

Kenya

Introduction

This note was developed by Global Off-Grid Lighting Association (GOGLA) with the support of the World Bank Group Lighting Global Program, the Energy Sector Management Assistance Program (ESMAP), the Shell Foundation, USAID, Power Africa, the UK Department for International Development (DFID), Africa Clean Energy (ACE) and Sustainable Energy for All (SEforAll). It is part of a series of briefing notes that provide a high-level overview of the status of different countries' off-grid solar markets, as well as relevant policies and programs¹.

Key statistics^{2&3}

Demographics

Total Population	51,393,010
Population Density per km ²	90.2
GDP per Capita	USD 1,710.5
GDP Growth	3.8%

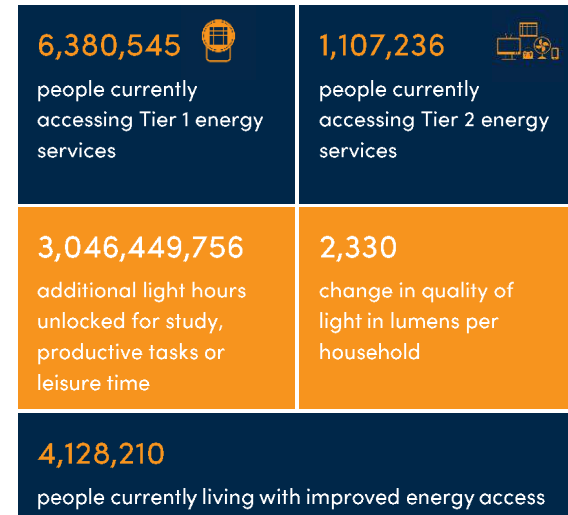
Energy Access Deficit

National Electrification Rate	64%
Urban Electrification Rate	81%
Rural Electrification Rate	58%
Number of households without power	3.5 million
% of quality-verified ⁴ (QV) vs non-QV products in the market ^{5&6} (H1, 2019)	QV: 90% Non-QV: 10%

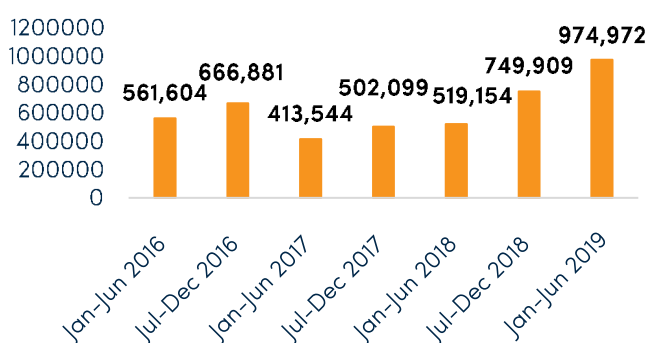
Electrification Planning

Electrification Targets ⁷	Universal access by 2022
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Impact⁸



Sales⁹



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

¹ The information and views expressed in this brief are GOGLA'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/>

³ <https://www.usaid.gov/powerafrica>

⁴ Quality-verified products are tested according to the Lighting Global Quality Standards. For more information please see the [Lighting Global Quality Assurance Program](#).

⁵ Share of quality-verified (QV) and non-QV sold by GOGLA and Lighting Global affiliates.

⁶ 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.

⁷ The Kenya National Electrification Strategy (KNES), 2018

⁸ Impact numbers have been estimated by plugging the most recent sales data into the [Standardized Impact Metrics for the Off-Grid Solar Energy Sector](#). The reported estimates differ from the previous edition of the country briefings due to the use of a smaller, yet more consistent and recent dataset, considering only products sold by GOGLA members and Lighting Global affiliates since 2016. 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.

⁹ 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 GOGLA 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

Kenya is a global front-runner in terms of the depth and dynamism of its off-grid solar market. The market began to emerge in 2009, when Kenya was selected as one of two pilot countries for the World Bank Group Lighting Africa program. Since 2016, over 4 million solar lanterns and home systems have been sold, including more than 2,1 million in 2017-18 alone. The proportion of quality-verified products in the market has also steadily grown, from 3% in 2009 to more than 40% in 2015-16¹⁰. Based on sales numbers by GOGLA and Lighting Global affiliates, 90% of sales in the first half of 2019 were quality-verified.

