

# Côte d'Ivoire

## Introduction

This note was developed by 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 Foreign, Commonwealth & Development Office (FCDO), Sustainable Energy for All (SEforAll) and The Association des Professionnels des Energies Renouvelables de Cote d'Ivoire (APERCI). It is part of a series of briefing notes that provide a high-level overview of the status of countries' off-grid solar markets according to the information gathered from GOGLA members, as well as relevant policies and programs<sup>1</sup>.

## Key statistics<sup>2</sup>

### Demographics

Total Population	26,378,275
Population Density per km <sup>2</sup>	81
GDP per Capita	USD 2,325.7
GDP Growth	1.8%

### Energy Access Deficit<sup>3</sup>

National Electrification Rate <sup>4</sup>	69%
Urban Electrification Rate	94%
Rural Electrification Rate	42%
Number of people without access to electricity <sup>5</sup>	8,087,825
% of quality-verified <sup>6</sup> (QV) vs non-QV products in the market <sup>7&amp;8</sup> (H1, 2021)	QV: 73% Non-QV: 27%

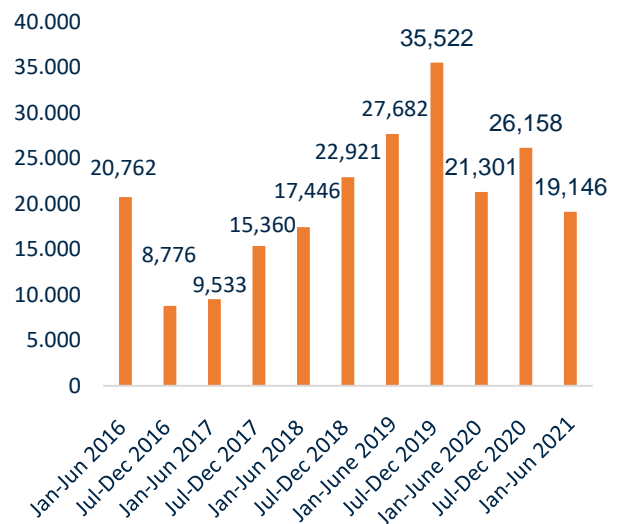
### Electrification Planning

Electrification Targets <sup>9</sup>	Universal access by 2025
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## Impact<sup>10</sup>

111,281 people currently accessing Tier 1 energy services	259,002 people currently accessing Tier 2 energy services
228,762,230 additional light hours unlocked for study, productive tasks or leisure time	193 change in quality of light in lumens per household
666,666 people currently living with improved energy access	

## Sales<sup>11</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> The data here are from 2020 - <https://data.worldbank.org/>

<sup>3</sup> The data here are from 2019 - <https://trackingsdg7.esmap.org/country/cote-divoire>

<sup>4</sup> The national electrification rate as projected by [The Government of Cote d'Ivoire](#) is 80% at the end of 2020. According to the Ministry, the access rate is 79.61% (2020 figures). See the Appendix of the MoE Activity Report. The initial national electrification rate as projected by [The Energy Progress Report](#) in 2019 was 69%.

<sup>5</sup> <https://trackingsdg7.esmap.org/>

<sup>6</sup> Quality-verified products are tested according to the IEC TS 62257-9-8. For more information please see [the Verasol quality assurance programme](#).

<sup>7</sup> Share of quality-verified (QV) and non-QV products sold by GOGLA and Lighting Global affiliates.

<sup>8</sup> 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.

<sup>9</sup> Côte d'Ivoire, Africa Hub, SEforALL

<sup>10</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>11</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<sup>12</sup>

Government data shows 79,61% of the population of Cote d'Ivoire has access to electricity. 94% of the population in urban areas have access, while access is still limited in rural areas at 42%<sup>13</sup>.

In 2020, the access gap was around 20%. The current 2,230 megawatts of power generation capacity is sufficient to meet current domestic demand and provides a surplus of around 10% which it exports to the sub-region. The country is one of the largest exporters of electricity in West Africa<sup>14</sup>.

At the start of the Covid-19 pandemic, authorities swiftly adopted containment measures. While the isolation of Grand Abidjan ended on July 15 2020, the state of emergency remained in place. Beyond Covid-19, 2020 was a period of economic uncertainty following the sudden death of the Prime Minister in July, followed by subsequent elections for a new government in October 2020. Since the election, a new Prime Minister has been appointed and the situation has significantly improved.

