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Sales of pico/SHS units
Jan 2017 - Dec 2018

Sales by business model
Jul-Dec 2018

Of the units sold in the second half of 2018, 1,496 units (7%) were sold as cash-only transactions, while 21,425 units (93%) were sold on pay-as-you-go (PAYGO) basis. The success of PAYGO in Côte d'Ivoire highlights the need for consumers to be able to pay down solar assets over time. Additional funding opportunities for solar companies would allow for continued expansion of sales, thereby increasing the potential market for off-grid solar.

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INVESTMENT OPPORTUNITIES

- In 2017, Côte d'Ivoire’s gross domestic product (GDP) was approximately $37 billion, which is anticipated to grow by more than 7% per year through 2022. Economic growth puts additional demands on an already strained national grid. Continued household and commercial demand for electricity creates an opportunity for the expansion of off-grid solar energy.

- Côte d'Ivoire is the world’s largest exporter of unprocessed cocoa beans. Off-grid productive use of energy—including local processing of cocoa beans—could increase economic activity, economic growth, and rural development.

- In Côte d'Ivoire, 49.3% of men and 45.4% of women are self-employed in agriculture. Access to electricity and productive use of energy can provide substantial economic gains to entrepreneurs and boost the country’s agriculture sector, particularly self-employed women in agriculture.

- With more than 19 million mobile subscribers and 9.8 million mobile money subscribers (the fifth highest in the world), Côte d'Ivoire has the highest mobile money penetration in West Africa. Mobile money plays a significant role in the country’s economy and can facilitate more household participation in the off-grid solar market.

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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.
ON-GRID AND OFF-GRID ELECTRIFICATION

Target access and renewable energy rates. The Government of Côte d’Ivoire is committed to achieving universal energy access by 2025, with a renewable energy target of 42% by 2025. In 2018, the electricity access rate was 64%, lagging the electrification target of 73% for that year. Particularly in areas where the grid is unlikely to arrive by 2025, off-grid solar will be an important factor in achieving the electrification target.

Actual access rate vs. electrification target

- 0% (2018)
- 64% (2018)
- 100% (2025 target)
- 42% by 2025

Main provider of electricity. State-owned Côte d’Ivoire Energies (CI-ENERGIES) controls the planning, operational management, and finances. The Ivorian Electricity Company (Compagnie Ivoirienne d’Electricité [CIE]), which sits under CI-ENERGIES, handles part of the generation, transmission, and distribution of electricity.

Plan to increase electricity access. CI-ENERGIES created the Rural Electrification Master Plan (Plan Directeur d’Electrification Rurale [PDER]). As part of the PDER, combined systems of off-grid solar power and diesel back-up generators are intended to electrify areas where the grid will not extend.

Constraints to rural electrical grid extension. Government budgetary constraints can cause delays for electrification of localities (i.e., 6,000 to 8,500 localities are estimated to not have access with no certain connection dates) and the high cost of connections poses a barrier for less affluent populations.

Policy and regulation. The Ministry of Petroleum, Energy, and Renewable Energy (Ministère du Pétrole, de l’Énergie et des Énergies Renouvelables) is prioritizing regulatory change to promote off-grid systems and include it in the rural electrification plan. Additionally, solar kits are afforded a reduced VAT of 9% as opposed to the standard VAT of 18%. Off-grid solar companies have expressed frustration with the importation process and the lack of certainty in how the reduced VAT is applied, with the decision often left to the judgment of customs officials.

Associations. The Ivorian Association of Renewable Energies (Association Ivoirienne des Energies Renouvelables [AIENR]) is the original renewable energy association. However, because of governance and other challenges, a second association (APER-CI) recently emerged at the initiative of about 20 companies and with the support of several donors, including EU, IFC, and AfDB. At the national level, AIENR promotes renewable energy and energy efficiency throughout Côte d’Ivoire. Members of AIENR include installers, retailers, and distributors of renewable energy products and systems.

