

Unlocking the DRC's power potential through technical assistance

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With technical assistance from the FCDO-funded Essor Programme, the world's largest solar mini-grids are set to come online in 2023, changing the paradigm of the electricity sector. This project is the first of its kind in the Democratic Republic of the Congo (DRC), a country that is suffering from one of the lowest electricity access rates in the world.

On 6 June 2021, the Democratic Republic of Congo's (DRC's) Minister of Hydraulic Resources and Electricity (MRHE) and an international consortium, comprising CDC GridWorks, Eranove and AEE Power, signed three concession agreements to develop, finance, build and operate the world's largest solar mini-grids in the cities of Bumba, Gemena and Isiro, located in the north of the DRC. The facilities, expected to come online in 2023, have a total estimated cost of USD 100M and will serve approximately half a million people.

The signing of these contracts represented a watershed moment in the DRC's power market, paving the way for a scaling up of private investment in the DRC's power sector.

The project was a response to the pressing need for electricity infrastructure in the DRC. Despite the 2014 electricity reform, aimed at liberalizing the power market, the country had not been able to

attract private investment at the required scale to improve the dire situation in the sector.

In 2018 only 14% of the DRC's population had access to electricity, compared with an average of 48% in Sub-Saharan Africa. Only nascent regulations by the DRC Government existed, and the few initiatives undertaken by the private sector in the DRC's mini-grid space initially showed poor track records and a lack of robustness and scalability.

In part, the shortcomings of the proposed models were that they used non-scalable and sub-optimal contractual and financial models that clearly lacked the capacity to efficiently mobilize significant private capital inflows into the DRC's electricity sector. Therefore, it became necessary to consider alternative models, considering the limited human and financial resources at the government level. In this context, providing support to specific companies and projects would have proven ineffective.

What was needed was an upstream and harmonized approach. Essor provided long-term and flexible technical assistance to the DRC Government, to drive the process and to improve the investment environment, while protecting the DRC Government's interests. Such assistance helped standardize and optimize the market to increase liquidity and feed it with bankable opportunities for the private sector.

THE ESSOR PROGRAMME, A FLEXIBLE FACILITY FOR IMPROVING DRC'S BUSINESS ENVIRONMENT

Essor forms part of the UK Foreign, Commonwealth & Development Office's (FCDO's) Private Sector Development (PSD) portfolio in the DRC. It is a GBP 35M flexible facility - implemented by PwC as the FCDO's delivery partner - that aims to improve the business environment in the country. The programme started in January 2015 and will end in January 2022.

Essor comprises two workstreams. The first supports Business Environment Reform (BER), which is helping to formalize the economy, reduce corruption and facilitate access to credit through government reforms.

The second workstream is Access to Electricity (A2E), which provides technical assistance to the MRHE2. The intervention was initiated in 2016, led by Philae Advisory, with legal support from Linklaters LLP and technical support from the IED. The mini-grids project falls under the A2E workstream. All funding for the A2E workstream has been for advisory services.

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The main initial objectives of the Essor A2E initiative were the following: - Entry barriers were to be lowered and conditions made attractive for private investment to attract strong market players into a challenging country. - A standardized model - with the capacity to be replicated at scale across other similar projects in the DRC power sector - was to be designed. - Bankable opportunities in the sector were to be unlocked and scaled up, to be tendered to the private sector. - A robust, balanced yet flexible contractual structure with the capacity to raise non-recourse project-finance-type funding was to be set up.

It was to be tailored to the risks and uncertainties inherent in the mini-grid sector. - A critical threshold was to be attained in the sizing and bundling of the underlying assets that would justify

upfront commitments from bidders and project financiers.

CRITICAL SUCCESS FACTORS BEHIND ESSOR'S UPSTREAM APPROACH

Essor attributes the success of the project to the following factors:

- As a **flexible facility** with a sizeable budget and a long duration, Essor has had sufficient time and resources to implement an adaptive management approach. Its mini-grids project was high stake, high risk, highly resource intensive and involved many stakeholders. Without the ability to experiment and make course corrections, the mini-grids intervention would probably not have come to fruition. This is because it was operating in an environment with a high degree of uncertainty and required a long timeline to build relationships and implement project activities.

