

Impact of Mini- and Off-grid Power Projects in Africa

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Johannesburg, 20 November 2018; Several exciting dialogues will form the focus of the discussions at the 11th edition of the **Africa Energy Indaba**, which returns to the Sandton Convention Centre in Johannesburg from 19 – 20 February 2019. Access to energy and the rate at which Africa is realising this will be amongst the dominant themes of the event. This leading energy gathering comprises a high-level, strategic summit will be focusing on energy access, finance, renewables as well as transmission & distribution thereof.

The landscape and population distribution of the African continent underscores why major power plants are unable to reach and serve all areas. As many of these regions are located so far from other urban centres, extending a country's main electrical grid remains unaffordable. This leads us to the interim solution of investigating energy access and planning in an integrated manner, which includes incorporating smaller "mini-grids" that operate independently from the main grid and off-grid systems in isolated regions of the continent. Implementation of these solutions could also prove viable in regions where it remains unfeasible to spread the national grid, owing to issues such as topography or low population density.

Africa is rich in renewable energy sources which remain the most economical approach for powering mini-grids. However, the development of mini-grids poses several barriers that must be unpacked. Challenges facing the development of private sector mini-grids in Africa comprise of gaps in the policy and regulation governing mini-grids along with deficits in market data and linkages; capacity of key stakeholders and access to finance. In response to these barriers, SE4All Africa Hub at the African Development Bank (AfDB) designed the GMG MDP which is a pan-African programme that focuses on the financial, policy, technical and market barriers facing the emerging GMG sector. Phase 1 of the GMG MDP was launched in 2015, with financing from the AfDB's Sustainable Energy Fund for Africa (SEFA).

The International Energy Agency (IEA) has forecasted (in Africa Energy Outlook 2014) that 70 percent of new rural electricity supply in Africa will be provided by independent systems and mini-grids by 2040. The GMG MDP, SE4All, SEFA and ESMAP are playing their parts in reducing costs, as well as contributing to technological innovations and improvements in GMG expansion. All this is set to verify that up to two thirds of this power supply will be powered by renewable sources.

OPIC (Overseas Private Investment Corporation) provides funding for off-grid energy projects delivering home solar solutions that are not only portable and easy to install, but affordable, thereby enabling people without power, access to support appliances such as air conditioners and refrigerators. In Nigeria, OPIC financing is supporting Lumos, an off-grid electricity provider, in launching its portable solar stations which connect to rooftop panels and include cell phone payment systems. An OPIC loan is also funding Greenlight Planet, affording remote communities solar lighting and phone charging devices. These unserved populations will now be provided with ready access to power for their homes and businesses.

By substituting kerosene and diesel with solar, these solutions offer millions of people the benefits of both reducing their energy expenditures as well as drastically reducing CO2 emissions.

Mini-grids and off-grid power projects are set to make a huge impact as Africa plays catch-up in its generation capacity. These revolutionary solutions will be discussed and showcased at the upcoming Africa Energy Indaba to provide the latest insights, trends and applications to ultimately increase energy access across the continent.