



Energy for all: Financing access for the poor

Session 2: Leveraging private sector finance and expertise to deliver energy access

*Assaad Saab
Vice-President Strategy, Prospective
and International Affairs*

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LEADING THE ENERGY CHANGE

Background:

Historically, EDF's commitment has taken different forms:

▶ **Non-commercial aid through direct assistance - cooperation – solidarity**

⇒ Abandoned since 1995 (not sustainable, not replicable, insufficient in the face of needs)

▶ **Financial and technical support to NGOs** (of which ESF, Fondem...)

⇒ Opportunity to share experience and know-how

▶ **Investment in sustainable activities at different scales :**

■ **Large-scale infrastructures :**

Nam Theun 2 dam in Lao

■ **Peri-urban electrification :**

Kayelitscha in South Africa, Edenor in Argentina, Light in Brazil

■ **Rural electrification**

Morocco, Mali, South Africa, Botswana

Outline

- 1. Rural electrification** is a nexus of financial and institutional challenges
- 2. Rural Electrification Services Companies (RESCOs)** can be a promising way to address it...
- 3. ... under key conditions such as local appropriation and financial sustainability beyond initial support**

The challenge of rural electrification

- ▶ In rural areas, costs of electricity increase because of the absence of scale effects :
 - House connected to the national grid: 0,15 to 0,20 €/kWh
 - House connected to a micro-network with a genset: 0,30 to 0,50€/kWh
 - House with a photovoltaic kit : 0,70 to 0,9€/kWh
- ▶ Grid connection allows for wider usage. Then typical expenses range between 6 and 20 €/month in all three situations.
- ▶ A typical rural family energy budget ranges between 4 to 15€/month
- ▶ Financial subsidies are necessary, around 60% to 80% of the upfront investment.
- ▶ Other stakes are: transfer of know-how, local maintenance, local involvement, practical rules for service payment, etc.

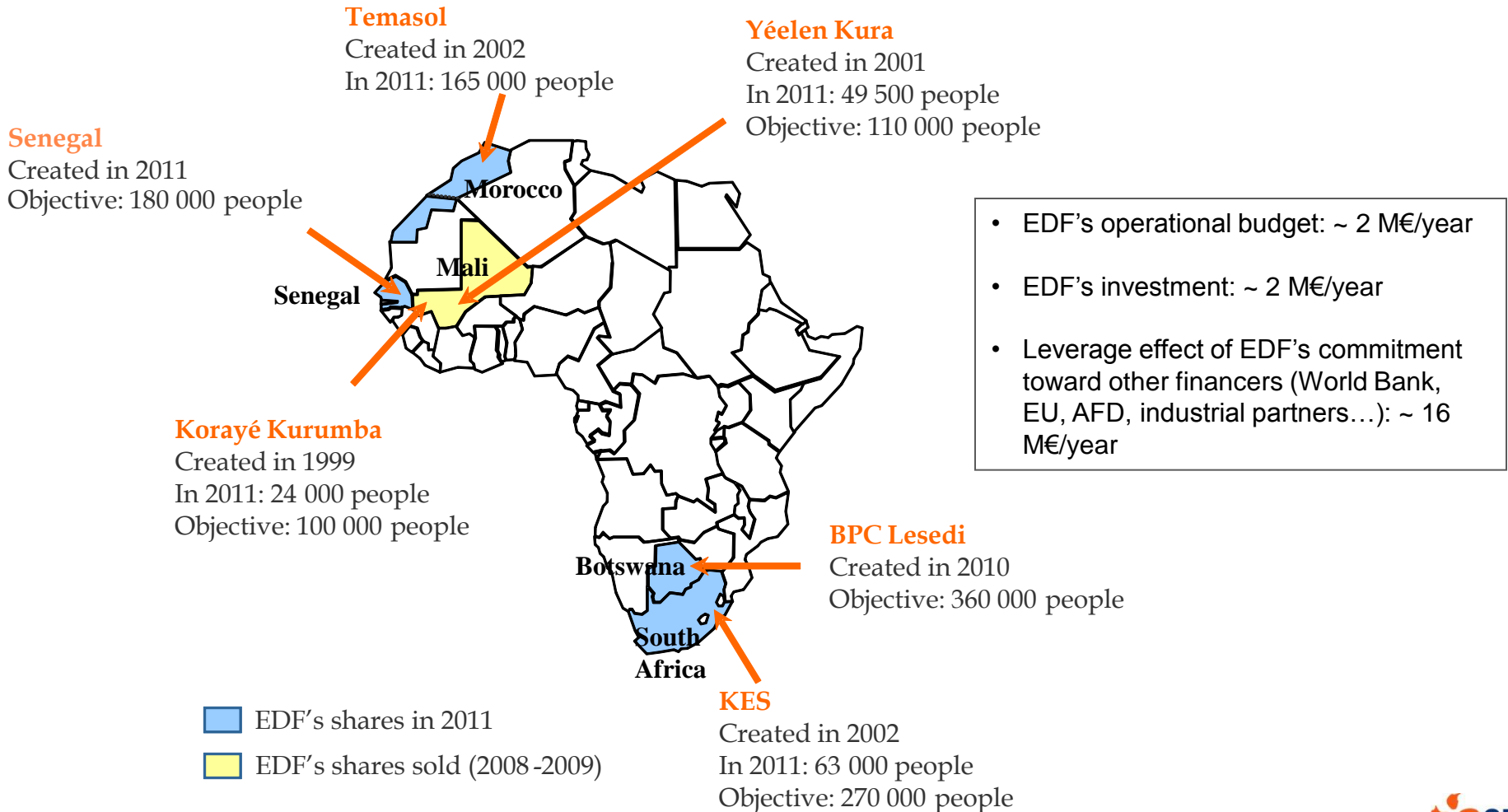
The Rural Electrification Services Company (RESCO)

