

Country briefing



Accelerating access to electricity in Africa with off-grid solar

Off-grid solar country briefing: Uganda

This country briefing is one of 13 prepared as part of a background study for the Energy Africa campaign launched by the Department for International Development (DFID) on 22 October 2015. The study was undertaken by the Overseas Development Institute (ODI), the Global Off-Grid Lighting Association (GOGLA) with SolarAid, and Practical Action.

The analysis and conclusions in this briefing, and other reports from study, are those of the authors and do not necessarily reflect the views of their organisations, ODI, GOGLA, Practical Action and SolarAid, nor those of DFID.

All project reports are available at: www.odi.org/publications/10200-accelerating-access-electricity-off-grid-solar



Background

Uganda has a population of 39 million.¹ In 2012, 15% of the total population had access to electricity.² There seems to be a clear divide in terms of accessibility between rural and urban areas. In the former, around 7% of the population can access electricity, while in the latter this number climbs up to 55%.³ The market potential for off-grid solar in Uganda is therefore significant. However, the overall affordability for solar off-grid products might be affected by the high proportion of the population living below the extreme poverty line (38%). A couple of companies are active in the Ugandan market. It is currently a market in transition with good growth prospects. Uganda ranked 3rd out of 55 countries in the Climatescope assessment.⁴

Policy environment

Increasing access to modern energy is a priority for the government of Uganda and its energy ministry. The Uganda Renewable Energy Policy from 2007 sets out the Government's vision to increase the use of modern energy to 61% by end of 2017. To achieve the goal, the policy includes a number of specific measures to support the promotion of solar, including market development, financing for households and institutions, and provision of training for solar technicians. The Uganda Rural Electrification Agency (UNREA) was established to promote both on-grid and off-grid connections to electricity through private sector initiatives. It oversees and coordinates the implementation of Uganda's energy access policies, with a mandate to increase rural household connectivity to at least 22% by 2022.⁵

To catalyse market development, UNREA opted for an end-user subsidy scheme. Off-grid household system providers are pre-screened to be able to participate to ensure product quality. The programme did however not bring the desired

effects and had a number of negative outcomes. Some companies seemed to have abused the scheme and did not pass on cost reductions to the end-users. Other companies are still waiting to be reimbursed by UNREA. The flow of funds is very slow, putting pressure on companies' cash flow. The subsidy scheme offered 50% price reduction to end-users which made systems very attractive. The scheme ended rather abruptly, according to interviewees, making it difficult for companies to explain to prospective customers why prices doubled over night.

Access to finance for the private sector

Financing challenges are listed as the main barrier by companies, one even coming to the conclusion that market growth in Uganda is currently completely reliant on the level of working capital companies can secure. In addition more downstream finance is required to ensure retailers and agents can pay for required stock. Many agents have little capital and rely on the goodwill of the client to pay a deposit to make a sale.⁶

The government owned Uganda Energy Credit and Capitalization Company (UNECCE) was established to help facilitate investments in Uganda's renewable energy sector. Its mandate is to pool resources from various sources, including government, investors, development partners, and others to channel those to renewable energy projects. The company also offers tools to attract investments for the private sector, including partial risk guarantees during the early phase of projects and credit enhancement instruments directed at reducing the risks faced by commercial lenders and other financial institutions. Its involvement in the solar off-grid market has been limited so far to providing a solar refinance facility to three micro finance institutions (MFI). There is on-going work to change legislation to allow UNECCE to directly support solar companies that offer credit schemes to their customers.⁷

Currency exchange fluctuations are a major risk for companies as the Uganda Shilling does not provide for stable exchange rates with the US dollar. Access to finance in the local currency to mitigate the risk is

¹ United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision.

² IEA (2014) *Africa Energy Outlook 2014*, International Energy Agency. The SE4All Global Tracking Framework (2015) estimates an 18% level of access nationally.

³ SE4All (2015) estimate a 71% access rate in urban areas in 2012.

⁴ <http://global-climatescope.org/en/download/reports/countries/climatescope-2014-et-en.pdf>

⁵ Enclude (2014): Market Assessment of Modern Off-Grid Lighting Systems in Uganda

⁶ Enclude (2014): Market Assessment of Modern Off-Grid Lighting Systems in Uganda

⁷ Enclude (2014): Market Assessment of Modern Off-Grid Lighting Systems in Uganda

however restricted, as the average cost of debt is around 23%.⁸

Import of solar household related equipment and fiscal barriers

Solar products are both VAT and tariff exempted helping companies to bring in products at lower cost. However, product parts and spare parts are charged 21% VAT and 5% import tariffs making it more attractive to import the entire product instead of assembling products in country (and thus shifting parts of the value creation in-country). VAT and tariffs are also charged for energy efficient appliances often sold in conjunction with a solar home system, which drives up the costs for the complete system. Exempting product parts and appliances could therefore further help to push down costs for end-users and make local assembly more attractive, according to interviewees.

