) improved crops processing or use of drip irrigation powered by solar pumps to improve crop production and/or diversify livelihood options (gardening and horticulture); and vi) improved food and nutrition through refrigeration and small agro-processing opportunities at various scales - household to industrial (e.g. drying, packaging, cooling, crushing, and processing).

Considering that most projects target off-grid and climate-vulnerable communities, adaptation benefits are expected as a result of LEAF. The LEAF Framework is a mitigation programme, as opposed to crosscutting, given it is not possible to quantify adaptation impact at this stage given that underlying projects are unknown at the time of submission of the funding proposal and lack of data. To increase understanding of adaptation benefits of DRE projects, the Programme will conduct a comprehensive study/assessment per country, focused on the relevant technologies targeted in the countries by LEAF. These assessments will confirm climate change hazards in the geographic areas based on science, climate vulnerabilities and exposure, and the link between these climate vulnerabilities and energy access to reduce vulnerability of beneficiaries. The reports are expected to include (guidelines on) indicators to measure adaptation impact in the DRE sector. These knowledge documents and information can be used to confirm potential adaptation impacts of LEAF sub-projects, as well as provide guidance to the GCF, AfDB and other stakeholders when designing DRE projects with integrated adaptation benefits in the future.

The Do-Nothing Option

In order to understand the most-likely outcome should the LEAF Framework not be pursued to conclusion, it is necessary to appreciate the market barriers (see section B2) limiting investments from the private sector, especially local financial institutions and commercial investors in DRE solutions highlighted above. LEAF will address the high perceived risk, high costs of capital, high collateral requirements and tenor mismatch by providing credit enhancement instruments, while it addresses the lack of capacity of LFIs to assess and engage DRE projects through the TA component. In the absence of the LEAF Framework, these existing market barriers will continue to inhibit the successful deployment of DRE at scale, resulting amongst others in limited green energy access offers in off-grid areas where the population will continue relying on fossil fuel and disposable batteries for electricity, overall leading to approximately 28.8 million tCO₂e of GHG emissions that could otherwise be avoided. Public policy instruments in the program countries are being used to try to, directly and/or indirectly, help promote DRE (e.g. gradually phasing out electricity price subsidies, partial grants for equipment purchase, etc.) but are not considered enough for it to happen at scale without support from the private sector (e.g. thanks to concessional finance, de-risking instruments and capacity building by LEAF). Energy sector investments will need to more than double from today's level in order to achieve universal electricity access by 2030, requiring an annual average investment of USD 51 billion (IEA, 2018). In addition to public financing, significant private financing is required to address energy needs and climate change.

Methodologies Used

To quantify the mitigation impact of the LEAF Framework (accumulated baseline emissions avoided) the following indicators are used, and steps followed:

- Estimated RE capacity (MW) to be installed in each country;
- Estimated annual production per technology / RE system (MWh);
- Assumptions made to establish baseline emission factors according to different methodologies / baseline sources;
- Estimated annual million tCO₂e avoided by the implementation of the Framework per country and RE system;
- Estimated the lifetime of the three different RE systems (5 years for SHS, 25 years for mini-grids and captive power); and
- Total avoided GHG emissions during the lifetime of the different RE systems.

Country-specific context

Context: In describing the mitigation and/or adaptation needs, briefly describe the target region/area of the proposed interventions including information on the demographics, economy, topography, etc.

The first phase of the Framework focuses on six countries - Nigeria, Kenya, Ghana, Tunisia, Ethiopia and Guinea – with proven market potential and where the Bank is actively pursuing investment opportunities. Specifically, LEAF will play an instrumental role in supporting the Bank's business development efforts in these countries, including financing leading

market players in the SHS and C&I space, greenfield initiatives in Tunisia with local banks, and SEFA-supported mini-grid acceleration programmes in Nigeria, Guinea and Ethiopia. This country diversity will enable the Bank to explore differentiated market development strategies, from first generation mini-grid scale-up programmes (Ethiopia and Guinea), to expansion of established SHS and C&I companies (Kenya, Nigeria and Ghana), and acceleration of renewable energy transition of businesses (Tunisia). The focus on the different sub-sectors in the countries is based on market potential and enabling regulatory framework, however, the programme can support all subsectors in the 6 countries pending opportunities and state of the market.

Ghana. Ghana is a low-middle income country of 30.4 million, with a GDP per capita of \$US 2,202. Its main productive sectors are services (44% of GDP), industry (32% of GDP) and agriculture (17% of GDP). The country has an overall electrification rate of 82%, leaving 6 million people without energy access. It relies on hydro and thermal power for its energy, with contributions of 38% and 61% of installed capacity respectively and produces 49% of its electricity from Hydropower and 51% from natural gas (IEA, 2018). Its overdependence on hydro sources for electricity generation leads to significant generation capacity variation due to its uncertain rainfall pattern and inflows into the hydropower facilities (Trading Economics, 2020).

Scaling up renewable energy is one of the key objectives of the country's Nationally Determined Contributions (NDCs) with a target to increase penetration by 10% by 2030. The enabling environment for off-grid solar in Ghana is seen as highly supportive. Established PAYGO SHS companies include PEG, Zola, Azuri and Translight Power, seeking growth capital to expand their businesses. With tariffs for C&I customers being relatively high, by Sub-Saharan African standards, currently US\$0.25/kWh for commercial and US\$0.16/kWh for industrial use, the commercial case for renewables captive power solutions is strong (see Figure 3). Key players in the C&I space include Daystar Power, Yingli Namene and Translight Solar. Ghana's total GHG emissions in 2017 were 53.3 MtCO_{2e}, with energy being a predominant source of emissions, accounting for 50%. Ghana's emission reduction goal is to unconditionally lower its GHG emissions by 15 percent relative to a business-as-usual (BAU) scenario emission of 73.95MtCO_{2e} by 2030. Through the LEAF's proposed interventions, a reduction in GHG emissions is estimated of approximately 1.6 MtCO_{2e}, which would be over 14% of the unconditional emissions reduction target. LEAF will thus contribute substantially towards the national emission reduction target.

Nigeria. Nigeria has a population of 201 million and a GDP per capita of US\$ 2,230. Its main productive sectors are services (50% of GDP), industry (27% of GDP) and agriculture (22% of GDP). Nigeria's overall electrification rate is 54%, leaving over 92.4 million people behind. Nigeria produces approximately 82% of its electricity from fossil fuels and the remainder primarily from hydro (IEA, 2018). As a result of inadequate supply, households, companies, and industries have resorted to purchasing self-generation technologies, predominantly in the form of small-scale diesel and petrol generating sets. It is estimated that consumers spend between US\$14 billion and US\$30 billion each year on such solutions. Poor grid reliability and falling costs of solar technology compared to back-up diesel generators contribute to making the Nigerian C&I market the largest in SSA. Key players in the segment include Daystar Power, Consistent Energy and Crossboundary Energy, all of which require significant investments to grow their businesses.

13.2 million people in Nigeria would be best served by mini-grids, representing an annual mini-grid market size of USD \$994 million. Mini-grid regulations introduced in 2017 pave the way for the sector with a robust Multi-Year Tariff Order policy supporting isolated and grid-connected mini-grids. Key players in this sector include Green Village Energy (GVE), Blue Camel Energy and Arnergy. The Nigerian SHS market is well established through companies such as Lumos, Azuri, D.Light and Greenlight Planet. SHS companies have expressed interest in trying to adopt the consumer receivables financing model, offering opportunities for (local currency) investment. High collateral requirements (as high as 120%), high interest rates and short tenors are some of the challenges in accessing financing from LFI's. Credit enhancement products and concessional debt can play an instrumental role in crowding-in local financial markets.

LEAF complements the Bank's and other partners' efforts in developing the DRE market in Nigeria, including the Nigeria Electrification Project initiative (financed by AfDB and the Worldbank) that seeks to provide electricity access to off grid communities through renewable power sources and the Bank's established efforts in building the mini-grid industry, including AMAP, which aims to transform the scale of public and private investments in mini-grids and the Green Mini-Grid Market Development Programme. Nigeria's total GHG emissions in 2017 were 483.2 MtCO_{2e}, with the energy sector accounting for 37% of emissions. Through the proposed interventions of the LEAF, a reduction in GHG emissions is estimated of approximately 10.5 MtCO_{2e}. Therefore, LEAF will provide additionality by addressing some of the market barriers facing rapid deployment and uptake of mini grids. It will compliment ongoing effort to use a systemic approach to increase electricity access in off-grid communities. LEAF will support capacity strengthening of regulatory activities to scale up of private investments through the deployment of innovative business models and financing that focuses on achieving cost reductions in mini grids.

Kenya. Kenya has a population of 52.5 million and a GDP per capita of US\$ 1,820. Its main productive sectors are services (43% of GDP), agriculture (34% of GDP) and industry (16% of GDP). Kenya's economy is highly dependent on climate sensitive sectors such as agriculture, energy, manufacturing and tourism. Climate change impact has caused considerable losses across the country's different sectors over recent years; economic losses resulting from droughts and floods are estimated at 3% of Kenya's Gross Domestic Product (GDP) (Kenya, 2015). Kenya has a 75% electricity access rate. Production of electricity mainly comes from geothermal (44%), hydro (34%) and fossil fuel (18%). In 2018, Kenya launched its 5-year national electrification strategy to increase access to energy in the country and achieve 100% of energy from renewable sources. In the plan, the Government of Kenya has recognized the importance of leveraging private sector capital and innovative DRE models. The plan includes expansion of the grid (3 million connections), additional mini-grids (35,000 connections) and SHS (2 million connections) (Kenya, 2018). To achieve universal access to electricity, the plan estimates that Kenya requires USD 458 million of private sector investment in solar home systems. However, lack of incentives for private sector participation is identified as one of the barriers that limit universal access. LEAF's interventions will therefore provide the needed incentives to enhance private sector investments and supporting governments to create the enabling policies needed for private investment.

Kenya is the birthplace place of pay-as-you-go SHS models, that are being rolled out across Africa, and has one of the most developed SHS markets on the continent. SHS companies have been mainly financed through equity and hard currency loans. As the sector continues to mature, the larger companies will need to apply consumer receivables financing models to free up the working capital required to support expansion and sustainable growth. Although there are some examples of companies raising local currency debt, e.g. Mkopa, challenges persist with local banks not willing to lend on reasonable terms, contributed to by their lack of understanding of the business model and the perceived credit risk of SHS providers. C&I presents an opportunity for Kenyan businesses to significantly reduce their energy costs going forward. Access to debt finance is noted as a main constraint of C&I developers seeking to expand operations. The C&I market is relatively new market, which is why local banks have yet to build up an understanding of it.

Kenya's total GHG emissions in 2017 were 49.7 MtCO₂e, with the energy sector being a predominant source of emissions, accounting for 63% of emissions. In its updated Nationally Determined Contributions (NDC), submitted in December 2020, the country increased its ambition to abate emissions by 32% (up from 30%) by 2030 relative to the business as usual (BAU) scenario. Among the priority mitigation activities include use of clean, efficient and sustainable energy technologies to reduce over reliance on fossil and non-sustainable biomass fuels. Through the proposed interventions of the LEAF, a reduction in GHG emissions is estimated of approximately 1.2 MtCO₂e, which will contribute to emission reductions that arise from energy demand.

Tunisia. Tunisia has a population of 11.7 million and a GDP per capita of US\$ 3,320. Its main productive sectors are services (59% of GDP), agriculture (23% of GDP) and industry (16% of GDP). Tunisia is a lower-middle income country that has been pursuing economic liberalisation policies since the 1980s. In more recent times, growth has been averaging at 2% over the last ten years (World Bank, 2020). In Tunisia, the growing economy and rise in living standards has contributed to a significant increase in electricity consumption leading to frequent grid saturation. Tunisia has an electricity access rate of 99%. Approximately 94% of the installed electricity capacity in the country comes from natural gas, with renewable energy sources accounting for the remaining 6% of the country's energy mix (wind power, solar and hydro) (Tunisia Ministry of Energy, 2019). Tunisia's total GHG emissions amounted to 40.73 MtCO₂e in 2017, with the energy sector representing 69% (28.16 MtCO₂e).

Facing a political and economic crisis as a result of the 2011 revolution and accompanying political instability, Tunisia is phasing out electricity subsidies, affecting businesses already under strain due to the economic crisis and now the COVID-19 pandemic. Solar installations are becoming more attractive to C&I customers considering the reduced cost of solar technology and expected reduction in tariff subsidies (increasing the electricity price, with all subsidies expected to be eliminated by 2022). Most systems are currently bought upfront, which is prohibitive for scaling up the sector. C&I companies are seeking capital for leasing models. High collateral requirements have been prohibitive for businesses to obtain finance from LFIs. Guarantees can alleviate the credit risk to financial institutions and encourage them to offer loans to customers to support renewable energy or energy efficiency projects.

The Tunisian Nationally Determined Contributions (NDCs) establish an overall goal of a 41 per cent reduction in the country's GHG emissions intensity by 2030 (compared to 2010 levels). The energy sector is responsible for more than half of Tunisia's emissions and Tunisia aims to reduce its carbon intensity by 46 per cent compared to 2010 levels. To meet its mitigation goals, the government aims to increase the share of renewable energy against total electricity generation to 30 per cent by 2030 as per the Tunisian Solar Plan (TSP). To attain this, target the GoT set a target capacity of power production of 3,815MW, comprising of wind (1,755MW), solar PV (1,610MW), concentrated solar power (450MW) and biomass resources (100 MW). The Framework intends to contribute to mitigation impact in Tunisia by a

total of an estimated 1.5 million tCO₂e, through captive power solutions which would approximately amount to 6% of the 2017 energy sector emissions.

The TSP is the main element of public policy to promote and scale up clean energy in Tunisia, including DRE. However, the country's track record as well as the opinion of the private sector stakeholders (LFIs, project developers) confirms that the incentive mechanisms thus far put in place (limited grants for equipment purchase, RE power purchase at subsidised prices by STEG) are not enough to enhance the scaling up of renewable energy development in the C&I sector (particularly both SMEs and small IPPs). PST structures the legal framework into three categories: (i) Authorization for smaller IPPs of up to 10 MW for solar and up to 30 MW for wind; (ii) Concessions for power plants over 10 MW for solar and over 30 MW for wind; and (iii) Self-consumption that allows any public or private local body to produce electricity from DRE for self-consumption (Law Nr 2015-12 Art. 5), the sale of electricity surplus to the national utility company STEG (Decree Nr 2016-1123) and the supply of DRE from a third party to businesses for a capacity of above 2 MW (Decree Nr 2020-15). This regulatory framework had an initial target capacity of 180 MW by 2020. However, only 30 MW of DRE has been developed to date mainly due to a lack of access to finance. In Tunisia, LEAF will support the energy diversification and security, accelerating the country's transition to renewable energy.

Ethiopia. Ethiopia has a population of 112 million and a GDP per capita of US\$ 858. Its main productive sectors are services (37% of GDP), agriculture (34% of GDP) and industry (25% of GDP). The overall electrification rate in Ethiopia is 44%. Ethiopia's current energy profile reflects a staggering dominance of bioenergy. Biomass constitutes approximately 90% of total final energy consumption, fossil fuels account for 8.5%, and renewable electricity accounts for only 1.5%. Ethiopia currently consumes an estimated 0.1 MWh per capita per year, half as Kenya and Nigeria (each 0.2 MWh per capita) and only 7% of Tunisia's per capita consumption as a comparison. However, current electricity demand growth is more than 25% per annum, one of the highest growth rates in Africa.

The electric grid system consists almost entirely of hydropower, with wind and geothermal completing the mix. Given the country's heavy reliance on hydropower, climate change and climate variability are key concerns for the reliability and consistency of power generation and supply (Cities Alliance, 2017). Climate change models suggest a future increase in variability of hydro resources. Substantial legislative changes are being implemented to promote private sector off-grid solutions under the second Growth and Transformation Plan (GTP II) (Ethiopian Energy Authority, 2020). There is a significant potential for mini-grids to increase electrification rates. 13 million people would be best served by mini-grids, requiring a total CAPEX investment of US\$ 2.581 million. Significant policy and market reforms are required to foster growth in mini-grid sector especially through private sector investment, whose participation in the country remains limited due to factors such as lack of access to affordable debt finance. The LEAF programme interventions will address this challenge and enable the scaling up of investments from private sector in the mini-grid sector, subsequently reducing the use of diesel generators and resulting emissions. As the national utility does not operate mini-grids at a large scale as they tend to be too small and scattered for efficient management the private sector's role is important in filling that gap. Ethiopia's National Electrification Program 2.0 targets to achieve 35% of electricity access by 2025 from off grid solutions. Total GHG emissions in 2017 were 193.6 MtCO₂e, with energy accounting for 26% of emissions. Through the proposed interventions of the LEAF, a reduction in GHG emissions is estimated of approximately 11 MtCO₂e.

Guinea. Guinea has a population of 12.8 million and a GDP per capita of US\$ 1,064. Guinea's economy was badly hit by the 2014–2015 Ebola outbreak and recent commodity price shocks resulting from weak global economic growth, appreciation of the dollar, and rising borrowing costs. 70% of Guineans earn their living in a climate-sensitive sector, growing crops such as rice and cocoa which are highly vulnerable to changes in climate. Guinea is known as Africa's "water tower", the country's highlands being home to the headwaters of three major river systems, the Gambia, the Niger, and the Senegal. Guinea produces 67% of its electricity from hydro and the remaining 33% from fossil fuels (Indexmundi, 2020). Guinea suffers from recurring floods and climate change is exacerbating this challenge. Given that several dams along the rivers provide much of the country's hydropower, climate change is expected to reduce flows of northern rivers, such as the Milo, by up to 70 percent by 2100 (USAID, 2018), negatively impacting energy supply.

Guinea's electricity access rate is 44%. It is estimated that 5.94 million people in Guinea would be best served by mini-grids. The AfDB, through SEFA, has provided financial support to the Guinean government to finance pre-feasibility studies targeting the construction of 57 green mini-grids in rural areas. LEAF will support these efforts and the scaling of GMG by providing guarantees and subordinated debt at concessional rates to unlock debt and local currency financing. Total GHG emissions in 2017 were 44.8 MtCO₂e, with the energy sector accounting for 13% of emissions. Based on its Nationally Determined Contributions (NDC), Guinea intends to produce 30% of its energy (excluding wood-energy) from renewable energy sources. Through the proposed interventions of the LEAF, a reduction in GHG emissions is estimated of approximately 2.9 MtCO₂e.

Considering the specificities of the focus countries, LEAF's strategy is therefore to finance a series of markets at different maturity levels so that the experience can be widely shared for the future pathways of diverse countries facing similar challenges.

