



**USAID**  
FROM THE AMERICAN PEOPLE



CAMEROON

# OFF-GRID SOLAR ENERGY MARKET CAMEROON

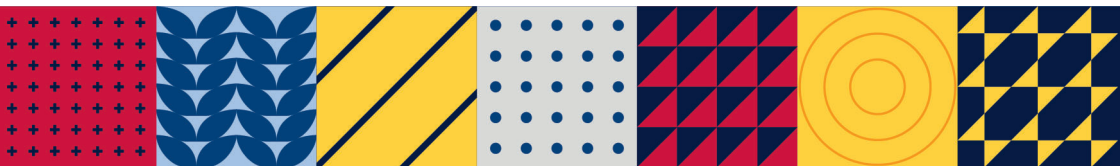
Summary Version of the 2019 Power Africa Off-grid Solar Market Assessment Report

Full report available online at: [usaid.gov/powerafrica/beyondthegrid](https://www.usaid.gov/powerafrica/beyondthegrid)

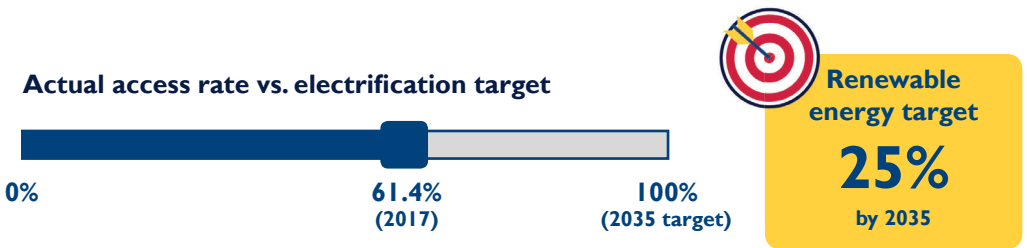


## INVESTMENT OPPORTUNITIES

- In 2018, Cameroon's Gross Domestic Product (GDP) was approximately \$38.5 billion, which is anticipated to grow an average of 4.5% per year through 2021. **However, Cameroon faces unprecedented violence in the Northwest and Southwest regions, which is a significant barrier to making progress on its development goals, including electricity infrastructure.**
- While 96% of the urban population has grid access, rural electrification remains low at 35%. **There is significant market growth potential for both mini-grids and SHS if Cameroon can stabilize conflict zones and develop the appropriate regulatory frameworks to incentivize investment.**
- Of households without electricity, 67% own livestock and 87% own agricultural land. Current uses for productive use of energy (PUE) solar in rural Cameroon include heating poultry houses, milling machines for various grains, irrigation, fish dryers, coffee and cocoa bean processors, and lighting for various business purposes. **While some companies are beginning to market PUE solar products, an opportunity exists to increase productivity and economic outcomes in rural regions through PUE products.**
- Mobile money services launched in 2011 in Cameroon. Orange and MTN currently share the market with eight million subscribers and an estimated \$7 billion in mobile transactions in 2017. **Expansion of banking via mobile money and financing through pay-as-you-go (PAYGO) models can facilitate more household participation in the off-grid solar market.**



# ON-GRID AND OFF-GRID ELECTRIFICATION



**Main provider of electricity.** Eneo Cameroon S.A. (Eneo), the electric utility company in Cameroon, is a public-private partnership in which the company owns 56% of the shares and the Government of Cameroon owns 44%. In 2018, Eneo had 1.2 million customers. While Eneo deals with distribution, the National Electricity Transmission Company (Société Nationale de Transport d'Électricité) oversees transmission.



**Plan to increase electricity access.** The Rural Electrification Master Plan (PDER) is the framework that guides electricity-sector development in Cameroon. PDER aims to increase energy supply in all localities of Cameroon by 2035, reaching 500 new localities per year. Renewable energy generation also plays an important role. The construction of local mini-grids will have a direct impact in increasing rural access to electricity.



**Constraints to rural electrical grid extension.** A lack of access to finance is the most critical market barrier. Mini-grid companies do not have reliable access to investment funds, banks, and MFIs. Additionally, violence and political instability in the Northwest, the Southwest, and the Far North regions hamper electrification efforts. These regions represent 49% of the potential off-grid population.



