The DRC Green Mini-Grid Program is a programmatic proposal which aims to serve as a pilot to innovative private-led electrification approach with renewable-based mini-grid solutions in the Democratic Republic of Congo (DRC) – and thereby bringing power to sizeable cities, some of them with a few hundred thousand inhabitants, without any access to modern energy. In support of the DFID-backed “Essor - Access to Electricity” initiative, the Bank proposes to provide debt financing and arrange co-financing from the Green Climate Fund (GCF) and other development partners. The objective of the Essor A2E is to support the development of up to thirty green mini grid solar projects over the next five to seven years. Phase I will procure three solar PV mini grids through a competitive tendering process (launched in Q3 2018) in the cities of Isiro, Bumba and Genema while subsequent tenders will replicate the proven scheme to scale up investments in the sector. Envisioned mini-grid projects would consist of hybrid solar PV power plants with up to 10 MW, with back up diesel generation, battery storage and associated 15kV distribution and LV networks to reach scattered consumers (total 21,200 households, 2,100 SMEs and public buildings connected over the first five years for the three projects). Three pilot sites have been identified with strong unmet demand potential. Demand studies and technical pre-feasibility studies have been performed, proposing a technical solution that balance the cost, sustainability and reach of the mini-grids.

Sponsors/Borrower
The sponsors for the three solar PV mini-grids (Phase I) will be selected through a competitive tendering process based on tariff, number of connections, sponsor track record, and technical strength of their proposal.

Cost Structure and Financing Plan
The total cost of the three solar PV mini-grid projects is estimated to be USD 87 million at COD, of which up to USD 40 million would be financed by senior loans and the remainder by equity and quasi equity. It is proposed that, for selected and interested sub-projects, the Bank and GCF will provide senior loans on a pari passu basis for a combined amount up to USD 40 million. The Bank also intends to raise quasi equity and grants from other financiers/donors in order to ensure affordability of tariff. Under this programmatic approach, a financing package arranged by the Bank will be offered to pre-qualified bidders as a recommended option.

Bank’s Role
Provision of long-term USD-denominated senior debt to selected bidders (up to three) under the Program up to USD 20 million along with the mobilization of GCF senior debt up to USS 20 million and other quasi-equity/grant. For each sub-project, the total exposure shall fall within the limit of 33.3% of the total project costs. Final approval of the Bank’s loan is subject to the due diligence at the sub-project level and its presentation to the Board.

Implementation Arrangements
The DFID-funded Essor A2E initiative, which also benefitted from the Sustainable Energy Fund for Africa (SEFA), is providing advisory services to the GoDRC on the solar PV mini-grid procurement process. Individual sponsors will be selected through a competitive tendering process under the Essor A2E, led by the Unité de Coordination et de Management (UCM) at the Ministry of Energy and Hydraulic Resources. The tendering processes will be run for the three sites on the basis of the pre-feasibility studies undertaken. Awarded sponsors will create individual special purpose vehicles (SPV) and are expected to enter into Concession Agreements with the central government under a BOOT scheme. Concession Agreements have been developed with the Essor A2E’s legal support.

Market
The total installed capacity in the DRC is 2,677 MW. Of this, only half is actually operational (producing 10,360 GWh). The national utility company - SNEL (Société Nationale d’Electricité), with more than 50 power plants (14 hydroelectric and 36 thermal), accounts for 94% of the total installed capacity. There are only three regional grids in the country; hence there is a sizeable gap between the rate of electrification in Kinshasa (where the grid is the most developed) and the rest of the country. Besides those grids, only a few cities are supplied by SNEL-operated mini-grids, leaving most of other cities and towns with an industrial base literally in the dark without access to modern energy. The population with access to electricity from the national grid is less than 1% in rural areas and 35% in urban areas, and around 10% nationally, while the average in Sub-Saharan Africa is 24.6%. Access to electricity is very uneven across the provinces ranging between 44% (Kinshasa) and 0.5% (Kasai Occidental). The statistics represent a huge unmet electricity demand, which will continue to rise with the growth in population and economic activities. Since the liberalization of the electricity sector, a few local distribution concessionaires have emerged based on the public-private partnership model. Moreover, some private companies in the electricity generation business are also emerging and are negotiating Power Purchase Agreements (PPA) with SNEL. For examples Synoki, Hydroforce, EDC and Virunga have been operating mini-grid hydroelectric projects in the DRC for a number of years and are deemed to have an estimated 6% market share of the electricity sector.

Strategic Alignment
The Program is fully in line with the Bank’s New Deal on Energy for Africa strategy as it aims to scale up the deployment and use of grid based mini-grids to provide stable and affordable energy to promote productive activities and boosting productive activities. Electricity provided with renewable sources will displace the diesel use in the target regions, fostering the country’s transition to low-carbon growth. Its impact cuts across three of the High 5 priorities of the Bank (Light up and Power Africa, Industrialize Africa, and Improve the quality of life for the African people). The project is also aligned with the 2013-2017 Bank’s country program strategy for DRC (to be extended until end of 2020).

Commercial Viability & Credit Enhancement
Selected mini-grid projects will primarily target the areas with significant economic activities and a large population basis (100,000 to 200,000 for each concession area) in order to ensure minimum bankability. Individual projects will supply power to consumers with a competitive tariff offered by bidders and are expected to retain the demand risks. As such, the capital structure of each project will include significant grant and equity components as a first-loss, and will be tailored to enable adequate cover ratios of debt in low demand and revenue scenarios. Risk mitigation measures will be further structured later in the project preparation.

Development Outcomes
The proposed Program’s additional lies in providing long-term financing for renewable energy projects which is non-existent in the DRC, especially for a mini-grid project of this kind, and providing investors with comfort through the Bank’s significant commitment. An innovative and ground-breaking nature of this Program (private sector mini-grid projects) means a huge additionality for the Bank’s engagement, with its own financing as well as concessional financing leveraged from the GCF and other donors.

Additionality

Namho Oh (PERN2), Matthieu Jalard (PESR2), Frederic Reveiz (PESR2), Timothy Aful-Koomson (PECG1), Mohamed Sokona (PECG1), Frances Okosi (PGCL2), Mamadou Sakho (PGRF1), Charlotte Karagueuzian (ECMR2), Patrice Horugavye (NSNC), Graziella Barrasso (NSNC), Tening Osric Forton (NSNC), Lissa Ba (PINS), Boris Honkpehedji (PINS), Sohni Ngum (AHGC), Daniel Mari (COCD), Donatien Kouassi (COCD), Belinda Chesire (FIST1), Xavier Rollat (FIST2)