

# Liberia

## Introduction

This note was developed by GOGLA with the support of the World Bank Group technical team and Lighting Global Program, the Energy Sector Management Assistance Program (ESMAP), USAID, Power Africa 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 countries' off-grid solar markets, as well as relevant policies and programs<sup>1</sup>.

## Key Statistics<sup>2</sup>

### Demographics

Total Population	4,937,374
Population Density per km <sup>2</sup>	52.5
GDP per Capita	USD 633
GDP Growth	-3%

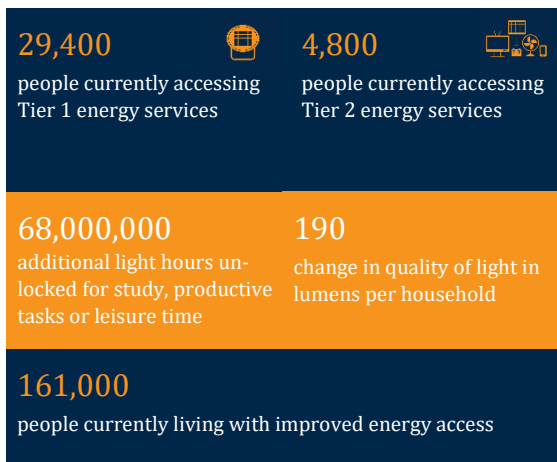
### Energy Access Deficit

National Electrification Rate	27.6%
Urban Electrification Rate	46.4%
Rural Electrification Rate	7.6%
Number of people without access to electricity <sup>3</sup>	3,572,229

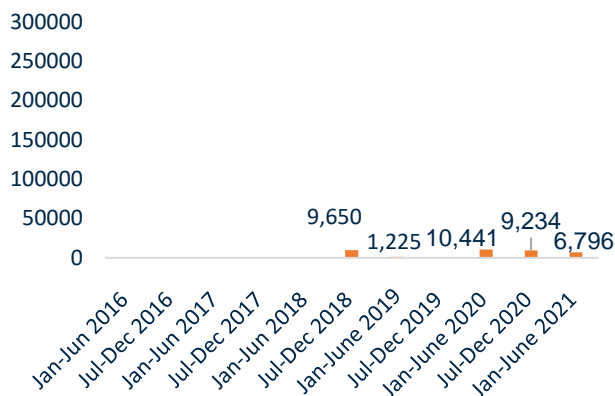
### Electrification Planning

Electrification Targets <sup>4</sup>	Liberia plans to reach electricity coverage of at least 70 percent of the population in Monrovia, and 35 percent nationwide by 2025.
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## Impact<sup>5</sup>



## Sales<sup>6</sup>



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

<sup>1</sup>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](mailto:info@gogla.org).

<sup>2</sup><https://data.worldbank.org/> (Data last updated in 2019/2020).

<sup>3</sup><https://trackingsdg7.esmap.org/>

<sup>4</sup>[Liberia National Renewable Energy Action Plan](#)

<sup>5</sup>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.

<sup>6</sup>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

Prolonged periods of instability, coupled with public health crises including the Ebola outbreak and the COVID-19 pandemic, have affected the delivery of public services across Liberia. This has included delivery of energy access through both grid and off-grid energy solutions. Consequently, Liberia has one of the lowest national electrification rates in Africa.<sup>7</sup> About 46.7% of the urban population and only 7.6% of the rural population have access to electricity.

Despite this, the market for off-grid solar products in Liberia has significant potential. GOGLA associates have reported sales of over 40,000 units of off-grid solar products since 2018, notwithstanding gaps in sales reporting.

The Liberian government has made concerted efforts towards facilitating energy access in rural areas using off-grid solutions. The Liberian government has set targets to increase access to energy in rural areas from 10% in 2020, to 20% in 2025 and 35% in 2030.<sup>8</sup>

## Policy, Regulation and Sector Planning

The Liberia National Energy policy<sup>9</sup>, is a policy geared towards enhancing the provision of adequate, reliable, affordable and clean modern energy services for Liberians in a sustainable manner. The policy highlights the crucial role off-grid energy solutions will play in facilitating energy access to Liberian households and communities in rural or remote parts of the country. Moreover, in a bid to generate employment and help to raise incomes for rural communities, the policy prioritizes the use of modern energy services for productive activities.