**Policy and regulation.** The Ministry of Water Resources and Energy (MINEE) is responsible for developing and implementing energy production, transportation, and distribution policy. The Ministry of Finance supports the energy sector with an exemption from value-added taxes for “equipment for the exploitation of solar and wind energy.” Under the current customs code, pico-solar equipment faces a total tax implication of 30%. If pico-solar equipment were included under a different code, this tax would be only 10%.



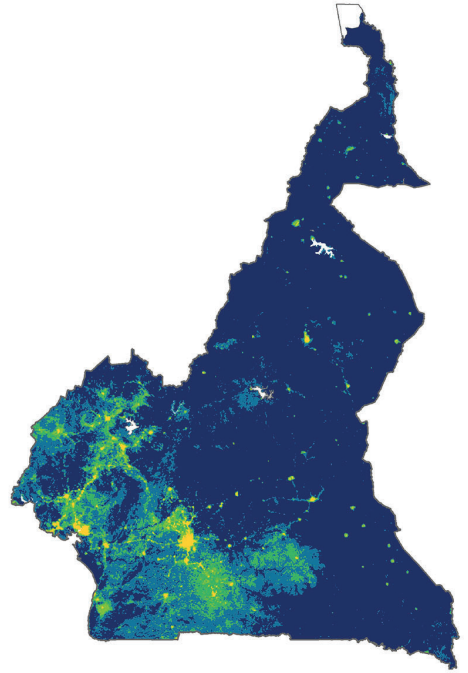
**Associations.** Since an unsuccessful initiative to advocate for reduced customs duties on pico-solar systems led by the German Society for International Cooperation, the SNV (Netherlands Development Organisation), and the Total Group, there have been no solar or renewable energy associations in Cameroon.

# Estimate of households without access to electricity, Cameroon, 2019

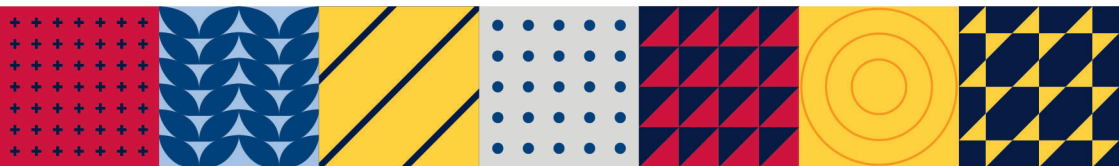
## Percentage of households without electricity

- 0% - 20%
- 21% - 40%
- 41% - 60%
- 61% - 80%
- 81% - 100%
- National Boundaries
- Waterbodies

Source: Power Africa Geospatial Analysis 2019



KEY STATISTICS	
GDP	<b>\$38.502 million</b>
GDP growth potential	<b>4.5% annually over 3 years</b>
Population size	<b>25.2 million</b>
Population density	<b>53 people per km<sup>2</sup></b>
Population growth rate	<b>2.6%</b>
Household size	<b>5.0</b>
Rate of urbanization	<b>54.6%</b>
Urban   Rural population	<b>Urban: 56%   Rural: 44%</b>
Languages	<b>French, English, others</b>



# SHS AND PICO-SOLAR

Several pico-solar companies operate in Cameroon, but the off-grid sector is in early stages of development. upOwa connected 5,000 households and plans to sell systems to 20,000 in 2019. In the market since January 2019, MPower Ventures plans to sell systems to 230,000 households across Africa by 2022. Other companies with interest in entering the Cameroon market include d.light, Fenix International, llemel Energy Solutions, and Solarli. Power Africa analyzed the market that has demand for off-grid solutions plus buying power and found that 59% of the total off-grid market potential is classifiable as target consumer households. When mapping the total off-grid market potential, three regions account for more than 50%: Far North (27%); North (17%); and Northwest (12%).

**Commercial Finance.** Cameroon has 15 commercial banks, and 19% of the population has access to banks or micro-finance institutions (MFIs). Several banks are active or interested in energy-related products and services:

- Commercial Bank Corporation (Societe Commerciale de Banque, [SCB]) provides a \$17 million credit line to the French Development Agency's Sustainable Use of Natural Resources and Energy Finance program, a financing scheme for private-sector energy projects in Cameroon. SCB projects can be financed up to \$6.7 million, at an interest rate of 8-9% and the loan duration varies between three to eight years.
- Société Générale Cameroun (SGC) has a few companies from the renewable energy sector in its portfolio. To date, three local solar companies are seeking credits. SGC is interested in the off-grid energy sector but does not yet offer financial products to these companies. If a loan guarantee mechanism is put in place with international organizations, then the SGC will more easily finance electrification projects.