- An **adaptive approach** also helped deal with the many challenges that the project faced, such as the lack of an operational energy regulator, uncertainty regarding the project's ability to attract credible private investors and the inherent risk profile of mini-grid projects, together with significant security, political and macroeconomic risks.

- **Scale and site selection** - Essor bundled three large project sites into a single auction. These have a combined power capacity estimated at 35MWp and 23,100 connections after five years, well above the average for Sub-Saharan Africa. The three pilot sites were selected from a list of 27 potential sites, based on criteria such as their economic dynamism, security, solar radiation and the active presence of the State utility SNEL on the ground. The combined total size of sites chosen for the grids also created a critical mass that justified the resources to undertake robust due diligence upfront.

- **Mobilization of an innovative financial package** -To de-risk the investment, Essor mobilized an attractive package of project financing upfront during the tender process. The project included innovative financial and guarantee products, including grants as a necessary component, to make the tariff affordable. International Development Financial Institutions (DFIs), such as the Green Climate Fund, the African Development Bank (AfDB), Proparco, PIDG and the Rockefeller Foundation, provided upfront expressions of interest and mobilized upfront resources, all maximizing private investor interest.

- **A robust, balanced, yet flexible contractual structure** was developed through iterative interactions during the tendering process with the private bidders and the leading financial institutions (AfDB and EAIF/PIDG), which achieved balanced risk allocation among all stakeholders;

- **To mitigate project development risks** and shorten the development phase, technical and demand pre-feasibility studies were undertaken upfront and made available to all bidders;

- **Project level support** - Previous technical assistance for reform had not led to new energy infrastructure investments in the country.

This is partly because reforms were not fully operationalized, nor had the private sector been adequately consulted. In contrast, Essor's approach for the mini-grids project has been to provide transactional support to the DRC Government to test solutions in real-time through project-level implementation.

A PROJECT WITH HIGH ENVIRONMENTAL AND SOCIAL VALUE

Over the 20-year concession period, the solar mini-grids are estimated to reduce carbon dioxide

emissions by more than half a million tonnes, as solar-powered generation replaces diesel-based generators. At their peak, the grids are expected to connect around 46,000 households and 3,100 businesses and social institutions (schools, hospitals, government institutions and civil society organizations).

Aside from the overall beneficial impacts this will have on health, education, quality of life, business growth and job creation, increased electrification has been proven to have particularly strong impacts on poor households, women and girls³. This will be reinforced by introducing a social tariff with a 25% discount on the first 15kWh consumed per month, making electricity much more affordable to poor households.

Essor also worked with the MRHE to integrate gender criteria into the selection process, requiring candidates to include a gender strategy as part of their bids. The projects will also have a positive local impact by hiring, training and upskilling the local workforce.

A STRONG PARTNERSHIP WITH THE DRC GOVERNMENT

Essor's main partner for the project has been the Project Coordination and Management Unit (UCM) of the MRHE. UCM was established in 2015 as an execution and fiduciary agency for DFI-led projects. UCM's strong commitment has been a critical success factor for the intervention. The DRC Government now sees private mini-grid concessions at the core of the DRC's power sector strategy, using the Essor template as a model to be replicated in projects throughout the country.

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Leveraging its role as a trusted partner of the DRC government, Essor has also developed two additional interventions in the power sector: (1) support for the DRC Government to unlock stranded renewable-energy-independent private producer (RE IPP) projects and (2) assistance for the DRC Government to develop a climate policy and finance a roadmap ahead of the COP 26 discussions taking place in November in Glasgow, UK.

CONCLUSION

The main goal of the Essor A2E programme has been to establish a replicable framework to fast-track the development of electrification of urban centers across the DRC, through private mini-grid concessions. With support from the AfDB and the IFC/World Bank, the MRHE, through UCM, is now in the process of tendering several batches of additional mini-grid concessions using frameworks developed under Essor. This demonstrates the systemic level change that the Programme has achieved.

