

Benin

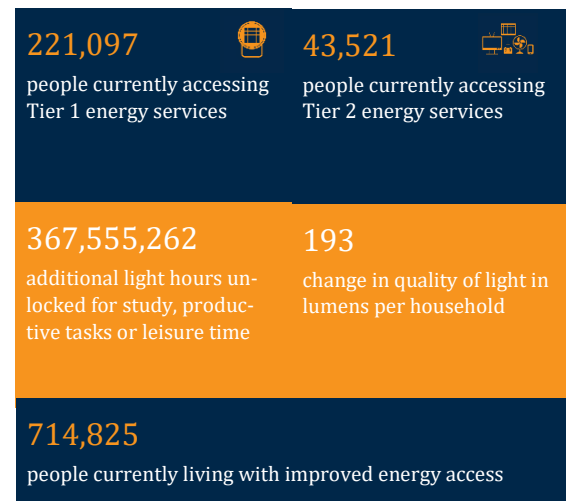
Introduction

This note was developed by the Global Off-Grid Lighting Association (GONGLA) 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 Foreign, Commonwealth & Development Office (FCDO), Sustainable Energy for All (SEforAll), the Association Interprofessionnelle des Spécialistes des Énergies Renouvelables du Bénin(AISER) and the GIZ. 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.

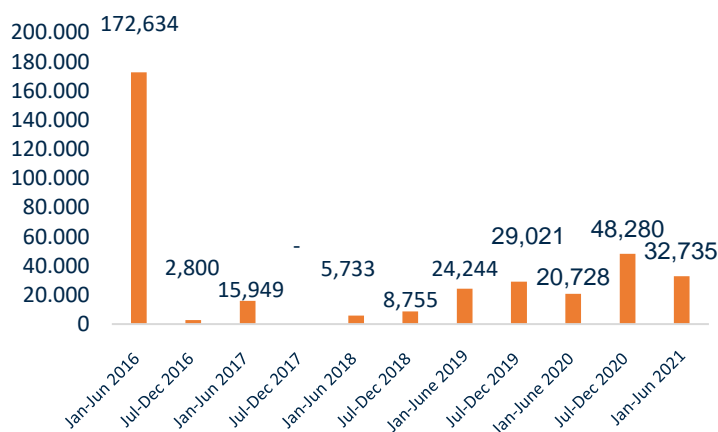
Key statistics²

Demographics	
Total Population	12,123,198
Population Density per km ²	108
GDP per Capita	USD 1,291
GDP Growth	3.8
Energy Access Deficit ³	
National Electrification Rate ⁴	40%
Urban Electrification Rate	65%
Rural Electrification Rate	17%
Number of people without access to electricity	7,043,076
% of quality-verified ⁵ (QV) vs non-QV products in the market ^{6&7} (H1, 2021)	QV: Non-QV:
Electrification Planning	
Electrification Targets ⁸	Universal Access Energy by 2030

Impact⁹



Sales¹⁰



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

¹ The 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/> (Last updated in 2020)

³ <https://trackingsdg7.esmap.org> (Last updated in 2019)

⁴ According to the latest report published by the Direction Générale des Ressources Énergétiques (DGRE) in September 2021, in 2020 the National access to electricity rate was 30,4%, the urban access to electricity rate was 57,4% and the rural access to electricity rate was 5,7% - <https://direction-energie.gouv.bj/tele-charger-chiffres-cles>

⁵ Quality-verified products are tested according to the Lighting Global Quality Standards. For more information, please see the [Lighting Global Quality Assurance Program](#).

⁶ Share of quality-verified (QV) and non-QV sold by GONGLA and Lighting Global affiliates.

⁷ 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.

⁸ According to the new National Electrification Strategy (SNE) and National Electrification Plan (PNE), the Government of Benin (GoB) aims at reaching universal energy access at the national level by 2030.

⁹ 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 GONGLA 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.

¹⁰ 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

Around 40% of Benin's population has access to electricity, with a large divide between urban (65%) and rural areas (17%). Electricity consumption in Benin is below the average for Africa's low-income countries at 110 kWh/capita per year, equivalent to only 0.01 percent of the average for middle-income countries¹¹.

To improve energy access, the government has adopted a far-reaching policy reform agenda, with the support of the Millennium Challenge Corporation (MCC)¹². In 2015, the government signed a second grant agreement 'the Benin Compact', valued at US\$375 million, with Benin providing US\$28 million of the funds. To implement the program, the 'Millennium Challenge Account – Benin'¹³ was created to accelerate investment in the electricity sector from June 2017 to June 2022. Benin was included by the MCC Board among the eligible countries for concurrent compact programs for regional integration along with Burkina Faso, Côte d'Ivoire and Niger. However, due to Benin's overall multi-year decline in its commitment to MCC's eligibility criteria and the principles of democratic governance, the Board discussed and endorsed MCC's determination to significantly reduce the portion of the planned regional investment that would be made in Benin through a concurrent compact.

