GOGLA

The Voice of the Off-Grid Solar Energy Industry

Democratic Republic of Congo

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), the Shell Foundation, USAID, Power Africa, The Foreign, Commonwealth & Development Office (FCDO), Sustainable Energy for All (SEforAll) and The Association Congolaise pour les Énergies Renouvelables et Décentralisées (ACERD). 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[1].

Key statistics

Demographics[2]	
Total Population	89,561,404
Population Density per km[2]	40
GDP per Capita	USD 556.8
GDP Growth	0.8%
Energy Access Deficit [3]	
National Electrification Rate [4]	19%
Urban Electrification Rate	41%
Rural Electrification Rate	1%
Number of people without access to electricity[5]	70,213,569
% of quality-verified[6] (QV) vs non-QV products in the market[7&8] (H1, 2021)	QV: 98% Non-QV: 2%
Electrification Planning	
Electrification Targets[9]	Universal access by 2030

Impact[10]

53,451
people currently accessing Tier 1 energy services

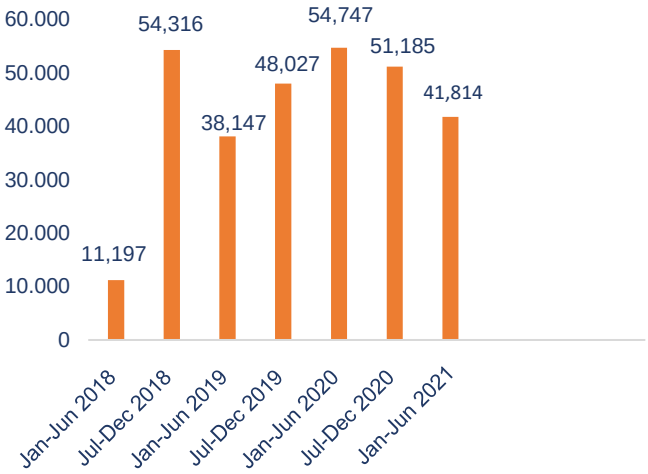
85,279
people currently accessing Tier 2 energy services

526,692,831
additional light hours unlocked for study, productive tasks or leisure time

94
change in quality of light in lumens per household

627,024
people currently living with improved energy access

Sales[11]



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] The data here are for the year of 2020 - https://data.worldbank.org/

[3] The data here are for the year of 2019 - https://trackingsdg7.esmap.org

[4] The national electrification rate as projected by The Government of Democratic Republic of Congo is 15% in 2014 (No recent data on the national electrification rate has been published by the government of DRC although public and private institutions estimate a rate between 9% and 12%)
The initial national electrification rate as projected by The Energy Progress Report in 2019 is 19%

[5] https://trackingsdg7.esmap.org/

[6] Quality-verified products are tested according to the IEC TS 62257-9-8. For more information please see the Verasol quality assurance programme.

[7] Share of quality-verified (QV) and non-QV products sold by GOGLA and Lighting Global affiliates.

[8] 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.

[9] Democratic Republic of Congo, Africa Hub, SEforALL

[10] 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 country impact of off-grid solar lighting products sold.

[11] 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 Democratic Republic of Congo's national electricity access rate is estimated at 19%. Less than 1% of the rural population and 41% of the urban population has energy access. Of the country's 10 million households, only 1.6 million have have access to electricity. This makes it the third largest population in the world without access to electricity. Energy poverty is attributed to factors such as cost tariffs, poor utility performance and lack of financial viability, compounded by governance issues.

There is no interconnected national power transmission network in the DRC, which is instead structured into three independent interprovincial grids. The western and southern grids are connected by a High Voltage Direct Current (HVDC) line. The eastern grid is more remote and will not be be connected.

Grid-supplied energy is not a low-cost solution for much of the country. Off-grid solar offers modular solutions to rapidly expand affordable energy access. However, there is no public off-grid electricity service and private sector delivery is hampered by a weak regulatory environment, fiscal framework, lack of access to credit, and inefficient import procedures.