Whilst SHS and mini-grids support energy access, the rationale for C&I is highlighted by the potential of solar technology as a cheaper and cleaner technology than current solutions as demonstrated by the following diagram that provides a comparison of C&I and grid tariff in Nigeria, Kenya and Ghana:

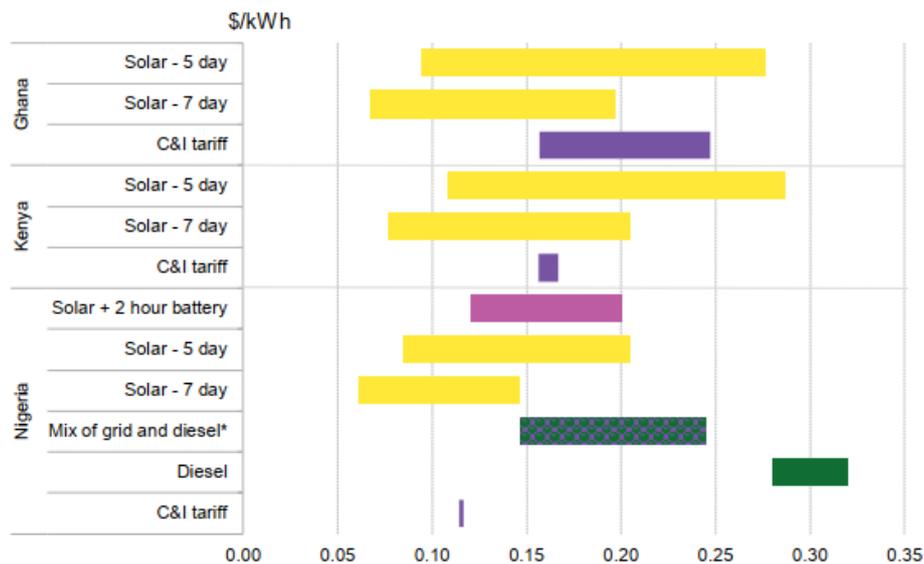


Figure 3: Economics of grid and C&I tariffs in selected focus countries (source: BNEF, 2019)

Related projects/interventions

Related projects/interventions: Also describe any recent or ongoing projects/interventions that are related to the proposal from other domestic or international sources of funding, such as the Global Environment Facility, Adaptation Fund, Climate Investment Funds, etc., and how they will be complemented by this project/programme (e.g. scaling up, replication, etc.). Please identify current gaps and barriers regarding recent or ongoing projects and elaborate further how this project/programme complements or addresses these.

Complementarity with other GCF initiatives. The LEAF Framework will complement existing GCF projects that support DRE, including the Universal Green Energy Access Programme (FP027), Transforming Financial Systems for Climate (FP095), KawiSafi Venture Fund (FP005), and EBRD SEFF Co-financing Programme (FP025), by deploying credit enhancement instruments, such as first loss guarantees, partial credit guarantees, tenor extension guarantees and subordinated debt. Additionally, LEAF will support larger projects (greater than \$US 20 million project size), develops receivables-backed financing structures and has a different geographical coverage than other proposals. The Framework will unlock local currency and commercial financing and crowd in local financial institutions and private investors to scale DRE.

Complementarity with other AfDB initiatives. LEAF will play an instrumental role in supporting the Bank's business development efforts in these countries through a number of programmes with targeted finance and technical assistance including: the Sustainable Energy Fund for Africa (SEFA provides financing for the design and preparation of bankable projects, investment capital for small and medium sized sustainable energy projects, technical assistance for capacity building in enabling environment for green energy), the Green MiniGrid Market Development Programme (that supports the scale-up of investments in GMG projects through a broad range of interventions to improve the enabling environment, including market intelligence, business development support, policy and regulatory support, access to finance, and quality assurance), the Facility for Energy Inclusion's On-Grid Window (a USD 400 million debt fund to provide flexible, sustainable, and efficient financing to support the expansion of energy access through the development of small-scale renewable energy generation and mini-grids) and SEFA's support for the development and launch of the Nigeria Energy Access Fund (NEAF), a new private equity fund developed by All On, a Nigerian impact investment. The LEAF Framework will support a larger scope of DRE compared to the DESCO Financing Framework, including SHS, captive power and mini grids. Its value proposition compared to other AfDB initiatives are the credit enhancement instruments (subordinated

debt and guarantees), which allow for de-risking the sector and enhancing local currency financing to scale up DRE initiatives and programmes.

Framework relevance in light of Covid-19

The LEAF Framework is particularly relevant in light of the Covid-19 crisis and the emerging needs of the energy access sector. Due to reduced budgets and increased debt, country governments are refocusing priorities and resources towards their Covid-19 response and the emerging strained economic realities, potentially threatening their ability to reach ambitious national energy transition goals. LEAF supports access to finance which is expected to become scarcer in future years as a result of the economic impacts of the crisis, and it will accelerate the achievement of SDG 7: Access to affordable, reliable, sustainable and modern electricity for all. The following points summarize the Framework's contribution to Covid-19 response:

- The Framework pipeline includes the COVID-19 Off-grid Recovery Platform (CRP), a cornerstone operation of the AfDB's response to the COVID-19 pandemic in the energy access sector. The main objective of the Platform is to support DRE companies' resilience amid the pandemic shock. Access to finance for DRE is likely to become more challenging. Uncertainties arising from the impact of the pandemic and the resulting economic downturn are likely to make local FIs even more risk averse leading to them suffering higher credit losses and a resultant negative impact on overall asset quality, capital and liquidity. The Framework's de-risking instruments will address this by relieving local financial institutions from additional risks.
- Access to energy is critical to the provision of healthcare services for the powering of lighting, refrigeration, medical equipment, and other appliances. In sub-Saharan Africa, an estimated 30% of healthcare facilities have access to energy. A key challenge precluding healthcare identification is the definition of viable business models that can ensure the long-term delivery of energy services. LEAF may finance DRE companies that provide electricity for health centers.

B.2. Theory of change (max. 1000 words, approximately 2 pages plus diagram)

Market Barriers

Limited access to finance and de-risking instruments:

Private investment in the DRE space has historically been limited due to questions concerning the commercial viability of such projects. The DRE business model relies mainly on an income stream from consumer payments as a result of their energy consumption. In this case consumers play the role of multiple off-takers. Whilst a multiple off-takers model reduces the concentration risk of payments, there are new challenges to secure steady revenue as target consumers in remote off-grid areas have low-incomes, low purchasing power, and seasonal revenues, mainly from the agriculture sector. The commercial viability of mini-grids is affected by non-cost reflective tariffs which reduces electricity prices for consumers. Households and small businesses in rural areas limit their consumption of electricity due to affordability issues. Companies often rely on equity investment and venture capital to finance their projects, types of capital which are often unsuited to longer tenors.

Commercial banks prefer to provide short-term loans at high rates, and, in some cases, they refuse to finance DRE businesses as this is the case with some banks in Kenya and Nigeria. For Development Financing Institutions such as AfDB, financing the sector is often challenging as many DRE businesses are small-scale and DFIs are not designed to finance small projects. DFIs often rely on financial intermediaries such as funds and local banks to finance portfolios of these small-scale projects. De-risking instruments such as guarantees are also limited as these have been traditionally used for large investment projects and less for projects which rely upon consumers' revenue.

Scarce affordable capital in the context of the COVID-19 pandemic:

To respond to the COVID-19 pandemic, African governments have refocused their priorities and resources towards their Covid-19 response and the emerging strained economic realities. As such, countries have increased debt, potentially threatening their ability to reach ambitious national energy transition goals. The lack of access to finance for DRE companies has been exacerbated by the pandemic and is expected to become scarcer in future years following the economic crisis created by the pandemic. With the lockdown limiting sales activities and limited access to capital, DRE companies are particularly hit by the pandemic and are struggling to mobilise capital to survive the crisis and grow. Furthermore, DRE solutions are critical for off-grid healthcare facilities as they present a faster solution to ensure delivery of essential energy services. Both relief and recovery capital are much needed to safeguard the sector and continue the green electrification agenda of African countries.

Limited access to local currency finance:

As mini-grid, SHS and C&I businesses rely on consumer payments, local currency debt plays a crucial role to finance growth and expansion of DRE companies. It reduces the risk of currency mismatch between loans and revenues. In countries with volatile currency such as Kenya, Nigeria, Ghana and Tunisia, the currency risk leads to significant increase of the financing costs. However, despite the growing demand for local currency financing, local banks have been largely absent in the DRE sector.

Lack of local FI capacity and market data:

According to the market assessment study (CEPA, 2019), local financial institutions (FIs) including banks and leasing companies lack the required experience and financial capacity to assess and develop robust financing structures to finance and mitigate key risks of DRE. The lack of capacity is often justified by the relatively nascent nature of the market and the resulting limited market information. Furthermore, data and benchmarking studies are required to increase investors' confidence in the sector.

Enabling Environment:

Although the private sector plays an important role in the DRE sector, enabling policies are often designed to enable public investments and often fail to address the key regulatory challenges of private stakeholders. Mini-grid investments often face a lack of licensing frameworks for private mini-grids and cost-reflective tariffs, like in Ghana and Ethiopia. In the C&I space, few countries are adopting net metering regulation. In Ghana, the net metering regulation, which allows consumers to sell the surplus of electricity produced to the grid, has been put on hold following a pilot conducted by the national utility company. In Tunisia, sales of surplus electricity have been capped to ensure utility revenue. Licensing processes are unclear and lengthy, leading to additional risks in investments. Finally, regulation is often inefficient and complex and, in some countries, for example in Tunisia, requires an independent regulator to support private investments. By addressing financing and policy barriers in the focus countries, the Framework will harness the potential of DRE to accelerate access to electricity and enable businesses transition to clean electricity.

Without addressing these barriers, private investments will remain limited to international and impact investors and the broader pool of commercial investors will not be able to invest, limiting the deployment of DRE solutions.

The following table summarises the key barriers and how they will be addressed by the Framework.

Type of barrier	Barrier	Area of intervention	Programme activities that address the identified barrier
1. Financial	<ul style="list-style-type: none"> - Limited access to finance and de-risking instruments - High capital cost - Tenor mismatch between available loans and required DRE capital terms - A large market of small-scale DRE businesses 	1.1 mobilise and de-risk commercial investment in SHS, mini-grids, C&I	<p>Activity 1.1.1: provide concessional guarantees to unlock commercial investment</p> <p>Activity 1.1.2: provide subordinated concessional debt instruments to cover commercial investors risk and make concessional capital available</p> <p>Activity 1.1.3: Develop structured facilities and receivable backed financing transactions to mitigate consumers credit risk</p> <p>Activity 1.1.4: Deploy concessional sub-debt and guarantee finance a portfolio of DRE businesses through Financial Intermediaries (holding company, Fund, multi DRE co-SPV – aggregators)</p> <p>Activity 1.1.5: Deploy tenor extension guarantees to LFI</p>
	Limited access to local currency finance	1.2. mobilise local currency finance in SHS, mini-grids, C&I	Activity 1.2.1: Provide concessional guarantees (first loss passu) to local currency funding provided by commercial investors
2. Covid-19 crisis	Scarce affordable capital for growth	2.1 deploy and mobilise COVID-19 recovery funding for DRE companies in mini-grid, C&I, SHS	Activity 2.1.1: Provide concessional debt to DRE companies through the Covid-19 Off-grid Recovery Platform or an intervention of similar nature
3. Lack of capacity	Lack of local FI capacity to engage DRE	3.1 provide TA support to LFI to increase their investment in the DRE space	<p>Activity 3.1.1: Capacity building of FIs to increase their understanding of the market and identify, assess and support DRE companies</p> <p>Activity 3.1.2: Support the structuring of strong and viable innovative financing structure</p>

	Unclear/complicated/licensing framework, Lack of independent regulator, High VAT and import duty, Prohibitive net metering (C&I) and tariff (mini-grid) regulations	3.2 support governments in enabling policies for private investment in SHS, Mini-grid, C&I	Activity: 3.2.1: TA to focus countries to support the development of enabling policies and frameworks
	Existing gaps in the interlinkages between energy access and adaptation	3.3 country level adaptation assessments	Activity 3.3.1: A country-level assessment will be undertaken for each country to determine the link between energy access and adaptation and confirm potential adaptation impact.
	Remaining gender gaps and inequalities in the DRE sector leading to lower share of women as customers and employees	3.4 Address existing gender gaps and inequalities in the DRE sector	Activity 3.4.1: Conduct national gender assessments and refine gender action plans for each country Activity 3.4.2: Support the development of strategies and marketing campaigns for DRE companies to increase share of female customers Activity 3.4.3: Develop gender inclusive recruitment and policies to increase women at the workforce of DRE companies

Through the LEAF activities listed above, the framework intends to create the following outcomes:

- Establish 386MW generating capacity through off-grid renewable energy solutions, of which some may also feed into the grid, generating annually 1.2 million MWh energy.
- Reduced emissions by 28.8 million tCO₂ over the lifetime of the equipment implemented by the sub-projects.
- Increased access to electricity to over 5.9 million people, including 50% women.
- Improved ability of an estimated number of 20 local FIs⁶ to self-support future lending activities once the Framework period is complete.
- The development of stronger country-level DRE policies, enabling further private sector investment as DREs become more attractive.

LEAF theory of change diagram.

Energy is responsible for a large proportion of emissions in the target countries, where fossil fuel-based energy sources dominate the market. As energy demand rapidly increases in the target economies (electricity demand is expected to be more than double by 2040 compared to today⁷), increasing the proportion of RE sources will become urgent, if development is to follow a low-carbon pathway. Use by vulnerable households of renewable energy powered productive tools and appliances, is expected to strengthen their adaptive capacity and reduces exposure to climate risks through adaptation co-benefits. To support these countries in their energy transition plans, key barriers must be lifted, including first and foremost, the provision of additional capital to support private sector investment in renewable energy, but also barriers related to risk perception attached to DRE investments among local FIs and commercial investors. The Framework will facilitate private sector access to commercial and local currency financing, building the capacity of local stakeholders to deploy DRE at scale. The key proposed solutions to address the barriers are: (i) deploying de-risking concessional financing instruments (first loss guarantee, subordinated and concessional debt); and (ii) capacity building and technical support to financial institutions and governments. Without addressing these barriers, the market for DRE investments is likely to remain limited in the focus countries and commercial and local investors will not be willing to bear the associated risks. Cost of capital will remain high as the perception of high-risk will remain and access to local currency finance will remain either unavailable or too expensive. In lifting the market barriers, DRE companies will gain access to additional commercial capital, enabling them to grow and expand their businesses, resulting in additional clean energy connections and reducing and/or avoiding GHG emissions.

Assumptions underlying the theory of change include a continued rate of rapid growth in demand for renewable energy solutions to address lack of energy or obtain reliable, clean and cost-efficient energy. The decentralized renewable energy sector is growing with an increasing number and size of private sector companies in Africa, and examples of profitability even under current policy conditions are available. The project also assumes that to expand business operations, DRE

⁶ The estimated number of 20 LFIs is indicative as it is based on the current indicative pipeline

⁷ IEA (2019). Africa Energy Outlook 2019.

companies will continue to seek to raise local currency financing from local banks and that there will be an increasing number of operations who can absorb the finance provided under LEAF. It is also assumed that local financial institutions will be willing to lend to the DRE sector, once appropriate de-risking instruments and capacity building support are provided, enabling them to engage the sector. Finally, the project is based on existing country governments' willingness to develop enabling policies to support DRE and encourage greener energy solutions to diversify the energy mix in their countries.

The theory of change diagram in the figure below details how the Framework activities lead to achieving program goals based on activities, results, and outcomes.

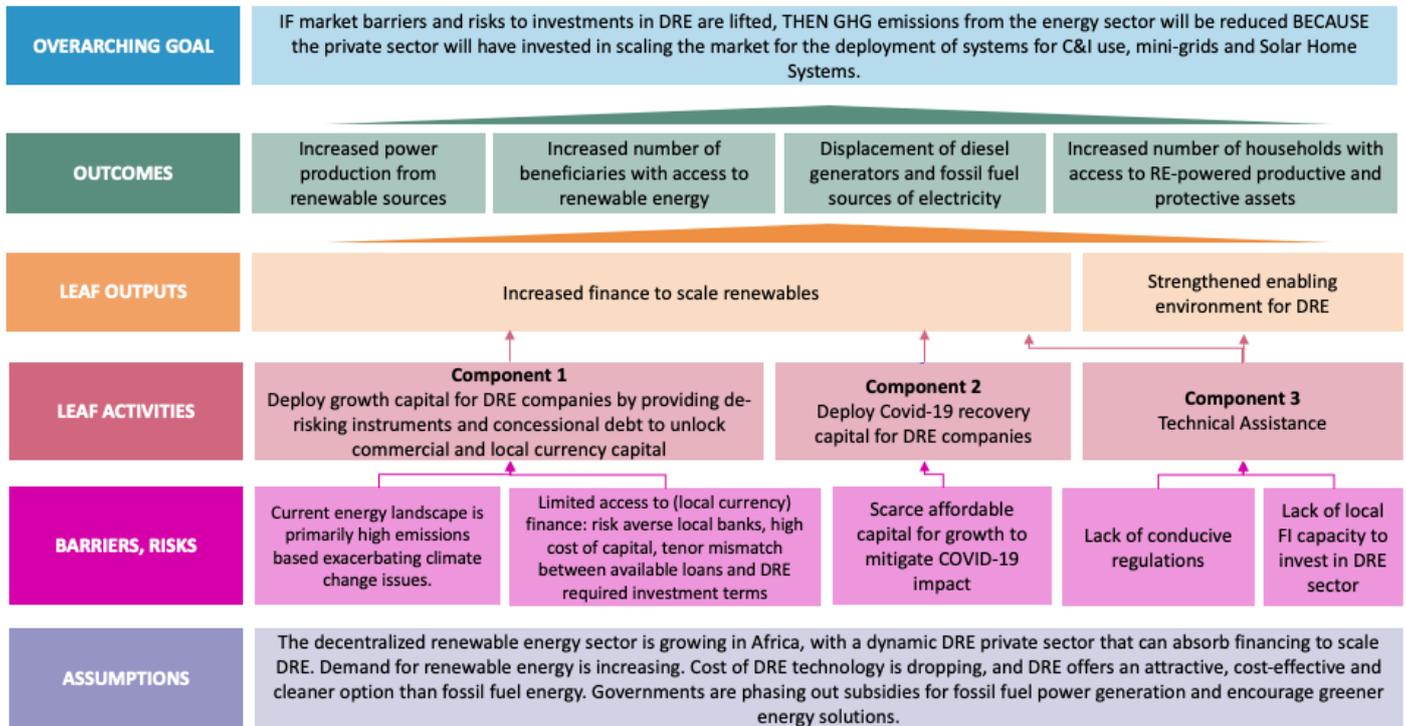


Figure 4: Theory of Change of the LEAF Framework

B.3. Project/programme description (max. 2000 words, approximately 4 pages)

Definition of the project/programme

Define the project/programme. Describe the proposed set of components, outputs and activities that lead to the expected Fund-level impact and outcome results. Components should reflect the project/programme level outcomes. This should be consistent with the financing by component in section C.2, the results and performance indicators provided in section E.5, and the implementation timetable in annex 5.

The LEAF Framework has the overarching goal to **accelerate access to clean electricity whilst reducing GHG emissions**. It will achieve this by **unlocking access to finance and local currency debt by de-risking investments for the private sector** to support the growth of DRE businesses offering solar home systems (SHS), green mini-grids and captive commercial and industrial (C&I) solutions. Specifically, the programme will avail credit enhancement instruments, including GCF concessional partial credit guarantees (PCG) and concessional subordinated debt, to strengthen bankability and catalyse the participation of commercial investors in the sector, including local financial intermediaries such as local banks and leasing companies (LFIs) for local currency finance. LEAF seeks a contribution of US\$ 160 million from the GCF for de-risking and blending with AfDB projects in the form of concessional credit enhancement instruments, including: (i) PCGs to mitigate the risk of payment defaults for LFIs and commercial investors, allowing for lower collateral requirements and tenor extensions; (ii) subordinated debt to mitigate the risk of payment defaults and improve the financial profile of projects crowding in LFIs where possible. PCGs and subordinated debt will cover innovative financing structures such as receivables-backed facilities for lease-to-own business models for households and businesses; and (iii) concessional debt funding to reduce cost of capital and improve the bankability of projects, particularly in the context of COVID-19 recovery. AfDB will contribute with US\$ 160 million in Partial Credit Guarantees and debt provided at market rate. The programme is expected to leverage financing from local financial institutions, funds, commercial investors or developers worth US\$ 625 million. In addition to the finance provided, the Framework will provide technical assistance

– US\$ 10.9 million provided by GCF and US\$ 4 million by AfDB⁸ – to enhance local financial institutions capacity for DRE investments, support governments in creating an enabling environment for private investment, establish financially sound financing facilities and transactions, confirm adaptation impact through project-level adaptation assessments, and address existing gender gaps and inequalities in the DRE sector.

