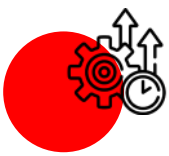
CASE STUDY

Togo CIZO Cheque Program

Country context

In 2019, Togo had a population of 8.3 million people with an energy access rate of 52%. While the overall rate had risen significantly from the 23% in 2010, access in rural areas remained low at 22%[1]. Between 2010 – 2019 Togo experienced a steady GDP growth of 4-7%, but was negatively affected by the COVID-19 pandemic. Currently, 46% of the population remain below the poverty line, with the main economic activities in Togo being mining and agriculture.

Overview of the CIZO program



Managed by the Togolese Agency for Rural Electrification and Renewable Energy (AT2ER), the CIZO program aims to create a market to electrify 555,000+ households with SHS, reaching a total of 1,970 of the unelectrified localities identified in the NES.

In 2018, the Government of Togo developed an ambitious National Electrification Strategy (NES) aiming to reach universal electrification by 2030[2]. The plan laid out in the NES is based on a geospatial least-cost assessment, which showed that 47% of the non-electrified households would be most efficiently connected through off-grid solutions.

It was therefore determined that the government's electrification target would be reached through a combination of grid and off-grid technologies; with the plan to deploy 555,000 solar home systems (SHS), 300 mini-grids (supplying 55,000 connections), and 670,000 on-grid connections, between 2018-2030.

Understanding the complexities of reaching last mile customers, the government decided the optimal strategy for deploying SHS would be through public-private partnerships, and the CIZO[3] program was initiated to support this approach. Managed by the Togolese Agency for Rural Electrification and Renewable Energy (AT2ER), the CIZO program aims to create a market to electrify 555,000+ households with SHS, reaching a total of 1,970 of the unelectrified localities identified in the NES (Figure 1).

The six-year program (2018-2023) directly targets all rural populations who do not have access to the grid. The Government of Togo has set a minimum capacity of 20 watt-peak for SHS under the program. This is well above the minimum threshold of Tier 1 access as defined by the Multi-tier Framework, and allows households to power basic appliances with their systems in addition to lighting and phone charging.

1 Tracking SDG7

2 The NES can be consulted here ***https://www.lightingglobal.org/wp-content/uploads/2018/12/Togo-Electrification-Strategy-Short-EN-Final.pdf***

3 CIZO means "turn on the light" in Gen, the local dialect.

Figure 1. Off-grid household targets for 2018-2030 under Togo's National Electrification Strategy

Source: Togo Electrification Strategy, Government of Togo

The CIZO program was designed with several factors in mind: the short operating timeframe to reach the government's target, prevailing low-income levels, and how sparsely populated and far from the grid the populations are located. In order to best address these factors, the CIZO program uses a private-sector deployment strategy with public sector support (as shown in Figure 2) and envisions the use of both supply-side and end-user subsidies.