**Consumer Finance.** By 2018, Cameroon had more than 412 MFIs. A couple leading MFIs in the energy sector include:

- Microfinance and Development (Microfinance et Développement [MIFED]) is a Cameroonian non-governmental organization that provides technical assistance to MFIs. Since 2013, MIFED has provided loans to rural households and promoted entrepreneurship in the energy sector. MIFED developed a program to facilitate access to energy in partnership with MFIs and solar distributors. A pilot of the program established 39 energy entrepreneurs with six MFIs. Since 2017, more than 6,100 rural households have invested in a solar solution thanks to the program.
- Credit Sahel (Crédit du Sahel) is a second-tier MFI, meaning that it grants loans exclusively to members and third parties after collecting savings. Since January 2019, Credit Sahel has begun marketing Greenlight Planet products. In three months, Credit Sahel distributed more than 200 Sun King solar kits and lamps without PAYGO. Credit Sahel sells the systems to customers directly through its branches and provides credit payable in six monthly installments.

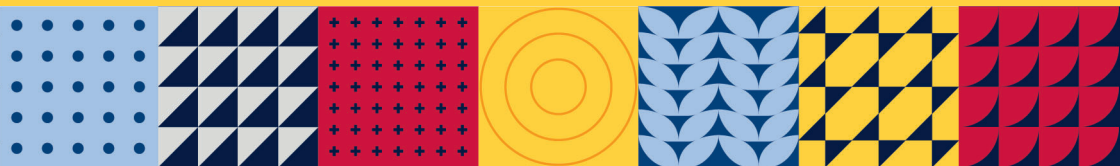
## MINI-GRID

Cameroon's total current installed mini-grid capacity is 1.7 MW. MINEE is implementing a project in partnership with Huawei for 166 localities. This project involves constructing solar power plants and distribution networks as well as connecting and installing metering systems. The project has a total installed capacity of 11.2 MW. To date, 135 mini-grids have been installed.

Another project with impact, Promoting Integrated Biomass and Small Hydro Solutions for Productive Uses in Cameroon, is receiving \$2 million in support from the Global Environment Facility. Implemented by UNIDO, the project aims to remove barriers by demonstrating biomass and small hydropower mini-grids for productive uses. The project also aims to set up hydropower mini-grids and biomass plants with a total capacity of 2.825 MW.

Decentralized Electricity Production and Valorization of Rural Electrification for Agriculture and Rural Development in Cameroon is a project funded by the EU (41%) and the Government of Cameroon (59%). It conducts feasibility studies on ten hydropower sites and builds mini-grids with a total installed capacity of 1.8 MW and a total cost of \$26 million.

**Regulation.** Companies wishing to develop mini-grids must adhere to concessions, licenses, authorizations, and declarations from MINEE and the Electricity Sector Regulatory Board. For example, licenses are required for the independent production of electricity as well as the sale of high- and medium-voltage electric power. Licenses to import and export electricity shall be granted only to operators who fulfill technical requirements and provide financial guarantees. With a legal framework in place, Cameroon is well situated for mini-grid expansion activities.



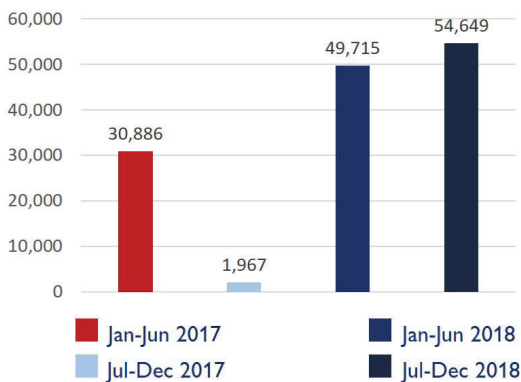
# MARKET INTELLIGENCE USING GOGLA DATA

Sales and investment data from the Global Off-Grid Lighting Association (GOGLA) provide details on the off-grid solar sector in Cameroon. From mid-2016 until late 2018, portable solar lanterns with single lights or single lights with mobile charging were the main systems sold in Cameroon. To date, the number of solar home systems (SHS) sold is still very small compared with solar lanterns. Total sales of solar systems increased rapidly from 2017 to 2018. However, sales rose slowly during 2018, and sales of multi-light systems decreases throughout the year.