The Framework focuses on off-grid renewable energy generation in six priority countries: **Nigeria, Kenya, Ghana, Tunisia, Ethiopia and Guinea**. The rationale for these countries is based on: (i) the existing DRE market size; (ii) these countries possess active energy transition programs; (iii) the countries are aligned with business development efforts and complement investment opportunities pursued by the Bank; and (iv) although access to finance and local currency capital remain key hurdles to unlock the full DRE growth potential, local financial institutions, including local banks and leasing companies, are willing to invest in the market providing they have access to de-risking instruments and capacity building. The country diversity will enable LEAF to explore differentiated market development strategies. Based on the state of the market and regulatory framework, LEAF is looking to play an instrumental role in financing the expansion of leading market players in the SHS and C&I space (Kenya, Nigeria and Ghana), accelerating energy-efficiency focused businesses and greenfield initiatives in Tunisia, and support mini-grid acceleration programmes in Guinea, Nigeria and Ethiopia. However, the programme may invest in all subsectors in the countries, given opportunities exist and pending supportive regulatory framework; which may develop during the 6 year implementation period. To maintain a country diversified portfolio and based on potential and opportunities in the countries, LEAF will invest between 5% to 30% of GCF resources in each country.

Market studies conducted by AfDB (CEPA, 2019) (AfDB GMG, 2017) (AfDB GMG, 2020) confirm a market potential of close to US\$ 7.2 billion in the 6 countries with potential for growth. This is an estimate largely based on development plans of leading DRE companies, and when including potential DRE market growth, it is even larger. In terms of demand for local currency funding, the feasibility study confirms that the amount of resources, including technical assistance, dedicated to developing the pipeline and transactions is an important factor for the successful deployment of local currency guarantees. Capacity of local financial institutions needs to be strengthened to identify and assess the financing opportunities in the DRE space, highlighting the importance of the technical assistance component of LEAF.

In summary, the Framework aims to enhance local markets by de-risking the DRE space, unlocking local currency debt finance, and scaling up investments; and provide technical assistance to (i) strengthen capacity within local banks and financial institutions and structuring financially sound transactions; (ii) supporting enabling policies and frameworks; (iii) confirm the adaptation impact; and (iv) address existing gender gaps and inequalities in the DRE sector. This Framework is the first phase of the Bank's wider DRE strategy.



Figure 5: Focus countries of the LEAF Framework

⁸ AfDB is providing the TA financing in collaboration with partners and by mobilizing TA funding from other funds

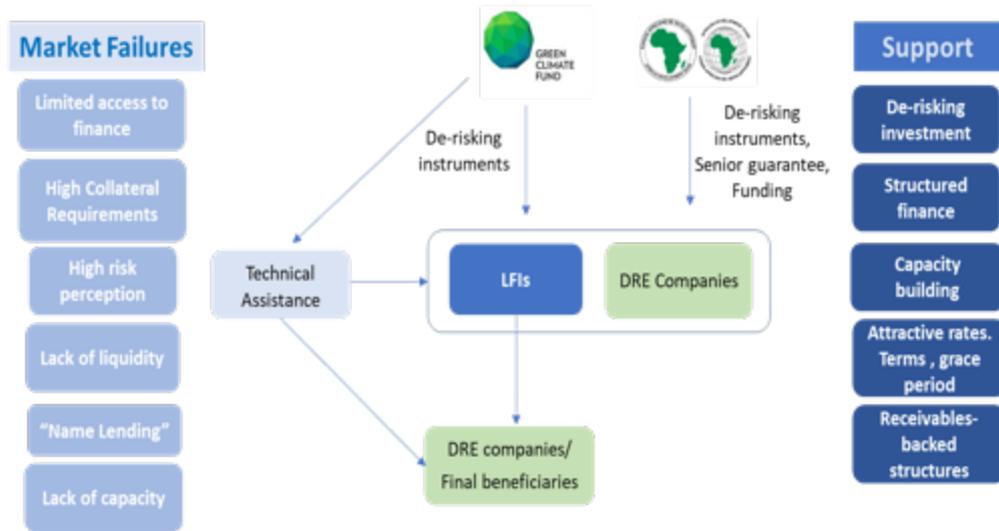


Figure 6: LEAF high-level Framework Structure

Framework approach

LEAF is a long-term initiative, consisting of financial support for DRE projects that aim to achieve large-scale impacts. Its Framework approach will enable:

- Continuous engagement with the different countries and strong country ownership;
- Support for a sector-wide transformation, to up-scale DRE investments. A Framework approach is required since a single project will have neither the scale or the profile to galvanise the necessary sector transformation and the essential paradigm shift towards DRE.
- A demonstration effect across the continent (Kenya, Ethiopia in East Africa, Ghana, Nigeria and Guinea in West Africa, and Tunisia in North Africa) enabling stakeholders to learn to further develop, apply and commercialize sustainable DRE projects; and
- Increase implementation efficiency (time and resources) where the cost of the Framework's support team is spread across multiple projects.

Structure of the proposed Framework:

Component 1: De-risking

The feasibility report confirms both the advantages of local currency debt and the demand for commercial and local currency financing for DRE projects. De-risking instruments will unlock commercial capital and may reduce overall project capital costs. GCF's support will primarily take the form of an envelope for **concessional credit enhancement instruments**, including: (a) Subordinated Debt⁹ and (b) Partial Credit Guarantees¹⁰ (PCG). These will be co-invested on pari-passu and pro-rata risk sharing terms with the exception of pricing with AfDB investments, including PGCs and debt in compliance with AfDB's financing instruments guidelines and pricing framework for non-sovereign operations. This will provide the level of de-risking and blending required to crowd-in private sector investors and developers into the sustainable energy space. Additionally, LEAF will support structured transactions such as receivables-backed financing structures to mitigate the risk of payment defaults of consumers. While the proposed instruments aim to provide a credit enhancement solution, their diversification is required because: (i) it addresses the specificities of the business models. For example, SHS and C&I solutions are based on future cashflow of receivables, whilst mini-grids may rely on subsidies (provided by the government or other institutions); and (ii) it creates flexibility to address the different credit risk profiles experienced by projects and underlying country risks. In general, investors (i.e. GCF and AfDB) in sub-tranches and first loss tranches will accept the higher levels of risk associated with these tranches. This supports the objective of attracting commercial investors, who are prepared to finance the lower-risk senior tranches.

Output 1.1: USD 575 million additional capital deployed for SHS, captive power and green mini-grid businesses as a result of GCF and AfDB funding

⁹ This instrument corresponds to AfDB instrument Standard Subordinated Debt: This form of debt typically makes interest and principal payments on a mandatory basis. However, the right to receive payment is subordinated to the prior payment of senior creditors of the borrower. Therefore, standard subordinated debt will absorb losses in the event of liquidation.

¹⁰ As per AfDB Guidelines of PCG instruments

- Activity 1.1.1: provide concessional guarantees to unlock commercial investment: GCF and AfDB will provide (concessional) partial credit guarantee instruments (first loss and others) to share the risk of underlying debt transactions with FIs and commercial investors so that they can provide funding with attractive terms. For developers, the provision of a guarantee will enable them to access loans from banks in cases where they might otherwise be unable to meet the collateral and guarantees requirements (such as the parent company or shareholders guaranteeing the loan) of the banks (i.e. the guarantee would substitute for part of the collateral requirements). The underlying risk, or part thereof, of the underlying borrowers (DRE developers) will be borne by GCF and AfDB. GCF provides guarantees in USD, the Bank can provide guarantees in either USD or local currency. The guarantees cover principal and/or interest or other forms of exposure. GCF and AfDB will participate in the guarantees pro rata and on the same terms, with exception of pricing. The guarantees will partially cover loans provided by commercial investors or LFIs and their associated risk exposure to the underlying DRE projects.

Activity 1.1.2: provide concessional subordinated debt instruments: Subordinated debt (Sub-debt) can help to insulate senior debt investors from unacceptable risks and reduce the cost of capital in cases where equity is too expensive. This can be especially important where senior debt investors (e.g., commercial banks) are unfamiliar with the risks inherent in renewable energy projects. Sub-debt will also address lack of projects' liquidity while providing the level of de-risking required for commercial investors to invest in the DRE space. AfDB will be a direct lender to the projects both in its own right and in its capacity as an Executing Entity. AfDB and GCF will participate in the same tranches and on pari-passu risk sharing terms (with the exception of pricing), aligning interests between GCF and AfDB.

- Activity 1.1.3: LEAF will support where possible the structuring of the debt facilities in the form of receivables-backed financing structures (RBS). GCF and AfDB will provide either sub-debt or a guarantee to unlock commercial investment into the RBS. In RBS structures, a DRE company (originator) originates assets of receivables contracts of solar home or C&I systems to consumers. The contracts entail energy-as-a-service or lease-to-own service against future regular payments of consumers.. In order to achieve the credit quality of the receivables and to mitigate the risk related to consumers' non-payments, adequate credit enhancement levels are required. These can be in the form of partial credit guarantees. In general RBS structures present a strong instrument to reduce losses as they exclude operating and sales risk and limit the risk to payment defaults, which are mitigated through the *cushion layer* created through excess spread.
- Activity 1.1.4: support transactions that finance a portfolio of DRE companies. As mentioned above, due to the small-scale of most of DRE companies, the market is increasingly seeing 'aggregator' companies financing a portfolio of DRE businesses across various countries. These aggregators are usually in the form of a holding company, for example, a debt fund or an SPV that channels debt to the companies. Whilst the programme will target larger DRE companies with larger financing needs, these are limited to a handful of companies at this stage of the market. Financing aggregators will support market growth and prepare strong small, local companies for future financing for larger tickets. As such, LEAF will support 'aggregator' structures to scale-up investments and address this untapped market segment. The proceeds of the GCF and AfDB funding, though either subordinated debt or guarantees, will be used to de-risk DRE investments and crowd in local financial institutions and private capital to finance a portfolio of DRE businesses. The financial model will be similar to that of solar home systems, mini-grid or C&I projects, but at portfolio level.
- Activity 1.1.5: The facility will support longer tenors through tenor extension guarantees. Where lenders (local FIs and commercial investor) cannot, or are not willing to, offer long term debt that matches the needs of a renewable project, a credit guarantee can be used to cover credit risk on the longest instalments, allowing lenders to provide longer tenor loans while meeting their prudential requirements and risk appetite. Tenor extension guarantees aim to extend the terms of financing by guaranteeing payments at the longer end of the debt facility, thus incentivizing private lenders to bridge any gap. These two variations of credit guarantees can be combined for greater impact. In general, guarantees help access markets, extend debt maturities, and lower borrowing costs for projects.

Output 1.2: Within the overall additional commercial debt mobilised, there is USD 100 million local currency debt for SHS, captive power and green mini-grid companies deployed

- Activity 1.2.1: Provide guarantees to and subordinated debt alongside local commercial banks or commercial investors to mobilise local currency funding: Local financial institutions (FIs) in Africa represent a considerable potential source of local currency funding for the DRE space. However, they often require the financial credit worthiness of sponsors which comes in form of collaterals or other non-recourse structures that need de-risking measures for projects to achieve financial close. In this activity, AfDB can raise local currency funding for DRE companies on attractive terms. GCF co-investment will be delivered in the form of guarantees or sub-debt that

share the risk of the facility (for DRE companies) with AfDB, local banks and commercial investors. GCF provides guarantees or sub-debt in USD, the Bank can provide in either USD or local currency.

Component 2: Covid Recovery Support – concessional debt

In the context of the COVID-19 pandemic, concessional capital is required to support viable energy access businesses, ensure business continuity and the delivery of essential energy services, and to enable economic recovery of those companies and the sector.

Output 2.1: USD [70 million] capital deployed and mobilised for COVID-19 recovery in the DRE space

- **Activity 2.1.1: Provide concessional debt to DRE businesses through AfDB SEFA Covid-19 Off-grid recovery Platform:** GCF and AfDB will provide concessional debt¹¹ to support DRE companies impacted by the pandemic, ensure business continuity, the delivery of essential energy services and safeguarding the sector and green recovery. The COVID-19 Off-Grid Recovery Platform (CRP) unlocks commercial capital to mitigate the negative impacts of the COVID-19 pandemic in the energy access sector, while advancing access to clean electricity and ensuring a green economic recovery.

Component 3: Technical Assistance

The technical assistance component, will support: (i) local banks and other financial institutions for enhancing their ability to appraise and lend to DRE businesses and projects, including trainings, appraisal toolkits, standardized loan document templates; And support the development and structuring of innovative and financially sound receivables-backed and other financing facilities; (ii) the DRE sector by reinforcing enabling policies, supporting the digitalisation of licensing, operational optimization, market data and assessments of solar solutions for businesses for auto-production and business plan support; iii) country level adaptation assessments to increase understanding of the link between DRE and adaptation and confirm potential adaptation impact ; and iv) address existing gender gaps and inequalities in the DRE sector. The GCF proceeds under this component will be used by AfDB for providing TA directly to beneficiaries and does not involve on-granting. LEAF will support governments in the policies space to include off-grid solutions and self-generation power into their electrification strategy. It is also essential that countries identify and address regulatory gaps to scale up DRE. The regulation needs to create the private sector's enabling environment to generate, distribute, and sell DRE electricity. With the adequate legal and financial framework, countries will set the right path to scale up DRE. Capacity building and training of key stakeholders will also build an essential element of the program's success.

The below diagram depicts the three key pillars of the TA grant.

¹¹ Mobilized from concessional funds

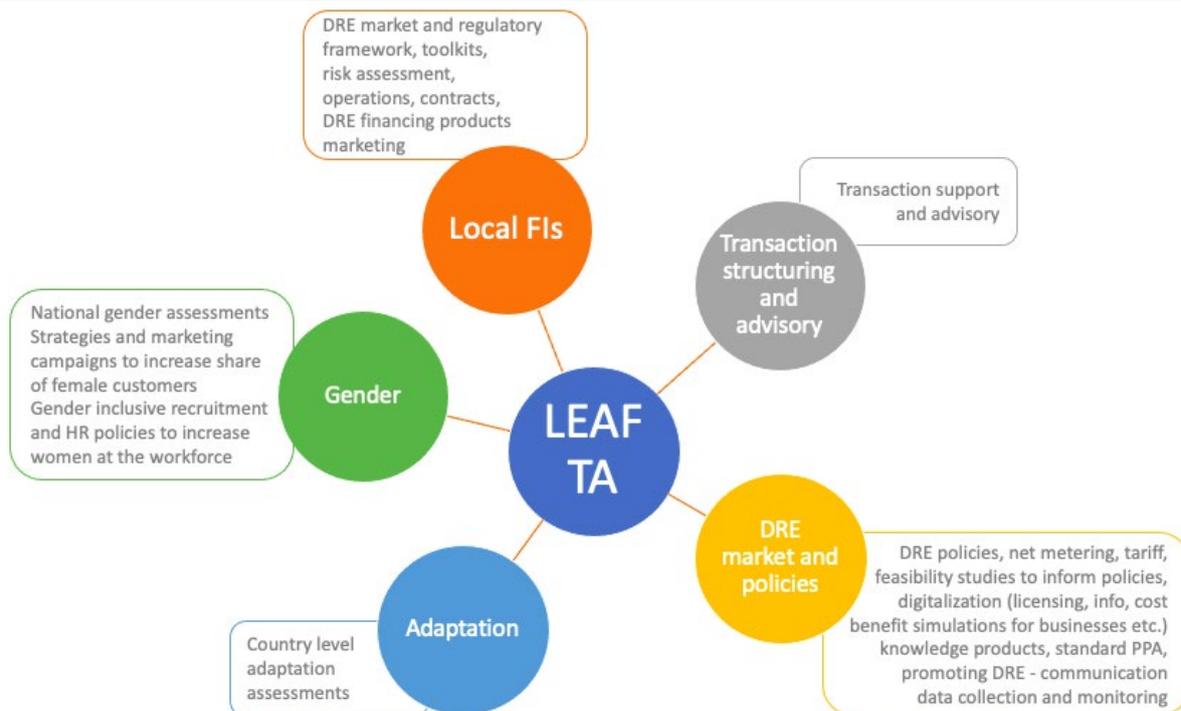


Figure 7: LEAF TA components

AfDB will mobilize donor funds towards the AfDB portion of the TA.

Output 3.1: Approximately 20 FIs and Banks with increased capacity to assess and finance DRE solutions. Eligible banks and institutions for TA support include institutions with local presence in the targeted countries and interest in exploring financing options in the DRE sector.

- Activity 3.1.1: Support local lenders and intermediaries to boost their technical capacity to engage in the DRE sector - i.e. capture market opportunities, assess the investment attractiveness of opportunities and lend to DRE projects, including the structuring/ participation in off-balance financing, securitisation and other financing mechanisms
- Activity 3.1.2: Structuring strong and viable innovative financing structure. Given the innovative nature of the targeted transactions, such as receivables backed structures, this TA component will support the development and structuring of financially sound and attractive receivable-backed and other structured financing facilities and transactions for mainly SHS and C&I businesses.

Output 3.2: Technical assistance deployed to support governments of the focus countries in creating enabling policies

- Activity 3.2.1: This activity will include three subcomponents related to policies and regulatory framework, technology and social inclusion.
 - Policies and regulatory framework. This subcomponent will support governments to develop enabling regulatory instruments such as licensing, tariff frameworks, and net metering policies and fiscal incentives for private sector investments in DRE. Effective policy and regulatory reforms are also needed to unlock domestic and commercial finance, including raising awareness and capacity-building among local institutions.
 - Technology. This subcomponent will leverage technology and digitalization to develop and improve (digital) systems and frameworks for licensing, data collection, and electrification progress monitoring. It will also advocate and support simplified licensing processes and digitalization of services, and the dissemination of information.
 - Social inclusion. Addresses some of the gender-related barriers identified in the target countries, by ensuring gender-inclusive capacity building by providing awareness and develop gender responsive policies and frameworks.

Output 3.3: Country-level adaptation assessment completed for each country.

- **Activity 3.3.1:** To increase understanding of adaptation benefits of DRE projects, a comprehensive study/assessment will be undertaken for each country, focused on the relevant technologies targeted in the countries by LEAF. These assessments will confirm i) climate change hazards in the geographic areas based on science, ii) climate vulnerabilities and exposure, and iii) the link between these climate vulnerabilities and energy access to reduce vulnerability of beneficiaries and (guidelines on) indicators to measure adaptation impact in the DRE sector

Output 3.4: Technical assistance deployed addressing existing gender gaps and inequalities in the DRE sector

- **Activity 3.4.1:** Conduct national gender assessments and refine gender action plans for each country
- **Activity 3.4.2:** Support the development of strategies and marketing campaigns for DRE companies to increase share of female customers
- **Activity 3.4.3:** Develop gender inclusive recruitment and HR policies to increase women at the workforce of DRE companies

These above activities and interventions were selected as they, collectively, form the most sustainable market approach. Other alternatives were rejected, such as:

- Providing grants or increasing concessionality: as this would distort the market and replace private sector investment as opposed to encouraging it through risk-sharing.
- Direct AfDB funding of projects to DRE: which must be limited to where it is essential, i.e., where no alternative exists rather than it being seen as a primary course of action. Instead, the Framework builds capacity with local FIs to mobilize local currency funding, introduce new FIs to the DRE market sector, and build sustainable infrastructure and policies for the future.

LEAF, therefore, supports facilities that finance a DRE company or a portfolio of DRE companies through funds or financial institutions including local banks or leasing companies (aggregator facilities). Interventions will be in the form of private sector projects (i.e. framework sub-projects) where AfDB will be the executing entity, the lender of record or guarantor of record for the projects' transactions. However, in transactions that involve aggregators (i.e. Funds, FIs, leasing companies) that provide financing for a portfolio of DRE companies, the aggregator will be the executing entity. For aggregator structures, GCF proceeds will be used for subordinated loans or guarantees on a DRE companies portfolio, which includes developed and executed transactions by the aggregator.