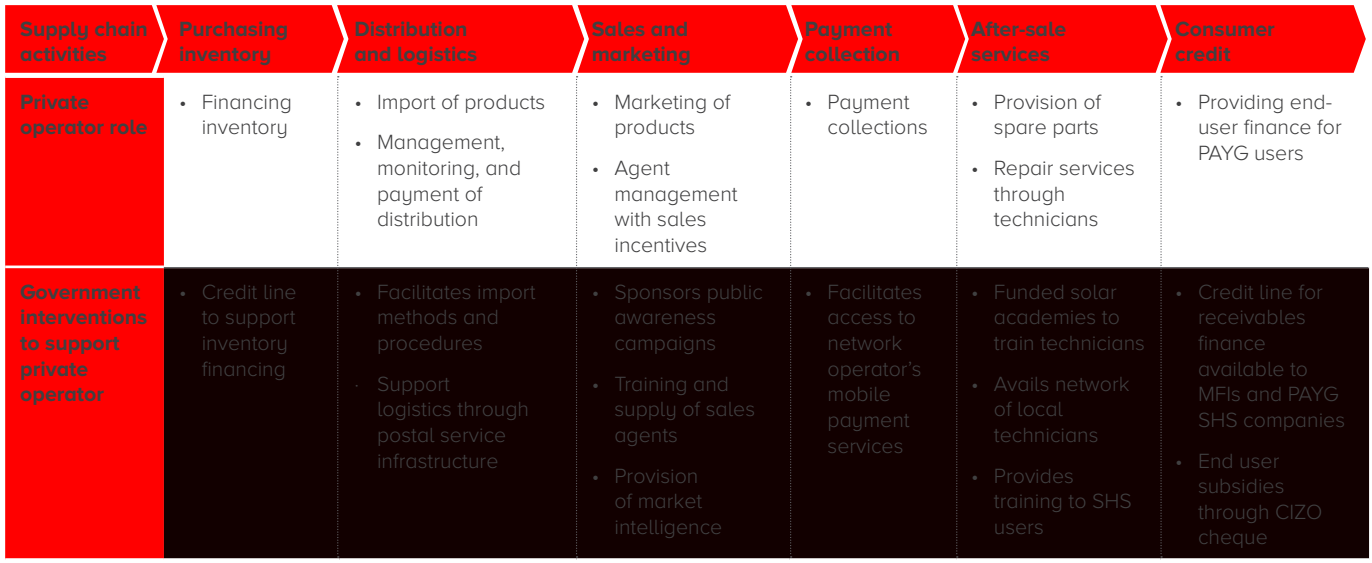
The private sector is responsible for all operations along the value chain (e.g., purchasing inventory, distribution, payment collection, maintenance, etc.), while the government provides support through a variety of market-enabling activities and financing instruments. These include[4], consumer awareness campaigns, VAT exemptions, and making state logistics available (through the national postal services company, LaPoste) to provide transport and warehousing services for off-grid solar companies.

Mobile operators such as Togo Cellulaire and Moov, and their respective mobile money services, were key enablers for quick and reliable customer payment transactions. In addition, the program has supported the training of 3,000 local technicians in the installation, maintenance, and repair of SHS; and trained 3,000 agents in mobile banking.

For end-users, the government has sought to address affordability through a combination of consumer financing provided by MFIs and SHS companies through their pay-as-you-go (PAYG) platforms, as well as through an end-user subsidy known as the CIZO cheque.

4 For example, a credit line has been set up to finance the working capital requirements of off-grid solar companies. State-owned bank UTB has provided US$4 million in local currency to Bboxx-EDF with the support of the African Guarantee Fund, marking the first large loan for solar companies in Togo.

Figure 2. Envisioned roles throughout the value chain under the CIZO Program



Supply chain activities	Purchasing inventory	Distribution and logistics	Sales and marketing	Payment collection	After-sale services	Consumer credit
Private operator role	• Financing inventory	• Import of products • Management, monitoring, and payment of distribution	• Marketing of products • Agent management with sales incentives	• Payment collections	• Provision of spare parts • Repair services through technicians	• Providing end-user finance for PAYG users
Government interventions to support private operator	• Credit line to support inventory financing	• Facilitates import methods and procedures • Support logistics through postal service infrastructure	• Sponsors public awareness campaigns • Training and supply of sales agents • Provision of market intelligence	• Facilitates access to network operator's mobile payment services	• Funded solar academies to train technicians • Avails network of local technicians • Provides training to SHS users	• Credit line for receivables finance available to MFIs and PAYG SHS companies • End user subsidies through CIZO cheque

Source: Adapted from the Togo Electrification Strategy, Government of Togo

The CIZO program receives funding from multilateral donors including from the African Development Bank, and the European Union Africa Infrastructure Trust Fund, among others. Five private sector partners were competitively selected to take part in the program (Bboxx-EDF, Soleva, Engie, Solergie, and Moon). Bboxx-EDF was the first to sign an agreement and obtain a license from the government in 2018, during the "demonstration" phase of the CIZO program. The government signed the other companies later between 2019 and 2020, for the program's "acceleration" phase.

The CIZO program stands out as one of the most ambitious and interesting examples of a government leveraging digital tools (i.e., PAYG platforms, mobile money services, and a national database to determine eligibility of subsidy recipients) to rapidly and effectively increase energy access through the uptake of off-grid energy services, as explained below.

