



# ELECTRICITY SECTOR IN TOGO: Situation of Access to Energy

Presented by:

**Mr. K. Mawuena ADJOGAH,**  
**International Energy Consultant**  
**Cél. : +228 90 04 83 38 / email : madjogah@hotmail.com**  
**LOME (Togo)**



# PRESENTATION OUTLINE



# PRESENTATION OUTLINE

1. THE TOGO IN BRIEF
2. THE INSTITUTIONAL AND LEGAL FRAMEWORK
3. THE STRENGTHS OF THE INSTITUTIONAL AND LEGAL FRAMEWORK
4. ELECTRIFICATION IN TOGO: STATE OF PLAY
5. THE NEW ELECTRIFICATION STRATEGY

## **1. TOGO IN BRIEF**

2. THE INSTITUTIONAL AND LEGAL FRAMEWORK
3. THE STRENGTHS OF THE INSTITUTIONAL AND LEGAL FRAMEWORK
4. ELECTRIFICATION IN TOGO: STATE OF PLAY
5. THE NEW ELECTRIFICATION STRATEGY

# 1. TOGO IN BRIEF



Located in West Africa, Togo is a former German and then French colony. It has been independent since April 27, 1960.

## Fact sheet

Surface area: 56,785 km<sup>2</sup>.

Population: estimated at 7.8 million inhabitants (2018), with a density of 133 inhabitants/km<sup>2</sup> and an average growth rate of 2.4%/year.

Division: 5 administrative regions, themselves divided into 39 prefectures.

Growth rate: estimated at 4.9%/year (2018)

Infant mortality rate: estimated at 43.7/1000.

Life expectancy: estimated at 64.5 years

Export crops: cocoa, coffee, cotton

Main mining resources: phosphates, limestone, marble, iron, etc ...



# ELECTRICITY SECTOR IN TOGO

1. TOGO IN BRIEF

## **2. THE INSTITUTIONAL AND LEGAL FRAMEWORK**

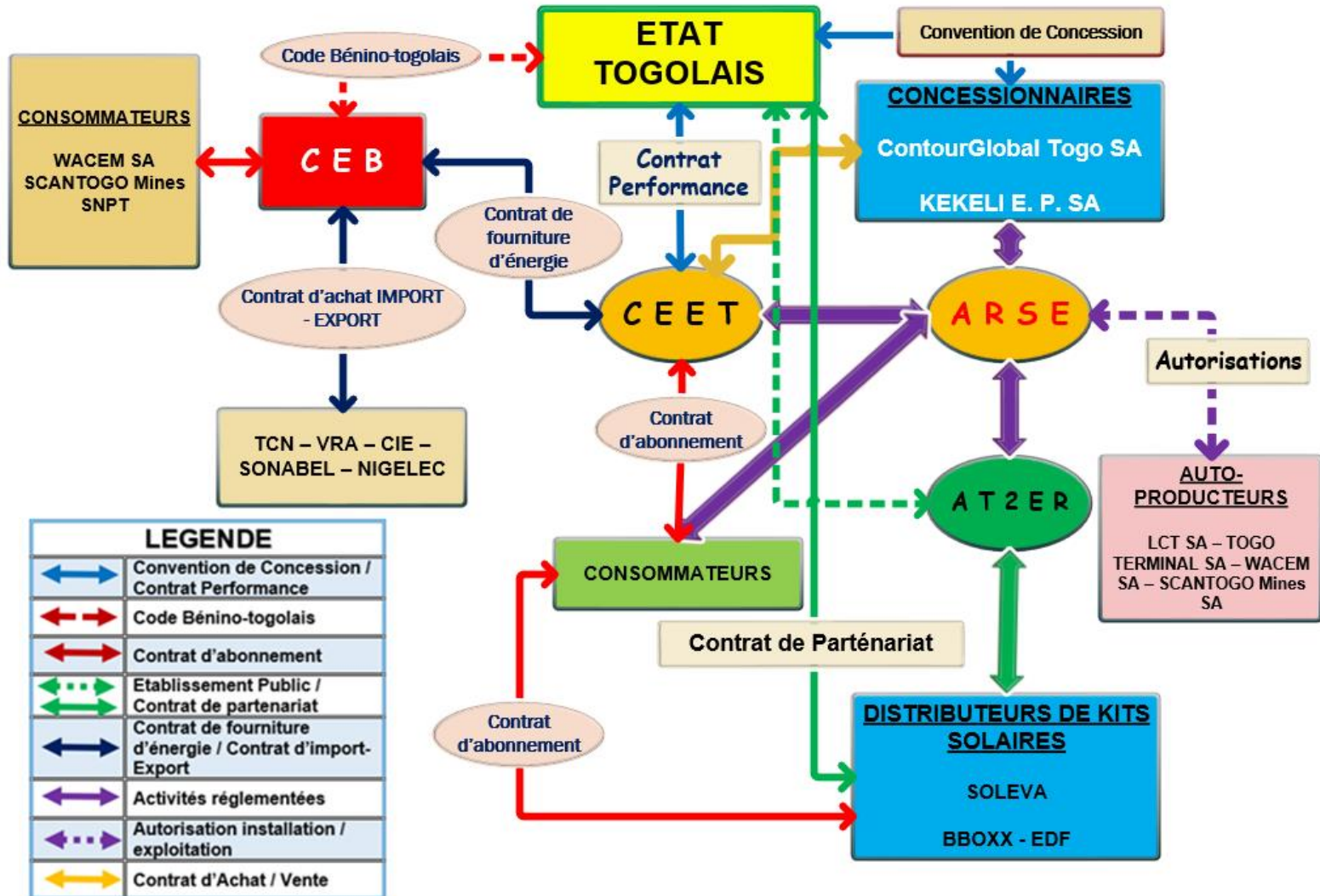
3. THE STRENGTHS OF THE INSTITUTIONAL AND LEGAL FRAMEWORK

4. ELECTRIFICATION IN TOGO: STATE OF PLAY

5. THE NEW ELECTRIFICATION STRATEGY

## 2. INSTITUTIONAL AND LEGAL FRAMEWORK

### 2.1. General institutional framework





## 2. GENERAL INSTITUTIONAL FRAMEWORK

### 2.2. Actors of the electricity sector

#### a. Togolese State



**Ministry of Mines and Energy (MME):** Among other things, it is in charge of drawing up the general policy of the sector and implementing the State's actions in the field of electric energy.