Economic and political uncertainty could affect industry growth and performance in the country, although there are several support mechanisms in place to provide resilience. Regarding the sales of off-grid solar products in Cote d'Ivoire, 26,000 units between July and December 2020 were sold. This is 26% lower in comparison with the second half of 2019. However, the number of off-grid solar appliance sales increased 44% compared to the first half of 2020 and decreased 52% compared to the second half of 2019. Around 13,000 units have been sold.

## Policy, Regulation and Sector Planning

The Ivorian government is committed to achieving an electrification rate of 100% by 2025 including 42% renewable energy share by 2030. However, there are remote areas where the grid is unlikely to arrive before 2025. Off-grid solar is an effective way to meet this demand, according to the government.

The decree N°2016-787 of October 12, 2016 demonstrates that off-grid energy is part of the country's regulatory framework. This decree outlines the regulations of the production activity associated with the distribution and marketing of electrical energy by mini-grid or by individual autonomous systems for the production of electrical energy.

<sup>12</sup>[http://www.greenmaxcap.com/download/ROGEP%20Reports/Côte%20d'Ivoire/ECREEE%20ROGEP\\_Cote%20d'Ivoire\\_Financial%20Report\\_FR.pdf](http://www.greenmaxcap.com/download/ROGEP%20Reports/Côte%20d'Ivoire/ECREEE%20ROGEP_Cote%20d'Ivoire_Financial%20Report_FR.pdf)

There are different programs in place that support an enabling environment for the off-grid sector in Cote d'Ivoire, such as the Plan Directeur d'Électrification Rurale (PDER) implemented by CI-ENERIES planned between 2015 -2030. This program aims to combine off-grid solar energy systems and diesel generators with the aim of electrifying regions where grid extension is not possible. Cote d'Ivoire also has programs financed by international donors such as the PARIS Program of the Agence Française de Développement (AFD) or the Regional Off-Grid Electricity Access Project (ROGEAP) of the World Bank.

These development programs are mainly financed by the European Union, the African Development Bank, the West African Development Bank, Exim Bank of China and the World Bank. Bilaterally, the governments and development institutions of France, Germany, the United States and China are participating in the growth of the off-grid market in the country. France with l'Agence Française de Développement (AFD) and China (Exim Bank) are also heavily invested in other major energy infrastructure and utility projects.

## Taxation

Some solar products have import duty from 5% to 20% and 18% Valued Added Tax (VAT) of the cost of goods. However, solar home systems and the solar modules are duty free.

## Investments

According to the report "Off-Grid Solar Market Assessment Cote d'Ivoire" published by Power Africa, private investment in the off-grid solar sector in Cote d'Ivoire in the past has been limited. By focusing on renewable energy, the government is now aiming to increase market predictability and attract private sector investment.

In 2021, companies in the energy sector received funding from the Energy Entrepreneurs Growth Fund (EEGF) and the Facility for Energy inclusion Off-Grid Energy Access Fund (FEI-OGEF) to promote rural electrification. The company Baobab + received funding of €4 million for its activities in Cote d'Ivoire and Senegal. It will provide solar home systems to households and micro-enterprises in rural communities in these two countries. Baobab + has operated in Cote d'Ivoire since 2016 and has already distributed over

<sup>13</sup><https://www.usaid.gov/sites/default/files/documents/1860/CDIPACFSDEC2017.508.pdf> / According to the Ministry, the access rate is 79.61% (2020 figures).

<sup>14</sup><https://www.banquemonde.org/fr/news/feature/2020/07/23/the-secret-to-cote-divoires-electric-success>

50,000 products to households and micro-entrepreneurs.<sup>15</sup>

The European Union (EU) is committed to facilitating access to electricity and the use of renewable energy in West Africa. The EU funded Electrification Financing Initiative (ElectriFI) issued more than US\$5 million in loans to PEG Africa.

### Promoting Quality & E-Waste Management

Cote d'Ivoire currently has no mandatory standards in place for off-grid solar products. However, the country has started working with Cote d'Ivoire Normalisation (CODINORM) to adopt quality standards.