CIZO cheque providing end-user subsidies

The feasibility study of the CIZO program highlighted that affordability of SHS was going to be an impediment to realizing the program's objectives. For this reason, the CIZO cheque was launched in 2019 as an end-user subsidy to help to bridge the affordability gap of eligible households by partially covering their payments to off-grid solar companies.

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Determination of the subsidy level

The CIZO check is a monthly subsidy that will complement household payments for a period of three years. The amount of the subsidy was determined based on a market study conducted in off-grid rural areas[5], which estimated that only 30% of the off-grid population could afford the first program-eligible 20 watt-peak Bboxx-EDF SHS at the market price point of 4,800 FCFA/month (US$8/month). By halving the price, roughly double the number of households would be able to afford to access this technology.

A pilot was also implemented by the government in partnership with Bboxx-EDF, and the CIZO cheque set at 2,000 FCFA (US$3.30) to help cover the cost of the SHS. Households would then be responsible for paying the remaining 2,800 FCFA (US$4.70)/month not covered by the subsidy. With the subsidy, this payment was affordable for about half of the off-grid population in Togo.

End-user eligibility

The CIZO cheque was initially targeted at households in specific parts of the country where electricity access is lowest. But given the quick response of the market to this subsidy, and in order to accelerate uptake, the subsidy was expanded to all off-grid rural households about a year later. Eligibility criteria are now as follows:

- being located in an off-grid rural area
- having an active mobile phone number
- having not received the subsidy on a previous purchase, and
- making a first payment to the off-grid solar company to activate the account and trigger the authorization of subsidy payments

The decision of a blanket (rather than targeted) subsidy amount for all rural households that are not connected to the grid allowed the government to deploy the subsidy mechanism simply and quickly, immediately boosting sales. According to data provided by participating companies, the subsidy drove up adoption by 125 percent in the first three months after launch and roll-out (and up by 164 percent in the prefecture group with the lowest level of electrification). It is, however, worth noting that, in the absence of targeting, subsidies may be provided to households that do not need them.

Product eligibility criteria

Off-grid solar companies participating in the CIZO program are awarded a 15-year license to supply SHS meeting the following criteria. The same product eligibility criteria apply to the CIZO cheque.

I. Service and after-sales service quality over the long term[6]

II. Minimum SHS capacity of 20Wp

III. Minimum product quality (products must meet VeraSol standards[7])

IV. Machine to machine connectivity, allowing SHS products to be monitored remotely

Verification, monitoring, and flow of funds

A national database of eligible households was jointly compiled by mobile operators and LaPoste. Mobile operators provided their customers' addresses, which LaPoste checked against eligible locations. All eligible customers were then informed of the CIZO cheque subsidy via SMS by their mobile operators. Customers who responded to the SMS to signal their interest were integrated into the database, which is kept up to date by LaPoste.