In addition, most pico-solar systems products are sold on a cash basis, with slightly less than five percent sold through a pay-as-you-go (PAYGO) model. Additional investment in solar companies would allow for the continued expansion of PAYGO sales, thereby increasing the potential market for off-grid solar.

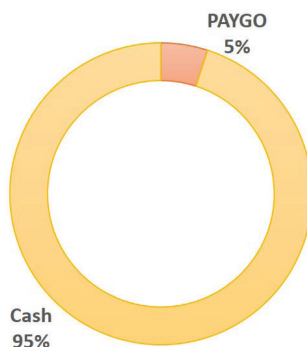
## Sales of pico/SHS units

Jan 2017 - Dec 2018

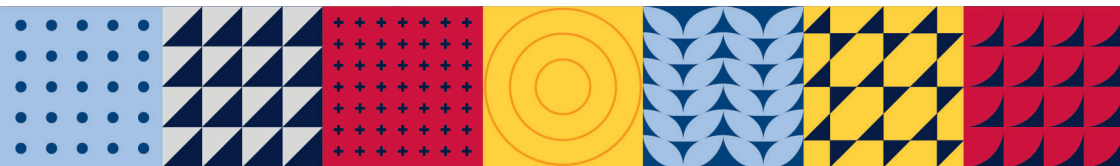


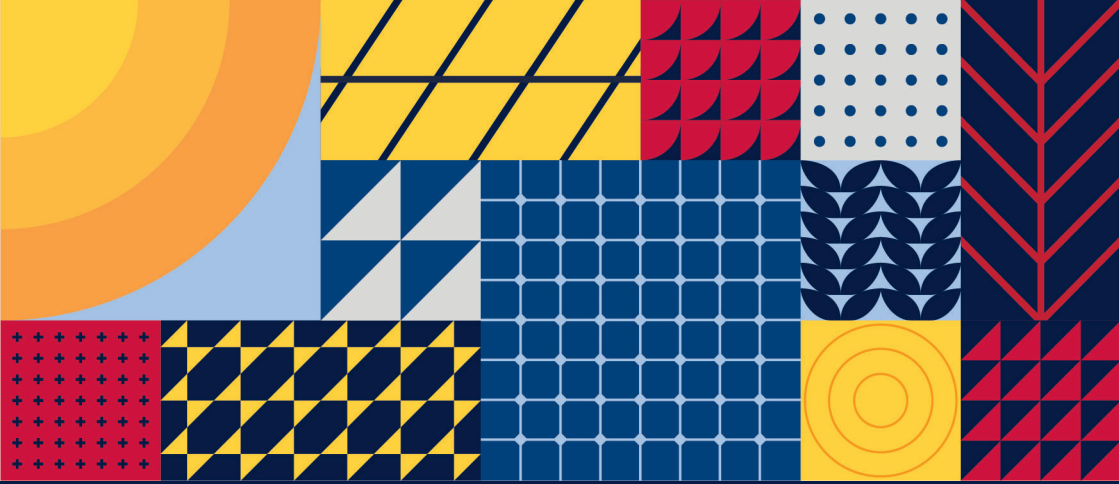
## Sales by business model

Jul-Dec 2018



So far, investments in Central Africa off-grid solar have been almost entirely crowdfunded initiatives (totaling \$1.38 million in 2018) and government- or donor-funded (totaling \$3.75 million in 2017). Central Africa had its largest investment year to date (\$4.05 million) in 2017, which might explain the boost in sales in the first half of 2018. Investments in 2017 and 2018 mainly focused on the regional expansion and scaleup of existing business models. There was a significant increase in crowdfunding in 2018, which indicates a positive trend for future investments in Central Africa.





*Power Africa aims to achieve 30,000 megawatts of new generated power, create 60 million new electrical connections, and reach 300 million Africans by 2030.*



[usaid.gov/powerafrica](https://usaid.gov/powerafrica)



**PowerAfrica**



**PowerAfricaUS**



**Power-Africa**

The information presented in this brief is not official U.S. Government information and does not represent views or positions of United States Agency for International Development (USAID) or the U.S. Government. The statements included here should not be construed as investment advice on behalf of either particular securities or overall investment strategies.