On the basis of the fundamentals described and experimented in the mid '90s, EDF and several partners decided to build a new economical concept called RESCO on a large scale :

- ▶ A local company, under local law, managed by local people and financially profitable, responsible for electrification in a specific region, for at least 10,000 - 15,000 customers
- ▶ The sale of diversified services: lighting, electricity, gas, improved wood stoves...
- ▶ The use of appropriate technologies and management methods: photovoltaic kits, mini-grids, prepayment meters...
- ▶ Financial support for the investment to make the services affordable for the local population
- ▶ Transfer of ownership to a local partner as soon as sustainability is guaranteed

EDF's RESCOs situation in 2011

325,000 people have access to electricity with an objective of 1.2 million people within three to four years



Institutional conditions

- ▶ An appropriate institutional and legal framework and agreements with national and local authorities on a long term basis
 - Possibility to create local electric companies
 - Create a rural electrification agency and provide it with sufficient funds
 - Make way for an adapted tariff policy
 - Enforce rules
- ▶ A local anchorage through local partners and locally trained capacities to hand over to
 - A local company associated at the beginning of the project with the objective to become the main shareholder after 10 to 15 years
 - Managers and employees of the company must be local
 - Training of employees is fundamental

Technical conditions

- ▶ Selection of technologies and equipments to raise standard living of families and to boost development of economic activities
 - Absence of preconceived notions (e.g. “renewable only”), whilst factoring in climate change
 - Give ample importance to economic criteria, a major part of sustainability
 - Distinguish between:
 - Electrification for comfort / quality of life
 - Creation of economic activity: difficult with solar home systems

Financial conditions

- ◆ A viable financial model mixing investment, subsidies and adapted tariffs (tailor-made)
 - A one-time initial subsidy to finance upfront investments (EDF's projects: up to 60 to 80% of the investments)
 - Payment of the subsidy must be secured and on time over the whole deployment period of the project, knowing that the implementation of rural electrification programs may take several years
 - Electricity tariffs in line with customer resources and good balanced profit for the RESCO

- ◆ A regular update of the business plan
 - ◆ Under continuous discussion between the public authority and the private sector (application of regulatory framework; definition of tariffs; payment of subsidies...)
 - ◆ Loans to be revised according to the growth of the number of customers

Lessons from EDF's experience over 12 years

- ▶ RESCO is an operational model which has had convincing results in different countries and has now been adapted by several governments
- ▶ The first assessment is encouraging but nevertheless non stabilized:
 - Although the figures are encouraging, they remain modest (325,000 people/550 million without access to electricity in Africa)
 - Still in a learning phase
 - Structures remain fragile
 - Improvement of quality of life for customers but limited economic development
 - Important needs for capacity building for employees

Future issues

- ▶ Further demonstrate the viability of the decentralized service company concept
- ▶ Foster the emergence of local buyers (investors – entrepreneurs)
- ▶ Provide training for key competences
- ▶ Channel international funding
- ▶ Expand technological choices (climate / cost / energy independence) adapted to local conditions through R&D
- ▶ Take into account peri-urban electrification and large-scale projects