The overall objective of the Liberia National Renewable Energy Action Plan (NREAP) is to advance the development of renewable energy sector in Liberia. NREAP provides details on the measures and plans to enable Liberia to meet its 2030 renewable energy targets. NREAP has set a target of 1.035 million off-grid energy devices in use by 2030.<sup>10</sup>

The Rural Energy Strategy and Master Plan (RESMP) for Liberia<sup>11</sup> is Liberia's roadmap to achieve universal energy access in rural areas. RESMP focuses on meeting electrification targets primarily through grid extension, decentralized grids, and mini-grids. The plan however only estimates that only 1% of the population targeted for electrification by 2030 will be through pico-solar and solar home systems (SHS).

## Promoting Quality & E-Waste Management

The Rural and Renewable Energy Agency of Liberia, in collaboration with the National Standards Laboratory under the Ministry of Commerce & Industries; has adopted quality standards for pico-PV, SHS, small off-grid productive use appliances up to 350Wp covered by IEC-TS 62257-9-8. The quality standards are expected to be adopted as technical regulations.

Liberia has no specific laws and regulations on e-waste.

## Taxation

In 2022, the Rural and Renewable Energy Agency of Liberia, submitted to the Ministry of State for Presidential Affairs through the Ministry of Finance and Development Planning a draft Executive Order advocating for an import duty waiver on pico-PV, solar home systems, small solar-powered off-grid productive use appliances up to 350W and mini-grid components.

An importation guideline document which outlines the procedures and processes for importers to fulfil and roles of various government institutions leading to a Pre-Verification of Conformity and destination inspection process has also been drafted and reviewed by stakeholders.

## Investments

Investments in the Liberian renewable energy sector have focused on grid-oriented infrastructure and mini-grids rather than off-grid SHS solutions. More recently, Liberia has benefited from several grant-making and concessional financing schemes that have helped to unlock private capital for the off-grid energy sector, including SHS. For instance, in 2020, the Beyond the Grid Fund Africa (BGFA) announced a program in Liberia, with up to €6.7 million in investment. The BFGA program promoted energy access through off-grid energy solutions.<sup>12</sup>

## Sector Support Programs

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

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

<sup>7</sup> <https://trackingsdg7.esmap.org/>

<sup>8</sup> Rural Energy Strategy and Master Plan for Liberia

<sup>9</sup> Liberia National Energy policy

<sup>10</sup> Liberia National Renewable Energy Action Plan

<sup>11</sup> Rural Energy Strategy and Master Plan for Liberia

<sup>12</sup> <https://beyonthegrid.africa/countries/liberia/>

(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 of Liberia 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 beyond the grid<sup>13</sup>.

The Liberia Electricity Sector Strengthening and Access Project (LESSAP) is a US\$64.2 million World Bank funded project.<sup>14</sup> The project aims to provide sustainable, reliable and affordable electricity access to over 600,000 Liberians. LESSAP will focus on two main areas. The foremost is grid electrification in the greater Monrovia area and subsequently is supporting the development of sustainable business models for scaling up renewable energy based mini-grids and Stand-Alone Solar systems in remote areas of Liberia.

The Liberia Renewable Energy Access Project is a US\$27 million project that is funded by the World Bank.<sup>15</sup> The project has a component geared towards promoting the development of a national market for Stand Alone Solar (SAS) systems in Liberia. It aims to support the development of the SAS systems market by increasing the sustainability of a private-sector led supply chain and addressing demand-side constraints. The project was launched in 2016 and is scheduled to end in 2023.

Liberia is part of the 19 countries under the Regional Off-Grid Electrification Project (ROGEP) project.<sup>16</sup> ROGEP is a US\$333.7 million project supported by the World Bank. ROGEP aims to enhance electricity access in West Africa and the Sahel region through SAS systems. ROGEP is scheduled to end in 2030.