**The Directorate General of Energy (DGE)** is the technical body of the Ministry of Mines and Energy.

**Togolese Agency for Rural Electrification and Renewable Energies (AT2ER):** AT2ER is in charge of mobilising resources for the electrification of localities located in rural areas and setting up tools for the promotion and development of electricity production potential based on renewable energy sources.





## 2. INSTITUTIONAL AND LEGAL FRAMEWORK

### 2.2. Actors of the electricity sector

#### b. operators



**Communauté Électrique du Bénin (CEB) :** The Communauté Électrique du Bénin (CEB) is an International Organisation of a public nature set up by Togo and Benin (International Agreement of 27/07/1968).

The Benin-Togolese Electricity Code, revised in 2003, grants the CEB the exclusive right to carry out the activities of carrier, importer and single buyer for the needs of Togo and Benin on the territory of the two States. This revision opened up the generation segment to independent power producers (IPPs).

The CEB Heads of State Summit in November 2018 reviewed the corporate purpose of the CEB. It now only acts as a transmission system operator in the territory of the community.

## 2. INSTITUTIONAL AND LEGAL FRAMEWORK

### 2.2. Actors of the electricity sector

#### b. Operators



**Compagnie Energie Electrique du Togo (CEET):** The CEET is a state-owned company created by ordinance n° 63 -12 of 20 March 1963 and placed under the supervision of the Ministry of Mines and Energy. It is the historical operator in charge of the distribution and sale of electricity throughout the Togolese territory.

It also has isolated means of production.



**ContourGlobal Togo (CGT):** Independent producer installed in Togo through a Public Private Partnership.

CGT has been operating a 100 MW thermal power plant since October 2010.

## 2. INSTITUTIONAL AND LEGAL FRAMEWORK

### 2.2. Actors of the electricity sector

#### b. Les opérateurs



**Kekeli Power Efficient (KPE):** Independent power producer having signed a concession agreement on 22 October 2018 for the design, construction and operation of a 65 MW combined cycle power plant.



**BBOXX Capital Togo:** BBOXX is a British company which signed in July 2017 a memorandum of understanding with the Togolese State for the deployment of solar kits for populations located in unconnected areas, within the framework of the presidential project called "CIZO".



**Paygo Ventures:** This is a consortium between Wawa Energy Solutions Ltd. and Aphelion Energy. This group also operates for the distribution of solar kits since August 2018.

## 2. INSTITUTIONAL AND LEGAL FRAMEWORK

### 2.2. Actors of the electricity sector

#### c. The regulator



**The Electricity Regulatory Authority: (ARSE):** The ARSE was created by Law 2000-012 of 18 July 2000, relating to the electricity sector (Articles 11 to 14).

Its mission was extended by Law N°2011-024 of 4 July 2011 amending Article 16 of Law N°2010-006 of 18 June 2010 on the organization of public services of drinking water and collective sanitation of domestic wastewater.

The main missions of ARSE are divided into :

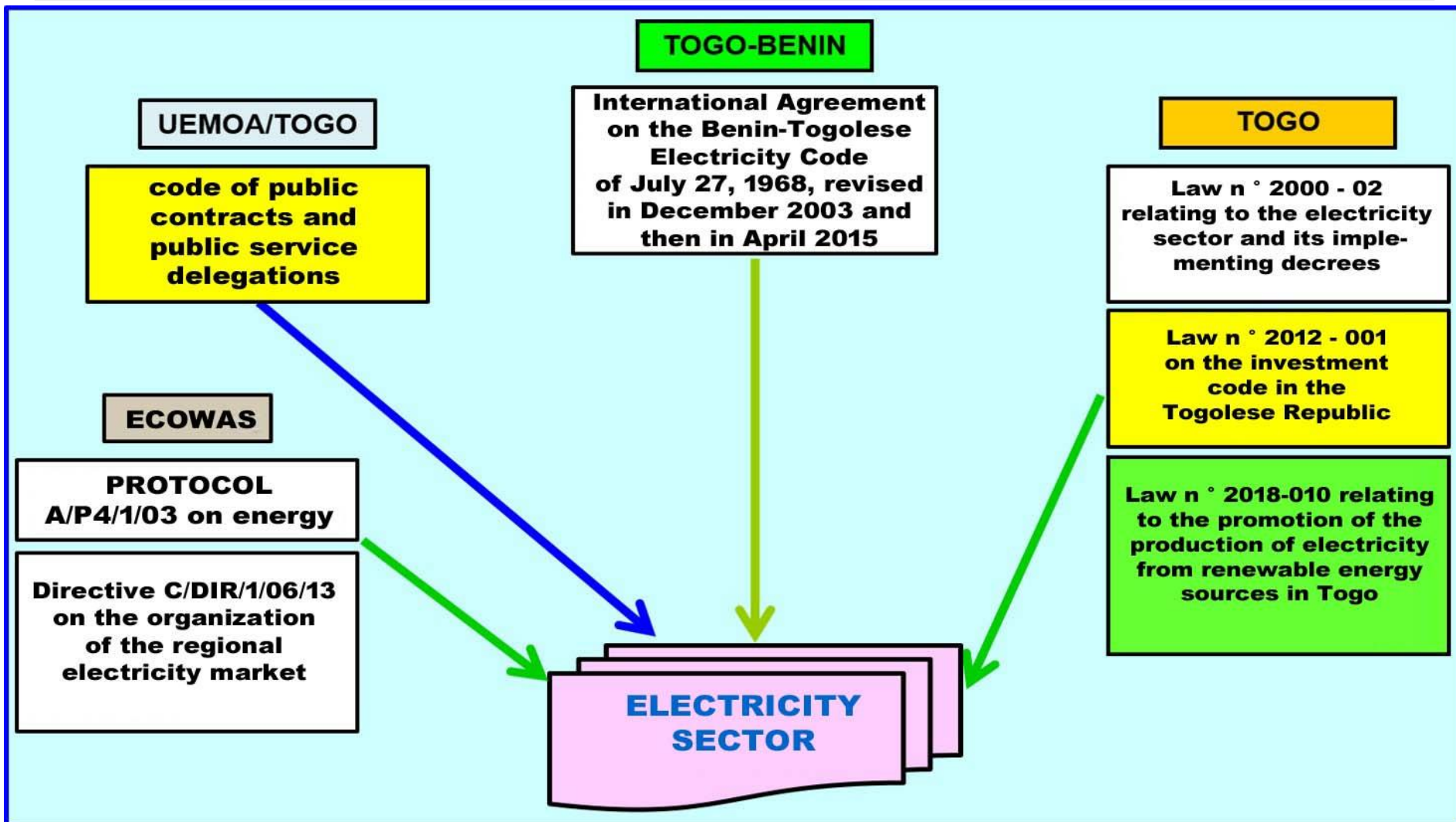
Missions of regulation and regulation of the electricity sub-sector

Regulatory missions for the drinking water and collective domestic wastewater treatment sub-sector.