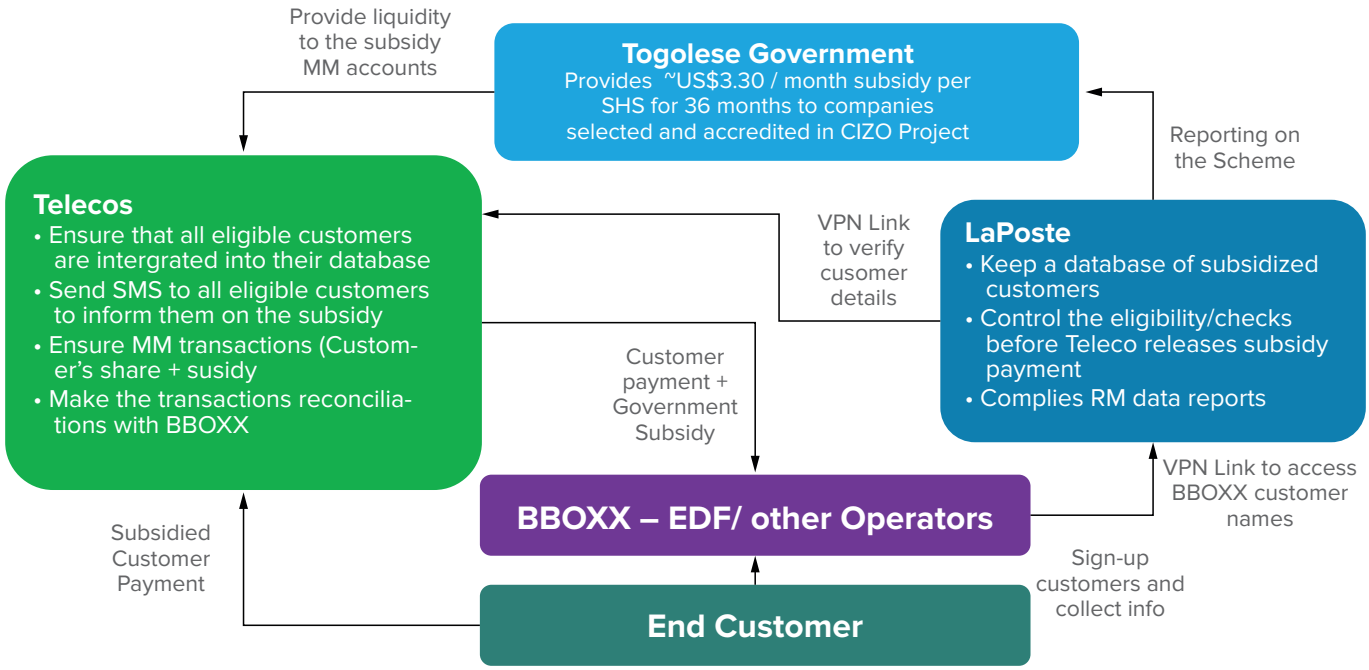
5 Lighting Global, 2018. Off-grid solar market research for Togo. *https://www.lightingglobal.org/wp-content/uploads/2018/12/Togo-Off-Grid-Solar-Market-Assessment.pdf*

6 Off-grid solar companies can either offer a fee-for-service model during the license period or a lease-to-own model. In the latter case, off-grid solar should offer their customers service and maintenance contracts after the lease period.

7 https://verasol.org/

In order to initiate the CIZO Cheque process, an End Customer then acquires an eligible SHS from their preferred CIZO-eligible off-grid solar company and makes a first payment to activate the PAYG mobile money (MM) account. The off-grid solar company then shares the customer's information with LaPoste to update the database, indicating the acquisition has taken place. In parallel, and upon receiving the initial MM payment from the customer, the mobile operator (a Teleco) requests an eligibility check from LaPoste. Upon verification from LaPoste, the mobile operator channels the subsidy from the Togolese Government to the off-grid solar company. The off-grid solar companies then collect regular payments via MM from their customers, and the mobile operators transfer the subsidy amount from the government to off-grid solar companies, on a monthly basis, for up to 36 months, as long as customers remain eligible. The responsibilities of each stakeholder and the flow of funds for the CIZO Cheque are shown in Figure 3.

Figure 3. The Mechanics of CIZO Cheque



Source: Bboxx-EDF

Verification is particularly important to ensure that only eligible households benefit and that households do not benefit more than once. Eligible customers in the national database are identified through their phone number and location. If either of these change, the customer is no longer eligible. As SHS are equipped with SIM cards, the change in location can be detected through network-based location services. While this procedure has been successful in avoiding fraud, it has been problematic for customers losing mobile phones, changing mobile phone subscriptions, or moving from one eligible location to another.

In order to streamline the verification process, the program is considering replacing the current method of identifying eligible customers through the combination of phone number and location to creating a unique customer ID generated by the

off-grid solar company. The eligibility of location would continue to be verified, but customers would have more flexibility to switch their phone number and/or location, without losing eligibility for the CIZO cheque.

Finally, the government is putting in place a third-party digital management platform to monitor the impacts of the program. This national platform will interface with the PAYG platforms of each off-grid solar company, allowing the government real-time visibility of the progress of program.

Exit strategy

The CIZO cheque program will continue until at least 2023, and will potentially be extended, given the success thus far. The government is currently considering ways of integrating the CIZO cheque into the "Electricity for All Fund", established in December 2021 to finance grid connections for poor households. It is also likely that the next phase will include a subsidy redesign with better targeting of the poorest and most vulnerable segments of the population. This will allow for the progressive phasing out of the subsidy.

