



Demonstrating the commercial viability of rural Clean Energy Mini-Grids (CEMG) in Mozambique

UNEP project in development by EDP, SAN-JFS, FUNAE, EDM

PROJECT BRIEFING FOR WEBINAR

“Towards Energy Access in Mozambique”

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There is a strong *rationale* and opportunity to implement CEMGs in Mozambique

Rationale for Access to Energy (A2E)

A2E is key for human development

However, grid extension is very expensive for electrifying rural areas

CEMG is the faster and cleaner way to supply electricity for rural population (~600 million people)

- Proven technologies
- Lower cost than diesel
- Revenues need to cover investment and O&M&M
- Investment needs subsidies



UNEP launched a programme to prove the commercial-viability of solutions for the operation of decentralized clean-energy applications

Opportunity in Mozambique

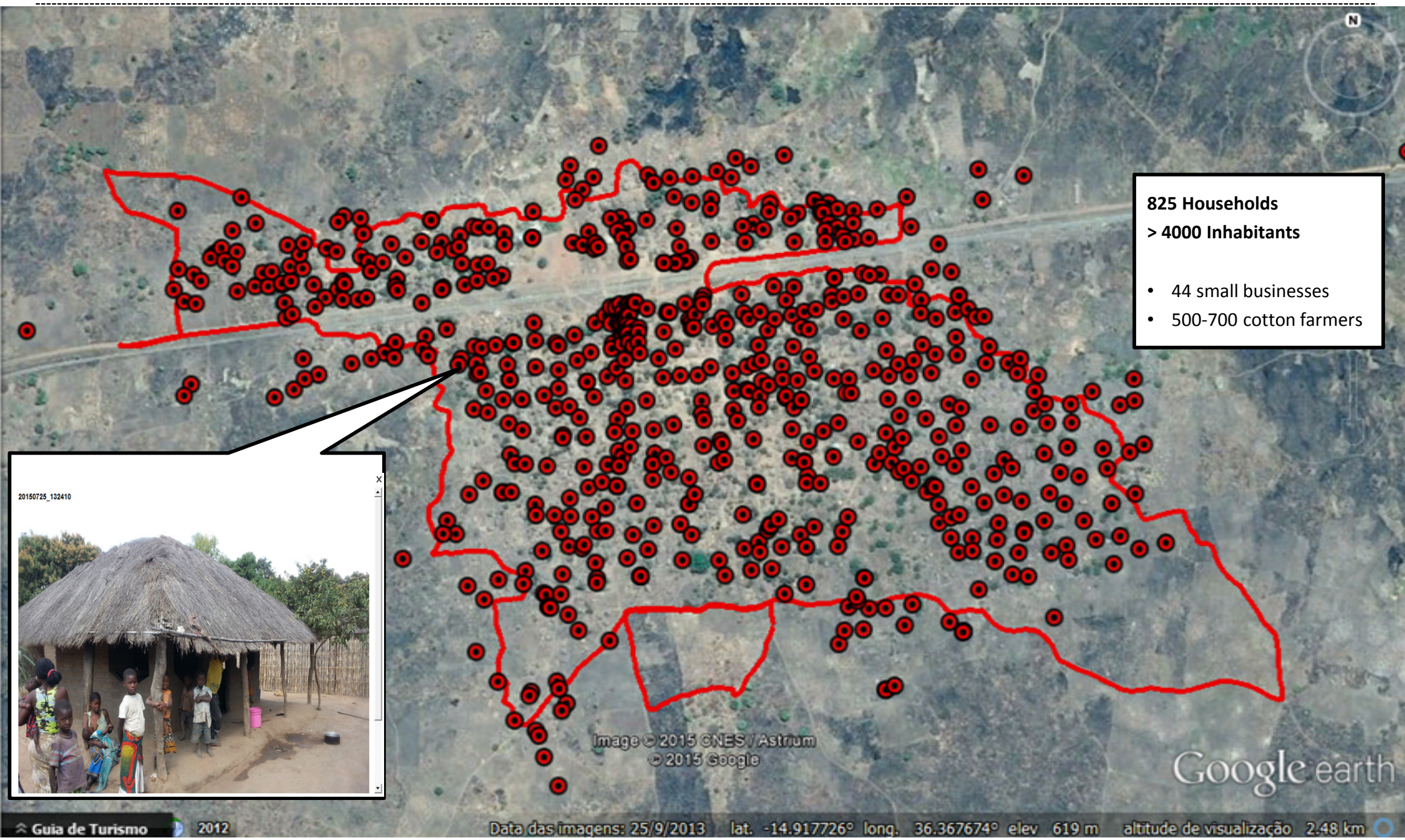


- In Mozambique, more than 70% of the population does not have access to electricity, representing a **potential market of 17 million people**
- In Niassa region, even more than 85% of population with lack of electricity
- In January 2014, **EDP joined the UNEP's programme** to create an international Case Study

Titimane village is located in Cuamba district, Niassa Province, crossed by a dirt road from Cuamba and a railway between Malawi and Nacala

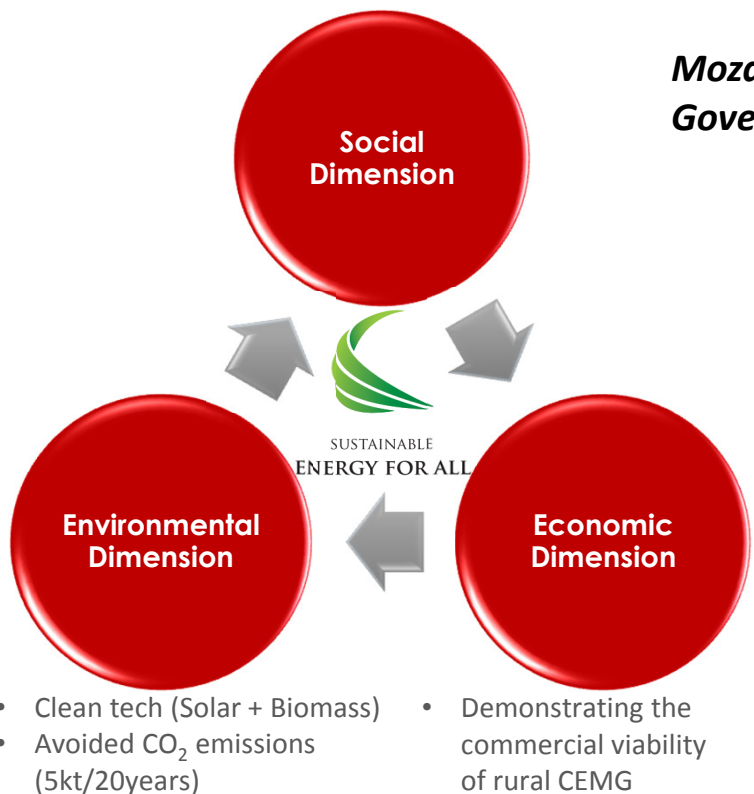


Titimane village is cartographed and socio-economic profiles of almost all families and businesses were identified



This project contributes to sustainable growth and benefits several key stakeholders

- 4000 people with A2E
- 500 to 700 farmers with new business
- 7 to 10 direct jobs created



- Clean tech (Solar + Biomass)
- Avoided CO₂ emissions (5kt/20years)
- Demonstrating the commercial viability of rural CEMG

Population



- > A2E increases **comfort** and **develops economic activities of low income people**
- > **Modern, less polluting**, energy sources for **lighting, appliances, healthcare and education**
- > Farmers can **sell cotton residues** to be used to generate the electricity they will consume

Mozambican Government



- > Supports the aim to **increase rural electrification**, and encourage **replication**
- > Enables **private investments** through a relatively **low public financial commitment**
- > FUNAE promotes development, production and use of different forms of low cost power

UNEP



- > Encourages global partnerships to **care for the environment and reduce emissions**
- > Allows demonstration of CEMG as an **investment opportunity** in African countries
- > **Reinforces commitment to the CEMG High Impact Opportunity in the UN SE4All**

AfDB



- > **UNEP and AfDB are aligning common agendas and exploring complementary activities** to bring sustainable CEMG to Mozambique, supporting the necessary policy and regulatory development for these applications.