GCF proceeds will be used in the focus countries for guarantees (partial credit guarantees – PCG), subordinated loans and TA Grant. The maximum amount of funds to be disbursed by the GCF under LEAF is USD 170.9 million for the financing of the Programme, which includes (i) Component 1: USD 70 million to be disbursed as subordinated, concessional loans and 80 USD million as guarantees; (ii) Component 2: USD 10 million to be disbursed as concessional loans for COVID-19 recovery for component 2; and (iii) Component 3: USD 10.9 million for TA grants.

Selection criteria and project types

For Enhanced Direct Access (EDA) proposals and projects/programmes with financial intermediation (loans or on-granting), describe the selection criteria of the sub-project and types.

The below table provide the eligibility criteria for LEAF's underlying transactions supported by component 1 and 2 of this proposal. These eligibility criteria are in line with AfDB eligibility criteria for private sector transactions. The eligibility criteria will be further specified in the term sheet.

LEAF Eligibility Criteria

Borrower	<ul style="list-style-type: none"> • DRE Companies (developers): Viable early to growth stage non-sovereign DRE companies that have robust business models focusing on the distribution and financing of Solar Home System, Green Mini-Grid and Captive Power solutions and a demonstrated need for capital to extend their business. • Aggregators: Holding company/Fund financing portfolio of energy companies and other qualifying borrowers meeting AfDB Non-Sovereign guidelines
Beneficiaries	<ul style="list-style-type: none"> • Households, businesses, commercial and industrial sector (captive power)
Geography	<ul style="list-style-type: none"> • Borrowers registered in a member country of AfDB, and operating in Kenya, Nigeria, Tunisia, Ghana, Ethiopia, and Guinea. Borrowers registered in non-regional member countries of AfDB, and operating in Kenya, Nigeria, Tunisia, Ghana, Ethiopia and Guinea may also be considered on a case-by-case basis.

<p>General investment criteria</p>	<ul style="list-style-type: none"> • Legal Entity registered and licensed for its corporate purpose • In compliance with the local banking or other applicable regulations/laws • Demonstrated track record of good operational and financial performance and successful commercial development with unqualified audit opinions and/or¹² good prospects for meeting all its financial obligations and generate adequate surpluses to sustain its long-term viability • Sound management, accounting and corporate governance systems that: (i) provide effective protection of the interests of all investors (shareholders and creditors); and (ii) maintain an environment that is favourable and conducive to efficient and sustainable growth of the company • Demonstrable developmental impact through activities focused on improving access to sustainable energy for households and businesses • Borrowers are not in default on any debt service obligations • Environmental and Social Assessments (e.g. ESIA, ESMP, RAP) aligned with national, AfDB and MDB requirements • Compliance with national and AfDB’s E&S requirements • Gender and climate change mainstreaming in operations • Compliance with AfDB policies and procedures 		
	<p>Solar Home System</p>	<p>Mini-Grid</p>	<p>Captive Power</p>
<p>Technology</p>	<ul style="list-style-type: none"> • Plug and play individual electrification solutions that can power small appliances such as lights, phone charger, TV, fan, SHS kits that includes appliances (TV, radio, fan, smart phones for payments) • Minimum Tier 2 products of the multi-tier matrix for access to household electricity supply (Multi-Tier Framework, 2020) • International quality standard systems 	<ul style="list-style-type: none"> • Collective electrification solutions that connect multiple end beneficiaries or power small and medium sized businesses, social infrastructure (hospitals, schools etc.) • Minimum Tier 3 service level delivery • Hybridization of existing fossil fuel fired mini-grids will not be part of the Framework • Smart metering Grid compatibility in hardware & software 	<ul style="list-style-type: none"> • Captive power solutions tailored to the needs of customers, businesses etc. • Solar PV with or without storage • Size of up to 25 MW • Industries involved in the production of fossil fuels and mining are excluded
<p>Business models</p>	<ul style="list-style-type: none"> • Pay as you go/lease to own • Energy as a service: Under this model, customers contract a company to install a renewable energy system and pay rent for the system or a fixed price per kilowatt-hour (kWh) generated over a period of time • Other emerging models that are assessed to be viable by AfDB 	<ul style="list-style-type: none"> • Energy as a service • Leasing • Other emerging models that are assessed to be viable by AfDB 	<ul style="list-style-type: none"> • Energy as a service • Lend/Rent/Lease to own • Other emerging models that are assessed to be viable by AfDB

B.4. Implementation arrangements (max. 1500 words, approximately 3 pages plus diagrams)

¹² “And” for corporates and “or” for off-balance sheet project finance like projects (starts-ups fall under corporate loan assessment) to align with minimum information required to initiate adequate assessment.

Provide a description of the project/programme implementation structure, outlining legal, contractual, institutional and financial arrangements from and between the GCF, the Accredited Entity (AE) and/or the Executing Entity(ies) (EE) or any third parties (if applicable) and beneficiaries.

- Provide information on governance arrangements (supervisory boards, consultative groups among others) set to oversee and guide project implementation. Provide a composition of the decision-making body and oversight function, particularly for Enhanced Direct Access (EDA) proposals.*
- Provide information on the financial flows and implementation arrangements (legal and contractual) between the AE and the EE, between the EE or any third party and beneficiaries. For EEs that will administer GCF funds, indicate if a Capacity Assessment has been carried out. Where applicable, summarize the results of the assessment.*
- Describe the experience and track record of the AE and EEs with respect to the activities (sector and country/region) that they are expected to undertake in the proposed project/programme.*

Provide a diagram(s) or organogram(s) that maps such arrangements including the governance structure, legal arrangements, and the flow and reflow of funds between entities.

Institutional background. The African Development Bank, established in 1964, is a pan-African development institution, promoting economic growth and social progress across the continent. The Bank's development agenda is delivering the financial and technical support for transformative projects that will significantly reduce poverty through inclusive and sustainable economic growth. The Bank's commitment to climate and green growth is rooted in its Ten Year Strategy prioritizing inclusive and green growth, its High Five development priorities including "Light up and Power Africa" and the "New Deal on Energy for Africa" strategy focused on contributing to energy security, energy access, transition to cleaner energy paths and the promotion of innovation to increase financial flows. The New Deal on Energy for Africa is built on five inter-related and mutually reinforcing principles: (i) raising aspirations to solve Africa's energy challenges; (ii) establishing a transformative partnership on energy for Africa; (iii) mobilizing domestic and international capital for innovative financing in Africa's energy sector; (iv) supporting African governments in strengthening energy policy, regulation and sector governance; and (v) increasing African Development Bank's investments in energy and climate financing.

AfDB has established itself as a leading DFI in the energy sector in Africa and has committed UA 13.8 billion to energy sector projects since 2000, of which UA 2.7 billion for the private sector. The different initiatives and projects have resulted in more than 3.7 million connections to the grid since 2000, 560,000 off-grid connections since 2018, +18.5 GW of additional installed energy, of which 5.4GW from renewable energy resources, +22,500 kilometers of transmission lines constructed, and +102,000 kilometers of distribution lines constructed. The Zola Electric Cote d'Ivoire (ZECI) transaction closed in 2019, pilots a local currency receivables-backed financing structure as targeted under LEAF. The project was one of the first large-scale local currency financing structures using securitization techniques for the off-grid renewable energy sector in Africa. AfDB provides a partial credit guarantee along with Credit Agricole Corporate and Investment Bank (CACIB) covering part of the guaranteed loan facility as catalyst. AfDB and CACIB guarantees enabled the mobilization of a local currency loan from Societe Generale Ivory Coast, a local bank.

Implementation arrangements. The AfDB will be responsible for the overall oversight and delivery of the Framework implementation, including identifying, structuring, arranging, and co-financing transactions. AfDB will implement the Framework following the terms and conditions agreed under the Accreditation Master Agreement (AMA) and the Funded Activity Agreement (FAA). The FAA will include the eligibility criteria that determine the inclusion of projects within the Framework. Having both AfDB and GCF participating in the same tranches, AfDB will align its interests to those of the GCF in each tranche which benefits from GCF funding or guarantee. This section highlights the implementation arrangements for LEAF, which are elaborated further in the term sheet.

With LEAF being a Framework, details of underlying pipeline transactions are indicative at the proposal submission date, and pipeline development continues during the implementation phase. In addition to the African Development Bank, GCF proceeds will be channelled via the Bank to local financial institutions, including commercial banks and leasing companies, as well as specialized renewable energy investment funds and DRE companies to execute the funded activities and unlock local currency financing. Processing and implementation of the Framework will be integrated within AfDB's processes/governance structures. Each sub-project under the Framework will be processed individually by the Bank subject to AfDB's credit evaluation, due diligence and approval procedures for committing funds to the private sector. Only those projects qualified under AfDB's internal criteria and criteria outlined in the FAA will be eligible for further processing under the Framework.

AfDB's policies and processes include an assessment of risks, additionality and development impact, E&S, and due diligence of the counterparty or significant related party, including Know-Your-Customer (KYC), Anti-Money Laundering (AML) and Combating the Financing of Terrorism (CFT) procedures and operational safeguards. The Bank has strong

fiduciary safeguards and internal controls to ensure that its lending is used for its intended purposes. Project assessments includes i) identification and verification of beneficial ownership, ii) criminal, civil, and regulatory history, iii) investigations or sanctions by international organisations and regulatory bodies, and iv) Politically Exposed Persons and high-risk relationships. Based on the assessment, an Integrity Risk Opinion will be prepared and where required a mitigation strategy developed. The Bank will not finance a project where the counterparty or significant related party, or any of their beneficial owners are on the United Nations Security Council sanctions list. At the time of submission of the funding proposal, conversations are taking place with a number of potential companies/sponsors as part of the pipeline development efforts, however these are initial conversations, of which some are entering the project concept note stage, after which with project appraisal will follow – following AfDB’s processes and procedures.

AfDB will be signatory to the financing documents, both in its own right and on behalf of the GCF, in its capacity as an Accredited Entity of the GCF.

In transactions where the Bank is not the EE, the specific implementation arrangements and investment criteria governing the funding provided will be confirmed in an agreement signed between the Bank and the EE. The agreement will define the key investment eligibility criteria (e.g. technologies, geographies, business viability, and other criteria) and terms of the sub-investments to be supported by EE (e.g. tenor, pricing, repayment, currency hedging, security, fees, and other terms). The Agreement will also define the compliance and reporting requirements of the funding. Where AfDB is not the EE, it will enter into a subsidiary agreement with the relevant EE, in accordance with the provisions agreed and detailed in the Term Sheet.

For managing GCF resources, the GCF Trust Account for AfDB will be used and the Bank’s role will be to administer the funds. Under this scheme, AfDB will be a direct lender or guarantor to the projects in its capacity as an Accredited Entity (as well as in its own right for its own contribution). Interests between GCF and AfDB are aligned through AfDB and GCF participating in the same tranches and on parri-passu risk sharing terms, with exception of pricing.

For the TA grants component, the Bank will be the Executing Entity whereas the activities will be implemented in partnership with consultants and service providers. TA fund management and procurement will follow relevant policies and rules of the AfDB, guided by the grant agreement to be signed between the consultant/service provider and the AfDB. The AfDB will hold and manage the grant resources and make a direct payment to consultants/service providers.

The diagram below (Fig. 5) depicts the overall LEAF implementation arrangement

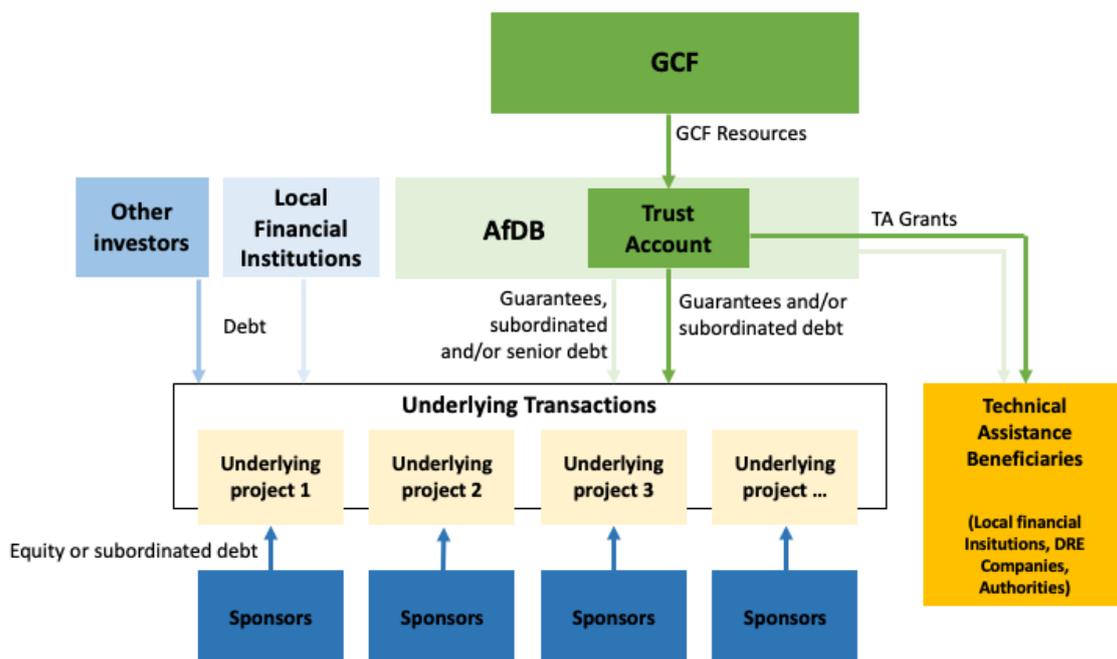


Figure 8: Overall structure of the AfDB/GCF Framework

Typical LEAF financing structures and implementation arrangements

The following describes the typical financing structures that will be covered by the Framework and their implementation arrangements.

Component 1:

- **Partial Credit Guarantee for a facility:** an LFI provides local currency debt, GCF and AfDB share pari-passu the risk through a PCG. In this structure a local FI provides the funding and it is covered by a first loss or pari-passu guarantee from the AfDB and GCF. The facility (off-balance sheet or corporate loan) finances the DRE project.
- **Sub-ordinated debt for a facility:** GCF and AfDB provide sub-ordinated debt pari-passu to create a facility to unlock co-financing from senior commercial lenders. The facility is an SPV, corporate loan or a receivables-backed financing structure.

Component 2:

COVID-19 Off-grid recovery Platform: (see description above- section B3, activity 2.1.1)

The role of local commercial financial banks in the underlying transactions. The LEAF Framework is designed considering the market prevailing in the targeted countries where banks are not inclined to assume the risk of the underlying DRE companies (developers). As such, they mainly play a role as a financing party in a structured facility, without assuming 100% of the risk of DRE companies. In summary, commercial banks may take the following roles:

- As a financing party in a structured finance project, such as financing receivables-backed and off-balance sheet structures.
- As a provider of local currency funding to a project. In this case AfDB and other financial parties will share the risk of the project with the local bank.

In none of these cases does AfDB or GCF assume the risk of the commercial bank but rather that of the borrower (developer/DRE business) and therefore is essentially obligor risk not FI risk.

Aggregation:

Although most of the projects are expected to be structured debt facilities where the borrower is a DRE company, there are some pipeline projects which will be developed in the form of facilities to specialist FIs (holding company) such as debt funds investing in a portfolio of DRE businesses. This type of structure (aggregation) pools financing into a facility that channels large volumes of funding into DRE businesses that have smaller financing needs. The facility covers an aggregated portfolio of mini-grid, captive power projects, and similar DRE businesses. The role of both GCF and AfDB is to de-risk the facility through a guarantee or sub-debt covering the portfolio of DRE businesses. GCF and AfDB will participate in the facility with GCF and AfDB taking (partial) risk exposure for the DRE companies. The aggregator will be the executing entity for the portfolio deals. Aggregation can reduce risk by spreading investments across projects and portfolios whilst supporting smaller companies.

Excluded facilities:

- Lines of credit whereby AfDB and GCF have full recourse to the local FI and do not take the project risk

Currency hedging strategies

To the extent possible LEAF will seek to avoid currency mismatches in the operation. The Bank can provide local currency debt or a partial credit guarantee (PCG) where appropriate. Currency hedging strategies to mitigate against foreign exchange risk will be elaborated on a project-by-project basis by the AfDB transaction team for transactions where the instruments are provided in USD, and the underlying loans are denominated in another local currency.

The best suitable hedging strategy will be firmed up in each respective project's term sheet.

Flow of Funds:

In line with the activities defined in section B3, LEAF will seek different instruments to address the market barriers mentioned above. **(Concessional) guarantee instruments** (PCGs) are proposed to unlock commercial investment, making debt more accessible for DRE companies whilst addressing perceived risk associated with DRE solutions and target consumers segments. Guarantees will also help to unlock local currency financing from local FIs, reducing currency risk and the cost of debt. For mini-grids and C&I, guarantees support long-term debt capital backing-up longer repayment periods for DRE systems, thus making the amounts to be paid on a monthly basis by consumers more affordable. **(Concessional) Subordinated debt** (Sub-debt) will inject additional capital in the sector, reduce cost of debt and help improve access to capital for DRE businesses. Particularly for mini-grids, sub-debt can play a catalytic role to improve the risk profile of investments whilst making loans more accessible. **TA grants** will play an important role to remove market

barriers related to lack of capacity of local commercial investors as well as gaps in the enabling environment. TA grants will flow for activities that are geared to open the market for private investments in order to achieve the main goal of LEAF. Whilst the GCF will provide concessional guarantee and debt instruments, AfDB will participate mainly with non-concessional instruments from its private sector window. However, a portion of AfDB sub-debt will be provided by concessional debt mobilized from other donors and channeled through AfDB investments. The flow of funds will be further specified in the Termsheet.