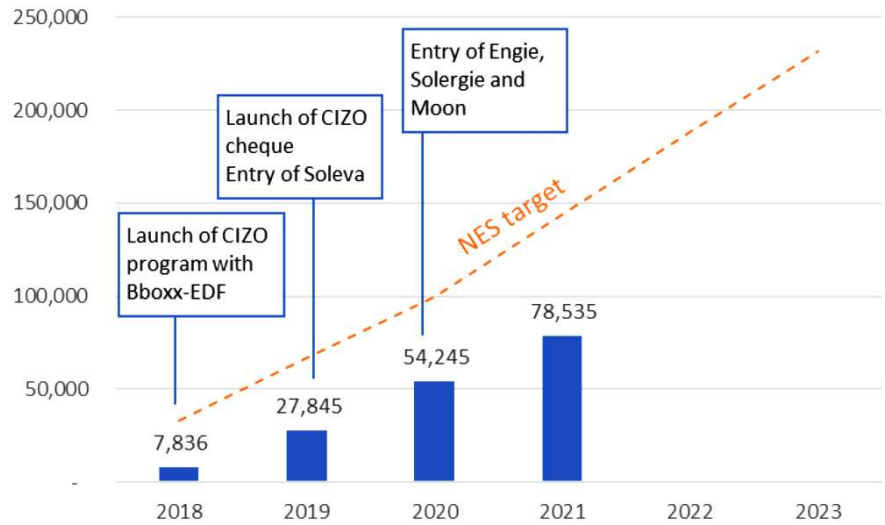
Results and impact to date

Nearly 80,000 households have already benefitted from the CIZO program, 71,600 (91%) of which have also received the CIZO cheque subsidy. The number of connections has been growing steadily year on year, especially since the introduction of the CIZO cheque in 2019 (see Figure 4). The pace is, however, below the objectives set in the National Electrification Strategy.

Bboxx-EDF has realized over 70% of the connections under CIZO to date, with over 60,000 active customers.

The CIZO cheque has had very favourable impacts on the key performance indicators of off-grid solar companies. Only a few months after its implementation, Bboxx-EDF saw the monthly customer adoption rate double, energy consumption increase significantly, and the probability of defaults sharply decrease from 24% in the pre-subsidy period to 8% after[8].

Figure 4. Number of households electrified under CIZO



Source: presentation from AT2ER in March 2022, https://esmap.org/ESMAP-Webinar-Togolese-CIZO-Cheque-Model. The dotted line corresponds with targets in the National Electrification Strategy (Figure 1).

8 Probability of customers defaulting at least once in 7-month period. These results are from independent research by the University of Oxford on the first four months of CIZO cheque (forthcoming).

Lessons learned

The CIZO program (and the CIZO cheque in particular) has succeeded in promoting the rapid uptake of high-quality SHS in off-grid areas in Togo despite challenging market conditions and the difficulties posed by COVID-19. This success can be attributed to a series of features, including a) the use of digital tools to verify eligibility of subsidy recipients and to channel payments; b) the range of mechanisms through which the government provides support to companies allowing market barriers to be addressed simultaneously; and c) the partnerships with a wide range of stakeholders (off-grid solar companies, LaPoste, the mobile network operators, UTB bank, among others).

On the other hand, connections remain below target and the program faces a number of challenges. Affordability continues to be a concern. A blanket subsidy for the rural population has allowed off-grid companies to grow quickly, but market assessments suggest that about half of the rural population will not be able to afford the basic 20Wp SHS package even with the existing subsidy. Off-grid solar companies may therefore encounter difficulties when targeting the more remote and lower income population. The small size of the market in Togo also makes cost reductions via economies of scale difficult to achieve. While the government addresses this with the multiple supply-side incentives awarded to the five selected off-grid solar companies, the market is not likely to be as dynamic as those in larger countries. For that reason, demand-side subsidies are likely to continue to play a key role. Low visibility of the CIZO cheque beyond 2023 may impact interest and uptake for both off-grid solar companies and customers alike. Aware of this, the government is working toward the continuation and redesign of the scheme. As reaching the remaining last-mile customers comes with greater challenges, it will be important that the next phase of the program deploy subsidies in a way that allows companies to continue to expand into more difficult markets while also addressing the specific affordability constraints of the different segments of the population.