## 2. INSTITUTIONAL AND LEGAL FRAMEWORK

### 2.3. Legal framework (1/7)

The following diagram presents the primary legal framework of the electricity sector in Togo:



## 2. INSTITUTIONAL AND LEGAL FRAMEWORK

### 2.3. Legal framework (2/7)

The electricity sector in Togo is governed by several texts:

#### (i) At the Bilateral Plan

##### ➤ Benin-Togolese Electricity Code

Principles are:

- ✓ The creation of a bi-national company (the Electric Community of Benin, CEB) with the "exclusivity" to carry out the activities of transport, importation and purchase of electrical energy for the needs of Togo and Benin;
- ✓ The Ministers in charge of electric energy in the two countries (Benin/Togo) are responsible for drawing up sectoral policy, administrative and regulatory changes, drawing up master plans, approving or modifying tariff structures or regulations, and concluding delegation agreements;
- ✓ The charging of national companies with the distribution and marketing of electric energy in the respective national territories.



## 2. INSTITUTIONAL AND LEGAL FRAMEWORK

### 2.3. Legal framework (3/7)

#### (ii) At the national level (1/4)

#### ➤ Law N° 2000-012 relating to the electricity sector of 18/07/2000

This law defines the following general principles:

- ✓ Beneficial and rational use of national resources for the extension of the national electricity grid;
- ✓ Compliance with the public service principles governing the activity of supplying electricity under fair and equitable financial conditions ;
- ✓ Guaranteeing the economic and financial balance of the electricity sector as well as respect for the environment ;
- ✓ Guarantee of the independence of participants in relation to their attributions, duties, functions and powers;
- ✓ Creation of a regulatory authority for the sector.



## 2. INSTITUTIONAL AND LEGAL FRAMEWORK

### 2.3. Legal framework (4/7)

#### (ii) At the national level (2/4)

➤ **The law N° 2018-010 of August 8, 2018 relating to the promotion of the production of electricity based on renewable energy sources.**

This recent law establishes the general legal framework for the implementation of electricity production projects based on renewable energy sources, by natural or legal persons, public or private, either for self-production or for marketing..

This law is composed of 53 articles organized in 7 titles. In particular :

- ✓ Title II is devoted to the various schemes and titles for renewable energy projects :  
(i) the freedom, declaration and authorisation regimes; (ii) the titles of exercise relating to the licence and the concession agreement.
- ✓ Title IV deals with the promotion and development of renewable energy sources, including the tax and customs regime and the incentives for granting tax and customs exemptions to promoters.

## 2. INSTITUTIONAL AND LEGAL FRAMEWORK

### 2.3. Legal framework (5/7)

#### (ii) At the national level (3/4)

- **Decree No. 2000-089/PR** defining the terms and conditions for the exercise of regulated activities in accordance with Law No. 2000-012 relating to the electricity sector (production, transmission and distribution of electrical energy: granting and termination of operating licences, granting and termination of concessions, etc. ...).
- **Ministerial Order N° 007/MME/ARSE/2012** of 08/02/2012 approving the Technical Regulations for the Distribution of Electrical Energy in Togo.
- **The Technical Regulation for the Distribution (RTD)** of Electrical Energy is intended to set or develop the administrative, technical, legal and financial rules for the supply of electrical energy.
- **Le décret N° 2016-064/PR** du 11/05/2016 portant création, attributions, organisation et fonctionnement de l'Agence Togolaise d'Electrification Rurale et des Energies Renouvelables (AT2ER).

## 2. INSTITUTIONAL AND LEGAL FRAMEWORK

### 2.3. Legal framework (6/7)

#### (ii) At the national level (4/4)

- **The decree N° 2019-018/PR** of 06/02/2019 fixing the conditions and modalities of conclusion and termination of concession agreement for the production and marketing of electricity based on renewable energy sources.
- **The decree N° 2019-019/PR** of 06/02/2019 setting the power thresholds of the different legal regimes for electricity production projects based on renewable energy sources.
- **Decree No. 2019-021/PR** of 13/02/2019 sets the terms and conditions for the issuance and withdrawal of the license for the production, distribution and marketing of electricity based on renewable energy sources.
- Provided for by law and in preparation, a decree will set the conditions for granting and withdrawing the right of access to the national electricity distribution network..

## 2. INSTITUTIONAL AND LEGAL FRAMEWORK

### 2.3. Legal framework (7/7)

#### (iii) PPP context

➤ **Law No. 2014-014 of 22 October 2014** on Modernization of State Action in Support of the Economy.

**The general principles underlying this law are:**

- ✓ Principle of free access to public procurement;
- ✓ Principle of equal treatment of candidates;
- ✓ Principle of transparency of procedures.

## 2. INSTITUTIONAL AND LEGAL FRAMEWORK

### 2.3. Legal framework (6/6)

#### (iii) PPP context

➤ Pursuant to Law No. 2014-014 of 22 October 2014, the following are listed below:

The **partnership contract** is an administrative contract by which a public entity entrusts to a third party, for a fixed period of time depending on the period of amortisation of the investments or the financing methods chosen, a global mission having as its object, totally or partially, cumulatively or alternatively, the financing, design, construction, transformation, renovation, maintenance, operation or management of works, equipment or immaterial goods on behalf of the public entity.

A **concession** is a contract by which the granting authority, State, local authority or public institution entrusts a concessionaire, which may be a legal person governed by private law, with the operation of a service and/or the execution of a public work at its own risk, for a specified period, in return for remuneration paid by the users of the service.