In 2017, the country adopted a decree on the rational ecological management of waste electrical and electronic equipment. Additionally, the government signed a project in 2018 to improve the management of waste from electrical, electronic, and pneumatic equipment. This project, as announced the Minister of the Environment and Sustainable Development will create 5,000 jobs, 2 management and recovery centers and more than 50 collection centers in the country.<sup>16</sup>

### Sector Support Programs

Cote d'Ivoire is part of the Battery Energy Storage Technology (BEST) Program, financed by the International Development Association (IDA). The program supports governments in developing electrification strategies. The program also supports the integration of renewable energy into national electrification strategies. It will allow Côte d'Ivoire to electrify non-electrified rural areas, hosting 200 MW of solar energy projects between 2020 and 2025 in the northern regions of the country<sup>17</sup>.

In 2019, The French Development Agency (AFD) set up the PARIS Program (Promotion of Access, Smart Grids and Solar Energy) in Cote d'Ivoire totalling €109,500,000. PARIS will focus on the construction of a 20 MW floating solar power plant pilot, the first of its kind in West Africa. This program aligns with the national objective to reach 42% renewable energy production by 2030 but will also facilitate electrification in 185 rural localities<sup>18</sup>.

In 2020, the International Finance Corporation (IFC) granted a one-year loan of US\$29 million to NSIA Banque Cote d'Ivoire, to enable NSIA to extend new credit to finance working capital needs of companies struggling due to the Covid-19 pandemic, including off-grid solar companies. On 22 September 2021, the African Development Bank (AfDB) signed a €50 million loan with NSIA Banque, the pan-African banking group incorporated in Côte d'Ivoire. This is the first time that the institution has committed this level of financing with a French-speaking African bank.<sup>19</sup>

Cote d'Ivoire is part of the World Bank Regional Off-Grid Electricity Access Project (ROGEAP), approved in 2019. The project was restructured with additional financing in 2021. The project has overall funding of US\$338.7 million provided to the Economic Community of West African States (ECOWAS). ROGEAP has two components, the first is to strengthen regional capacities to then develop a regional market and the second aims to promote access to finance for autonomous solar companies in order to accelerate electrification in the countries of the region.<sup>20</sup>

In 2020, NEoT Off-grid Africa (NOA)<sup>21</sup> an investment platform focused on off-grid renewable energy projects, closed a program providing finance for solar home systems to power 100,000 homes in rural and peri-urban areas of Cote d'Ivoire. NOA is the first investment platform to set up a receivable's securitization program in the financing of off-grid energy projects in Africa. Current information indicates that Zola EDF Côte d'Ivoire (ZECI) will be a distributor in some areas.<sup>22</sup>

The GIZ, through the initiative of Water and Energy for Food (WE4F), a project running from 2020 to 2023, highlights innovations that protect the climate and save energy and water in the agricultural and agro-food sectors. The project focuses on 5 aspects: strengthening the skills of selected innovators, developing the skills of end users, improving access to adequate funding, improving the political and sector framework, and strengthening trade regional and global techniques.<sup>1523</sup>

<sup>15</sup> <https://techcabal.com/2021/04/02/baobab-raises-e4-million-to-strengthen-access-to-power-in-cote-divoire-and-senegal/>

<sup>16</sup> <https://www.droitci.info/files/72.04.17-Decret-du-5-avril-2017-Gestion-des-dechets-electroniques.pdf> / <http://www.ppp.gouv.ci/projets/ministere-de-10>

<sup>17</sup> <https://documents1.worldbank.org/curated/en/124321615923620968/pdf/Project-Information-Documents-ECOWAS-Regional-Electricity-Access-and-BEST-Project-P167569.pdf>

<sup>18</sup> <https://www.afd.fr/fr/carte-des-projets/paris-promotion-de-l-acces-des-reseaux-intelligents-et-de-l-energie-solaire>

<sup>19</sup> <https://www.afdb.org/en/news-and-events/press-releases/cote-divoire-la-banque-africaine-de-developpement-acorde-un-pret-de-50-millions-deuros-nsia-banque-pour-renforcer-le-role-des-pme-et-entreprises-dirigees-par-les-femmes-45755>

<sup>20</sup> <https://www.lightingafrica.org/wp-content/uploads/2017/12/ROGEAP-1-Page-Mar-2021.pdf>

<sup>21</sup> Visit the [NEoT offgrid Africa](#) for more information.

