



PDF II

Policy Development Facility Phase II

STORIES OF CHANGE



Powering rural Nigeria with clean and affordable energy

An off-grid power supply initiative, supported by Embedded Advisers under Policy Development Facility Phase II (PDF II), is creating new economic opportunities in rural Nigeria. Set to cover more than 300 locations in the next three to five years, it has the potential to transform local economies – boosting the performance of small businesses, creating new jobs and addressing the country's rising poverty levels.

Introduction

An unreliable and inadequate power supply is a major drag on Nigeria's economy. National demand – estimated at over 15,000 megawatts (MW)/day – far exceeds the current level of power generation, which averages only 3,500 MW/day. This poses a particular challenge for the country's small- and medium-sized enterprises, which are important economic drivers generating employment and economic opportunities for millions of ordinary Nigerians. An unreliable supply of power and the high costs associated with fossil fuel-based generators constrain profits and limit the growth potential of these businesses, particularly in underserved areas. This form of energy dependence is also unsustainable and undermines Nigeria's commitments to the Paris Agreement on climate change.

Providing an affordable, clean and stable supply of power is central to the economic development plans of President Muhammadu Buhari. Continuing the liberalisation and energy sector reforms of the preceding administration, the government initiated a roadmap for incremental, steady and uninterrupted power supply, which transitioned into the Power Sector Recovery Programme (PSRP),

adopted by the Federal Government of Nigeria in 2017. The Buhari administration also launched the Energizing Economies Initiative (EEI), implemented by the Rural Electrification Agency (REA), which supports the rapid deployment of off-grid solar and natural gas power solutions for micro-, small- and medium-sized enterprises (MSMEs).

Road to change

Under PDF II, Embedded Advisers – the Managing Director of the REA and a communication adviser providing project implementation support – assisted EEI efforts. Their critical support helped ensure clean, reliable and affordable off-grid electricity solutions to MSMEs operating within strategic economic clusters, such as markets, shopping complexes and agricultural and industrial facilities. Their assistance was part of a package of UK support during the initiative's design and preparatory phase. The UK's Department for International Development (DFID), for instance, provided funding for the Managing Director of the REA (who was also the PSRP Coordinator). DFID also assisted in the development of procurement documents, industry agreements and regulatory financial considerations.



Although conceptualised by the Federal Government of Nigeria, EEI operates as a public-private partnership. The government liaises with key stakeholders – including relevant ministries, public agencies and state governments – and is responsible for creating an enabling environment to support the activities and investments of private sector companies, including environmental impact assessments, regulations and tariffs controlling the import of needed equipment. The private sector, on the other hand, is responsible for engineering, operations and maintenance, as well as for generating and distributing power, metering and collection, and providing funding to initiate and implement the project.

The project initially identified three clusters: the Sabon Gari Market in Kano, the Sura Shopping Complex in Lagos, and the Ariaria International Market in Aba. At each location, market traders had previously endured considerable noise and air pollution from the use of fossil fuel-based generators, and when they opted to work longer hours were forced to incur significantly higher expenses because of the additional fuel and maintenance required. Power supply and consumption was also highly inefficient: locally constructed fans consumed significant amounts of energy and high-voltage bulbs were needed because of a lack of windows and natural light within the markets.

PDF II Embedded Advisers helped to identify suitable private sector partners and assisted in procurement; liaised with state governments and market associations, securing their buy-in; provided regulatory support, helping to secure electricity distribution licenses; offered legal advice to private sector partners; and ensured that environmental impact and assessment reports were developed and approved by the Ministry of Environment. The Advisers also helped secure additional funding from Power Africa, which will enable the initiative to rapidly scale up and cover additional markets across Nigeria over the next few years.

Milestones

More than 12,000 shops located within the markets in Kano, Lagos and Aba are now wired and receive a stable supply of affordable energy. Power is regulated, billed by consumption, and is available once users pay a modest connection fee. Generators are also provided as back-up in case of power failures.

The regular supply of affordable power has generated significant benefits for market traders and the communities they serve:

- **Higher profits** – traders have been able to extend their working hours, grow their customer base and increase their incomes. Refrigeration has also helped to reduce the losses of perishable goods such as fresh meat.
- **Reduced costs** – off-grid power is significantly cheaper than power from fossil fuel-based generators. A survey of businesses in the Sura Shopping Complex revealed cost savings that ranged from ₦ 40,000 (approximately US\$ 110) per month at a barber shop to ₦ 730,000 (approximately US\$ 2,000) per month at a restaurant.
- **Improved working environment** – off-grid power has substantially reduced exposure to the noise and air pollution associated with fossil fuel-based generators. Additional air conditioning has also improved working conditions and could prolong customer visits, potentially increasing the number of customer purchases.
- **Business expansion** – cost savings and higher profits are helping businesses to open new branches, hire additional staff and purchase new equipment to enhance their productivity. This expansion could generate important and positive knock-on effects in rural communities, providing new jobs, increasing economic opportunities and reducing poverty.

Lighting the way

The initiative's success has been attributed to several key factors, including private developer access to low-interest funding and effective stakeholder management. Regular one-on-one engagements with EEI beneficiaries – trader associations, town halls and business owners – and close alignment with relevant ministries and government agencies has helped to secure buy-in, gather relevant feedback and identify risks and opportunities. REA played a facilitative role, for instance by creating an enabling environment, overcoming foreseeable barriers and expediting licences, thereby supporting private developers in moving ahead with the project.

Clear and regular communication has also been critical. Trader surveys, for instance, helped inform the development of viable and fact-based communication strategies, which were subsequently used to introduce and reinforce key messaging on project activities. This integrated approach – low-interest funding, effective stakeholder engagement and strategic communication – will support plans to identify and electrify more than 300 clusters across the country within the next three to five years.

Lessons learned have helped to identify areas that require improvement. Communication strategies need to be further refined so they create additional demand for the new energy supplies – at one location, shops are connected to a mini-grid but traders have not yet attempted to access the power. Within markets that are difficult to penetrate, it may also be useful to identify trader 'champions' who can promote the benefits of the off-grid power supply to their peers.

Additionally, communication could play an important educational role, promoting the use of energy-saving devices, demonstrating how consumers can conserve power and challenging the false perception that locally made equipment does not consume significant amounts of energy. Finally, more efforts are needed to identify reliable meter vendors and to ensure that back-up generators are available when power is not available because of maintenance or unfavourable weather conditions.



About us

Policy Development Facility Phase II (PDF II), funded with UK aid from the UK government, is a flexible, rapid-response facility set up to support Champions of Change in implementing economic and social policies that lead to poverty reduction in Nigeria. Its goal is to provide Champions of Change with improved capacity and evidence to enable them to pursue vital economic and social reforms.