As part of the Millennium Challenge program, the government of Benin created the 'Off-Grid Clean Energy Facility' (OCEF),¹² which aims to improve access to and availability of electricity for households and public infrastructure. Secondary goals include stimulating the off-grid electricity market, adopting energy efficiency measures, developing a regulatory framework, supporting private sector investment and strengthening governance capacity.

Over the course of the COVID-19 pandemic, Benin implemented health measures such as the closure of schools and universities, public places, non-essential businesses, isolation for positive cases as well as the closure of borders. These containment measures have weakened GDP growth in the country: while the country had forecast an annual growth of 6.7%, with COVID-19 the growth reached only 2.2%. The pandemic also affected even more the foreign investments, which were already in decline before the COVID-19 outbreak¹³.

According to the 2021 GOGLA half year sales data from January to June, Benin's overall sales volume saw a decrease compared to the second half of 2020. Affiliates sold 48,280 units in the second half of 2020, which represents the largest sales volumes recorded in the country since it started reporting sales data.

Policy, Regulation and Sector Planning

The government of Benin, through its Plan National d'Efficacité Énergétique (PANEE)¹⁴, Plan d'Action National des Énergies Renouvelables (PANER)¹⁵ and the more recent Politique Nationale de Développement des Énergies Renouvelables (PONADER)¹⁶, acknowledged that it is essential to implement an institutional and regulatory framework for the off-grid energy sector to achieve the objective of providing 95% of the population living in rural areas with renewable energy systems by 2030.

The Benin National Electrification Strategy (SNE) is currently being finalized. It aims to achieve national universal access to energy by 2030. To reach this ambitious target, the Government of Benin is counting on realizing 2.1 million new connections, through grid extension (9%), grid densification (39%), mini-grids (13%) and SHS (39%). According to the SNE, the total investment needed to complete these connections is expected to amount to 676B FCFA (1.03B EUR), split between grid extension (20%), grid densification (43%), mini-grids (32%) and SHS (5%).

Promoting Quality and Managing E-Waste

Benin currently has no mandatory quality standards in place for off-grid solar products. However, donor funded programs such as EnDev Benin – coordinated by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and Netherlands Enterprise Agency – require products to adhere to IEC/Lightning Global quality standards. As part of the Economic Community of West African States (ECOWAS), Benin is likely to adopt national standards that are in line with the IEC/Lightning Global quality standards in the near future.

There are currently no laws, regulations or policies governing e-waste in Benin.

¹¹ Millennium Challenge Corporation Congressional Notification, 2015

¹² <https://mcabenin2.bj>

¹³ <https://www.mcabenin2.bj/web1/mca-benin-ii-entre-entreprise/>

¹² Visit the OCEF for more information.

¹³ <https://www.francofonie.org/benin-covid19>

¹⁴ https://www.se4all-africa.org/fileadmin/uploads/se4all/Documents/Country_PANEE/Benin_Plan_d_Actions_National_pour_l'Efficacité_Energétique_PANEE.pdf

¹⁵ https://www.se4all-africa.org/fileadmin/uploads/se4all/Documents/Country_PANER/Benin_Plan_d_Actions_National_pour_les_Energies_Renouvelables_PANER.pdf

¹⁶ Visit PONADER for more information

Taxation

Import duties range between 5% to 20% and a 21% of Value Added Tax (VAT) is applied to off-grid solar products. Additionally, a 2.5% administration fee is applied on all imports.

However, in 2014, the Benin Renewable Energy Agency agreed to waive the import duty for all solar products meeting Lighting Global quality standards. The waiver was applied under the Power Out of Poverty Partnership project, a public-private initiative led by the Netherlands Development Organisation (SNV) in partnership with MTN Benin, the Government of Benin, local solar power companies and a local micro-finance institution¹⁷. Under the EnDev/GIZ Benin program, solar products are currently also exempted from import duty and sales tax, with the payable administrative import fees and other port fees at 5%-7%.

Investment

Previously, private investments in the off-grid solar sector in Benin have been limited. However, by creating long-term electrification plans, the government of Benin is aiming to attract and enhance private sector investment.

Sector Support Programs

As part of the Benin Compact, the MCC has awarded grants to support solar and other clean energy projects in underserved parts of Benin. The first call was launched in May 2018 and selected four companies to sell, distribute and install around 50,000 SHS. The second call was launched in March 2018 and selected eight projects for the construction and operation of mini-grids in 128 localities, as well as two SHS distribution projects (around 10,000 SHS) and one energy efficiency project.

The EnDev Benin program (2005-2024)¹⁹ – with a budget of US\$23 million – promotes markets for improved cookstoves and solar products by financially supporting importers and distributors and advocating for clean energy access.

