

Rwanda

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) 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	12,301,939
Population Density per km ²	499
GDP per Capita	USD 773
GDP Growth	5.8%

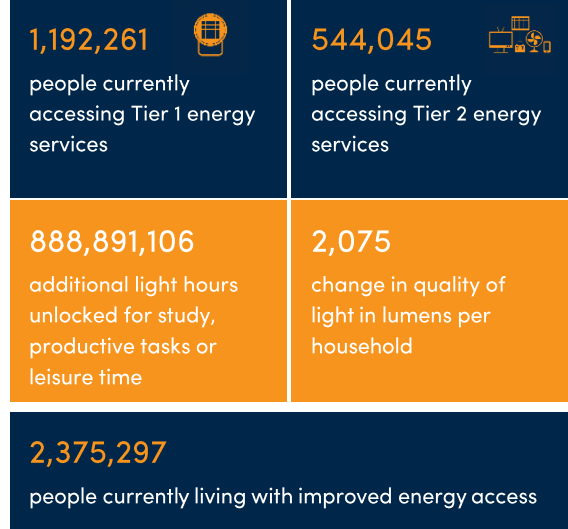
Energy Access Deficit

National Electrification Rate	34%
Urban Electrification Rate	85%
Rural Electrification Rate	24%
Number of households without power	1,7 million
% of quality-verified ⁴ (QV) vs non-QV products in the market ^{5&6} (H1, 2019)	QV: 90% Non-QV: 10%

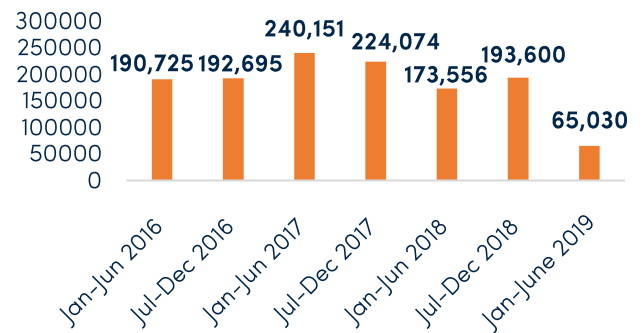
Electrification Planning

Electrification Targets ⁷	Universal access by 2024 (52% on-grid, 48% off-grid)
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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 Government of Rwanda, SREP Meeting, 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

The Government of Rwanda aims to transition from a low-income country to a middle-income country and to reach this goal, the government is aiming to achieve 100% electricity access by 2024. At present, around 34% of Rwandans have access to electricity, while new grid connections are expensive, and the capacity of the current grid is constrained. The Rwandan Ministry of Infrastructure (MININFRA) has recognized that low-consumption households can be served efficiently and cost-effectively by off-grid systems, and Rwanda has become one of the major markets for solar lighting products in Africa.

In 2017, Solar Home System (SHS) sales exceeded a growth rate of 130%, compared to the previous year with almost 100,000 systems sold. In contrast, the market for lamps experienced an 80% drop in sales, from 135,00 units sold in 2016 to 30,000 units in 2017. This market shift happened in large part due to innovative pay-as-you-go (PAYG) financing models, aggressive expansion by larger companies, and government endorsement of SHS. While the SHS market has indeed grown over the past years, most companies are not yet profitable. Although there has been modest sales growth, companies have been able to access local and international debt financing which signals that the market is gradually approaching profitability¹⁰.

The government of Rwanda is working on improving the policy and regulatory framework. In June 2019, the Government published various guiding documents for the purpose of alleviating the perceived uncertainty around policy which was felt among the private sector. In the National Electrification Plan which is the key document for implementing the Rural Electrification Plan, the Government has specified that 52% of households

are to be connected to the grid, while 48% are to be serviced using off-grid technologies.