The USAID funded Power Africa Off-grid Project (PAOP) provides technical assistance and targeted grant funding to support the development of Africa's off-grid SHS and mini-grid sectors in Liberia. Through a team of resident technical advisors, PAOP works with companies, investors, and governments to advance the role of the private sector in extending energy access while integrating gender considerations into all its work streams.<sup>17</sup>

The Africa Enterprise Challenge Fund (AECF), through the Renewable Energy and Climate Technologies Sub-Saharan Africa (REACT SSA) program, is supporting private companies that are promoting the

use of renewable energy in Liberia. Funded by the Swedish International Development Authority (SIDA), the REACT SSA initiative seeks to reduce poverty through a transformational increase in the use of renewable energy by off-grid households. In the REACT SSA programme, qualifying companies will receive between US\$100,000 and US\$1.5 million of pure grants, awarded upon the achievement of mutually agreed milestones.<sup>18</sup>

## Industry Association

The Liberian Energy Access Practitioner (LEAP) Network is a non-profit organization that brings together actors in the renewable energy sector to promote the growth and development of the sector in Liberia. LEAP is dedicated to promoting the growth and development of the renewable energy industry by engaging with the public and private sector to guide advocacy, policy formulation and investments.<sup>19</sup> Although LEAP is functional, its secretariat consists of volunteers from companies in the Liberian renewable energy sector, with limited capacity and resources to support association members.<sup>20</sup>

## Opportunities and Barriers

The off-grid solar market in Liberia has the potential for steady growth over the next few years, with growth being mainly driven by the presence of a large un-electrified market. The design of a Rural Energy Strategy and Master Plan, including the roles and responsibilities of sector institutions and investment requirements, demonstrates the Liberian government's commitment to universal energy access.

Nevertheless, the role of SAS systems in facilitating energy access has been understated in the Liberia Rural Energy Strategy and Master Plan, with the plan estimating that only 1% of the population targeted for electrification by 2030 will be through pico-solar and SHS. This may undermine the achievement of the 35% 2030 rural electrification target as SAS systems are likely to play a crucial role in the facilitating energy access in remote parts of Liberia or in regions where grid connection is uneconomical. The crucial role of SAS systems in facilitating energy access in Liberia was recognized in the World-Bank financed National Electrification Analysis conducted by NRECA

<sup>13</sup> Visit the [Beyond the Grid Fund for Africa](#) for more information.

<sup>14</sup> <https://projects.worldbank.org/en/projects-operations/project-detail/P173416>

<sup>15</sup> <https://projects.worldbank.org/en/projects-operations/project-detail/P149683>

<sup>16</sup> <https://projects.worldbank.org/en/projects-operations/project-detail/P160708>

<sup>17</sup> <https://www.usaid.gov/powerafrica/liberia>

<sup>18</sup> <https://www.aecfafrica.org/sites/default/files/2018-11-react-ssa/REACT%20Term%20Sheet%20Liberia.pdf>

<sup>19</sup> <http://www.renewables-liberia.info/index.php/leap-network/about>

<sup>20</sup> [Power Africa Off-Grid Solar Market Assessment Liberia](#)

International which projects that 169,885 connections will be provided through SAS systems.<sup>21</sup>

Major barriers to the growth of the off-grid sector in Liberia include lack of access to finance, lack of consumer awareness, lack of technical regulations covering quality standards and limited after-sales services by distributors including addressing warranty conditions and technical maintenance. Many households in Liberia struggle to afford off-grid solar products and consumer financing mechanisms fall short in improving affordability.

Lastly, the transportation and logistics infrastructure in rural Liberia is poor. This makes the distribution of products logistically difficult and costly – especially in the rainy season. Furthermore, there is a lack of distribution partners in rural areas to hold inventory and market off-grid solar products.<sup>22</sup>

### Further Information

- [Rural Energy Strategy and Master Plan for Liberia](#)
- [Liberia National Energy policy](#)
- [Liberia National Renewable Energy Action Plan](#)
- [Global Off-Grid Solar Market Report H1 2021, GOGLA](#)
- [Global Off-Grid Solar Market Report H2 2020, GOGLA](#)
- [Uganda Off-Grid Energy Market Accelerator Market Map 2020](#)
- [Liberia Fact Sheet](#), USAID Power Africa, 2020.
- [Lighting Africa Country Page - Liberia](#)
- [Power Africa Off-Grid Solar Market Assessment Liberia](#)

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<sup>21</sup> A geospatial analysis conducted by the World Bank as part of the Liberia National Electrification Analysis shows the high potential of SHS in Liberia. The geospatial analysis can be accessed [here](#).

<sup>22</sup> [Power Africa Off-Grid Solar Market Assessment Liberia](#)