

Project title: RURAL ELETRIFICATION WITH MINI-GRIDS IN RWANDA

Country Name

Project needs

- Climate vulnerabilities and impacts, GHG emissions profile, and mitigation needs that the prospective intervention is envisaged to address.
 - With only 10.2% of the Rwandan population with off-grid access, there is an opportunity to invest in this sector, which has the potential to transform rural energy sector.
 - Catalyst for transformational change in the generation of electricity in rural areas, away from kerosene lamps, candles and diesel generators to re-fed mini-grids.
 - To enable a viable and widespread deployment of off-grid renewable electricity access to rural areas to support productive uses of energy that will foster rural economic development and job creation.
 - Build capacities in the financing and development of mini-grid projects in a way that leads to sustainable energy generation and socio-economic development in rural areas.
- Main root causes and barriers (social, gender, fiscal, regulatory, technological, financial, ecological, institutional, etc.) that need to be addressed.
 - Economic development in rural areas through private sector development, job creation, skills development and improved climate resilience of rural populations,
 - Improve health and services, agricultural production, and gender impacts.
 - Address regulatory aspects, lack of country experience in the sector, and the requirement of economic incentives.

Mitigation impact

Estimated mitigation impact over lifespan	146,705 Tons CO2e
Estimated project lifespan	10 years
Project duration	5 years

Project overview

- Expected set of components/outputs and subcomponents/activities to address the above barriers identified that will lead to the expected outcomes.
 - The development of 100 renewable energy (RE) mini-grid projects with an average size of 25 KW each.
 - Support private sector to use technically proven RE source, (estimated 25 hydro and 75 solar-powered).
 - Provide tailored capacity development to underserved rural populations (villages where the project will be implemented will be selected from 265 villages, with a total of 128,000 households and 10,000 businesses).
- How project serves to shift the development pathway toward a more low-emissions and/or climate resilient direction.
 - Project will bring RE mini-grid projects to financial viability. currently, the sector is still under-developed and its supply chain inefficient. this results in high project and financing costs.
 - The NSP will enable RE mini-grids to be developed at scale, resulting in both a decrease in capital and operating costs, as well as an increase in financing available for additional mini-grids, both locally and internationally
- (if possible) in what way the executing entity is well placed to undertake the planned activities.
 - Energy Development Corporation Limited (EDCL will support improvement of the regulatory procedure through the development of a one-stop shop for mini-grids and improved stakeholder engagement

National context

- How the project fits in with the country's national priorities and its full ownership of the concept. Is the project directly contributing to the country's NDC or national climate strategies or other plans such as NAMAs, or equivalent? Which priorities identified in these documents the proposed project is aiming to address.
 - Rwanda's NDCs and mitigation targets are harmonized with the country's access and RE ambitions,
 - 60% of energy mix coming from RE and
 - Installation by 2030 of 68.04MW of RE mini-grids for rural communities.
 - Rwanda's NDC is built upon the Green Growth Climate Resilience Strategy (GGCRS), which sets Rwanda's vision of being a developed, climate-resilient, low-carbon economy by 2050.
 - This Strategy aims to mainstream climate resilience and low carbon development into key sectors of the economy.
 - The Rural Electrification Strategy approved by the cabinet in June 2016 outlines strategies through which Rwanda's households could increase access.
- How activities in the proposal are consistent with national regulatory and legal framework, if applicable.
 - Mini grids will be developed by the private sector with Government playing a key role in identifying sites and establishing a financial incentive framework.
 - This project will aim for 68 MW of solar mini-grids to be installed in off-grid rural areas by 2030 (Tier 1); HH targeted for off-grid electrification through SHS (Tier 2): 1.5 m, equivalent to 250,000 connections per year.

Justification of funding request

- Why the Project is not financed by the public/private of the country.
 - The proposed project has been conceived to address Rwanda's rural energy strategy through the private sector
 - The Project uses a holistic approach to remove market-entry barriers to attract the private sector through regulatory procedure that promotes a one-stop shop to efficiently deliver mini-grid services
- Alternative funding options, analysis of the barriers for the potential beneficiaries to access to finance, constraints of funding
 - Result based financing (RBF) coupled with access to finance through the SREP-funded Renewable Energy Fund (REF)
 - Solar panels and/or hydro power generators and mini grids can be financed through a combination of low-cost financing
- Rationale and level of concessionality of the financial instrument, how this will be passed on to end-users and beneficiaries, why this is the minimum required to make the investment viable and most efficient.
 - Need to address investment barriers associated mainly with need to update regulatory aspects, lack of country experience in the sector, and the requirement of economic incentives through:
 - Low interest rate commercial loan refinancing and a partial loss

Finance required

Total Project cost USD	21.9 million
Requested funding amount	USD 14.3 million
Financial instrument	X% Debt; Y% Equity
Duration of project	5 Years

Sustainability and replicability of the project (exit strategy)

- How the project sustainability will be ensured in the long run and how this will be monitored, after the project is implemented with support.
 - The government of Rwanda (GoR) to develop complementary productive use programs to foster energy demand and economic development at the mini-grid sites
 - Support capacity development in monitoring, evaluation and learning (MEL) with a focus on continuous improvement of stakeholder participation to increasingly assure sustainability.