SHS AND PICO-SOLAR

Côte d’Ivoire’s solar sector is young and rapidly developing. Recent growth is directly tied to a fast-growing economy. A large potential market continues to attract SHS companies. Before 2014, only two SHS companies were in operation off-grid solar, and this number has grown to more than 14 by 2018. Despite the sector’s nascent partnerships in the off-grid solar sector have begun to form, and opportunities exist for collaboration.

Consumer Finance. Most micro-finance institution (MFI) loans are for working capital requirements, investment credit (e.g., purchase of equipment, commercial development, purchase of goods), and consumer credit (e.g., personal loan, fast credit, school loan). Although no MFI currently provides loans for pico-solar purchases, Credit Access and First Micro-Finance Agency (Première Agence de Microfinance [PAMF]), Côte d’Ivoire are planning to develop loans for productive-use appliances and equipment purchases. Mimoxy Finance is an MFI dedicated to providing financing to women, although it does not currently provide loans for pico-solar.

Commercial Finance. Commercial lending to the off-grid sector has been limited because of the infancy of the off-grid solar market in Côte d’Ivoire and the lack of experience in lending to SHS companies within the country. To bridge this gap, donors must provide a guarantee to help secure loans for off-grid solar projects and give commercial banks the necessary industry experience. Recent lending activities include the following:

- Zola EDF Côte d’Ivoire (ZECI) has secured a 15.75 billion FCFA loan from SocGen to finance SHS kits for 100,000 rural households by 2020.
- The KfW Credit Institute for Reconstruction is lending $32.9 million to Ecobank and the African Trade Insurance Agency to create a new financial instrument to support renewable energy projects of up to 50 MW throughout sub-Saharan Africa. The Ivorian Electricity Company (Compagnie Ivoirienne d’Electricité [CIE]), which sits under CI-ENERGIES, handles part of the generation, transmission, and distribution of electricity.
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MINI-GRID

Currently, the only private mini-grids operating in Côte d’Ivoire are from development projects supported by donor agencies. However, the regulatory constraints that the mini-grid industry is experiencing in Côte d’Ivoire is expected to ease in 2020. With the expected decrease of barriers, companies are preparing for future market expansion.
ON-GRID AND OFF-GRID ELECTRIFICATION

Target access and renewable energy rates. The Government of Côte d’Ivoire is committed to achieving universal energy access by 2025, with a renewable energy target of 42%. In 2018, the electricity access rate was 64%, lagging the electrification target of 73% for that year. Particularly in areas where the grid is unlikely to arrive by 2025, off-grid solar will be an important factor in achieving the electrification target.

Actual access rate vs. electrification target

| Percentage of households without electricity | 0% | 5% | 10% | 15% | 20% | 25% | 30% | 35% | 40% | 45% | 50% | 55% | 60% | 65% | 70% | 75% | 80% | 85% | 90% | 95% | 100% |
|---------------------------------------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2018                                        | 64%| 4% | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 100% |
| 2025 (target)                               | 73%| 7% | 11% | 18% | 22% | 26% | 30% | 34% | 38% | 42% | 46% | 50% | 54% | 58% | 62% | 66% | 70% | 74% | 78% | 100%|

Renewable energy target

- 42% by 2025

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Productive Use. In Côte d’Ivoire, a variety of productive uses for off-grid solar exist (e.g. solar-powered water pumps, solar powered mills, etc.), with most SHS companies in the country focusing their efforts in the agricultural sector. The Power Africa geospatial analysis indicates that approximately 50% of households without electricity own livestock and approximately 70% own agricultural land, highlighting the importance of agriculture and the potential for productive use of off-grid solar.

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Currently, the only private mini-grids operating in Côte d’Ivoire are from development projects supported by donor agencies. However, the regulatory constraints that the mini-grid industry is experiencing in Côte d’Ivoire is expected to ease in 2020. With the expected decrease of barriers, companies are preparing for future market expansion.
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Sales by business model

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