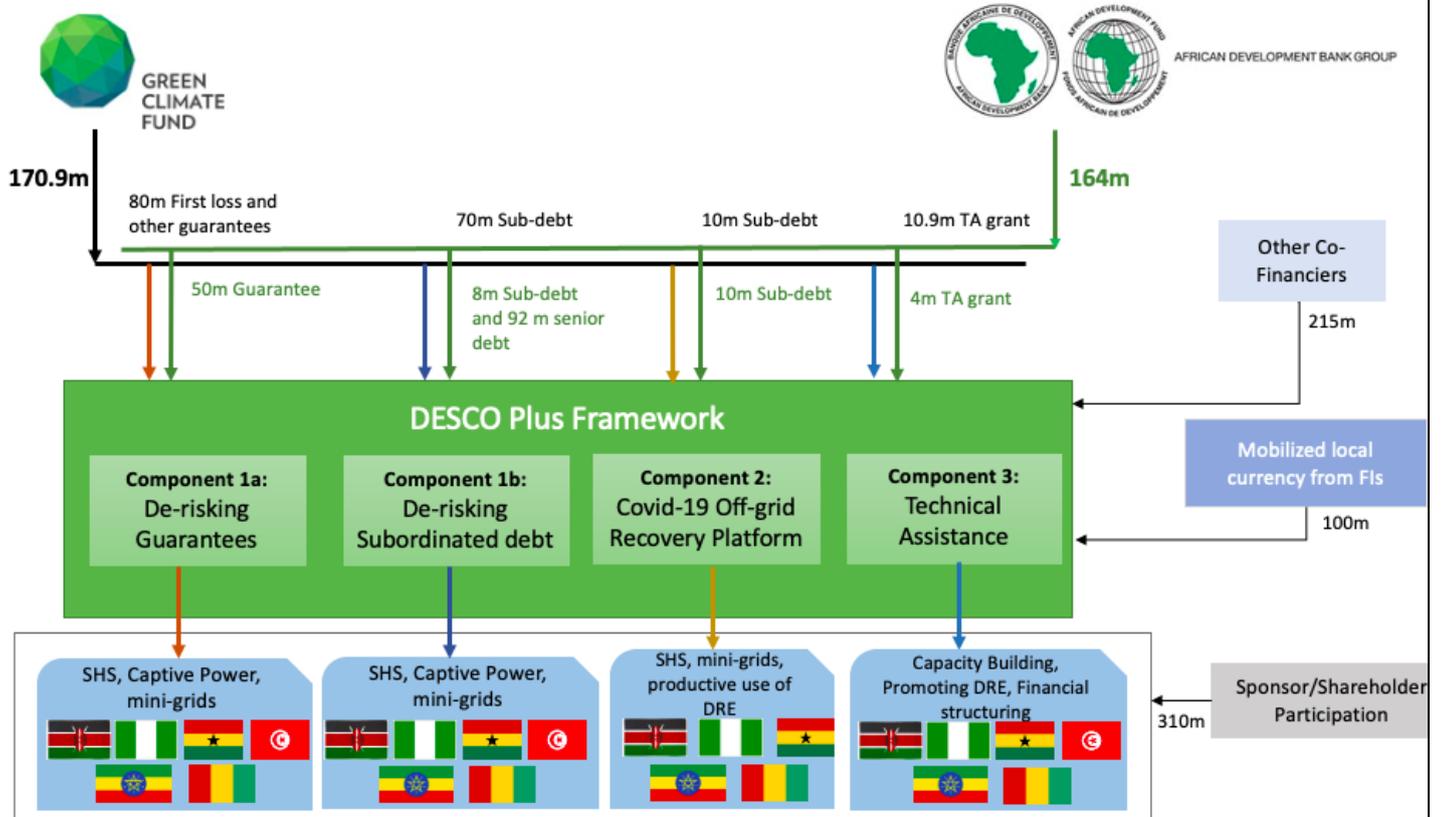


Figure 9: Diagram of flow of funds

B.5. Justification for GCF funding request (max. 1000 words, approximately 2 pages)

Why the project/program requires GCF funding

Explain why the project/programme requires GCF funding, i.e. Why is the project/programme not currently being financed by public and/or private sector? Which market failure is being addressed with GCF funding? Are there any other domestic or international sources of financing?

DRE businesses have struggled to attract commercial local currency finance, and instead rely on foreign currency finance, particularly US dollars or euros. If the local currency depreciates – or is devalued in the case of fixed / managed FX regimes – the businesses either must raise tariffs to end users or bear the risk itself to account for the effective fall in the revenue that it receives relative to its costs, with the latter often rendering a project or business unbankable. These risks demonstrate the benefits and growing need for local currency solutions for businesses and confirm a clear rationale for exploring options to increase local currency finance as a contribution to the overall debt financing component of a transaction.

In Kenya, only three out of 43 Kenyan commercial banks have financed a C&I solar initiative. In Nigeria, banks are largely absent from the DRE market, debt is too costly, tenors are too short (up to 2 years), solar assets are not considered as collateral as there is no market for used solar assets and project finance products are not available for companies to borrow against future cashflows. As a result, most companies borrow hard currency debt on their own balance sheet, taking additional risk in a new market. Like Kenya and Nigeria, in Ghana and Tunisia local banks have been absent from financing DRE companies or projects. Yet, despite these developments, across the different market segments there are a few examples of local currency finance being provided and financing solar assets is slowly gaining traction as more and more DRE projects have proven to be commercially viable (BNEF, 2019).

There is a strong case for developing the capacity and capabilities of local financial intermediaries to provide competitively priced local currency term credit to reduce reliance on hard currency financing. To help meet the demand for finance from the renewables sector with the supply of finance from local credit, guarantees and subordinated debt can strengthen the bankability of projects and catalyse the participation of commercial investors in the sector, including LFIs to unlock local currency for business growth. Guarantees and subordinated debt will mitigate the risk of payment defaults for LFIs and commercial investors, allowing for lower collateral requirements and tenor extensions, and where possible improve the financing terms on offer from lenders and investors. Furthermore, subordinated debt will be required where lenders require liquidity to provide finance to the off-grid sectors or to improve terms of the loan to the underlying borrower.

There are a few examples of facilities that currently provide guarantees in the renewables sector in Africa – such as GuarantCo, InfraCredit and the Africa Guarantee Fund (AGF). These have confirmed challenges to operating on a fully commercial basis. There are some examples of successful credit enhancement platforms outside of Africa as well, however, these are in countries with more developed financial markets. AfDB closed a first transaction of the DESCOs financing programme for Zola Electric Cote d'Ivoire (ZECI) in 2019, piloting a local currency receivables-backed financing structure to allow ZECI to provide access to approximately 100,000 rural households with pay-as-you-go solar home systems. The project is one of the first large-scale local currency financing structures using securitization techniques for the off-grid renewable energy sector in Africa. AfDB provides a partial credit guarantee along with Credit Agricole Corporate and Investment Bank (CACIB) covering part of the guaranteed loan facility as catalyst and enabling the mobilization of a local currency loan from Societe Generale Ivory Coast, a local bank.

The proposed de-risking instruments and the level of concessionality provided by the GCF are expected to enable and attract local financial intermediaries, decrease the cost of local currency debt for DRE companies, while possibly extending the tenor at which financing is provided. In turn, eligible DRE companies will have access to financing that: (i) is affordable, (ii) matches the currency of their revenues and (iii) accommodates the length of the payback periods on the solar equipment they lease to their customer base.

By addressing challenges related to the deployment of local currency financing for DRE solutions, GCF funding contributes to:

- Increasing local investment through increased lending to new business models in a nascent sector
- Unlocking substantial private capital through credit-enhancement and structured finance
- Building stakeholders' capacity in capital market products such as securitization structures. The transactions in the program lay the ground for subsequent securitization notes issuance on capital markets
- Increasing capacity of LFIs to recognize the opportunity of the distinct and growing investment opportunity of the DRE market
- Attractive yield for local markets and portfolio diversification for local banks
- Creating a conducive environment for private investment in DRE will encourage business model innovation in DRE
- Enhancing financial capacity and diversifying investment opportunities for local banks
- Private sector development through increased competition in the SHS sector as well as local linkages
- Fiscal benefits in the form of tax revenues to the Governments of the target countries

Without GCF de-risking instruments:

- Local banks will be reluctant to invest in DRE due to a perceived high risk of this relatively new business with innovative technology or on terms not matching the need of the underlying projects.
- Preventing DRE growth as finance supply is limited
- Miss the opportunity of accelerating DRE growth and supporting the transition to green businesses
- Market kick-off in new countries will be slowed down and SDG 7 will be more difficult to achieve as we remain in a business as usual scenario
- It would take considerably longer for the existing market barriers to be removed.
- Access to finance for climate investments would remain limited to few large borrowers/project sponsors and remain too costly for many others

The Framework thus aims to demonstrate the attractiveness and potential of the DRE sector. The demonstration effect is expected to attract and increase future financing from local banks and private investments in the DRE market. GCF's ability to invest in riskier tranches catalyses AfDB's co-investment and allows the combined funding approach of LEAF to address the market barriers and attract participation from local banks in the transactions. GCF's instruments priced on a concessional basis and blended with AfDB funding reduce the financing cost and improve the bankability of the projects.

Furthermore, dedicated, enabling DRE policies are required to allow C&I, mini-grid and SHS to grow. For example, the C&I solar market in Sub-Saharan Africa has mostly developed without regulatory support, buoyed by competitive economics and unreliable electricity grids (BNEF, 2019). Besides net metering, DRE companies request that the regulatory environment could focus on better enforcement of existing import duty and VAT exemptions on solar modules and associated equipment to promote DRE. With the TA grant, the Framework aims to support an enabling regulatory environment to respond to the market demand and growth prospects.

Why the proposed financial instruments were selected

Explain why the proposed financial instruments were selected in light of the proposed activities and the overall financing package. i.e. What is the coherence between activities financed by grants and those financed by reimbursable funds? How were co-financing amounts and prices determined? How does the concessionality of the GCF financing compare to that of the co-financing? If applicable, provide a short market read on the prevailing of the pricing and/or financial markets for similar projects/programmes.

The proposed instruments and financing package are selected to provide the level of de-risking necessary to unlock local currency financing from commercial banks and local financial institutions, while seeking minimum level of concessionality (to limit market distortion) and risk sharing with local financial institutions. The instruments will provide both credit enhancement and liquidity.

The instruments were selected to address the market barriers identified for the countries. A table describing each barrier, proposed solution, and instrument is presented in section B.3.

Level of concessionality

Justify why the level of concessionality of the GCF financial instrument(s) is the minimum required to make the investment viable. Additionally, how does the financial structure and the proposed pricing fit with the concept of minimum concessionality? Who benefits from concessionality?

In your answer, please consider the risk sharing structure between the public and private sectors, the barriers to investment and the indebtedness of the recipient. Please reference relevant annexes, such as the feasibility study, economic analysis or financial analysis when appropriate.

Whilst businesses are in theory able to make a simple choice on whether to apply local currency, the market realities make it a more complicated issue. The pricing is often expensive, sometimes with rates similar to rates of return on equity with a volatility driven by limited ability to fix rates. Collateral requirements are high and tenors often short and not meeting project needs. A key finding from the market assessments is that if guarantees were applied, banks would only make minimal, if any, reduction to the interest rate charged. As a result, unless the de-risking instrument (guarantees and subordinated debt) fees are subsidised, the all-in cost to the borrower would be prohibitive to obtain local currency debt. Concessional rates are required at this stage of the market to improve the bankability of transactions, increase participation of LFI in the financing deals and the ability of local projects and businesses to borrow in local currency.

Projects under the Framework will be financed using the minimum level of concessionality to make the project viable to incentivize private sector lenders and equity investors to participate. Lending rates will be benchmarked for each project based on country risk and typical returns for these countries; interest rates on loans will be set against the LIBOR or whatever the equivalent government T-bill plus a margin. The level of concessionality will be based on the minimum level required to make the project bankable and obtain a reasonable return on equity and debt to attract financiers. The level of concessionality may further be based on consumer affordability (concessionality to be reflected in consumer prices) and to support market penetration (enabling expansion and increase access to DRE solutions. The level of concessionality required for each underlying transaction will be assessed during the due diligence phase. The concessionality will be passed on to end-beneficiaries by enabling increased access to DRE solutions (and consumer financing) and where possible consumer prices. The level of concessionality will improve bankability of the project through risk sharing, enabling financing to the DRE companies to expand its operations.

B.6. Exit strategy and sustainability (max. 500 words, approximately 1 page)

Long-run programme sustainability

Explain how the project/programme sustainability (financial, institutional, social, gender equality, environmental) will be ensured in the long run after project closure, including how the project's results and benefits will be sustained.

Sustainability will be achieved through the execution of the Framework by:

- **Increasing private sector investments:** The key principle of the Framework is to unlock private sector investment through de-risking and blended finance instruments with a minimum level of concessionality. This approach will reduce the reliance on donor funding and uses de-risking and risk-sharing instruments in partnership with the private sector resulting in the support of commercially viable projects and robust financing structure *People with access to renewable energy* s given that the private sector will have ‘skin in the game’ for each project being considered.
- **Developing local capital markets:** Currently across the different market segments in the renewables sector, the level of participation by local commercial banks and institutional investors is very limited. Increasing the involvement of more local financing institutions has important benefits, including: i) increasing investment options to promoting diversification of portfolios; ii) promoting alternative sources of finance for renewable projects; iii) facilitating greater involvement of local developers (local developers can find it more difficult to access finance from international sources relative to international developers); and iv) supporting credit markets mature; there are significant spill-over benefits to economies of having wider, deeper, and therefore more efficient, longer term credit markets.
- **Building confidence and lending experience in the DRE finance market:** According to a UN SDG report: “Adopting comprehensive regulatory Frameworks, leveraging private sector financing, and harnessing the potential of decentralised renewable energy solutions are three priority actions that could foster electrification in the remaining period“ (UN, 2019). The financing provided under the LEAF Framework will focus on: (i) leveraging private sector financing; and (ii) harnessing the potential of DRE. Through the Framework, local FIs will increase their capacity to capture market opportunities and assess DRE projects, enabling them to recognize the investment attractiveness of DRE projects. By de-risking the DRE sector, the Framework unlocks and increases local currency finance and builds lending experience and confidence in the DRE market. This is something most local financial institutions currently lack due to both their high-risk perception and inexperience in financing DRE. Local financial institutions are more likely to continue investing in the DRE sector beyond the Framework once having gained necessary capacity and lending experience, potentially contributing to sustainability of access to finance.
- **Framework approach:** LEAF interventions aim to share risk with the private sector and at the same time look at markets for a greater impact. The approach is to look at the risk from a broader perspective, value the financial return in a consistent way looking across a portfolio of projects and the objectives to achieve. Having a portfolio with a mix of countries from East, West and North Africa will allow us to take more risk in lower-income countries and at the same achieve portfolio diversification. The objective is to think beyond project levels and think in more global and systemic terms, moving away from a project by project approach, thereby enabling countries to create their own DRE frameworks in the future.
- **Developing enabling policies and frameworks at a country level:** The Framework will work closely with and build the capacity of institutional stakeholders (ministry of energy, rural electrification agencies, renewable energy agencies, utility companies and regulators) in technologies and enabling policies for DRE and private sector investments. It may also advocate and support simplified licensing processes and digitalization of processes and the dissemination of information to improve preparation and processing times of projects. As a result, countries will be better positioned and enable future DRE projects and investments.
- **Gender mainstreaming to increase women economic empowerment and reduce gender gaps:** The framework emphasizes empowering women as consumers, producers and agents of change in the renewable energy sector. The sustainability of the positive gender impacts of the programme will be supported by DRE companies implementing gender-responsive policies and gender mainstreaming being part of training and capacity building efforts where appropriate. Interventions under LEAF will enhance access to finance for women for investing in DRE solutions, create jobs for women with DRE companies and enables the DRE environment with gender-responsive trainings of local banks and financial institutions. LEAF will contribute to women economic empowerment and reducing gender gaps in the energy sector.
- **Increasing access to clean, reliable and affordable energy.** Decentralized and distributed renewables bring power generation closer to the consumer, building resilience, increasing access to energy and reducing exposure to power outages, and building greater flexibility into power generation.
- **Structuring and supporting robust financial transactions:** The TA component plays an important role in building a healthy, sustainable market as well as robust financial structures to build the confidence of the private sector in the market. Providing capacity building to different stakeholders will ensure the benefits to continue beyond the life of the project. The TA will be contributing to the LFIs’ becoming greener banks and to increase the portion of their portfolio on such projects. By combining both financing and technical skills, the framework

crowds in private capital, gives and strengthens LFIs' capacity to elaborate more complex products needing to be commercially viable to be implemented in the market.

- **Demonstration effect.** Finally, by demonstrating the potential and success of local currency financing facilities in the DRE sector, sharing lessons learned and the development of standardized agreements, the Framework aims to attract other local banks and other financial institutions to finance DRE projects.

The LEAF Framework is a timely initiative to increase involvement of the private sector and building on the momentum that exists to grow and transform the energy sector to a clean and sustainable energy model.

Long-term ownership and exit strategy

Include information pertaining to the longer-term ownership, project/programme exit strategy, operations and maintenance of investments (e.g. key infrastructure, assets, contractual arrangements). In case of private sector, please describe the GCF's financial exit strategy through IPOs, trade sales, etc.

Provide information on additional actions to be undertaken by public and private sector or civil society as a consequence of the project/programme implementation for scaling up and continuing best practices.

Due to its nature as a Framework agreement, information pertaining to the long-term ownership, operations, maintenance, and contractual arrangements of the infrastructure will be developed on a per-project basis, following best practices in project structuring and risk management as well as relevant AfDB policies and guidelines. The Framework approach enables sustainability, allowing exit from the Framework itself with local countries positioned to identify, formulate, fund and implement future DRE projects.

The Framework will promote innovative financing structures such as securitization structures, particularly for solar home systems to tap into local institutional investors. The transactions may be structured as receivables-backed financing facilities. A local bank will provide local currency funding for financing new solar assets once they are sold to a consumer. Repayments are tied to the cash receivables due from consumers. These structures reduce the transaction's risks as it is not exposed to the origination risk of new consumer contracts or operating risk. All elements of these structures can be perpetuated by each country beyond the lifetime of the Framework.

The debt facilities are expected to have tenors of between 5-7 years, although a maximum tenor of 12 years can be considered depending on the transaction. The disbursement period of LEAF is 6 years, with a total Framework financial cycle of 18 years.

C. FINANCING INFORMATION						
C.1. Total financing						
(a) Requested GCF funding (i + ii + iii + iv + v + vi + vii)		Total amount			Currency	
		170.9			million USD (\$)	
GCF financial instrument		Amount	Tenor	Grace period	Pricing	
(i)	Senior loans	Enter amount	Up to [12] years	Up to [3] years	As agreed in termsheet	
(ii)	Subordinated loans	80 million USD				
(iii)	Equity	Enter amount	Up to [12] years		As agreed in termsheet	
(iv)	Guarantees	80 million USD				
(v)	Reimbursable grants	Enter amount				
(vi)	Grants	10.9 million USD				
(vii)	Results-based payments	Enter amount				
(b) Co-financing information		Total amount			Currency	
		789			million USD (\$)	
Name of institution	Financial instrument	Amount	Currency	Tenor & grace	Indicative Pricing	Seniority
AfDB	Guarantees	50	million USD (\$)	Up to 12 years	market rate	pari passu
AfDB	Subordinated Loans	18	million USD (\$)	Up to 12 years Up to 3 years	market rate	pari passu
AfDB	Senior Loans	92	million USD (\$)	Up to 12 years Up to 3 years	market rate	senior
AfDB	Grant	4	million USD (\$)	Enter years Enter years	N/A	Options
Local financial institutions	Senior Loans	100	million USD (\$)	Enter years Enter years	market rate	senior
Other co-financiers	Senior Loans	215	million USD (\$)	Enter years Enter years	market rate	senior
Sponsor/shareholder	Equity	310	million USD (\$)	Enter years Enter years	equity return	junior
(c) Total financing (c) = (a)+(b)		Amount			Currency	
		959.9			million USD (\$)	
(d) Other financing arrangements and		Please explain if any of the financing parties including the AE would benefit from any type of guarantee (e.g. sovereign guarantee, MIGA guarantee).				

