

Uganda

Impact¹⁰

1,800,000

people currently accessing Tier 1 energy services



270,000

people currently accessing Tier 2 energy services



2,000,000,000

additional light hours unlocked for study, productive tasks or leisure time

160

change in quality of light in lumens per household

4,300,000

people currently living with improved energy access

Introduction

This note was developed by GONGLA with the support of the World Bank Group Lighting Global Program, the Energy Sector Management Assistance Program (ESMAP), USAID, Power Africa, the Uganda Off-Grid Energy Market Accelerator (UOMA) and Sustainable Energy for All (SEforAll) as well as the Uganda Solar Energy Association (USEA) and the Uganda Renewable Energy and Energy Efficiency Alliance (UN-REEEA). It is part of a series of briefing notes that provide a high-level overview of the status of countries' off-grid solar markets, as well as relevant policies and programs¹.

Key Statistics^{2&3}

Demographics

Total Population	44,269,594
Population Density per km ²	213
GDP per Capita	USD 794.3
GDP Growth	6.4%

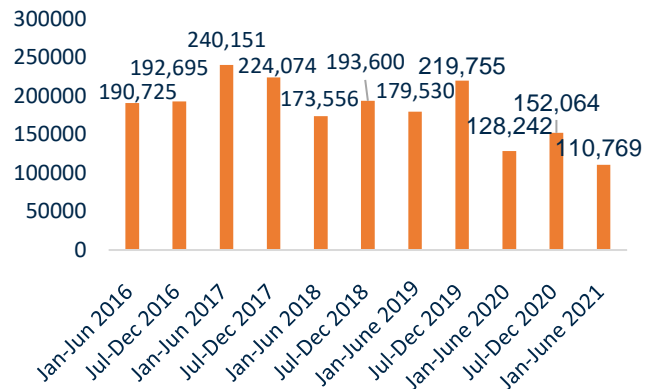
Energy Access Deficit

National Electrification Rate	51% ⁴
Urban Electrification Rate	70.8%
Rural Electrification Rate	31.8%
Number of people without access to electricity ⁵	25,986,252
% of quality-verified ⁶ (QV) vs non-QV products in the market ^{7&8} (H1, 2021)	QV: 97% Non-QV: 3%

Electrification Planning

Electrification Targets ⁹	Universal access by 2040
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Sales¹¹



Sales of Portable Lanterns, Multi-light Systems and Solar Home Systems

¹The information and views expressed in this brief are GONGLA's alone and are based on our current understanding of the policy situation in this country. We welcome any updates, revisions, or clarifications at info@gogla.org.

² <https://data.worldbank.org/> (Data last updated in 2019).

³ <https://www.usaid.gov/powerafrica>

⁴ The national electrification rate as projected by the [Government of Uganda](#) in 2021 is 51%. The initial national electrification rate as projected by the [World Bank](#) in 2019 was 41.3%.

⁵ <https://trackingsdg7.esmap.org/>

⁶ Quality-verified products are tested according to the IEC TS 62257-9-8. For more information please see [the Verasol quality assurance programme](#).

⁷ Share of quality-verified (QV) and non-QV products sold by GONGLA and Lighting Global affiliates.

⁸ Data on a specific region, country or product category is only included when it has satisfied the three-data point rule, meaning that at least three separate product manufacturers have reported data

for any single data point. When we have fewer than three responses for a region, country or product category, no results are shown to protect the proprietary interests of the companies who have supplied data in support of this industry report.

⁹ [Rural Electrification Strategy and Plan \(2013-2022\). The Government of the Republic of Uganda, 2013](#)

¹⁰ Impact numbers have been estimated on the basis of the [Standardized Impact Metrics for the Off-Grid Solar Energy Sector](#). The reported estimates differ from the previous edition of the country briefings due a change in the calculation approach. Note that while the numbers shown represent the aggregate impact of key players in the off-grid solar sector, these estimates do not present the full global impact of off-grid solar lighting products sold.

¹¹ All sales data included in this briefing is derived from the "Global Off-Grid Solar Market Report Database", result of a joint primary data collection effort carried out by GONGLA in partnership with IFC Lighting Global and the Efficiency for Access Coalition. The public version of the resulting report of the effort is available [here](#).