Despite these challenges, there is promising market potential for off-grid solar in the DRC. Over 17 off-grid solar companies are registered in the DRC; of which a handful of companies, including Congolese companies such as Altech, GoShop and Weast Energie, and international companies such as BBOXX and Orange Energie, have sold over 200,000 solar lanterns, a few hundred large component-based systems for institutions and productive uses, and tens of thousands of Verasol-certified solar home systems. These sales are across almost all provinces, but mainly in Kinshasa and Kivus. Meanwhile, several international and local pay-as-you go (PAYGo) solar providers (such as Baobab+, or Apalia24) have entered the country, drawn by the tremendous market potential. However, the off-grid solar market is still limited by very high costs of operations overall due to the aforementioned factors that make the DRC a challenging business environment (see for example the 2018 RISE indicators).[12]

The country's economy contracted by 1.7% in 2020, the first recession in 25 years due to the COVID-19 pandemic. This will likely have an impact on the purchasing power of off-grid solar customers. Moreover, the DRC has been struggling with deteriorating exchange rates for some time, and for off-grid solar companies this can be a barrier to finance from international investors.

Policy, Regulation and Sector Planning

There is no national energy policy in place nor national electrification plan due to limited institutional capacity. Instead, the government developed the National Strategic Development Plan (Plan National Stratégique de Développement [PNSD]), which has a section focusing on electricity. The DRC is waiting for the establishment of an electricity regulatory authority and development of a detailed electricity law.

The DRC aims to connect 32% of the country to electricity by 2030. Meeting this challenge will require coordinated efforts from various stakeholders, supportive policies and regulations, and technical assistance support to prospective projects in order to attract investments.

To strengthen legal and regulatory framework and catalyze private and public investment flow to the sector (including off-grid solar energy), The DRC government established two agencies: ARE, which will be the autonomous regulatory agency; and ANSER, which is responsible for rural electrification throughout the DRC's vast territory. However, the 2 agencies do not really regulate the OGS sector (only minigrids). The 2014 Electricity Law among others provides for the creation of the 2 agencies. ANSER subsequently set up Mwinda Fund which is the DRC government initiative aimed at raising US$500 million by 2024, to bring electricity to 15 million Congolese living in rural areas. The government has asked the World Bank to take the lead on financing the fund as the bank contemplates injecting US$100 million into the initiative.

Taxation

An import duty of 34% and Value Added Tax of 16% is applicable to off-grid solar products. The VAT and duty exemptions in place for off-grid solar products are issued on a case-by-case basis rather than on a general basis and require bureaucratic and somewhat opaque procedures.

Investments

[12] The 2018 Regulatory Indicators for Sustainable Energy (RISE), a World Bank index that "assesses countries' policy and regulatory support for each of the three pillars of sustainable energy (access to modern energy, energy efficiency, and renewable energy)," places DRC in a red zone in terms of grid electrification—indicating that the country is in the bottom third in their policy and regulatory environment. https://rise.esmap.org/reports

The DRC has benefited from several grant-making and concessional financing schemes that have helped to unlock private capital for the off-grid solar sector.

In 2021, the Swedish investment platform (Trine) entered a partnership with Altech, a leading company in the distribution sustainable energy products and services[18]. Trine is supporting the acceleration of solar energy adoption by providing 5 million euros. The first instalment arrived in September 2021 and was used to finance the purchase of 3,000 solar home systems.

In 2021 the Beyond the Grid Fund for Africa (BGFA) launched a country program, with €20 million financing from Sweden. BGFA will provide financial incentives to private companies that will offer high-quality and sustainable energy services and products to rural and peri-urban homes in energy poor regions to accelerate private sector provision of clean energy.

Despite difficulties in raising private commercial funding, Bboxx received a loan of US$4 million from the Facility for Energy Inclusion Off-Grid Energy Access Fund (FEI OGEF) in 2020. The objective is to accelerate access to energy in the DRC by highlighting the use of off-grid energy in the provinces of Kivu, Ituri and Tshopo. The funding may be extended to other areas of the DRC. In early 2020, Bboxx also announced a Memorandum Of Understanding with the DRC to bring clean energy to 10 million people, the equivalent of 10% of the country's population.[13]

Sector Support Programs

The World Bank-funded Electricity Access and Service Expansion (EASE) project has launched a results-based financing scheme (RBF)[17]. EASE has a total funding of US$15 million, of in which US$4.4 million will be used to support 4 off-grid solar companies (i.e., Bboxx, Altech, Orange and Weast) in distributing quality-verified products. As of December 2021, more than 25,000 solar lamps and SHS were sold in north and south Kivu, Kwilu and Ituri. Component 2 under EASE has a total of US$25 million, of which US$10 million is allocated to the Credit Line and US$15 million to the Electrification Fund. Both instruments support solar distributors and mini-grid operators.