<p>contributions (max. 250 words, approximately 0.5 page)</p>	<p><i>Please also explain other contributions such as in-kind contributions including tax exemptions and contributions of assets.</i></p> <p><i>Please also include parallel financing associated with this project or programme.</i></p> <p>GCF investment will leverage an estimated US\$ 625 million from the private sector and local markets, including US\$ 310 million of equity from shareholder or sponsor contribution. The Framework size is estimated at US\$ 959.9 million, including AfDB, GCF and other investors' participation.</p>
<p>C.2. Financing by component</p>	
<p><i>Please provide an estimate of the total cost per component and output as outlined in section B.3. above and disaggregate by source of financing. More than one co-financing institution can fund a single component or output. Provide the summarised cost estimates in the table below and the detailed budget plan as annex 4. This table should match the one presented in the term sheet and be consistent with information presented in other annexes including the detailed budget plan and implementation timetable.</i></p> <p><i>In case of a multi-country/region programme, specify indicative requested GCF funding amount for each country in annex 17, if available.</i></p> <p>The focus of the Framework is on mid-to-large sized transactions (starting from USD 20m total capital cost). For each transaction, AfDB will ensure that GCF and AfDB exposure are pari-passu in the considered debt tranche to ensure alignment of interest.</p> <p>The debt facilities are expected to have tenors of between 5-7 years, although there may be exceptional circumstances where a maximum tenor of up to 12 years may be granted (mini-grid or C&I).</p>	
<p>C.3 Capacity building and technology development/transfer (max. 250 words, approximately 0.5 page)</p>	
<p>C.3.1 Does GCF funding finance capacity building activities?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>C.3.2. Does GCF funding finance technology development/transfer?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
<p><i>If the project/programme is expected to support capacity building and technology development/transfer, please provide a brief description of these activities and quantify the total requested GCF funding amount for these activities, to the extent possible.</i></p> <p>The TA component will support: (i) local banks and other financial institutions for enhancing their ability to appraise and lend, including trainings, appraisal toolkits, standardized loan document templates. It will as well provide transaction advisory for structuring financially sound and strong receivables-backed and other financing facilities (ii) the DRE sector by reinforcing enabling policies and frameworks; (iii) increase understanding of adaptation impact of DRE projects through country-level assessments; and iv) address gender gaps and inequality within the DRE sector.</p> <p>In addition to 'hard' constraints of local currency financing, such as interest rates, collateral requirements and short tenors, the banks have limited capacity to provide local currency finance to the sector. Local banks have limited experience executing these types of deals, making it time consuming and difficult to complete transactions involving them. There is limited understanding of certain segments of the market. Banks are not yet able to appraise the nature of the credit risk posed by the companies' consumer receivables. The technical assistance support from the GCF will strengthen the capacity of local banks and other financial institutions to identify, assess and finance DRE projects.</p> <p>Receivables-backed financing structures are still fairly novel in the continent. The TA component will support support the structuring of strong innovative financing facilities, building capacity of DRE companies and LFI's to participate.</p> <p>To address existing regulatory challenges impacting the scaling of the DRE sector, the TA component will support the development of enabling policies in the countries.</p>	

D. EXPECTED PERFORMANCE AGAINST INVESTMENT CRITERIA

This section refers to the performance of the project/programme against the investment criteria as set out in the GCF's [Initial Investment Framework](#).

D.1. Impact potential (max. 500 words, approximately 1 page)

Describe the potential of the project/programme to contribute to the achievement of the Fund's objectives and result areas. As applicable, describe the envisaged project/programme impact for mitigation and/or adaptation. Provide the impact for mitigation by elaborating on how the project/programme contributes to low-emission sustainable development pathways. Provide the impact for adaptation by elaborating on how the project/programme contributes to increased climate-resilient sustainable development. Calculations should be provided as an annex. This should be consistent with section E.2 reporting GCF's core indicators.

Impact for Mitigation

The Framework will contribute to climate change mitigation and carbon intensity reduction in the selected countries through enabling the deployment of green mini-grids and DRE solar products at scale, providing households and small businesses with emissions-free access to energy and displacing fossil fuel energy solutions. Captive power solutions will displace both diesel generators and fossil fuel-based power from the grid for commercial and industrial use, helping businesses and farmers transition to clean electricity, reduce over time their electricity bills when systems are paid back, and promote DRE in the country. The Framework is expected to establish 386MW generating capacity through off-grid renewable energy solutions, of which some may also feed into the grid, resulting in approximately 28.8 million tCO₂e emission reductions over the lifetime of the equipment.

Increased financing available for low-emission energy access and power generation

The GCF contribution in subordinated debt and guarantees of US\$160 million will leverage US\$ 785 million financing from AfDB, commercial investors and local banks and financing institutions. GCF's ability to invest in riskier tranches catalyses AfDB's co-investment and additional commercial financing required for the growth and expansion of DRE companies.

D.2. Paradigm shift potential (max. 500 words, approximately 1 page)

Describe the degree to which the proposed activity can catalyze impact beyond a one-off project or programme investment. Describe the following, if applicable:

- *Potential for scaling up and replication*
- *Potential for knowledge sharing and learning*
- *Contribution to the creation of an enabling environment*
- *Contribution to the regulatory Framework and policies*
- *Overall contribution to climate-resilient development pathways consistent with relevant national climate change adaptation strategies and plans*

In line with the sector market dynamics related to the development of new technologies and innovative business models for DRE initiatives, the Framework aims to promote a paradigm shift from centralized energy solutions to decentralized ones. DRE solutions offer a clean, reliable and sustainable solution contributing and key to industrialize and power Africa. Over USD 1.1 billion has been invested in Sub-Saharan Africa and nearly 200 million off-grid solar products have been sold in the rapidly emerging energy access industry in the last decade. As it is expected that future technology will make the sector even more attractive, the trend towards DRE will continue. Countries and consumers are also increasingly aware of the pressing climate change threat and the need for sustainable energy solutions. Energy access companies are capital intensive companies that require substantial grant, equity, and debt investments. Due to a growing debt weight, particularly as a result of the COVID-19 pandemic, countries may reduce subsidies and financing to the energy sector and plans, further increasing the need for private sector contribution.

Potential for scaling up and replication

Through the Framework, the capacity of local FIs to capture market opportunities and assess DRE projects will be strengthened, enabling them to recognize investment attractiveness of DRE projects.

By de-risking the sector, using guarantee and concessional debt instruments, the Framework makes it possible for FIs to invest in the market. This increases local currency investments in DRE initiatives. Local financial institutions are more likely to continue investing in the DRE sector beyond the program having gained necessary capacity and lending experience, potentially contributing to sustainability of access to finance for DRE.

The Framework aims to demonstrate that the proposed innovative securitization structure, which has become common in more sophisticated financial markets over the last 20 years, does work and can be applied in developing financial markets and the energy sector as well. It lays the ground for replication in other countries increasing future private sector financing in the off-grid sector and development of the financial market.

Potential for knowledge sharing and learning

The experience gained from the first projects within the Framework will be shared via sector workshops and dedicated webinars to discuss the results and lessons learned with a view to improving the Framework's performance. The experience from the different target countries will be shared between them, and other African countries, creating a regional knowledge sharing platform around DRE and the key subjects – such as, how to unlock private investments, local currency financing, the key market hurdles for a deployment at scale, and so on, supporting DRE companies to develop and grow the market. The objective of knowledge sharing is to galvanize the key stakeholders around the potential of DRE to transition to low carbon electricity and how countries can harness this opportunity by 'rethinking the way how to electrify the country' with a more flexible private sector driven approach.

Contribution to the regulatory framework and policies

The TA component will support the 6 countries in developing enabling policies and frameworks at a country level that enable investments in the sector and scaling of the DRE sector. This can take the form in enabling regulatory instruments such as licensing, feed-in tariff and net metering policies and fiscal incentives for private sector investments in DRE. Contributing to improving the enabling environment in the countries, aims to create a sustainable finance market, enabling growth of C&I, mini-grid and standalone solar systems. The focus of the TA will differ from country to country depending on the current regulation and the DRE solution. In Tunisia, it will focus on strengthening the self-consumption regulation in place, for example collective energy self-generation and consumption should be allowed and specially facilitated/promoted in small industrial parks. In the other countries, a conducive mini-grid regulation for private investment will be improved to attract private capital.

Adaptation Assessments

The literature on energy access and adaptation to climate change is vast and diverse with often inconclusive findings. However, recent studies confirm synergy between energy access and adaptation to climate change. Although quantifying adaptation benefits for LEAF is challenging due to the lack of data to confirm adaptation impact in the six countries and LEAF being a Framework with underlying projects being unknown at this stage, the programme is committed to record the potential impact and increasing information and data on adaptation and energy access. The knowledge documents and information developed by LEAF will be used to confirm potential adaptation benefits and impact of LEAF sub-projects, and can as well support the GCF, AfDB and other stakeholders when designing DRE projects with integrated adaptation benefits in the future.

D.3. Sustainable development (max. 500 words, approximately 1 page)

Describe the wider benefits and priorities of the project/programme in relation to the Sustainable Development Goals and provide an estimation of the impact potential in terms of:

- *Environmental co-benefits*
- *Social co-benefits including health impacts*
- *Economic co-benefits*
- *Gender-sensitive development impact*

Environmental co-benefits. By replacing polluting energy sources with renewable energy solutions, the Framework will contribute to reduced air pollution (with the ensuing health benefits for the population), reduced demand on water for hydro, and reduced deforestation.

Social co-benefits. Approximately 5.9 million people are expected to directly benefit from increased access to renewable energy. Social benefits from access to energy through DRE solutions include healthier living conditions (polluting energy sources are replaced by a clean solution), safer living environments (longer hours of light in and around the house) and increased opportunities (such as allowing children to study longer or running a small business).

Economic co-benefits. Scaling up DRE activities under the LEAF Framework will result in the 52,000 direct job opportunities and 29,000 direct informal jobs, increasing income of approximately 81,000 people. Most direct jobs emerge from downstream activities, including sales, installation, operation and maintenance. However, the facility aims to also support DRE companies with local upstream activities, such as assembling and manufacturing of systems.

Furthermore, power distribution networks across Africa are notoriously unreliable. Frequent power interruptions can be enormously costly for factories and SMEs. Small-to-medium scale grids, captive power, and off-grid solutions contribute to the electrification and industrialization in these countries and present a cost effective, low carbon and a reliable alternative to the grid. Through the provided energy solutions, LEAF will contribute to an increase in productivity, efficiency and energy security to 395 factories and SMEs.

Gender-sensitive development impact. The benefits of access to clean energy are felt most keenly by women, who often spend more time in the home. Through the Framework, 2.95 million women will benefit from increased access to energy. Furthermore, the Framework is expected to increase access to clean energy to 800,000 beneficiaries living below the poverty line and who are the most vulnerable to climate change. The programme will also create additional jobs in the DRE sector for 15,600 women, and 413,000 women including 48,000 poor and female-headed households will enter into new SHS, mini-grid and captive power contracts. Through TA, LEAF aims to remove existing gender gaps and inequality by working closely with DRE companies, developing policies focused on increasing outreach to women as customers and women as part of the workforce.

D.4. Needs of recipient (max. 500 words, approximately 1 page)

Describe the scale and intensity of vulnerability of the country and beneficiary groups and elaborate how the project/programme addresses the issue (e.g. the level of exposure to climate risks for beneficiary country and groups, overall income level, etc.). Describe how the project/programme addresses the following needs:

- *Vulnerability of the country and/or specific vulnerable groups, including gender aspects (for adaptation only)*
- *Economic and social development level of the country and the affected population*
- *Absence of alternative sources of financing (e.g. fiscal or balance of payments gap that prevents government from addressing the needs of the country; and lack of depth and history in the local capital market)*
- *Need for strengthening institutions and implementation capacity*

Countries and beneficiaries context. The focus countries are facing various challenges on their way towards adopting a low emission path and in providing reliable and efficient energy. Economies in these countries are dependent on climate sensitive sectors such as agriculture, energy, tourism, water and health. Hydro-electricity is also a dominant form of energy on many of the countries' grids, and increases in drought caused by climate change can threaten electricity security. With limited (cash) reserves and coping mechanisms, climate change-induced economic shocks often hit low income household hardest, and these groups struggle most to recover from such shocks.

The six countries are classified as lower-middle income countries and millions of people lack access to (reliable) energy, especially in rural areas. The overall electrification rate in the focus countries is 75% in Kenya, 54% in Nigeria, 82% in Ghana, 44% in Guinea and 44% in Ethiopia (AEP, 2020), with lower energy access rates for rural areas. Market studies conducted by AfDB estimate the combined existing DRE market size to be approximately US\$ 7.2 billion in the focus countries. Renewable energy technologies represent a huge opportunity to electrify and boost economic growth in a cleaner, more affordable and sustainable way. Off-grid solutions offer poor-middle income households, previously without electricity, the opportunity to incorporate affordable lights and basic appliances into their daily lives, especially in remote communities and in many cases, reach people faster and in a more targeted way than grid-expansion alone. Captive renewable energy solutions present a cost effective, low carbon, reliable alternative to the grid, particularly in the Commercial and Industrial (C&I) sectors.

Financial, economic, and institutional needs. Most households cannot afford to pay the full cost of available renewable energy solutions/systems upfront and require a loan or financing plan to pay for them. Limited collateral and income levels limit financing to lower income potential customers.

The aforementioned financial market barriers have so far prevented the successful deployment at scale of DRE solutions in the focus countries despite a high market demand, limiting the sector's growth potential. Energy access companies are capital intensive companies that often include inventory and receivables financing and require substantial financing to expand and scale operations. Most companies are highly leveraged, borrowing in USD or Euro, while their revenues are collected in local currencies, making them vulnerable to FX risk. LEAF will unlock local currency and commercial debt financing for DRE businesses through 15-20 transactions including local banks/FIs to provide DRE investments.

D.5. Country ownership (max. 500 words, approximately 1 page)

Please describe how the beneficiary country takes ownership of and implements the funded project/programme. Describe the following:

- *Existing national climate strategy*
- *Existing GCF country programme*

- *Alignment with existing policies such as NDCs, NAMAs, and NAPs*
- *Capacity of Accredited Entities or Executing Entities to deliver*
- *Role of National Designated Authority*
- *Engagement with civil society organizations and other relevant stakeholders, including indigenous peoples, women and other vulnerable groups*

Existence of and coherence with national climate strategies and policies. Tunisia, Ghana, Nigeria, Kenya, Ethiopia and Guinea have strong energy transition policies, climate objectives and targets for reducing emissions (see table below). The main challenge is the capacity required to meet these goals and to ensure that energy supply is reliable and adequate. LEAF is well aligned and contributes to the countries' priorities for low-emission and climate-resilient development as identified in national climate strategies and plans and contributing to the following carbon emission reductions: 1.6 million tCO₂e in Ghana, 10.5 million tCO₂e in Nigeria, 1.2 million tCO₂e in Kenya, 1.5 million tCO₂e in Tunisia, 11.0 million tCO₂e in Ethiopia and 2.9 million tCO₂e in Guinea. Furthermore, LEAF will engage and strengthen local ecosystems and stakeholders, including local banks and other financial institutions and off-grid energy companies to further scale DRE.

Tunisia

Confirmed in its NDC, Tunisia seeks to reducing its greenhouse gas emissions across different sectors including energy, industrial processes, agriculture, forestry and other land use, and waste, in order to lower its carbon intensity by 41 per cent in 2030, relative to the base year 2010. Mitigation efforts will particularly center on the energy sector, which alone accounts for 75 per cent of the emissions reductions contributing to this decrease in carbon intensity. As part of the energy transition policy advocated by the State, it is estimated that the energy sector will reduce its carbon intensity in 2030 by 46 per cent compared with 2010. This will be done unconditionally and through its own efforts by 13 per cent compared to 2010, i.e. by around 1/3 of its INDC. To achieve the rest of its objective, an additional drop in carbon intensity of 28 per cent in 2030 compared to 2010, Tunisia is relying on the support of the international community for funding, capacity building and technology transfer. The national effort exclusively concerns the energy sector, which accounts for the most significant part of the investment needs.

In response to the energy challenges the country faces and to harness its renewable potential, the Government of Tunisia launched the Tunisia Solar Plan ("Plan Solaire Tunisien" – PST). The Tunisian Solar Plan is a major program within the energy transition strategy which was launched in 2018 and has the objective of increasing the share of RE in the energy mix. The PST targets to increase energy efficiency and the implementation of policies to diversify its energy mix, with a strong focus on the development of renewable energy. In particular, the program includes the following objectives by 2030¹³: i) Reduce primary energy demand by 30%; ii) Increase the share of renewable energies in the electricity mix to 30%; and iii) Reduce carbon intensity by 41%.

Ghana

Sustainable energy security is one of the priorities. Ghana's emission reduction goal in its NDC is to unconditionally lower its GHG emissions by 15 percent relative to a business-as-usual (BAU) scenario emission of 73.95MtCO₂e by 2030 (by 12 percent in 2025). An additional 30 percent emission reduction is attainable on condition that external support is made available to Ghana to cover the full cost of implementing the mitigation action (finance, technology transfer, capacity building). With this external support, a total emission reduction of 45% below the BUA emission levels can be achieved by 2030 (by 27 percent in 2025).

The Government of Ghana launched in 2019 its Renewable Energy Master Plan (REMP) with the goal to provide an investment-focussed framework for the promotion and development of renewable energy resources for sustainable economic growth, contribute to improved social life and reduce adverse climate change effects. The REMP aims to achieve the following by 2030: i) Increase the proportion of renewable energy in the national energy generation mix from 42.5 MW in 2015 to 1363.63 MW (with grid connected systems totaling 1094.63 MW); ii) Reduce the dependence on biomass as main fuel for thermal energy applications; iii) Provide renewable energy-based decentralised electrification options in 1,000 off-grid communities; and iv) Promote local content and local participation in the renewable energy industry.

Nigeria

The government has made access to energy for all Nigerians a priority. At present, a significant share of demand for energy, and electricity in particular, remains unmet and the grid is unable to reliably serve the existing industrial and urban customer base. A shortfall in generation capacity has led to the proliferation of small generators, which are inefficient and polluting. Most rural communities remain off the grid, about 60% of the population lack access to electricity. At the current rate of grid expansion, they will largely remain under-served. The potential to both provide

¹³ <http://www.anme.tn/?q=fr/content/notre-vision>

energy access and to reduce emissions is enormous. Under a BAU scenario (5% GDP growth) annual emissions are projected to grow 114% by 2030 to around 900 million tonnes – around 3.4 tonnes for every Nigerian. Under a high growth scenario, with economic growth at 7%, this climbs to over one billion tonnes. In its NDC, Nigeria made an unconditional contribution of 20 per cent below BAU that is consistent with the current development trends and government policy priorities. Moreover, Nigeria can make a significant additional contribution with international support, in the form of finance and investment, technology and capacity building. The combined policies and measures can deliver in a cost-effective manner direct development benefits to the country and reduce emissions 45 per cent below BAU.

The rural electrification goal of the Government of Nigeria is to increase access to electricity to 75% and 90% by 2020 and 2030 respectively, and at least 10% of renewable energy mix by 2025. REA'S off grid electrification strategy includes the following objectives for 2023: i) Promote the use of decentralised energy solutions to power households, communities & businesses; ii) Develop 10,000 mini grids which will provide power to 14% of the population; iii) Provide reliable power supply for 250,000 SMEs; iv) Deploy 5 million solar standalone systems for residential and SMEs; and v) Support the FGN's climate change obligations under the Paris Agreement, with respect to promoting renewable and reducing carbon emissions.

Kenya

Kenya strives to be a newly industrialized middle-income country by 2030. This development is expected to increase emissions from the energy sector. The current energy mix, however, is mainly clean with deliberate efforts by Government towards enhancing geothermal, wind, solar and other clean energy development. Kenya seeks to abate its GHG emissions by 30% by 2030 relative to the BAU scenario of 143 MtCO₂eq and in line with its sustainable development agenda. This is also subject to international support in the form of finance, investment, technology development and transfer, and capacity building.

To attain universal electricity access by 2022, the National Electrification Strategy and the Least Cost Geospatial plan estimate that over US\$ 2.6 billion is required to be invested in order to reach the unconnected households. The plan includes: (i) extension of the grid to reach 2.3 million households; (ii) establishment of mini grids to serve population clusters that are too distant from the network and where it is not economical to extend the existing grid to reach over 35,000 households; and (iii) 1.96 million households to be served by solar home systems.

Ethiopia

Ethiopia intends to limit its net greenhouse gas (GHG) emissions in 2030 to 145 Mt CO₂e or lower. This would constitute a 255 MtCO₂e reduction from the projected 'business-as usual' (BAU) emissions in 2030 or a 64% reduction from the BAU scenario in 2030. At 1.8 tCO₂e, Ethiopia's per capita GHG emissions are insignificant compared to total global emissions. If Ethiopia's contribution is fully implemented, it would reduce per capita emissions to 1.1 tCO₂e by 2030. The plan to mitigate GHG emissions is built on the following four pillars: i) Improving crop and livestock production; ii) Protecting and re-establishing forests; iii) Expanding electric power generation from renewable energy; and iv) Leapfrogging to clean and energy efficient technologies in transport, industry and building sectors. Ethiopia has already removed fossil fuel subsidies to enable enhanced generation and use of clean and renewable energy. 76.7% of Ethiopia's population currently lacks access to clean and reliable energy sources, relying on wood for fuel. The National Electrification Program, launched in 2017, outlines a plan to reach universal access by 2025, aiming to supply 35% of the population with off-grid solutions.