<sup>22</sup> <https://www.neotcapital.com/en/neot-offgrid-africa-launches-the-first-receivables-securitization-program-in-the-financing-of-renewable-energy-projects-in-africa/>

<sup>23</sup> <https://www.giz.de/en/worldwide/85952.html>

In August 2021, the African Development Bank launched a regional project named Desert to Power West Africa Regional Energy Program (WAREP) which will end in 2024. The objective of the project is to accelerate projects for solar energy production, transport and decentralized energy solutions. Cote d'Ivoire and 14 other countries will benefit from this project. ECOWAS Regional Centre for Renewable Energy and Energy Efficiency (ECREEE) and the West African Power Pool (WAPP) will carry out this project. The first phase of the project will consist of funding pre-feasibility studies to accelerate the regional development of grid and off-grid solar power generation across the region.<sup>24</sup>

### Industry Association

The Association des Professionnels des Energies Renouvelables de Cote d'Ivoire (APERCI) is a group of private companies at the national and inter-professional level of renewable energies (EnR) and energy efficiency (EE) whose members work actively for the development of renewable energies and energy efficiency.

The Association Ivoirienne des Énergies Renouvelables (AIENR), is also active in the country, and contributes to the preservation of the environment and the promotion of Sustainable Development. Its mission is to bring together companies in the sector.

### Opportunities and Barriers<sup>25</sup>

The government seeks to establish a favorable environment for the expansion of the off-grid solar sector by implementing several national programs. However, most financial incentives and regulations aim to support the natural gas market in the country. In addition, there is no government-adopted quality standard for stand-alone systems.

The off-grid energy sector in Cote d'Ivoire must contend with government actions that favor the extension of the national grid and subsidies the production of electricity from non-renewable energy.

Other major barriers hindering the adoption of off-grid solar in Cote d'Ivoire currently include taxation on quality-verified solar products - which affects product affordability, lack of access to company and consumer finance, and high costs of rural distribution.

The off-grid solar energy market is experiencing various obstacles including lack of awareness of the sector, especially in rural areas, and a lack of funding for companies in the sector.

Notably, Cote d'Ivoire is the world's largest cocoa exporter. The productive use of off-grid energy in growing, processing and preserving cocoa beans could stimulate economic activity, boost the agricultural sector and promote rural development.

The country has the potential to accelerate access to energy with mobile money platforms. Cote d'Ivoire is one of the five largest markets in West Africa in terms of size and subscribers. According to Global System for Mobile Communication (GSMA) sub-Saharan Africa plans to multiply the use of these platforms sevenfold by 2024<sup>26</sup>. The government could therefore use this opportunity to support PAYGo systems used in East Africa to allow greater access to energy for people with limited resources.

### Further Information

- [Plan d'Actions National des Energies Renouvelables \(PANER\)](#)
- [Plan Actions National d'Efficacité Energétique \(PANEE\)](#)
- [Facilité d'Assistance Technique Énergie Durable Pour Tous \(SE4ALL\) Afrique Occidentale et Centrale](#)
- [AGENDAS DE L'INITIATIVE DE L'ENERGIE DURABLE POUR TOUS \(SE4ALL\)](#)
- [Une Feuille de Route pour atteindre l'objectif de 42 pour cent d'énergies renouvelables de la Côte d'Ivoire d'ici 2030](#)
- [Marché de l'énergie solaire hors réseau Cote d'Ivoire](#)
- [Diagnostic du Secteur de l'Énergie en Côte d'Ivoire Rapport final de l'étude de collecte des données relatives au secteur de l'énergie électrique](#)
- [Chiffres clés sur l'énergie en Côte d'Ivoire et dans l'espace UEMOA](#)
- [PROJET RÉGIONAL D'ÉLECTRIFICATION HORS RÉSEAU Évaluation du marché de l'énergie solaire hors réseau et conception de dispositifs de soutien au secteur privé](#)
- [PROJET DE RENFORCEMENT DES OUVRAGES DU SYSTEME ELECTRIQUE ET D'ACCES A L'ELECTRICITE – PHASE 1 \(PROSER 1\) : ELECTRIFICATION RURALE DE 1088 LOCALITES](#)
- [Côte d'Ivoire - Projet d'amélioration de l'accès à l'électricité en milieu rural - Rapport d'évaluation](#)

<sup>24</sup> <https://www.afdb.org/en/documents/multinational-desert-power-west-africa-regional-energy-program-warep-phase-1-project-appraisal-report>

<sup>25</sup> Visit [the Cote d'Ivoire report on the assessment of the off-grid solar energy market and design of support devices for the private sector](#) for more information

<sup>26</sup> <https://www.gsma.com/mobileeconomy/wp-content/uploads/2020/03/GSMA-MobileEconomy2020-West-Africa-FRE.pdf>