# PRESENTATION OF THE ELECTRICITY SECTOR IN TOGO

1. TOGO IN BRIEF

2. THE INSTITUTIONAL AND LEGAL FRAMEWORK

**3. THE STRENGTHS OF THE INSTITUTIONAL AND LEGAL  
FRAMEWORK**

4. ELECTRIFICATION IN TOGO: STATE OF PLAY

5. THE NEW ELECTRIFICATION STRATEGY

### 3. ADVANTAGES OF THE INSTITUTIONAL AND LEGAL FRAMEWORK

- **The existence of a regulator of the electricity sector** (art. 9 et seq. Of law N ° 2000-012).
- **The creation of an agency dedicated to renewable energies and rural electrification** (Decree N ° 2016-064)
- **Tax and customs incentives for promoters** (art. 35 and 36 of law N ° 2018-010)
- **The possibility of injection into the network granted to promoters of mini-grids and self-producers** (art. 37 and 38 of law N ° 2018-010)
- **Energy disposal priority reserved for renewable energy producers** (art. 39 of Act No. 2018-010)
- **In the event of extension of the national electricity grid to the licensee's mini-grid**, the law provides for negotiations between the national electricity grid operator and the licensee with a view to either the purchase of the licensee's installations or the signing of an energy purchase and sale contract (Article 21 of Law No. 2018-010).



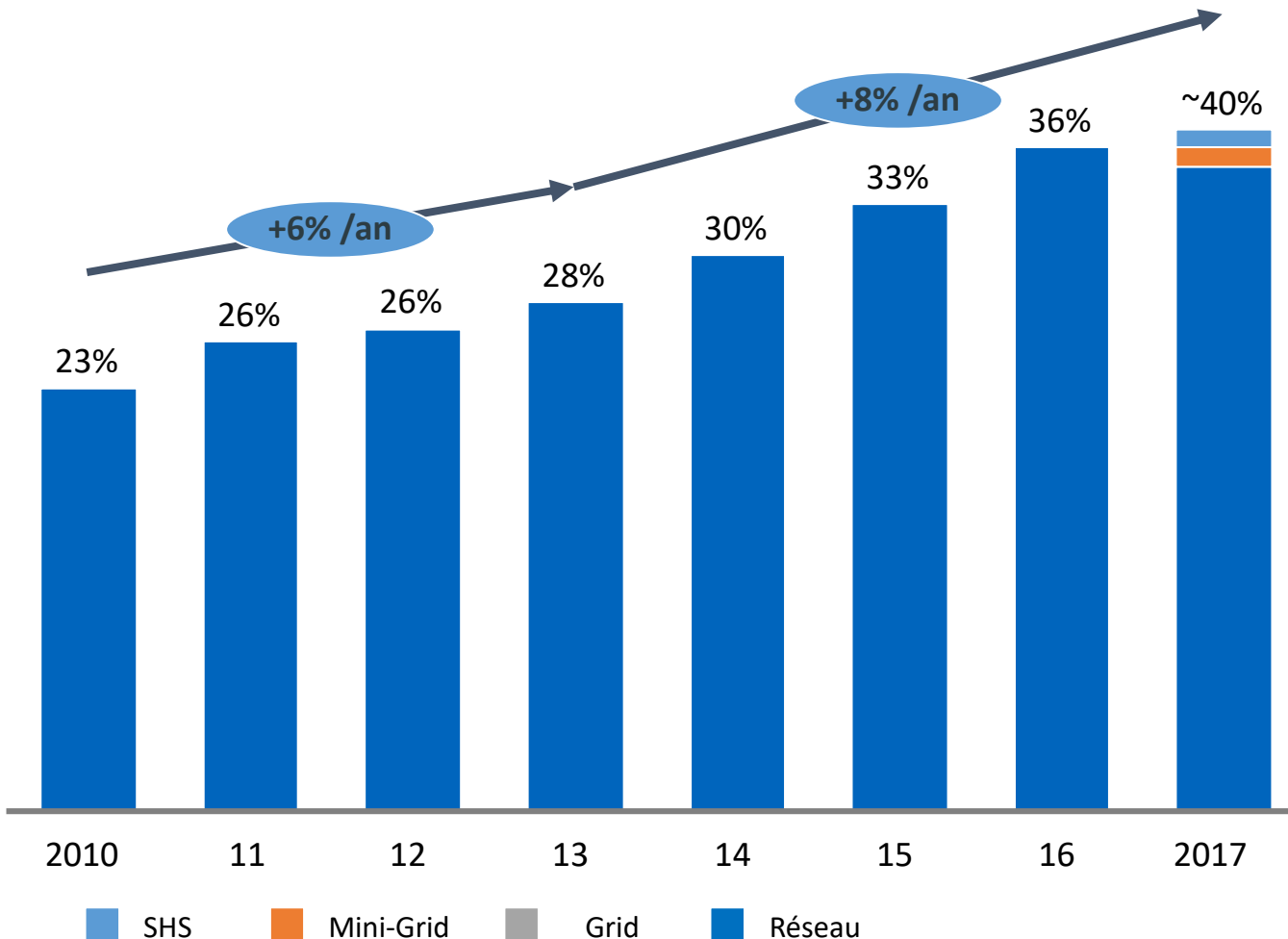


# PRESENTATION OF THE ELECTRICITY SECTOR IN TOGO

1. TOGO IN BRIEF
2. THE INSTITUTIONAL AND LEGAL FRAMEWORK
3. THE STRENGTHS OF THE INSTITUTIONAL AND LEGAL FRAMEWORK
- 4. ELECTRIFICATION IN TOGO: STATE OF PLAY**
5. THE NEW ELECTRIFICATION STRATEGY