Benin is part of 19 countries under the Regional Off-Grid Electrification Project (ROGEP).²⁰ 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 standalone solar systems. ROGEP is scheduled to end in 2030.

In 2020, a collaboration was launched between GIZ and Energy 4 Impact as part of the initiative "Water and Energy 4 Growth"²⁴. The initiative consists of 3 programs geared towards promoting the adoption of solar irrigation technology in Benin, Senegal and Tanzania. In Benin, the initiative seeks to foster the productive use of renewable energy in agricultural activities. Energy 4 Impact will help recruit farmers through awareness-raising activities, provide business development services for technology suppliers and organise local agricultural coaching programs on how to integrate productive use of renewable energy solutions in various value chains. Solar equipment for irrigation will help secure better harvests, whilst the use of post-harvest machinery and the application of sound agricultural practices will help realize greater productivity and profitability for farmers.²⁵

Green People's Energy for Africa, an initiative of the German Federal Ministry for Cooperation and Development, was launched in Benin in October 2019. It aims at enabling, expanding and securing the supply of sustainable energy in rural areas across the African continent. Through this initiative, several activities were implemented

over the past two years in Benin, including a 6-month training course on solar-powered irrigation systems launched in partnership with the University of Ostfalia and WE4FOOD.²⁶

In 2021, the Shell Foundation and Odyssey's Powering Health Platform identified four Sub-Saharan African countries (the Democratic Republic of Congo, Benin, Nigeria and Mozambique) for the implementation of a pilot hospital electrification program. ARESS, the selected company in Benin, will install off-grid solar systems in 15 rural private hospitals. The initiative is supported by the Rockefeller Foundation and co-funded by the UK government.²⁷

Industry Association

The Association Interprofessionnelle des Spécialistes des Énergies Renouvelables du Bénin, (in English the Inter-professional Association of Renewable Energy

¹⁷ https://energypedia.info/wiki/Solar_Power_in_Benin

¹⁸ Visit [GOGLA Bridge](#) for more information.

¹⁹ [Energising Development partnership – Country Project Benin, GIZ, 2018](#)

²⁰ <https://projects.worldbank.org/en/projects-operations/project-detail/P160708>

²⁴ <https://energy4growth.com/2020/11/18/giz-et-energy-4-impact-sassocient-pour-donner-un-coup-de-pouce-aux-agriculteurs-dafrique-de-louest-et-de-lest-en-matiere-denergie-verte/>

²⁵ Visit [Energy 4 Impact](#) for more information.

²⁶ <https://gruene-buergerenergie.org/en/> & <https://www.seforall.org/news/universal-energy-facility-opens-for-mini-grid-projects-in-benin>

²⁷ Visit [Shell Foundation & Odyssey](#) for more information.

specialists in Benin, AISER). AISER is a non-profit association created in October 2011, whose main objective is to make a significant contribution to the development of renewable energies in Benin. The members of AISER are companies located in Benin and operating in the renewable energy sector, specialized in engineering energy systems as well as in carrying out studies related to renewable energy and energy efficiency.

Opportunities and Barriers

There is political will to create policies that further develop the off-grid solar sector, underlined by the signing of the Benin Compact and the start of the OCEF. The Benin Compact will provide opportunities for companies and investors to enter the off-grid solar market, as considerable investments will be made in infrastructure, policy reform and financing facilities.

Major barriers to the acceleration of the off-grid sector in Benin include taxation on quality-verified solar products - which affects the affordability of products and consumer finance - and high costs of rural distribution.

Despite the existence of regulatory framework, The coverage of it remains very limited in practice, due to a lack of involvement of local actors by the national authorities. Another important consideration is how it should be adapted to the commercial approach of off-grid solar products to rural areas.²⁸

Further Information

- [Plan Directeur d'Électrification Hors Réseau, IED & PAC, 2017](#)
- [Politique et Stratégie. Etude pour la mise en place d'un environnement propice à l'électrification hors-réseau, IED & PAC, 2017](#)
- [Benin Fact Sheet, USAID Power Africa, 2018](#)
- [Lighting Africa Country Page - Benin](#)
- [Regulatory Indicators for Sustainable Energy \(RISE\) - Benin](#)
- [Décret n°2018 - Portant sur la réglementation de l'électrification hors réseau en République du Bénin](#)
- [Cadre réglementaire - Étude pour la mise en place d'un environnement propice à l'électrification hors-réseau](#)
- [Plan Directeur d'Électrification Hors Réseau - Étude pour la mise en place d'un environnement propice à l'électrification hors-réseau](#)
- [Politique et Stratégie - Étude pour la mise en place d'un environnement propice à l'électrification hors-réseau](#)
- [PDHER](#)
- [L'ARE au coeur de l'Électrification Hors Réseau \(EHR\)](#)

²⁸ <https://www.benin-energie.org/presentation-pdher.html>