Providing a level playing field

About 21% of the urban and 56% of the rural households that do not have access to the grid rely on kerosene for lighting. Like most of its East African neighbours, Uganda does not employ any fuel or kerosene subsidies and is thus increasing the value proposition of solar lighting solutions.

Consumer protection and quality assurance

Next to access to finance, the high number of low quality products and counterfeits entering the Ugandan market is the main barrier for sustainable market development. An interviewee estimated that more than 60% of the solar portable lanterns available in the market today are of low quality. To prevent market spoilage, strong regulation for consumer protection and quality assurance are needed.

The Uganda National Bureau of Standards (UNBS) is responsible for developing and issuing national standards, provision of import inspection services, quality assurance, and testing and certification of imported goods. To date the IEC standards developed by Lighting Global for solar portable lighting products have not been adopted by UNBS and its staff are mainly relying on some labels and samples to certify products. Labels referred to are

however counterfeit and “golden samples” open the door for low quality products to enter the market anyway. In addition, UNBS lacks staff and equipment to fulfil its tasks. Due to Uganda’s porous borders low quality products can enter the country without having undergone any checks or certification by UNBS.⁹

Currently only 15% of retailers offer warranties and 6% after sales services leading to an overall low level of service and consumer protection.¹⁰ ‘Scattered’ distribution chains with many intermediaries weaken the link between manufacturer and end-user making it hard for the customer to claim warranties and adequate after sales services. Mechanisms should be found to hold companies accountable to their clients and thus increase the level of after sales services which is often not sufficiently provided.

Consumer awareness

The level of awareness for solar among households is on average high: 86% know what solar is. Awareness about where to buy such products is much lower, however. More than 50% of the rural population would not know where to buy a solar product, let alone a quality product.¹¹

Availability of consumer financing

With 38% of Ugandans living below the extreme poverty line, disposable income is low. Around 10% of the importers in Uganda work with MFI and/or savings and credit cooperatives (SACCOs), but claim this has so far had only limited success due to the lack of knowledge about solar products. MFIs and SACCOs in more rural areas moreover lack adequate deposits to finance solar systems. On the other hand the influx of low quality products and the missing after sales services pose a serious challenge to loan repayment for MFI or SACCOs as clients will stop making payments when the product fails.¹²

Despite some legal uncertainties for mobile network operators, there is good access to mobile money in Uganda, with 43% of the population having access and 26% actively using mobile money. Under the

⁹ Enclude (2014): Market Assessment of Modern Off-Grid Lighting Systems in Uganda

¹⁰ Ibid.

¹¹ Enclude (2014): Market Assessment of Modern Off-Grid Lighting Systems in Uganda

¹² Ibid.

⁸ <http://global-climatescope.org/en/country/uganda/#/details>

strict legal framework, banks are not permitted to use agents and non-banks are not allowed to issue e-money without applying for a bank license. With the adoption of new legislation being time consuming, Uganda's central bank found a creative solution to make mobile money work nevertheless: mobile network operators are now working with and are de facto regulated by banks. The government is still planning to update the legal framework to allow mobile network operators to use e-money without a bank license.¹³ The use of mobile money is expensive in Uganda, however, with the government charging VAT and fees that increase the cost of each transaction. The uptake and attractiveness of "pay as you go" solutions that provide access to finance for end-users could be promoted by reducing any kind of government levies on these transactions.

Level of local skills

The level of skills in the country is good, but concentrated in the cities. A number of trained technicians and training institutions are available. In addition a curriculum has been developed by the government for solar PV and introduced in all technical training institutions.¹⁴

Summary and recommendations

Uganda is a market in transition which has laid good foundations for market growth through a number of policies. With the market growing stronger, attention must be paid to quality assurance and consumer protection to ensure market growth continues in a sustainable way.

¹³ <http://www.cgap.org/blog/mobile-money-moves-forward-uganda-despite-legal-hurdles>

¹⁴ Enclude (2014): Market Assessment of Modern Off-Grid Lighting Systems in Uganda

| Area | Situation | Opportunities |
|---|---|---|
| Policy Framework | Good policy framework with ambitious targets | Consult closer with the private sector and other stakeholders to improve implementation |
| Access to Finance | Good framework conditions | UNECCE could be fully leveraged for the off-grid solar sector |
| Fiscal Barriers | VAT & tariff exemptions on solar in place | Extending VAT & tariff exemptions to products parts and appliances could incentivize in-country assembly and will push down end-user costs further |
| Consumer Protection and Quality Assurance | Provisions are weak in terms of standard setting, enforcement, and ensuring consumer protection | UNBS could adopt internationally harmonized IEC standards in a first step; its capacity must be strengthened to enforce standards especially with view to counterfeits; consumer protection can be increased by keeping companies more accountable to proper after sales services |
| Providing a Level Playing Field | No kerosene or diesel subsidies | |
| Consumer Awareness | Is good on average | Educate consumers about where to buy and how to identify quality products |
| Consumer Financing | Good mobile money infrastructure; MFI and SACCOs operating actively | Increase capitalization of SACCOs and MFIs through UNECCE |
| Level of Local Skills | Good in the cities | Develop skills in rural areas as well |



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