Current Status

The government of Uganda has set an ambitious target to increase access to electricity in rural areas to 51% by 2030, and a goal to achieve universal access by 2040.¹²

Uganda's economy was significantly affected by the COVID-19 pandemic and the stringent measures taken by the government to contain the spread of the virus. Consequently, sales of off-grid solar products declined.¹³

Sales of off-grid solar products decreased across all system sizes and business models. Total sales declined from approximately 152,000 in the last half of 2020 to just below 111,000 in the first half of 2021. This represents a 27% fall compared to the second half of 2020 and a 38% decrease compared to the first half of 2019.¹⁴

Policy, Regulation and Sector Planning

The National Electrification Strategy for Uganda is Uganda's roadmap to achieving universal energy access. The strategy recognizes the key role played by off-grid solutions such as mini-grids and Stand-Alone Solar systems in facilitating energy access. The strategy also recognizes the key role that the private sector will play in providing access to reliable, affordable and modern energy services to Ugandan households and businesses.¹⁵

Promoting Quality & E-Waste Management

Uganda has a national quality assurance framework which has adopted standards – in line with IEC standards – for both pico-PV and plug-and-play systems of up to 350W. Uganda also has a quality assurance framework for component-based solar home systems.¹⁶ The framework was developed with funding support from the World Bank under the Energy for Rural Transformation Project Phase III (ERTIII). A significant number of solar companies in Uganda deal in component-based solar systems with components imported from various sources. These systems did not have a quality assurance standard. The development of the quality assurance framework started with a project-based interim framework to enable solar companies dealing in component-based systems to access working capital facilities from the Financial Intermediation sub-component of the ERTIII Project,

implemented by the Uganda Energy Credit Capitalisation Company. The interim framework evolved into a National Standard by the Uganda National Bureau of Standards.

There is no specific e-waste legislation in Uganda. However, there is an e-waste management policy and guidelines for EEE-waste management. The overall objective of the e-waste management policy is to facilitate the sustainable management of e-waste in Uganda.¹⁷ To operationalize the policy, the Ugandan government developed the guidelines for e-waste management. The guidelines seek to implement the 4Rs of sustainable waste management, which involve facilitating the reduction of e-waste, facilitating the reusing of electrical equipment, facilitating the recycling of electrical equipment and facilitating repairs for electrical equipment.¹⁸

The government through the National Environmental Management Authority (NEMA) has recently launched a National E-waste Management Center.¹⁹

Taxation

The off-grid solar industry benefited greatly from sales tax and import duty exemptions until 2016. Import duties on some solar lights, some components of solar home systems and related appliances were introduced in 2016, as part of a change implemented across the East Africa Community. The solar industry associations have published a solar taxation handbook which details the various HS codes and applicable rates.²⁰

Investments

Uganda has successfully attracted several major international off-grid solar companies, many of whom have invested significantly in building out distribution networks. As part of the initiatives to facilitate investment into the sector, Government of Uganda through UECCC put in place demand and supply side financing facilities to promote off-grid solar. Specifically, under the Financial Intermediation for Rural Access sub-component of the ERT III project implemented by UECCC, end user credit and working capital loans to solar companies were availed through Participating Financial Institutions (PFIs). The government is currently in discussions with the World Bank for a new project (Electricity Access Scale up Project) to scale the off-grid solar financing initiatives

¹² [Rural Electrification Strategy and Plan \(2013-2022\), The Government of the Republic of Uganda, 2013](#)

¹³ [Global Off-Grid Solar Market Report H1 2021, GOGLA](#)

¹⁴ [Global Off-Grid Solar Market Report H1 2021, GOGLA](#)

¹⁵ <https://www.ied-sa.fr/en/home/newsgb/452-completion-of-uganda-s-national-electrification-strategy.html>

¹⁶ Visit the [Uganda National Bureau of Standards](#) for more information.

¹⁷ <https://www.ict.go.ug/wp-content/uploads/2018/06/Electronic-Waste-Management-Policy-for-Uganda.pdf>

¹⁸ <http://kanagwa.com/wp-content/uploads/2016/05/e-waste-guidelines-uganda.pdf>

¹⁹ Visit the [National Environment Management Authority](#) for more information.