## 4. ELECTRIFICATION IN TOGO: State of play

*Electrification rate in Togo increased from 23% in 2010 to ~ 40% in 2017*



### **Constat:**

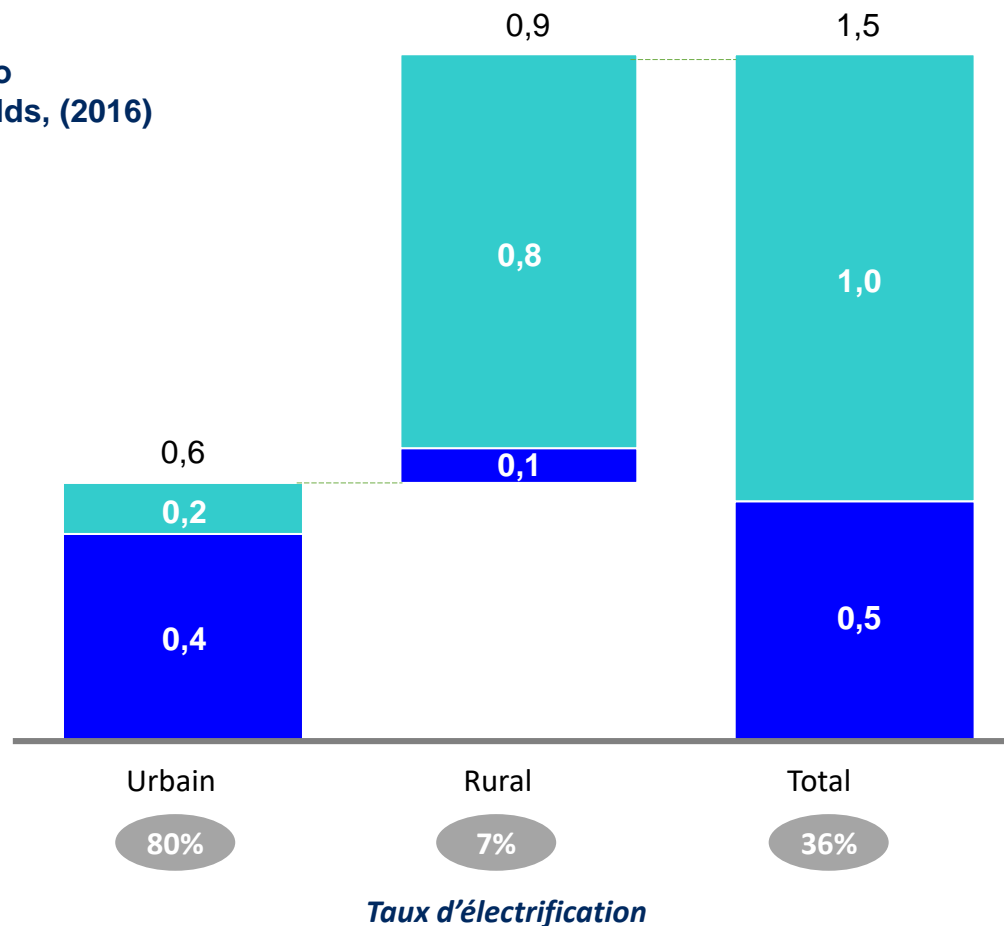
*At the current electrification rate, universal access would only be reached in ~ 2050, with an access rate below 60% in 2030*

## 4. ELECTRIFICATION IN TOGO: State of play

*In 2016, almost 1M of Togolese households remained unelectrified, the majority in rural areas*

**Electrification rate in Togo**  
(x, x) Millions of households, (2016)

- Electrified
- Not electrified



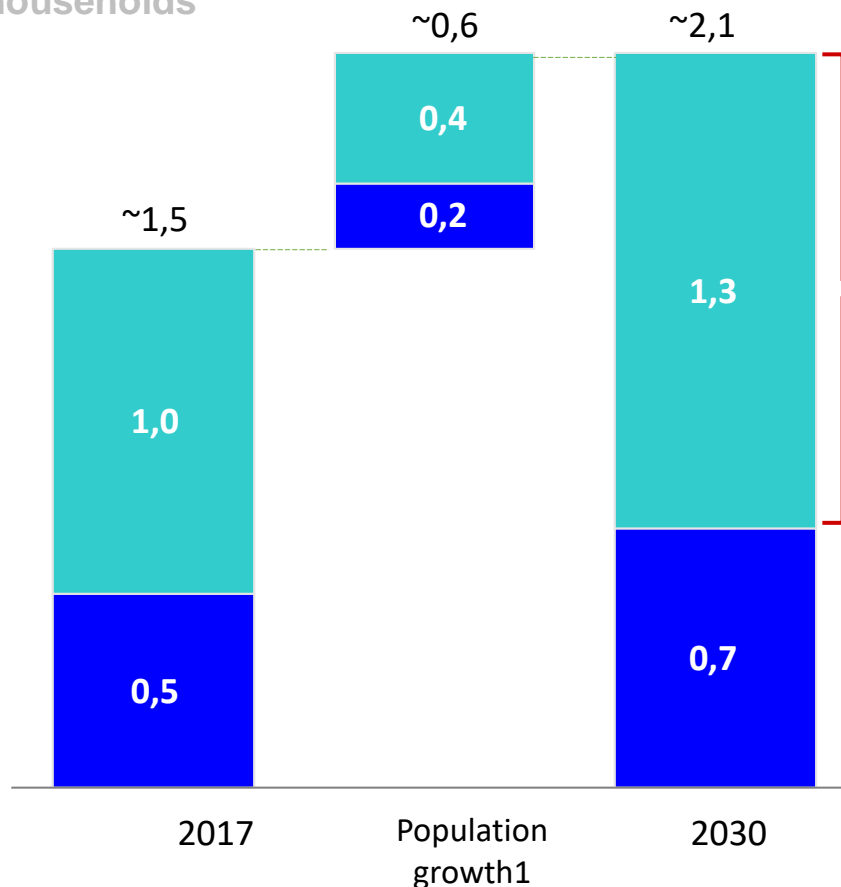
## 4. ELECTRIFICATION IN TOGO: State of play

*Reaching 100% of households by 2030 would require the electrification of ~ 1.3M additional households, including 0.9M in non-electrified localities*

### Evolution of the number of households to be electrified

(x, x): Millions of households

■ Electrified  
■ Not electrified



**~ 1.3 million** non-electrified households in 2030, corresponding to **113,000 electrified households** per year or ~ 7% of the population each year (**0.9 million** in non-electrified localities<sup>2</sup>)

<sup>1</sup> Hypothèse : 1/3 des nouveaux ménages situés en zones déjà électrifiées

<sup>2</sup> Estimation de 400k ménages non-électrifiés se trouvant dans des localités déjà électrifiées ; ces ménages devront faire l'objet d'une électrification "last-mile"

## 4. ELECTRIFICATION IN TOGO: State of play

In the logic of achieving SDG N ° 7 (Access to energy for all in 2030), a number of measures have been taken for an energy transition:

1. the adoption in October 2015 of the National Action Plan for Renewable Energies (PANER);
2. the realization of the Renewable Energy and Energy Efficiency Development Program (PRODERE) with the electrification of 22 localities by solar kits and the introduction of 13,000 solar street lights in the public lighting network with UEMOA funding, up to 2.562 billion CFA;
3. the creation in 2016 and the operationalization of the Togolese Agency for Rural Electrification and Renewable Energies (AT2ER);
4. the implementation of PRODERE 2 with the construction and commissioning of 4 decentralized power plants of 100 to 250 Kwc with WAEMU financing of CFA 2 billion;
5. the adoption and implementation of the presidential project "CIZO" which provides for the deployment of 30,000 solar kits ("CIZO" literally means "Turn on the light" in one of Togo's local languages);
6. the elaboration and adoption of the draft law on renewable energies in Togo;
7. the development and adoption of a national electrification strategy.