Kenya's off-grid solar market growth has been underpinned by the country's political stability, economic growth, ease of doing business, consumer awareness campaigns and a supportive policy environment for the off-grid sector. Market growth has also been enabled by the widespread use of microfinance, mobile phones and by the widespread adoption of mobile money, which plays a key role in many pay-as-you-go business models. Kenya also has one of the most well-established and well-recognized national industry associations – the Kenya Renewable Energy Association (KEREAA).

However, off-grid solar sales have been mostly concentrated in more densely populated, wealthier counties to the west of the country. The World Bank backed, US\$150 million, six-year Kenya Off-Grid Solar Energy Access Project (KOSAP), which started in 2017, is specifically designed to extend off-grid solar into 14 underserved counties. It promotes mini-grids, standalone solar solutions for homes, schools, clinics and government offices, as well as solar pumping and improved cookstoves. It aims to reach around 1.3 million people living in 277,000 households with solar lights and home systems by 2023¹¹.

¹⁰ [Kenya Off-Grid Solar Access Project for Underserved Counties: Project Appraisal Document, World Bank, 2017](#)

¹¹ [Kenya Off-Grid Solar Access Project for Underserved Counties: Project Appraisal Document, World Bank, 2017](#)

¹² [Cost Benefit Analysis And Capacity Assessment for the Management of Electronic Waste \(E-Waste\) in the Off-Grid Renewable Energy Sector in Kenya, DFID, 2017](#)

Promoting Quality & E-Waste Management

Mandatory standards are in place for pico-PV systems, which are fully harmonised with IEC/Lighting Global quality standards. A 'pre-verification of conformity', or PVoC process is being used to ensure that all products that enter the country legally meet quality standards.

The waste management sector in Kenya is overseen by the National Environment Management Authority (NEMA) and the existing legal framework for general waste management includes the Environmental Management and Coordination Act (1999) and the Waste Management Regulations (2006). The only legal document that specifically addresses the issue of e-waste is the 2013 draft bill, which it has not yet been approved by the National Assembly. The e-waste legislation addresses the role and responsibilities of various stakeholders involved and sets the legal framework for operations. Currently the role of informal players is highly relevant, but changes are expected with the adoption and enforcement of the e-waste bill which is also regulating the process to obtain license for collection points and treatment plants.¹²

Taxation

The off-grid solar industry benefited greatly from import duties and sales tax exemptions until 2016. From 2016 onwards, import duties and sales tax on some solar lights, some components of solar home systems and related appliances – equivalent to around 30% of the cost of goods – were introduced, as part of a change that was implemented across the East Africa Community.

Investments

Kenya has attracted more private investment into off-grid solar than any other country in Africa, resulting in the establishment of Africa's largest and most successful off-grid solar industry. The



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country has also benefited from a number of grant-making and concessional financing schemes that have helped to unlock private capital¹³.

Sector Support Programs

Currently, the main sector support program in Kenya is the World Bank-funded Kenya Off-Grid Solar Project (KOSAP). This aims to extend the market into underserved counties through a combination of results-based financing and local currency working capital financing. In addition, the Kenyan government together with the World Bank recently announced the Kenya National Electrification Strategy (KNES), a roadmap to achieve universal energy access in 2022¹⁴.

Opportunities and Barriers

With KOSAP, Kenya has the potential to develop a best-in-class mechanism for incentivizing companies to enter underserved areas. This could make a major contribution in reaching national energy access targets. There will be a need for continuous dialogue with the private sector to ensure KOSAP is well-designed, implemented and monitored to minimize potential market distortion and maximize sustainability.

Further Information

- [Kenya Off-Grid Solar Access Project for Underserved Counties: Project Appraisal Document](#), World Bank, 2017
- [Energy Africa: Kenya Compact Development and Final Report](#), Evidence on Demand, 2016
- [Kenya Fact Sheet](#), USAID Power Africa, 2018
- [Kenya Off-Grid Solar Access Project for Underserved Counties \(KOSAP\)](#), Lighting Africa, 2018
- [Lighting Africa Country Page - Kenya](#)
- [Regulatory Indicators for Sustainable Energy \(RISE\) - Kenya](#)

¹³ For more information please see [GOGLA Bridge](#).

¹⁴ [The Kenya National Electrification Strategy \(KNES\)](#), 2018