EDP



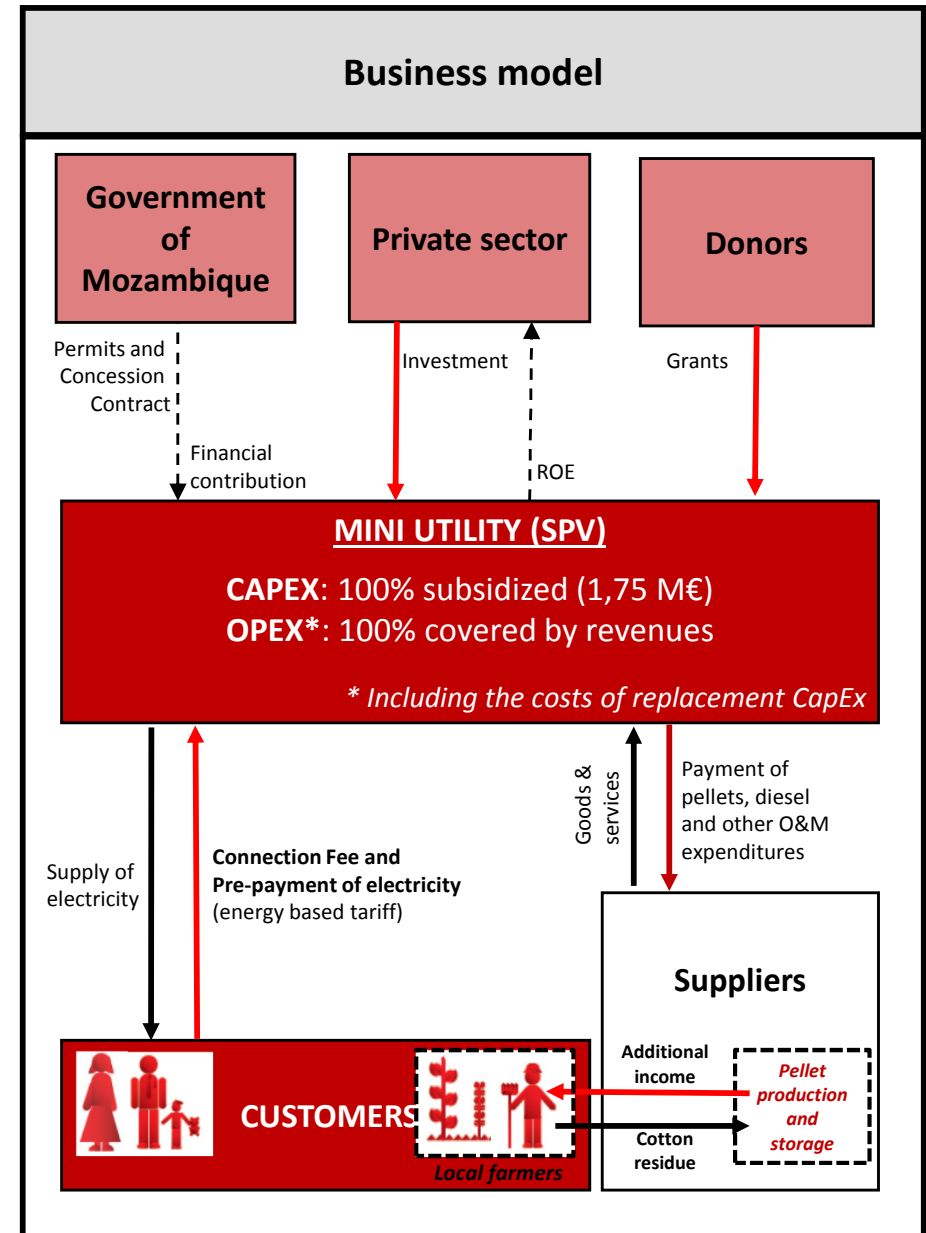
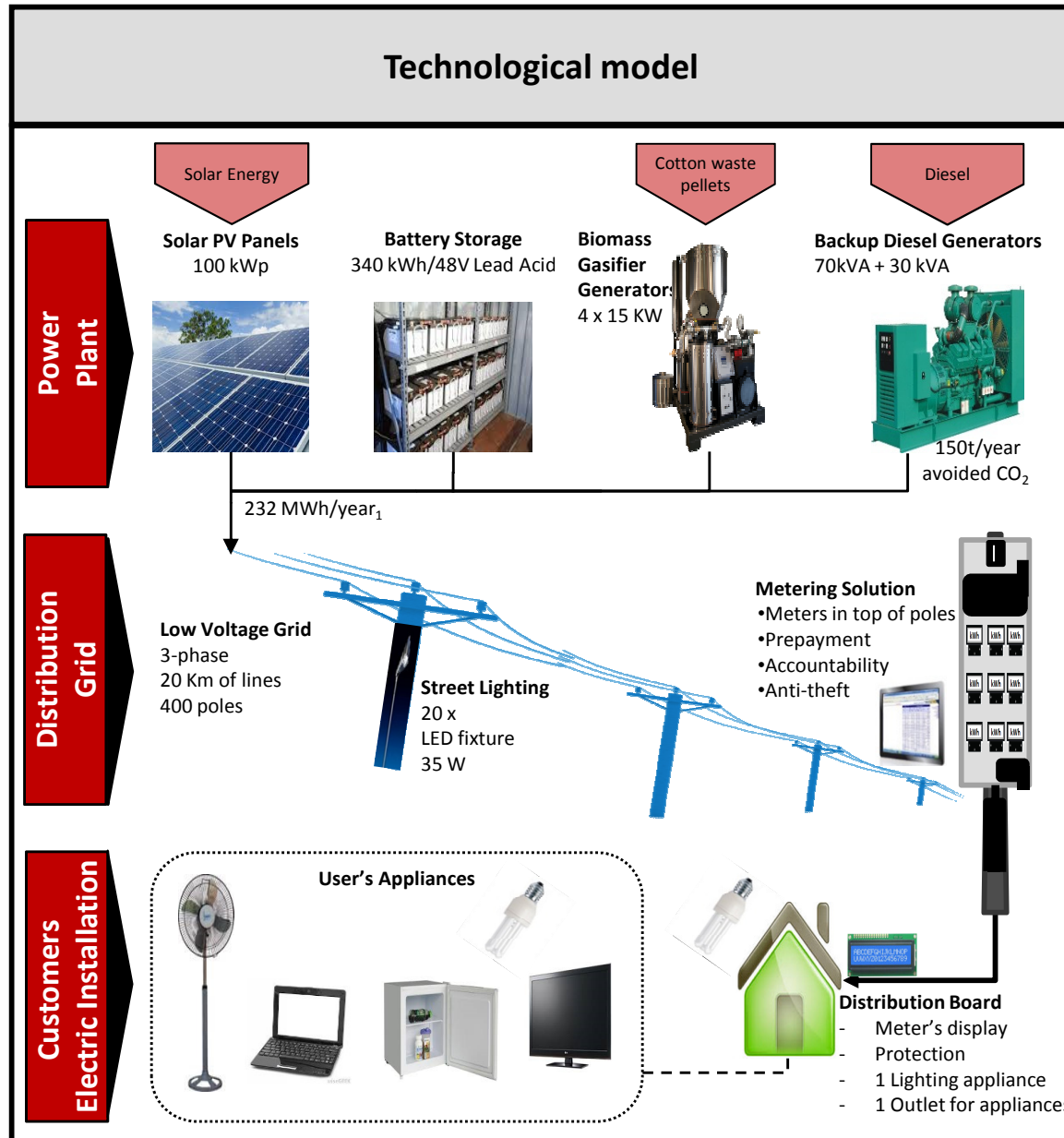
- > Promotes the strategic partnership with the Mozambican Government and EDM, reinforcing the **commitment to invest in the country**
- > Develops new opportunities by **testing new business and technological models**
- > **Reinforces commitment to the CEMG High Impact Opportunity in the UN SE4All**