Promoting Quality & E-Waste Management

Rwanda has mandatory standards for Pico-PV in place, fully harmonised with IEC/Lighting Global quality standards. Over the last few years, Rwanda has been developing Minimum Standards for SHS to be used for electrification in the country. In August 2018, the Ministerial Guidelines on Minimum Standard Requirements for Solar Home Systems were first published. As there were some concerns from the private sector and development partners on the impact of this on the rural electrification, after extensive discussions a revised version was published in June 2019. The revised standards require systems being sold for the purpose of rural electrification to provide a minimum service level¹¹.

The Government has published the National E-Waste Management Policy for Rwanda¹², which highlight the need for extended producer responsibility. This was complimented by the regulation on Governing E-Waste Management in Rwanda¹³, which outlines how the extended producer responsibility will be enforced in the future. Some companies already have e-waste recycling facilities in Rwanda.

Taxation

Solar energy equipment and appliances have been exempted from sales tax and import duty in Rwanda since 2015.

Investments

Rwanda has attracted a lot of investment given its ease of doing business and relatively high population density. Several donor agencies are actively providing finance to companies operating in Rwanda, and the focus of international organisations on the sector is seen

¹⁰ Rwanda: Off-grid Sector Status Report, EnDev, 2018

¹¹ Ministerial Guidelines on Minimum Standards Requirements for Solar Home Systems, Ministry of Infrastructure of Republic of Rwanda, 2018

¹² National e-Waste Management Policy for Rwanda, Republic of Rwanda, 2015

¹³ Regulation Governing e-Waste in Rwanda, Republic of Rwanda, 2018

as a critical enabler of growth. It is estimated that US\$34 million was invested in the Rwandan SHS sector by December 2017. Larger companies have been raising debt and equity financing primarily through Development Financial Institutions (DFI's) and impact investors. In 2018 alone, US\$11.58 million was invested in the solar off-grid sector. International credit is the key source of financing for larger multinational companies with more than US\$11 million raised for working capital and investment needs. Smaller and local companies rely primarily on grants as well as equity funding. Access to local credit remains a challenge¹⁴.

Sector Support Programs

The launch of the SREP-funded Renewable Energy Fund (REF), facilitated by Rwanda's Development Bank (BRD), in November 2017 unlocked US\$50 million of capital targeted to the off-grid sector¹⁵. In addition, EnDev results-based financing, including end-user price subsidy, is being developed. It is linked to the Ubudehe system, which determines poverty level and subsidy eligibility, and will include: 1) a sizeable public awareness campaign, 2) careful verification, monitoring and reporting and 3) building capacity support from EnDev for the Rwanda Energy Group, the state-owned utility which will lead implementation.

Opportunities and Barriers

As the Government of Rwanda continues to explore mechanisms to accelerate access to electricity through off-grid products, a number of proposals to run large-scale tenders in the first quarter of 2018, and the introduction of minimum size standards in mid-2018, led to uncertainty in the sector. While stakeholder engagement has made important progress in this regard, the resolution of a long-term plan to address affordability challenges would improve confidence. Several options are on the table and stakeholders are currently working together to

select the approach best suited to Rwanda's context. There is a clear need for careful design, monitoring and management of program, as efforts to deliver energy access to the poorest could result in market distortion. Foreign exchange fluctuations and other market operating risks are still high. Greater clarity around, and training on, sales tax and import duty exemptions would help ensure that policy is better understood and applied by customs agents and officials¹⁶.

Further Information

- [Rural Electrification Strategy](#), Ministry of Infrastructure, 2016
- [Rwanda Multi-Tier Framework Survey](#), World Bank, 2018
- [Rwanda: Off-grid Sector Status Report](#), EnDev, 2018
- [Off-grid Solar Country Briefing: Rwanda](#), ODI, 2016
- [Rwanda Fact Sheet](#), USAID Power Africa, 2018
- [Lighting Africa Country Page - Rwanda](#)
- [Regulatory Indicators for Sustainable Energy \(RISE\) - Rwanda](#)

¹⁴ [Rwanda: Off-Grid Sector Status Report](#), EnDev, 2018

¹⁵ Visit the [World Bank Rwanda Renewable Energy Project](#) for more information.

¹⁶ [Off-grid solar country briefing: Rwanda](#), ODI, 2016