# PRESENTATION OF THE ELECTRICITY SECTOR IN TOGO

1. TOGO IN BRIEF
2. THE INSTITUTIONAL AND LEGAL FRAMEWORK
3. THE STRENGTHS OF THE INSTITUTIONAL AND LEGAL FRAMEWORK
4. ELECTRIFICATION IN TOGO: STATE OF PLAY
- 5. THE NEW ELECTRIFICATION STRATEGY**

## 5. THE NEW ELECTRIFICATION STRATEGY

### 5.1. Government vision

**Ensure access to electricity energy for all Togolese by 2030, by involving the private sector, in particular through Public-Private Partnerships (PPP).**

This energy should be:

- In sufficient quantity and quality
- Affordable and,
- Respectful of the environment

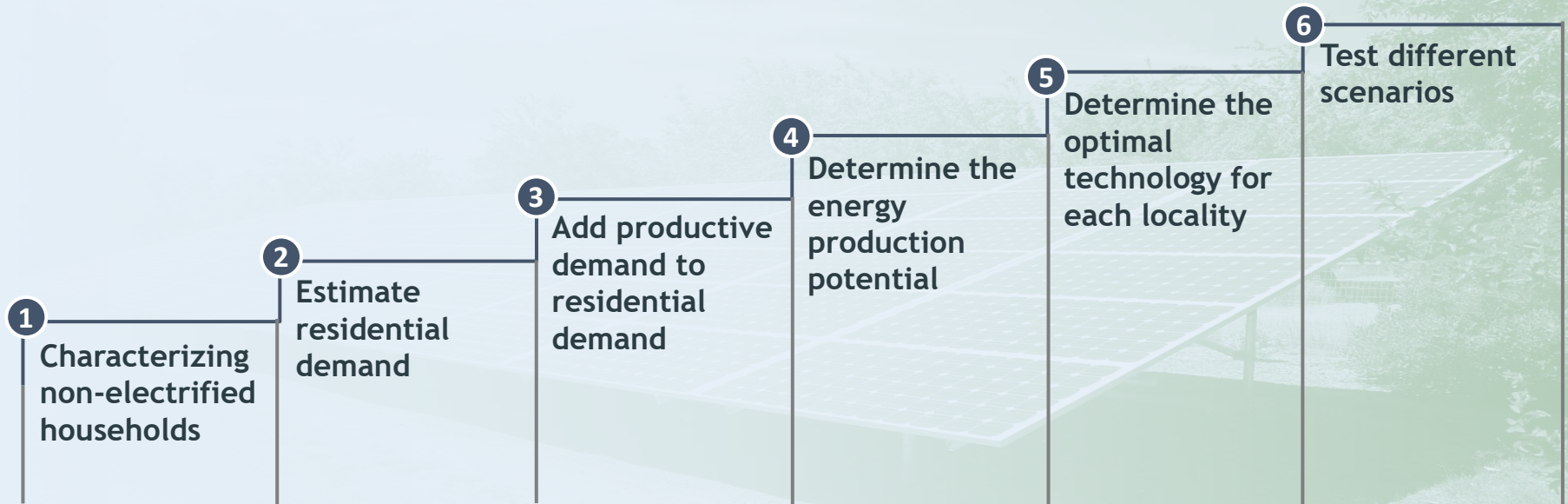
Indeed, energy is an important pillar for the implementation of the government's development policy, notably the National Development Plan (PND).



# 5. THE NEW ELECTRIFICATION STRATEGY

## 5.2. Methodology

*The methodology consists of developing the model in six (6) steps as follows:*



# 5. THE NEW ELECTRIFICATION STRATEGY

## 5.2. Methodology

*Result: Togo will have to combine three (3) technologies to achieve its objectives (network connection, mini-grids, solar kits)*

### Network connection



- Connection to the national distribution network managed by CEET
- More economical option for dense population centers located near the existing network
- Historic electrification model

Generally led by the public sector

### Mini-grids



- System powered by solar panels, diesel or hydroelectric, which can power several households / SMEs
- More economical option for dense population centers located far from the existing network
- Potential for connection to the national grid in the future

Requires a Public Private Partnership

### Household solar kits



- System using solar energy via photovoltaic panels, which can power an entire household or an SME
- More economical option for sparsely populated areas far from the existing network
- Allows rapid deployment, and can be sized according to the needs of each household

Usually led by the private sector, with public support



The combination of these three (3) technologies for Togo is as follows:

**555,000** Solar Kits

+

**315+** Mini Solar Grids

+

**960+** New localities connected to the network

+

**400,000** Households currently living on the network, but not electrified

+

**108MW+** of additional energy production on the network

=

**100%**

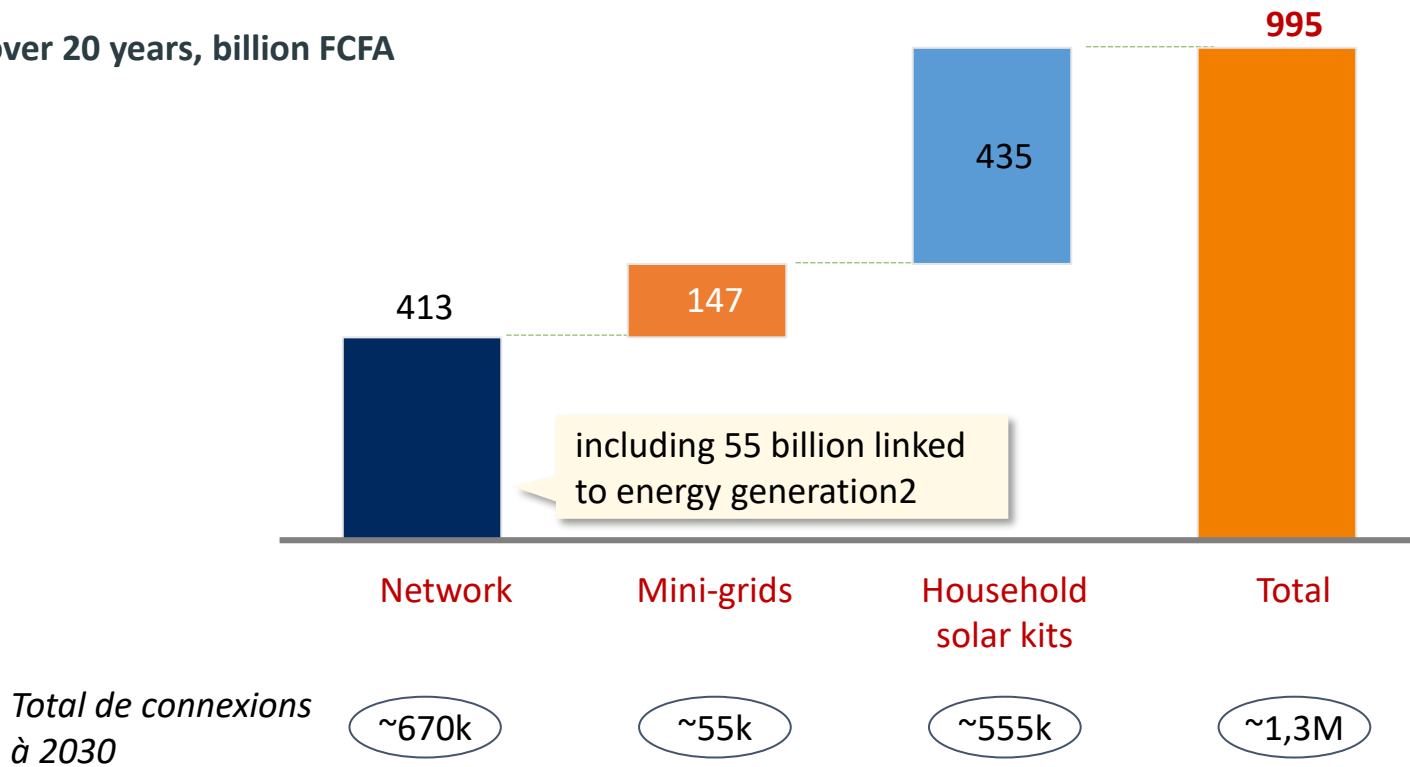
**electrification by 2030**

# 5. THE NEW ELECTRIFICATION STRATEGY

## 5.3. Business model

*Cost of implementing the strategy ~ 1,000 billion FCFA, or 83 billion / year over 12 years*

Total costs over 20 years, billion FCFA



# 5. THE NEW ELECTRIFICATION STRATEGY

## 5.3. Business model

*The private sector has demonstrated its ability to take an active and effective part in electrification projects, especially on off-grid solutions: Togo will capitalize on these models that work*

The implementation of the electrification strategy in Togo and the mobilization of the required investments will require the intervention of the private sector

### State of the sector

#### Solar kits

- **Different payment models**
- *Retail sales, like ordinary consumer goods*
- *Pay-as-you-go, payment spread over several years*
- **Scalable systems**, which consumers can choose according to their needs and their ability to pay
- Lifespan of a kit of 7 years on average (1 initial purchase and 2 renewals over 20 years)

#### Mini-Grids

- **"Mini-utility"** model enabling a combination of households and SMEs to be served within a locality, with potential for **connection to the mini-grid network**
- **Operation over a period of +20 years**



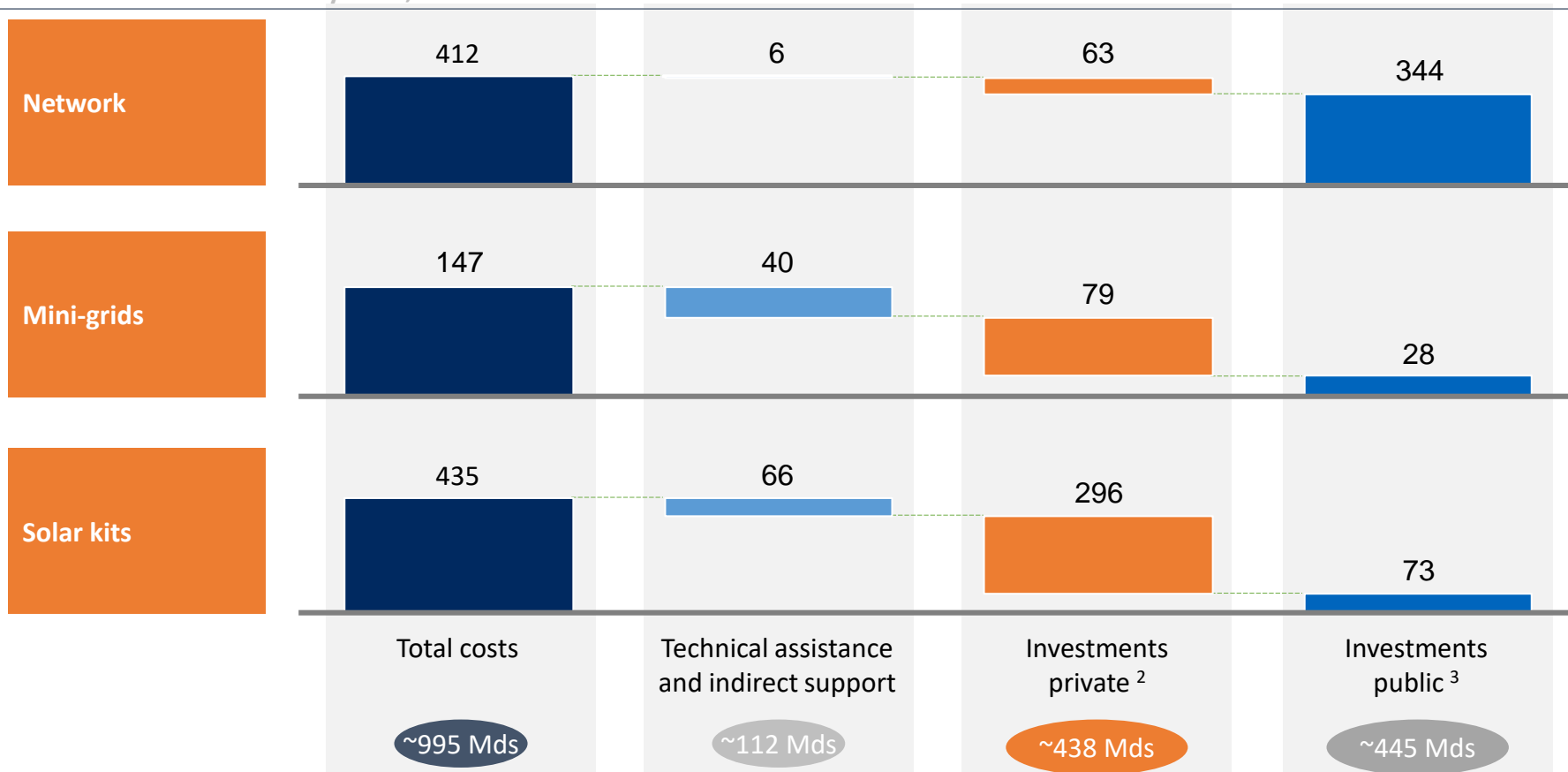
**The relevance of the choice of the private sector as a central player in the deployment of off-grid solutions has proven itself, and is now the subject of consensus**