SAN-JFS

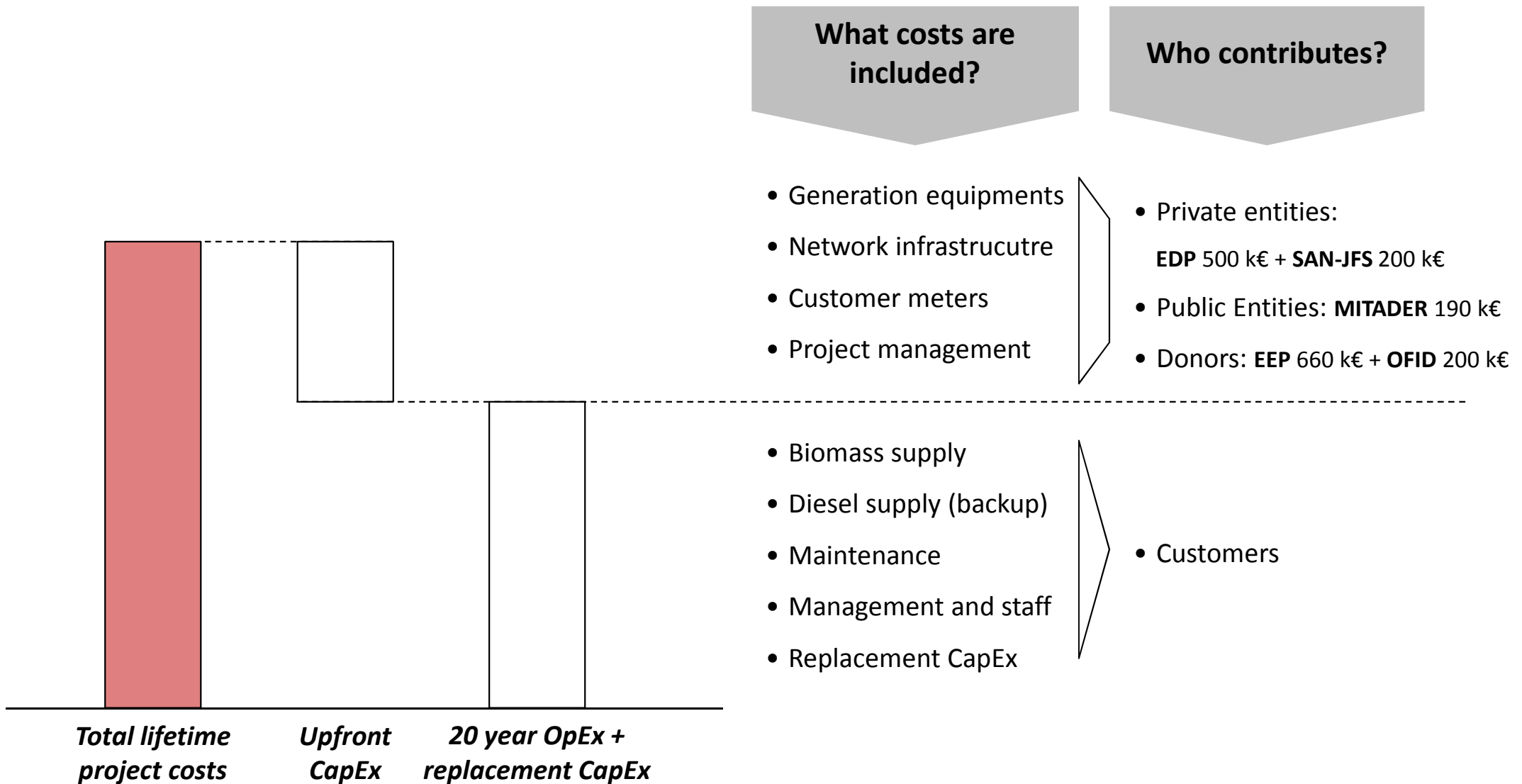


- > Reinforces the commitment to the **development and well being of the Mozambican population**
- > Allows for the **increase of Titimane farmers' income**, by purchasing their cotton residues and providing electricity
- > Converts cotton residues in raw materials for production, **avoiding its combustion in open fields**

The delivery model will be supported in the creation of a new SPV to own and manage all assets



The ongoing operations are commercially viable but public entities plus donors subsidize the business by financing the upfront CapEx costs



The project is currently in its second year, with the aim of starting scale-up and replication to new locations by the end of year 4

