

Incubating Innovation for Rural Electrification

Workshop on Low Carbon Sustainable Rural Electrification - Salima, Malawi - June 3-5, 2013

Executive Summary

The “*Malawi Workshop on Low Carbon Sustainable Rural Electrification*” was held on June 3-5, 2013, in Salima, Malawi. Co-organized by the Government of Malawi and the World Bank, this event brought together participants from the energy, telecom, non-profit, banking sectors as well as governmental and international agencies in order to discuss the potential for development of ‘Anchor-Business-Community’ business models for private sector led off-grid electrification in Malawi.

Context

The Republic of Malawi is faced with the challenge that 90% of its people do not have access to electricity. The government is currently pursuing the development of an inclusive and climate friendly energy sector, including implementing strategies for power sector reform, rural electrification, biomass energy and renewable energy developments. Mobile telecommunication in Malawi, however, has achieved a wide coverage with 94% of the population having access to mobile telephony. This unique contrast indicates a huge challenge as well as a great opportunity for the development of innovative low-carbon off-grid electrification solutions.



Defining the ‘A-B-C model’ for rural electrification

The ‘A-B-C’ model is defined as a commercially-viable private-sector led off-grid energy supply. The Malawi workshop enabled the development of a precise definition this business model that intends to (i) improve commercial viability of off-grid energy

projects, while (ii) reducing the risk for small energy service companies and private power producers willing to service the rural customers, and (iii) improving private sector’s ability to access finance. The A-B-C model builds on three sets of customers in unelectrified rural areas of the developing world:

Anchor (A) customers are located near a rural community and ideally provide a predictable daytime load while requiring a continuous supply of power. These customers, may provide a low profit margin but enable an Energy Service Company (ESCO) in establishing bankability of the project through a Power Purchase Agreement. Anchor customers can be of many types: telecom towers, petrol stations, agro-processing units, retail chains, mining companies, etc.

Business (B) customers represent local commercial establishments for whom electricity is a critical input for expanding operations or improving productivity (retail shops, carpentry shops, irrigation systems, schools, clinics, etc.). These are important customers in regards to their energy demand but cannot support the bankability of the ESCO themselves.

Community (C) customers are primarily -but are not limited to- households that have a low and variable energy demand and that can be served by different types of energy solutions (rechargeable lamps and batteries, solar home systems, microgrids, minigrids – *non-exhaustive*).

Discussing the model

The A-B-C model was introduced to the workshop’s participants in the broader context of combining public and private sector efforts for accelerating the pace of rural electrification in Malawi.

- The Energy sector was represented by the government, private sector, NGOs and international

agencies. While the participants used this opportunity to better understand each other's perspectives, the Department of Energy received specific requests from the private sector for information sharing and creation of a forum for stakeholders' continued interactions.

- The Telecom sector was represented by Malawi's main mobile network operators, *Airtel Malawi* and *TNM*. Both noted their interest in exploring multi-sector options for energy solutions serving the telecom sector while enabling rural development.
- Local energy companies including IPPs, hydro power developers and renewable energy equipment suppliers attended the workshop and expressed their interest in a deeper engagement to support off-grid electrification.
- Malawi has a large NGO sector working on off-grid household level Renewable Energy (RE) solutions, including handheld rechargeable devices, solar home systems and community based solutions. Participants expressed interest in jointly developing a database of RE projects as well as new partnerships to develop off-grid energy projects.
- The Banking sector representative shared existing possibilities for pooling domestic, bilateral and international financial resources to support private sector enterprises.
- International agencies such as United Nations Development Programme (UNDP), US African Development Foundation (USADF) and Global Mobile Industry Association (GSMA) expressed interest in continued cooperation with the initiative and specifically in Malawi.

Outcomes and recommendations

At the end of the workshop, participants collaboratively identified a set of recommendations that could enable the development of private-sector led off-grid energy supply in Malawi:

- *Availability of Information:* Department of Energy together with the private sector identified the availability of information



on small-scale renewable energy projects as an important enabling factor for the development of private sector led rural electrification in Malawi (regulations such as Feed-in-Tariffs, licensing procedures, duty waivers, etc.; resource maps for wind, hydro and solar energy potentials, vendors' directory as well as existing RE projects in Malawi).

- *Continued Dialogue between Private and Public Sectors' Stakeholders* was recognized as a useful mechanism in addressing market uncertainties and in designing an enabling environment for the development private sector led rural electrification initiatives in Malawi.
- *Adaptation of the A-B-C Model for Malawi:* participants identified multiple possible adaptations of the ABC model, including the possibility of an Anchor customer either becoming an Energy Supply Company (ESCO) or providing bulk energy to a partner ESCO. Workshop participants also identified Anchor customers other than telecom sector, including agro-processing, retail stores; and the opportunity to combine different energy solutions to address customers' affordability.

Moving towards demonstration

The workshop provided the opportunity to launch two new competitions to develop and demonstrate commercially viable private sector led off-grid electrification business models:

1. The US African Development Foundation (USADF) "**Malawi Off-Grid Energy Business Competition**" that will provide business planning grants for the Malawi Kwacha (MK) equivalent of \$10,000 USD each for up to 5 promising ventures looking forward to provide energy services in rural Malawi. Grant funds would be used to cover costs associated with business plan development, including contracting with consultants and/or executing market studies, technical reviews, developing blueprints and construction plans, and other related business plan expenses. For more information please visit <http://www.usadf.gov/MWIOFFGRID.html>.

2. The GSMA's "**Mobile Enabled Community Services (MECS) Innovation Fund**" that seeks to leverage mobile technology to enable access to energy and water services for underserved communities. Established with the support of the UK Government the MECS Innovation Fund will provide up to £2.4M in grants. Two types of grant

are made available: *Seed Grants* that will support the research and development of early stage innovations using mobile to support access to sustainable energy and water provision (up £200k in funding, 25% matched by grantee); and *Market Validation Grants* that will support partnerships between mobile network operators and/or tower companies with community service providers to trial: promising mobile technologies; and business models that have the potential to increase or improve access to water or energy services to underserved communities at scale (up to £350k in funding, 50% matched by grantee). For more information please visit <http://www.gsma.com/mobilefordevelopment/programmes/mobile-enabled-community-services/innovation-fund>.



Visit and register with the *Telecom-Energy Initiative's Online Collaborative Platform* to take part in this initiative, be informed of further developments and access all available resources (*including competitions*)

Link: <https://collaboration.worldbank.org/groups/incubating-innovation-for-rural-electrification-the-telecom-energy-initiative>