# 5. THE NEW ELECTRIFICATION STRATEGY

## 5.4. Financing the strategy

*In order to achieve universal access in 2030, private operators will have to mobilize ~ 438 billion FCFA in private investment, with in parallel with the mobilization of ~ 445 billion in public investment..*

Total investments over 20 years<sup>1</sup>, billion FCFA



<sup>1</sup> investissements incluant l'électrification d'usages productifs tels que les tours de télécom, les écoles, la poste

<sup>2</sup> Portion des coûts couverte par le consommateur

<sup>3</sup> Gap de viabilité destiné à être comblé par des subventions liées à la performance, provenant du gouvernement ou de ses partenaires

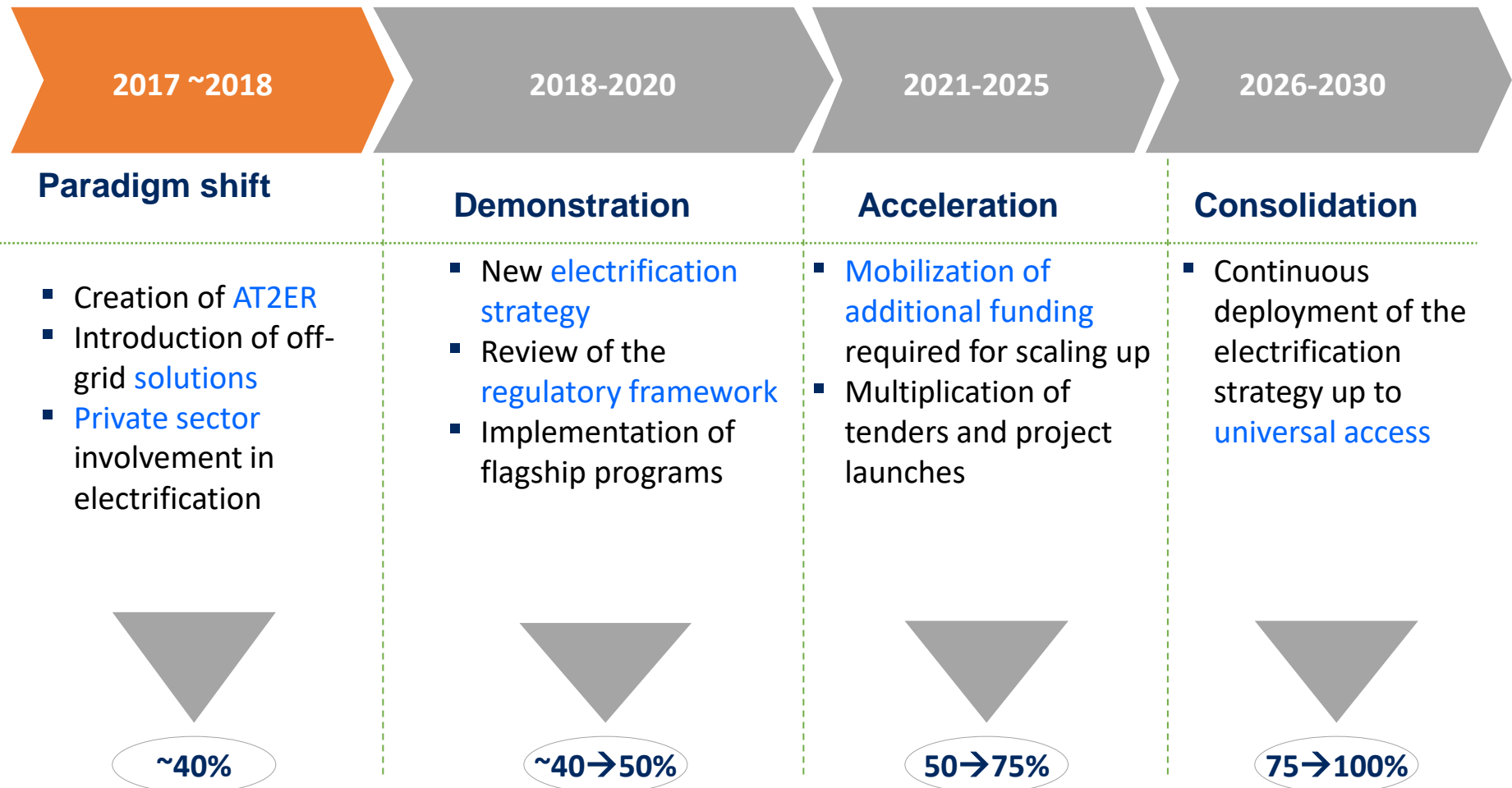


# 5. THE NEW ELECTRIFICATION STRATEGY

## 5.5. Roadmap

*Togo is currently at a critical point in its electrification trajectory*

x→y% Electrification





**THANKS FOR YOUR  
KIND ATENTION**