²⁰ [The East African regional handbook on solar taxation, USEA, UNREEEA and KERE, 2020.](#)

under UECCC. These supply and demand financing initiatives will stimulate investments in the solar off-grid market in Uganda. It is planned that the new project will also introduce financing initiatives to promote uptake of productive uses of solar for refrigeration, water pumps and efficient clean cooking technologies.

Several concessional financing facilities are in development which are likely improve companies access to finance. In 2020, the European Investment Bank approved a US\$12.5 million loan to support the deployment of 240,000 high-quality solar home systems in Uganda by Fenix International, a subsidiary of ENGIE.²¹ In 2021, FSD Africa Investments invested US\$4.5 million in Nithio FI, a renewable energy financing intermediary focused on the Pay as You Go (PAYGo) business model in the off-grid solar sector. The financing will enable Nithio FI to provide reliable and sustainable off grid energy solutions for households and small businesses in Uganda, Kenya and Nigeria.²²

In 2021, the European Union's Electrification Finance Initiative (ElectriFI) is providing financial support of US\$4.5 million to three companies offering electricity access solutions in Africa. Among the beneficiaries are Simusolar Inc, a company that provides solar-powered irrigation pumps for farmers in Uganda and Tanzania.²³

In 2021, the Beyond the Grid Fund Africa (BGFA) announced a new program in Uganda, with over €20 million in investment. The third BGFA Call for Proposals is expected to offer incentives to off-grid energy service providers to establish up to 600,000 energy connections that will benefit more than 3 million people in rural areas of Uganda.²⁴

Sector Support Programs

Uganda benefits from a wide range of sector support programs addressing a broad range of market barriers and policy challenges.

UECCC has put in place a Technical Assistance (TA) package to support Participating Financial Institution (PFI) development of standalone renewable energy loan products including solar loan products. The TA package also supports training of renewable energy loan officers and awareness creation activities.

The Private Sector Foundation Uganda (PSFU) in partnership with Energising Development (EnDev) Uganda is implementing the last mile Results-Based Financing (RBF) scheme for off-grid solar companies in Uganda with funding from United States Agency for International Development (USAID) and the Swiss Agency for Development and Cooperation (SDC).²⁵ The Last mile RBF scheme aims to increase energy access through solar home systems (SHS) to last mile households in Uganda by incentivizing off-grid solar companies to develop sustainable business models geared towards reaching the last mile.

The Beyond the Grid Fund for Africa (BGFA) is a multi-donor facility established and managed by the Nordic Environment Finance Corporation (Nefco). BGFA is implemented in partnership with the Renewable Energy and Energy Efficiency Partnership (REEEP). It is currently supported by Power Africa, Sweden, Denmark and Germany. BGFA aims to incentivize private off-grid energy companies to provide energy access to underserved people in rural and peri-urban areas in Uganda and other sub-Saharan African countries. This will be done by offering financial incentives to selected private companies to provide high quality and affordable energy services to regions outside the grid²⁶.

The German Agency for International Cooperation (GIZ) through its Energising Development (EnDev) Uganda programme supports solar companies in the dissemination of SHS and pico PV products for households, social institutions and SMEs. EnDev also supports the implementation of different end user financing schemes and consumer awareness campaigns.

The Scaling Off-Grid Energy platform, supported by USAID, works towards building capacity in the Ugandan off-grid solar sector and supporting the adoption of off-grid energy solutions that meet the needs of low-income and rural consumers.²⁷

The UN Capital Development Fund (UNCDF) is providing grants, loans, and loan guarantees to off-grid solar companies.²⁸

The Uganda Off-Grid Energy Market Accelerator (UOMA), funded by the Shell Foundation, USAID, and FCDO, is a local and neutral intermediary that provides holistic support to the ecosystem. It provides targeted technical assistance, capacity building, and sector coordination to expand access to finance for

²¹ Visit the [European Investment Bank](#) for more information.

²² Visit [FSD Africa Investments](#) for more information.

²³ <https://www.afrik21.africa/en/africa-electrifi-finances-three-solar-energy-suppliers-operating-in-6-countries/>

²⁴ <https://www.reeep.org/news/beyond-grid-fund-africa-announces-upcoming-funding-round-uganda>

²⁵ Visit the [Private Sector Foundation Uganda](#) for more information.