Guinea

The inventory of greenhouse gases made for the Initial National Communication (based on emissions for 1994) shows that the energy, land-use change and forestry (LUCF) and agriculture sectors are the main emitters. As they therefore represent a strategic priority for Guinea in terms of mitigation, they have been included in the INDC. The emissions growth rate is taken as 4.4% per year over the period, with emissions rising from 2.1 to 2.7 tonnes CO₂eq per capita. In total, that would mean a doubling over 20 years and emissions of some 55m tonnes CO₂eq in 2030. In its NDC (Guinea, 2015), Guinea pledged to undertake GHG mitigation actions, conditional upon receipt of international support. Mitigation actions include producing 30 percent of its energy from renewable energy sources, creating an enabling environment for energy efficiency measures, improving the energy performance of the Guinean economy, making exploration of mineral resources climate-compatible, and implementing sustainable forest management. In order to fight energy poverty, the government of Guinea has put in place ambitious policies to expand access to electricity to reach 35% electrification by 2020 and 100% by 2030, as well as increasing the share of renewables.

Engagement with NDAs

As part of the requirement for national ownership and alignment with national needs, the AfDB team shared the funding proposal with the National Designated Authorities in Nigeria, Kenya, Ghana, Tunisia, Ethiopia and Guinea. The AfDB

presented LEAF, its objectives and anticipated impact to the Technical Committee of the NDAs and key relevant stakeholders. Presentations were followed by discussions on the programme, including feedback from stakeholders and clarification of any questions. In order to obtain NOLs, AfDB has had calls as well with the rural electrification agencies (REA) in Nigeria, Ghana and Guinea. The programme was presented and alignment of objectives and complementarity to existing initiatives were discussed. The programme received endorsement from the three rural electrification agencies. For the implementation of the Framework, AfDB will work closely with the NDAs in the 6 countries and other relevant institutions, such as the rural electrification Agencies, to align the targeted transactions with other initiatives and with identifying potential pipeline projects and participation of LFIs. It further will support these institutions with TA to support an enabling environment for DRE investments and scaling of the sector.

Engagement with LFIs

Key to the success of this Framework is the participation of LFIs. The TA component plays a critical role in increasing the understanding of local banks and financing institutions of the DRE sector and financing of DRE projects and their participation in the targeted transactions. During the market assessment, some banks have shown an interest in exploring products that could help to unlock more local finance for the renewables sector and interest to increase their capacity to identify, assess and therefor finance DRE opportunities. LEAF offers support to these institutions to strengthen and develop their in-house capacity and the development of potential financing products and credit policies with regard to DRE. The AfDB team has also engaged local banks for potential pipeline projects under LEAF and other transactions. As of today, without the availability of de-risking instruments and the ability to improve pricing through some level of concessionality, it has proven difficult to include local FIs in the intended transactions. The identification of FIs for LEAF will happen through: i) AfDB's network and relationships with local financial institutions in the countries; ii) recommendations and relationships provided by the NDAs, REAs other country institutions; iii) the consultants involved in the implementation of the capacity building component; iv) potential FIs identified in the market assessment; and v) recommendations from DRE companies or other stakeholders of the targeted transactions.

Engagement of other stakeholders.

AfDB is an important partner in developing the renewable energy sector, through originating, designing & implementing energy projects, supporting resource mobilization and providing climate finance, as well as policy dialogue. LEAF will from AfDB's extensive network and relationships in the sector – including DRE companies, financial institutions, sponsors and arrangers, industry organizations etc – to identify potential projects in alignment with the programme. Furthermore, LEAF will build on and is expected to complement established efforts by the Bank, such as interventions supported by the Sustainable Energy Fund for Africa (SEFA) such as the Mini-Grid Market Development Programme.

D.6. Efficiency and effectiveness (max. 500 words, approximately 1 page)

Describe how the financial structure is adequate and reasonable in order to achieve the proposal's objectives, including addressing existing bottlenecks and/or barriers, and providing the minimum concessionality to ensure the project is viable without crowding out private and other public investments. Refer to section B.5 on the justification of GCF funding requested as necessary.

Please describe the efficiency and effectiveness of the proposed project/programme, taking into account the total financing and mitigation/ adaptation impact the project/programme aims to achieve, and explain how this compares to an appropriate benchmark.

Please specify the expected economic rate of return based on a comparison of the scenarios with and without the project/programme.

Please specify the expected financial rate of return with and without the Fund's support to illustrate the need for GCF funding to illustrate overall cost effectiveness.

Please explain how best available technologies and practices have been considered and applied. If applicable, specify the innovations/modifications/adjustments that are made based on industry best practices.

Financial adequacy and appropriateness of concessionality. The Bank conducted market diagnostic studies on the financing needs for renewable energy including DRE in Kenya, Tunisia, Nigeria and Ghana to understand the market size of this opportunity.

In addition to this analysis, the Bank through the Sustainable Energy Fund for Africa (SEFA), has conducted green mini-grid market studies in various Sub-Saharan countries in the context of its Green Mini-grid Market Development Program (GMG MDP). The GMG MDP initiative supports the scale-up of investment in commercially viable green mini-grid projects through a broad range of interventions to improve the enabling environment, including market intelligence,

business development support, policy and regulatory support, access to finance, and quality assurance. The studies estimate the green mini-grid market financing need in Ethiopia, Guinea and Nigeria at approximately US\$ 5.4 billion. Besides regulatory hurdles, the main barriers in the sector relate to limited access to finance, high costs of capital and challenges in the investment climate.

Despite the combined existing DRE market size of US\$ 7.2 billion in the six countries, access to finance and local currency capital remain key hurdles to unlock the full DRE growth potential. The perceived risk of the sector, inability to assess attractiveness of DRE investments, lack of lending experience and local currency capital, are key limiting factors.

The concessional debt and guarantee instruments in the Framework are required to enhance local markets through de-risking the DRE sector and unlocking local currency debt to scale up decentralized renewables. GCF's ability to invest in riskier tranches catalyzes AfDB co-investment and allows the combined funding approach of LEAF to address the market barriers mentioned in this proposal. LFIs have showed some willingness to invest in the market providing they have access to de-risking instruments and capacity building. The Framework provides least concessionality needed to make the targeted transactions viable and will crowd in private investment. The principle of minimal concessionality will be applied for all considered Framework's projects. By de-risking the sector, the Framework unlocks and increases local currency finance and builds lending experience and confidence in DRE initiatives, demonstrating the opportunity and potential of DRE financing.

The financial models demonstrate that the concessionality will reduce the all-in cost of debt, resulting in acceptable debt service coverage ratios (DSCR). Without the concessionality, the DSCR will be too low to support commercially viable project.

E. LOGICAL FRAMEWORK

This section refers to the project/programme's logical Framework in accordance with the GCF's [Performance Measurement Frameworks](#) under the [Results Management Framework](#) to which the project/programme contributes as a whole, including in respect of any co-financing.

E.1. Paradigm shift objectives

Please select the appropriated expected result. For cross-cutting proposals, tick both.

Shift to low-emission sustainable development pathways

Increased climate resilient sustainable development

E.2. Core indicator targets

Provide specific numerical values for the GCF core indicators to be achieved by the project/programme. Methodologies for the calculations should be provided. This should be consistent with the information provided in section A.

E.2.1. Expected tonnes of carbon dioxide equivalent (t CO ₂ eq) to be reduced or avoided (mitigation and cross-cutting only)	Annual	1.207.250 t CO ₂ eq
	Lifetime	28.862.364 t CO ₂ eq
E.2.2. Estimated cost per t CO ₂ eq, defined as total investment cost / expected lifetime emission reductions (mitigation and cross-cutting only)	(a) Total project costs	959,900,000 USD
	(b) Requested GCF amount	170,900,000 USD
	(c) Expected lifetime emission reductions	28.862.364 t CO ₂ eq
	(d) Estimated cost per t CO₂eq (d = a / c)	<u>33.26</u> USD / t CO ₂ eq
	(e) Estimated GCF cost per t CO₂eq removed (e = b / c)	<u>5.92</u> USD / t CO ₂ eq
E.2.3. Expected volume of finance to be leveraged by the proposed project/programme as a result of the Fund's financing, disaggregated by public and private sources (mitigation and cross-cutting only)	(f) Total finance leveraged	789,000,000 USD
	(g) Public source co-financed	= USD
	(h) Private source finance leveraged	789,000,000 USD
	(i) Total Leverage ratio (i = f / b)	<u>4.62</u>
	(j) Public source co-financing ratio (j = g / b)	=
	(k) Private source leverage ratio (k = h / b)	<u>4.62</u>
E.2.4. Expected total number of direct and indirect beneficiaries, (disaggregated by sex)	Direct	
	Indirect	
<i>For a multi-country proposal, indicate the aggregate amount here and provide the data per country in annex 17.</i>		
E.2.5. Number of beneficiaries relative to total population (disaggregated by sex)	Direct	
	Indirect	
<i>For a multi-country proposal, leave blank and provide the data per country in annex 17.</i>		

E.3. Fund-level impacts

Select the appropriate impact(s) to be reported for the project/programme. Select key result areas and corresponding indicators from GCF RMF and PMFs as appropriate. Note that more than one indicator may be selected per expected impact result. The result areas indicated in this section should match those selected in section A.4 above. Add rows as needed.

Expected Results	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	

<i>M1.0 Reduced emissions through increased low-emission energy access and power generation</i>	<i>M1.1 Tonnes of carbon dioxide equivalent (t CO2eq) reduced or avoided - gender-sensitive energy access power generation</i>	Bank supervision reports, reports	0	523.877	4.1 million	Demand for renewable energy is increasing. Beneficiaries have the resources necessary to conduct maintenance of RE assets.
<i>M3.0 Increased financing available for low-emission energy access and power generation</i>	<i>M3.1 Volume of finance leveraged by Fund funding (USD, million)</i>	Bank supervision reports, reports	0	473	789	There is a dynamic DRE private sector in place that is able to absorb the financing. FIs are willing to enter DRE sector, given derisking is provided and capacity is strengthened to engage the sector.

E.4. Fund-level outcomes

Select the appropriate outcome(s) to be reported for the project/programme. Select key expected outcomes and corresponding indicators from GCF RMF and PMFs as appropriate. Note that more than one indicator may be selected per expected outcome. Add rows as needed.

Expected Outcomes	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term)	Final	
M6.0 Increased number of small, medium and large low-emission power suppliers	<i>M6.3 MWs of low-emission energy capacity installed, generated and/or rehabilitated as a result of GCF support</i>	Bank supervision reports Reports, industry reports	0	118	386	The decentralized renewable energy sector is growing with an increasing number and growing private sector companies.
M6.0 Increased number of small, medium and large low-emission power suppliers	<i>M6.2 Number of households and individuals (males and females) with improved access to low-emission energy sources, of which % women</i>	Bank supervision reports Reports; industry reports	0	646.000 households, 3.32 million beneficiaries, of which 50% women	1.18 million households, 5.9 million beneficiaries, of which	Demand for renewable energy is increasing.

					50% wome n	
M5.0 Strengthened institutional and regulatory systems	<i>M5.1 Institutional and regulatory systems that improve incentives for low-emission planning and development and their effective implementation (Number of countries that have updated regulations, systems or frameworks at (sub-)national level supporting DRE development)</i>	Bank supervision reports Reports, publication, Policy documents, national regulations, fiscal instruments	0	3	6	Governments are encouraging greener energy solutions to diversify the energy mix and looking to develop enabling policies to support the DRE sector.

E.5. Project/programme performance indicators

The performance indicators for progress reporting during implementation should seek to measure pre-existing conditions, progress and results at the most relevant level for ease of GCF monitoring and AE reporting. Add rows as needed.

Expected Results	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
Output 1.1. Deployment of SHS systems, C&I Systems and mini-grid connections	Amount of local debt financing deployed through the Framework (US\$ equivalent)	Bank supervision reports Reports	0	45 million	100 million	DRE companies require local currency financing. DREs having sufficient technical capacity to develop bankable projects rapidly.
	# of DRE companies with increased access to finance through the Framework	Bank supervision reports Reports	0	10	20	
	# of (asset-backed) facilities reaching financial close through the Framework	Bank supervision reports Reports, Bank reporting	0	10	15-20	Although more complex and still novel, DRE companies are looking at securitization structures to leverage receivables and obtain off-balance sheet financing.
	# of new SHS, mini-grid and captive power contracts entered into with customers, of which % women	Bank supervision reports Reports, Industry reports (GOGLA off-grid solar market reports)	0	SHS: 606,400 MG: 39,638 CP: 78	SHS: 936,000 MG: 243,556 CP: 395	Demand for renewable energy is increasing.

	# of jobs created in DRE companies, of which % women	Bank supervision reports Reports	0	16,600, of which 30% women	52.000 , of which 30% women	Additional financing will expand business operations. Profits will be invested into operations scale-up.
Output 2.1 DRE companies benefiting from C-19 recovery finance	Amount of C-19 recovery finance provided through the Framework (US\$ equivalent)	Bank supervision reports	0	70	70	
	# of DRE companies accessing C-19 recovery finance	Bank supervision reports	0	15	15	
Output 3.1 Increased capacity of local banks/FIs to engage and finance DRE	# FIs that received training	Bank supervision reports Reports	0	10	20	Banks are interested to finance to DRE sector provided they have increased capacity required to do so.
Output 3.2 Laws, policies, fiscal instruments and/or regulations are adopted to facilitate DRE private sector development and investment	# of new laws, policies, fiscal instruments and/or regulations are adopted in target countries	National policy documents, fiscal policies/regulations, decrees, legal texts	0	3	6	Governments are encouraging greener energy solutions to diversify the energy mix and looking to develop enabling policies to support DRE development.
Output 3.3 Adaptation impact potential is validated	# of adaptation assessments conducted	Bank supervision reports, adaptation reports	0	6	6	

E.6. Activities			
<i>All project activities should be listed here with a description and sub-activities. Significant deliverables should be reflected in the implementation timetable. Add rows as needed.</i>			
Activity	Description	Sub-activities	Deliverables
1. Mobilise and de-risk commercial investment in SHS, mini-grids, C&I	Derisk DRE projects by providing guarantees and subordinated debt instruments	<p>Activity 1.1.1: provide concessional guarantees to unlock commercial investment</p> <p>Activity 1.1.2: provide subordinated concessional debt instruments to cover commercial investors risk and make concessional capital available</p> <p>Activity 1.1.3: Develop structured facilities and receivables-backed financing</p>	7-10 transactions benefitting from a guarantee, and 7-10 transaction benefitting from sub-ordinated debt provided by the GCF and AfDB; including securitization structures.

		<p>transactions to mitigate consumers default risk</p> <p>Activity 1.1.4: Deploy concessional sub-debt and guarantees to finance a portfolio of DRE businesses through Financial Intermediaries (holding company, Fund, multi DRE companies SPV – aggregators)</p> <p>Activity 1.1.5: Deploy tenor extension guarantees to LFIs</p>	
<p>2 Deploy and mobilise COVID-19 recovery funding for DRE companies in mini-grid, C&I, SHS</p>	<p>Provide concessional financing to unlock additional commercial funding to support COVID-19 recovery plans of DRE companies</p>	<p>Activity 2.1.1: Provide concessional debt to DRE companies through a co-financing Platform with debt funds (Covid-19 Off-grid Recovery Platform) or the Energy for Healthcare Programme to scale-up electrification of health infrastructure.</p>	<p>USD 50 million commercial capital leveraged</p> <p>1 transaction benefitting from concessional debt to support DRE recovery plans</p>
<p>3.1.1 Provide TA support to LFIs to increase their investment in the DRE space</p> <p>3.1.2 Support structuring of financially sound and strong receivables backed and other financing facilities</p> <p>3.2 Support governments in enabling policies for private investment in SHS, Mini-grid, C&I</p> <p>3.3 Conduct country-level adaptation assessments</p> <p>3.4 Support gender assessment and gender action plans, indicators and monitoring & evaluation activities</p>	<p>The capacity building effort will support LFIs in engaging the DRE sector and the development of enabling environments in the target countries to increase access to finance to DRE.</p> <p>Assess adaptation impact potential DRE</p> <p>Development of a gender action plan at project level – monitoring & evaluation of the implementation of the plan</p>	<p>Activity 3.1.1: Capacity building of FIs to increase their understanding of the market and identify, assess and finance DRE companies</p> <p>Activity 3.1.2: Support the structuring of strong and viable innovative financing structure</p> <p>Activity: 3.2.1: TA to focus countries to support the development of enabling policies and frameworks</p> <p>Activity 3.3.1: Conduct country level adaptation assessment for each country</p> <p>Activity 3.4.1: Conduct national gender assessments and refine gender action plans for each country</p> <p>Activity 3.4.1: Support the development of strategies and marketing campaigns for DRE companies to increase share of female customers</p> <p>Activity 3.4.3: Develop gender inclusive recruitment and HR policies to increase women at the workforce of DRE companies</p>	<p>TA provided to 20 FIs</p> <p>TA support to 10-15 transactions</p> <p>TA support to 6 country governments/REA/related agencies and to strengthen systems and frameworks, including digitalisation of licensing, data collection and real time monitoring of electrification progress</p> <p>6 adaptation assessments conducted</p> <p>6 national gender assessments and refined action plans developed</p> <p>5-10 strategies and marketing campaigns developed for DRE companies to increase share of female customers</p> <p>5-10 gender inclusive recruitment and HR policies developed to increase women at the workforce of DRE companies</p>

E.7. Monitoring, reporting and evaluation arrangements (max. 500 words, approximately 1 page)

Besides the arrangements (e.g. annual performance reports) laid out in AMA, please give a summary of the project/programme specific arrangements for monitoring and evaluation. Please provide the types of interim and final evaluations. Describe Accredited Entity (AE) project reporting relationships, including to the NDA/Focal Point and between AE and Executing Entity (EE) as relevant, identifying reporting obligations from the EE to the AE. This should relate to the frequency of reporting on project indicators, implementation challenges and financial status.

Monitoring and Reporting

AfDB – as the accredited executing agency – will be responsible for the overall monitoring of the Framework and reporting periodically to the GCF under the terms to be agreed between the AfDB and GCF.

Monitoring and reporting of the Framework will be guided and managed by the AfDB project lifecycle management Framework and relevant internal policies and procedures. The monitoring and reporting will comprise of two segments: operational and financial. The operational monitoring will be based on the Framework level performance indicators, including sex-disaggregated indicators where appropriate and possible, and the period reporting will consist of:

- (a) Progress towards results reports;
- (b) Monitoring reports;
- (c) Mid-term review; and
- (d) Implementation completion report.

Operational monitoring will be done by the Renewable Energy Department whereas the financial monitoring of underlying transactions will be the responsibility of the Portfolio Management department of the AfDB. The Bank will carry out country level annual supervision missions to assess the performance of the sub-projects including gender and inclusion targets and progress towards results. The reporting requirements will be built into the financing agreements for the sub-projects. For lending done by local FIs/ Banks, each financial intermediary will be responsible for collecting and reporting the operational and financial monitoring data.

The Framework level targets are indicative; the eventual targets will depend on the sub-projects approved under the Framework. The targets will be updated based on the actual portfolio and reporting to GCF in the annual reporting cycle.

Evaluation

The end of Framework evaluation of the LEAF Framework will comply with the AfDB and GCF evaluation policy. An independent evaluation of the projects will track key performance indicators and results, as well as gender and other inclusion targets will be carried out after the completion of implementation period of the Framework. In addition, the Bank will consider deploying qualitative evaluations through surveys, for example, during implementation to collect stakeholder and beneficiary feedback on the outcomes of the facility.