In addition, a new World Bank project is currently under preparation that will scale support schemes for mini-grid development and solar distributors under EASE. The project is currently under negotiation and will go to Board for approval on 31st March 2022. It is a US$600 million project with a significant amount of grant funding to support private sector off-grid sector. The PID is expected to be made public soon.

In 2020, Power Africa awarded Bboxx with a grant to introduce pay-as-you-go (PAYGo) solar energy solutions. As a result, Bboxx sold more than 3,000 SHS kits which led to nearly 15,000 people to have first-time reliable and affordable electricity access in Ituri and Kivu provinces.

Promoting Quality & E-Waste Management

Solar quality standards are overseen by the Office Congolais de Controle with support from the Société d'Exploitation du Guichet Unique du Commerce Extérieur de la République Démocratique du Congo (SEGUE). Currently, there are no clear details regarding the quality standards for off-grid solar products.

However, programs such as the World Bank funded EASE project require products to adhere to Verasol quality standards, providing the first instance of technical quality standards adopted by a government program.

The DRC is expected to produce 16,050 tons of electrical and electronic waste, according to a study carried out by the Belgian group, Groupe One. There are currently no regulations or legislative frameworks concerning e-waste. However, there are independent initiatives that provide solutions such as the Déchets d'Équipement Électriques et Électroniques (DEEE) Katanga project carried out by Groupe One. [14]

Opportunities and Barriers [15&16]

The growth of the sector is limited by a number of factors. The country's political fragility – which includes weak governance, conflict and security issues, poor transport infrastructure, lack of public financial capacity, and the absence of framework for policies and regulations to encourage private sector investment in the off-grid solar sector. Additional constrains include no affordable financing mechanisms to consumers and operators in a context of low end-user purchasing power, high costs of capital and a weak commercial banking sector. There is also a lack of information about all aspects of power demand, which magnifies the challenge of planning.

[13] https://www.bboxx.com/press-releases/bboxx-secures-loan-with-fei-ogef-in-the-drc/?utm_source=linkedin&utm_campaign=november-bau&utm_medium=organic&utm_content=feiogf-loan
[14] https://www.groupeone.be/nos-projets/deee-katanga/
[15] https://resourcematters.org/wp-content/uploads/2020/11/Report-Phase-1-Electrification-RDC.pdf
[16] https://www.lightingafrica.org/wp-content/uploads/2016/07/30_RDC-note-de-rapport-de-politique-FR.pdf

The DRC has a limited electricity grid, which represents a huge opportunity for off-grid solar with a supportive and appropriate enabling environment. There are tremendous opportunities for off-grid market growth in the DRC, afforded by its geography, scale, political impetus and recent institutional changes - the creation of a REA and a subsidy fund, and a dynamic though mostly informal economy. The World Bank under EASE is currently providing significant financial and technical support to ARE and ANSER to develop regulations that will improve the enabling environment in the DRC for the off-grid sector and increase participation of the private sector.

Since the first forum on electric energy in 2019, President Tchisekedi declared that access to electricity is one of his national priorities. It is hopeful that developments and a better regulatory environment in the off-grid solar energy sector will be developed.[24]

Industry Association

The Association Congolaise pour les Énergies Renouvelables et Décentralisées (ACERD)[25] is an independent non-profit organization working for the development of renewable energies in the DRC. Created in 2018 through support of ELAN program. ACERD coordinates energy companies in the DRC to respond to energy access issues and create a conducive environment for the development of the renewable energy private sector. With more than 35 members it is already establishing itself nationally and has gained membership in the Global Off-Grid Lighting Association (GOGLA). ACERT also contributed to the Mwinda Fund concept and is being consulted.

Further Information

- Le secteur des énergies renouvelables et décentralisées en République Démocratique du Congo
- Pan-African Industrial company Eranove and its partners sign the concession agreement for three solar mini-grid projects ESSOR in northern Democratic Republic of Congo (DRC)
- Off-Grid Solar Market Assessment Democratic Republic of Congo
- Accès à l'énergie par le biais d'installations solaires hors réseau: Documents d'information à destination des gouvernements
- Rapport National "Énergie durable pour tous à l'horizon 2030"

[24] https://www.presidence.cd/uploads/files/cfc87412e8dc3161954e5b997eda92bc.pdf

[25] Visit ACERD for more information