²⁶ Visit the [Beyond the Grid Fund for Africa](#) for more information.

²⁷ Visit [Scaling Off-Grid Energy](#) for more information.

²⁸ Visit the [UN Capital Development Fund](#) for more information.

the off-grid energy sector, help companies reach unserved populations, accelerate productive use of energy, and strengthen the enabling environment so as to accelerate the progress in achieving universal access in Uganda.²⁹

Industry Associations

The Uganda National Renewable Energy and Energy Efficiency Alliance (UNREEEA) is a coalition of industry associations within the renewable energy and energy efficiency space in Uganda. UNREEEA was incorporated in 2015 to consolidate the voices of clean energy associations in Uganda. UNREEEA works towards creating an enabling policy and business environment for the renewable energy and energy efficiency sector in Uganda. UNREEEA brings together a network of six industry associations in the renewable energy and energy efficiency sector in Uganda. The associations include the Uganda Solar Energy Association (USEA), Biomass Energy Efficient Technologies Association (BEETA), Uganda National Bio-gas Alliance (UNBA), Hydro-power Association of Uganda (HPAU), Energy Efficiency Association of Uganda (EEAU/Energy Auditors) and the Wind Power Association of Uganda (WPAU).³⁰

The Uganda Solar Energy Association (USEA) is an independent non-profit association dedicated to facilitating the growth and development of the solar energy business in Uganda. USEA was formed in 2016 by private sector companies that deal in the solar energy business with help from the Private Sector Foundation, Ministry of Energy and Mineral Development and the Rural Electrification Agency. USEA promotes the interests of members of the solar energy sub sector among government, public sector, the general public and any other organizations that may impact on the development of the solar energy sub-sector and has over 200 members. USEA also acts as an ideas forum and knowledge exchange on matters relating to solar energy development locally and internationally.³¹

Opportunities and Barriers

As the Ugandan government continues to explore mechanisms to accelerate access to electricity through off-grid products, the development of a comprehensive and long-term plan to address affordability challenges would improve access to off-grid products. However, such a plan should be carefully designed, monitored, and managed as efforts to deliver

energy access to the poorest could result in market distortion.

The Ugandan government, through NRECA, is currently working on the National Electrification Master Plan under a USAID grant to the Ministry of Energy and Mineral development. One of the objectives of the National Electrification Master Plan is to provide an expansion plan for off-grid solar products.

Barriers facing the off-grid sector in Uganda include foreign exchange fluctuations, lack of access to finance, inconsistent application of tariffs across similar solar components and the imposition of VAT and duties on some solar accessories and appliances. NRECA International further identifies a lack of consumer awareness, the need for incentives to enter underserved areas, and affordability as barriers that need to be addressed.

Further Information

- [Stand Alone Solar Market Update: Uganda, Africa Clean Energy Technical Assistance Facility, 2021.](#)
- [Global Off-Grid Solar Market Report H1 2021, GOGLA](#)
- [Global Off-Grid Solar Market Report H2 2020, GOGLA](#)
- [Strengthening the Off-Grid Solar electrification market through improved policy and advocacy in East Africa, National Renewable Energy Associations in East Africa, 2021.](#)
- [The East African regional handbook on solar taxation, USEA, UNREEEA and KEREAA, 2020.](#)
- [Uganda Off-Grid Energy Market Accelerator Market Map 2020.](#)
- [Uganda Fact Sheet, USAID Power Africa, 2021.](#)
- [Rural Electrification Strategy and Plan \(2013-2022\), The Government of the Republic of Uganda, 2013](#)
- [Lighting Africa Country Page - Uganda](#)
- [Regulatory Indicators for Sustainable Energy \(RISE\) - Uganda](#)
- [Uganda Solar Energy Association Handbook on Solar Taxation, USEA, 2019.](#)

²⁹ Visit the [Uganda Off-Grid Energy Market Accelerator](#) for more information.

³⁰ Visit the [Uganda National Renewable Energy and Energy Efficiency Alliance](#) for more information.

³¹ Visit the [Uganda Solar Energy Association](#) for more information.