F. RISK ASSESSMENT AND MANAGEMENT

F.1. Risk factors and mitigations measures (max. 3 pages)

Please describe financial, technical, operational, macroeconomic/political, money laundering/terrorist financing (ML/TF), sanctions, prohibited practices, and other risks that might prevent the project/programme objectives from being achieved. Also describe the proposed risk mitigation measures. Insert additional rows if necessary.

For probability: High has significant probability, Medium has moderate probability, Low has negligible probability
 For impact: High has significant impact, Medium has moderate impact, Low has negligible impact
 Prohibited practices include abuse, conflict of interest, corruption, retaliation against whistleblowers or witnesses, as well as fraudulent, coercive, collusive, and obstructive practices

Selected Risk Factor 1: Framework delivery risk

Category	Probability	Impact
Technical and operational	High	Medium

Description

Please describe the risk to the best of your knowledge at this point in time.
 The Framework needs to generate a sufficient pipeline of viable transactions to fully consume the GCF funding. Due to the nascent aspect of the DRE / energy access market, the projects may take time to develop.

Mitigation Measure(s)

Please describe how the identified risk will be mitigated or managed. Do the mitigation measures lower the probability of risk occurring? If so, to what level?

A pipeline of projects amounting to approximately one-third of the total Framework (~ US\$ 259 million) is already identified prior to inception. The Framework can start deploying funds from inception while further developing the pipeline. It is expected that the facility will have a ramp-up period to catalyze additional projects. This risk will be further mitigated via heightened Framework visibility and pro-active engagement with the sector to identify and nurture transaction opportunities. Despite uncertainty in the sector, the rapid development of solar technology highlights that there is a high potential for renewable energy solutions, not only for off-grid areas but also for 'unreliable-grid' areas.

Selected Risk Factor 2: Repayment Risk

Category	Probability	Impact
Credit	Medium	Medium/ (very) High risk

Description

Please describe the risk to the best of your knowledge at this point in time.
 The expected losses for each layer will be determined at project level. First loss and sub-tranche layer will potentially be between the high-risk category and very high risk category, depending on the underlying project dynamics.

Mitigation Measure(s)

Please describe how the identified risk will be mitigated or managed. Do the mitigation measures lower the probability of risk occurring? If so, to what level?

The selection of beneficiaries will be done through detailed assessment criteria. Each financing will be approved after comprehensive due diligence and through the internal credit approval process of AfDB. The Bank will evaluate each sponsor's and FIs' execution capability to service loans. Transactions benefit from a specialist in financial transaction advisory to ensure included transactions meet eligibility criteria, financing structures are solid and financially sound and assess risks and proactive mitigation strategies. Further, the blended finance products offered by the Framework will be priced to keep the loans affordable and sustainable for borrowers. Lastly, the financing in local currency will shield the projects from forex risks.

Selected Risk Factor 3: Financing Risk

Category	Probability	Impact
Credit	Medium	Medium

Description

<p><i>Please describe the risk to the best of your knowledge at this point in time.</i></p> <p>Inability to mobilize sufficient local currency financing, as local banks and FIs face high cost of borrowing, high collateral requirements, tenor mismatches or limited willingness or ability to take risk exposure. The deteriorating credit conditions of Banks due to the impact of the COVID-19 pandemic has made local FIs even more risk averse.</p>		
Mitigation Measure(s)		
<p><i>Please describe how the identified risk will be mitigated or managed. Do the mitigation measures lower the probability of risk occurring? If so, to what level?</i></p> <p>The local currency financing is the critical for the success of the Framework. The revenue stream of the projects is specified in local currencies of their country. The local Banks / FIs face interest rate and macroeconomic risks in the markets. To ensure risk coverage, they have high collateral requirements. The credit enhancement products in the Framework are specifically designed to alleviate the constraints of local banks and FIs.</p>		
Selected Risk Factor 4: Implementation risk		
Category	Probability	Impact
Technical and operational	Medium	Medium
Description		
<p><i>Please describe the risk to the best of your knowledge at this point in time.</i></p> <p>Weak government commitment and regulatory changes/ challenges may impede the delivery of the Framework.</p>		
Mitigation Measure(s)		
<p><i>Please describe how the identified risk will be mitigated or managed. Do the mitigation measures lower the probability of risk occurring? If so, to what level?</i></p> <p>Successful Framework implementation depends on the technical & operational capacity of the local FIs and regulators. The Framework includes TA to develop the capacity of local FIs and developers. Moreover, the TA will also support development standardized PPAs, concession agreements, receivable backed financing documents, and sound underwriting Frameworks for DRE businesses.</p>		
Selected Risk Factor 5: Regulatory risk		
Category	Probability	Impact
Governance	Medium	Medium
Description		
<p><i>Please describe the risk to the best of your knowledge at this point in time.</i></p> <p>Poor regulatory framework to deploy DRE at scale and support private investments may impede the delivery of the Framework. Mini-grid, C&I and SHS projects are exposed to regulatory risk. For example, if the government decides to increase the import duty of solar systems or to reduce the net billing tariff for C&I.</p>		
Mitigation Measure(s)		
<p><i>Please describe how the identified risk will be mitigated or managed. Do the mitigation measures lower the probability of risk occurring? If so, to what level?</i></p> <p>Successful Framework implementation depends on the capacity of regulators. The Framework includes TA to develop the capacity of sector regulators and support them in developing an enabling environment for private sector investments.</p>		
Selected Risk Factor 6: FX risk		
Category	Probability	Impact
Forex	Low	Medium
Description		
<p><i>Please describe the risk to the best of your knowledge at this point in time.</i></p> <p>GCF and AfDB provide guarantees and sub debt in USD, while the underlying loan might be in local currency.</p>		
Mitigation Measure(s)		
<p><i>Please describe how the identified risk will be mitigated or managed. Do the mitigation measures lower the probability of risk occurring? If so, to what level?</i></p> <p>To the extent possible LEAF will seek to avoid currency mismatches in the operation. While the GCF instruments are always provided in USD, the Bank can provide local currency debt or PCG where appropriate. Currency hedging strategies to mitigate against foreign exchange risk will be elaborated on a project-by-project basis by the AfDB transaction team for transactions where the instruments are provided in USD, and the underlying loans are</p>		

denominated in another, local currency. For debt provided in USD, the currency risk is to be borne by the borrower, and the borrower will develop a hedging strategy, which could include a hedging counterparty with FX forwards, swaps etc. The exposure for PGCs will be capped to the maximum guarantee amount in USD (spot the guarantee at the FX rate).

Selected Risk Factor 7: Environmental and Social Risk

Category	Probability	Impact
Other	Low	Low

Description

Please describe the risk to the best of your knowledge at this point in time.

Environmental and Social risks relate to the failure to identify and assess potential impacts and implement and monitor plans and systems intended to avoid, minimize and mitigate negative impacts. Not all underlying projects are known at inception. The beneficiaries may fail to comply with AfDB or GCF E&S requirements.

Mitigation Measure(s)

Please describe how the identified risk will be mitigated or managed. Do the mitigation measures lower the probability of risk occurring? If so, to what level?

As an integral part of the Bank's due diligence process, potential Framework beneficiaries, including DRE companies, and FIs, will be assessed based on their commitment and capacity to manage and/or improve their E&S management and performance. The ESS category of the projects will be confirmed based on the outcome of the E&S assessment. The financing will be extended to projects limited to ESS Category B. The projects will also be required to obtain local ESIA approval and provide an ESMP plan to maintain compliance with AfDB, GCF and local E&S requirements prior to approval. E&S monitoring and reporting from the beneficiaries and intermediary FIs/Banks will be included as covenant to the financing agreements.

G. GCF POLICIES AND STANDARDS

G.1. Environmental and social risk assessment (max. 750 words, approximately 1.5 pages)

Provide the environmental and social risk category assigned to the proposal as a result of screening and the rationale for assigning such category. Present also the environmental and social assessment and management instruments developed for the proposal (for example, ESIA, ESMP, ESMF, ESMS, environmental and social audits, etc.). Provide a summary of the main outcomes of these instruments. Present the key environmental and social risks and impacts and the measures on how the project/programme will avoid, minimize and mitigate negative impacts at each stage (e.g. preparation, implementation and operation), in accordance with GCF's ESS standards. If the proposed project or programme involves investments through financial intermediations, describe the due diligence and management plans by the Executing Entities (EEs) and the oversight and supervision arrangements. Describe the capacity of the EEs to implement the ESMP and ESMF and arrangements for compliance monitoring, supervision and reporting. Include a description of the project/programme-level grievance redress mechanism, a summary of the extent of multi-stakeholder consultations undertaken for the project/programme, the plan of the Accredited Entity (AE) and EEs to continue to engage the stakeholders throughout project implementation, and the manner and timing of disclosure of the applicable safeguards reports following the requirements of the GCF [Information Disclosure Policy](#) and [Environmental and Social Policy](#).

Describe any potential impacts on indigenous peoples and the measures to address these impacts including the development of an Indigenous Peoples Plan and the process for meaningful consultation leading to free, prior and informed consent, pursuant to the GCF [Indigenous Peoples Policy](#).

Attach the appropriate assessment and management instruments or other applicable studies, depending on the environmental and social risk category as annex 6.

An Environmental and Social Management Framework (ESMF) is being developed for the LEAF Framework. All underlying projects are expected to comply with the do-no-harm principles such as adherence to applied Environmental and Social safeguard practices (E&S) to be managed through the implementation of the ESMF. Potential projects and sponsors will be assessed on the compliance with the ESMF and requirements of the Bank's Integrated Safeguards Systems to ensure they meet the requirements in terms of policies, procedures and organizational structure for the implementation and monitoring of the projects. The ESMF will outline eligibility criteria and ensure that underlying projects are all limited to Category B.

Underlying projects will be assessed by the Bank's Environmental and Social Safeguards team. Specifically, the Environmental and Social Management Frameworks of each sponsor will be evaluated and assessed to meet the lending requirements of the AfDB and Framework ESMF. The Bank's requirements are contained within the Integrated Safeguards System (ISS) (AfDB, 2013).

A summary of the potential negative E&S impacts for each type of technology (i.e. SHS, GMG and C&I solutions) has been included in **ESMF**. In summary, negative impacts relate to:

- **Social:** Physical presence of workers, equipment and materials on site; health and safety issues; and social conflicts. Mitigation: Environmental and Social Management Systems (ESMS) will be required for all underlying projects; detailed and step by step E&S responsibilities for key players for each project component
- **Land acquisition, resettlement, livelihood restoration.** Physical and economic displacement of people, property, assets and resources; waste handling and disposal, wastewater effluent management and disposal; air emissions (from vehicles/machinery and dust), water and soil contamination, accidents, noise and vibration, impacts on resources, degradation on items of cultural heritage significance etc. Mitigation: DRE companies will be required to prepare resettlement, livelihood restoration measures where applicable in line with the Resettlement Policy Framework (RPF).
- **Lack of awareness on E&S risks and impacts.** Mitigation: Sensitization and dialogue via various methods of stakeholder engagement
- **Battery disposal and recycling** (lead-acid and lithium ion). Mitigation: Require SHS, GMG, Captive Power companies and other Private companies to put in place policies and procedures with regard to battery storage, collection, recycling, and disposal practices.

The stakeholder Engagement Plan & Grievance Mechanism confirmed in the ESMF provides the process to be followed for stakeholder engagement and disclosure for each underlying project; the categorisation of the subproject will determine the nature and level of environmental and social investigations, information disclosure and stakeholder engagement required. Through stakeholder identification and engagement, the project will establish which

organizations and individuals may be directly or indirectly affected (positively and negatively) or have an interest in the projects. An example for stakeholder groups is confirmed in the ESMF, however this list should be adapted to fit the specific project and updated and modified over the course of the project.

DRE companies will be required to set up a Grievance Redress Mechanism (GRM) to ensure that all complaints from local communities are dealt with appropriately, with corrective actions being implemented, and the grievant being informed of the outcome. The objective of the GRM is to provide a platform for project affected persons to voice their concerns and opinions related to the project, in particular with regard to land acquisition and resettlement, as well as to address and resolve grievances promptly, fairly and transparently.

G.2. Gender assessment and action plan (max. 500 words, approximately 1 page)

Provide a summary of the gender assessment and project/programme-level gender action plan that is aligned with the objectives of GCF's [Gender Policy](#). Confirm a gender assessment and action plan exists describing the process used to develop both documents. Provide information on the key findings (who is vulnerable and why) and key recommendations (how to address the vulnerability identified) of the gender assessment. Indicate if stakeholder consultations have taken place and describe the key inputs integrated into the action plan, including: how addressing the vulnerability will ensure equal participation and benefits from funds investment; key gender-related results to be expected from the project/programme with targets; implementation arrangements that the AE has put in place to ensure activities are implemented and expected outcomes will be achieved, monitored and evaluated.

Provide the full gender assessment and project-level gender action plan as annex 8.

The gender aspects of the LEAF aim to address and reduce gender inequality, strengthen stakeholder commitment and deliver better accountability to both men and women. The Framework will especially contribute at the sector level to high-quality, more comprehensive, systematic and participatory sex-disaggregated data collection, as well as to qualitative and quantifiable gender analysis and action plans prior to the implementation of its activities. Therefore, the gender assessment and gender action plans are aligned with the objectives of GCF's Gender Policy.

The gender focus and activities of the LEAF are based on the Bank's previous work in the renewable energy access sector and gender assessments conducted for the countries targeted. As we are at the early stage of the Framework, local consultations with national stakeholders involved in the gender and renewable energy thematic will be further conducted by a dedicated gender expert recruited for LEAF. Meanwhile, the country strategic papers, country gender profiles, and the database of the countries, of the Multilateral Development Banks and UN agencies were consulted to compile current gender gaps in each of the 6 countries selected for the LEAF. The LEAF will strive for equal participation and benefits from funds investment for women and men by supporting the collection of sex-disaggregated data, by including sex-disaggregated indicators and targets as well as sub-categories of women in the gender action plans.

Key findings of the gender assessments reveal that although the LEAF countries have different national electrification rates, there are similar remaining gender gaps in access to and control over energy. For the many women living in non-central areas of the countries targeted by LEAF, promoting decentralized affordable, and reliable renewable energy is crucial to improving girls' and women's living conditions. The gender action plan includes specific interventions to increase women as customers and women in the DRE workforce.

According to the gender assessment, women from the countries selected for the LEAF are suffering from the indoor air pollution, the lack of data, and from the lack of economic empowerment due to difficult access to finance and absence of appropriate education on business expansion management. Women are little involved in the energy sector as consumers, as well as producers and agents of change.

The gender action plan includes specific activities focused on increasing access to renewable energy for women and girls, including FHHs and poor households, benefiting their health, safety and productive activity. This impact will be achieved by targeting gender specific activities dedicated to: (i) increasing access to DRE solutions, (ii) fostering job creation; (iii) generating data, and (iv) building or reinforcing the gender-responsive capacities of DRE companies.

G.3. Financial management and procurement (max. 500 words, approximately 1 page)

Describe the project/programme's financial management including the financial monitoring systems, financial accounting, auditing, and disbursement structure and methods. Refer to section B.4 on implementation arrangements as necessary.

Articulate any procurement issues that may require attention, e.g. procurement implementation arrangements and the role of the AE under the respective proposal, articulation of procurement risk assessment undertaken and how that will be managed by the AE or the implementing agency. Provide a detailed procurement plan as annex 10.

Due Diligence. Each sub-project under the Framework will be processed individually by the Bank. Any funding commitment to an underlying transaction will be subject to AfDB's credit evaluation, due diligence and approval procedures. Findings and recommendations undergo a rigorous internal review process before they are cleared by Senior Management to be presented to the Bank's Board of Directors for approval, including various interdepartmental committee reviews.

AfDB will apply its diligence policies including Know-Your-Customer (KYC), Anti-Money Laundering (AML) and Combating the Financing of Terrorism (CFT) procedures and operational safeguards, and other evaluations to sponsors. The Integrity Due Diligence (IDD) analysis will be carried out on underlying projects to identify, assess, mitigate, manage and monitor potential loss from integrity risks and to ensure that funds are used for their intended purposes. The analysis includes identification of beneficial ownership, assessment of civil and regulatory backgrounds, identification of sanctioned persons and entities, and identification of Politically Exposed Persons (PEPs) and other high-risk relationships. Furthermore, through the bank's established guidelines on anti-fraud, anti-corruption and anti-money laundering policies, the AfDB ensures that its financing operations and investments are not used for illegal or tax evasion purposes.

Financial Management. Financial management will follow the AfDB's Guidelines for Financial Management and Financial Analysis of Projects, which describes the Banks' policies and procedures with regard to financial management and analysis of projects and programs. The implementation of the grants will follow the AfDB's financial management system, which covers budget planning and implementation, procurement, financial statement preparation and reporting, as well as audit. The AfDB will conduct an assessment of financial management of the executing agencies during the final appraisal. The purpose of this assessment is to evaluate the executing agencies' accounting systems and internal control systems and verify that their standards are adequate for effective implementation of the transactions.

Supervision and Portfolio Management. All funding commitments will be monitored for compliance and eligibility by the Bank. AfDB is responsible for and will undertake monitoring and reporting activities of the underlying transactions following Bank policies and procedures, and ensuring that it monitors and reports on development, climate change, and other relevant indicators/outcomes. The AfDB will ensure that the project portfolio are diligently managed, through close dialogue with clients and periodic monitoring and evaluation to enhance the prospects of: i) delivering expected development outcomes; ii) minimizing harmful environmental and social impacts over the course of projects' economic life; iii) meeting debt repayment obligations for the loans and iv) successful implementation of the Framework. At least, annual supervision missions will be organized to review implementation progress and performance of the activities under the Framework.

Procurement. The selection and engagement of consultants and the procurement of services for the Technical Assistance component will be carried out according to AfDB's "Procurement Policy for AfDB Funded Operations" (dated August 2015). The objective of the AfDB procurement policy is to maximize development effectiveness while ensuring fair, transparent, competitive, and value for money in the use of funds. The policy sets out principles that apply to procurement of goods, works, and services by the recipient of the funds from the Bank.

A procurement plan has been developed for the services to be delivered under the TA component of the LEAF Framework in accordance with its specific context and requirements. The procurement plan will be approved along with project appraisal document. The beneficiary of Framework funding will be required to follow the approved procurement plan. Any deviations from the procurement policy will be dealt according to Bank policies and procedures. The AfDB will sign the contract with the services providers for the TA.

Audit

The underlying TA projects which benefit government institutions will be subject to AfDB's audit policies and will be audited annually by external auditors acceptable to the Bank and at the completion of projects for which TA support has been provided.

G.4. Disclosure of funding proposal

Note: The Information Disclosure Policy (IDP) provides that the GCF will apply a presumption in favour of disclosure for all information and documents relating to the GCF and its funding activities. Under the IDP, project and programme funding proposals will be disclosed on the GCF website, simultaneous with the submission to the Board, subject to the redaction of any information that may not be disclosed pursuant to the IDP. Information provided in

confidence is one of the exceptions, but this exception should not be applied broadly to an entire document if the document contains specific, segregable portions that can be disclosed without prejudice or harm.

Indicate below whether or not the funding proposal includes confidential information.

No confidential information: The accredited entity confirms that the funding proposal, including its annexes, may be disclosed in full by the GCF, as no information is being provided in confidence.

With confidential information: The accredited entity declares that the funding proposal, including its annexes, may not be disclosed in full by the GCF, as certain information is being provided in confidence. Accordingly, the accredited entity is providing to the Secretariat the following two copies of the funding proposal, including all annexes:

full copy for internal use of the GCF in which the confidential portions are marked accordingly, together with an explanatory note regarding the said portions and the corresponding reason for confidentiality under the accredited entity's disclosure policy, and

redacted copy for disclosure on the GCF website.

The funding proposal can only be processed upon receipt of the two copies above, if containing confidential information.

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