

Sector Reform and Utility Commercialization | SRUC

Community Engagement Strategy (CES) in Mozambique

Between July 2018 and May 2019, SRUC supported Electricidade de Moçambique (EdM) to develop and deploy its first holistic customer engagement strategy for its distribution department, “EdM com a Comunidade,” which will help move the company towards its goals of increasing the number of connections and better orienting itself toward its customers.

M&E Indicators

- 1 standard to enhance energy sector governance formally adopted – the CES

Quantitative Impact

Develop a nationwide CES for EdM, addressing the utility’s tenuous relationship with communities and lack of protocols or policies for engaging with community members in their areas of operation.

- ✓ 330+ attendees at community engagement forums
- ✓ 4 EdM regional territories consulted
- ✓ Developed 3 operational training procedures for regional offices

Cooperating Partners

- Partnered with the **USAID Southern Africa Energy Program** to cost-share resources and meet mutual electrification and energy reform goals in the country



THE CHALLENGE

EdM is facing a number of challenges as it works to improve and formalize its community engagement:

- **Budget constraints**
- **Inadequate human resource capacity** to design and oversee community engagement efforts
- **Lack of understanding of:**
 - **Leading practices** in community engagement for utilities
 - How effective **community engagement can generate revenue** and not only costs
 - How to **integrate community engagement** with other business operations
- **Managing customer expectations** that arise along with increased community engagement



APPROACH

With EdM, SRUC developed the CES in 3 stages:

- **Strategy**
 - Met with EdM directors and community leaders to incorporate feedback / concerns.
 - Proposed CES guiding principles, a methodology for stakeholder mapping, and identified roles for CES implementation.
- **Implementation Roadmap**
 - Set priority activities for a cost-efficient national roll-out, estimated budget, and associated operational alignment.
- **Training**
 - Developed training procedures and materials for regional offices.



RESULTS & FOLLOW-ON

SRUC’s support to EdM in CES development resulted in the following key impacts:

- Laid the groundwork for successful and sustainable execution of the new national electrification strategy, through which EDM hopes to connect an additional 400,000 annually Mozambicans to the grid.
- Provided critical capacity-building support to EdM’s newly established Safety, Health, and Environment Division (SHE).
- Presented the final CES and Roadmap to the Board and executive staff of EdM.
- Helped shepherd EDM into a new model of how to think about customers, why to engage them, and how it can improve financials.



OUR WORK

Sector Reform and Utility Commercialization | SRUC

Commercial Metering Strategy (CMS) in Mozambique

From July 2016 and October 2017, SRUC assisted Electricidade de Moçambique (EdM) in developing a Commercial Metering Strategy (CMS) and Implementation Roadmap to support the utility's ongoing transformation and help it adopt improved commercial efficiency and discipline.

M&E Indicators

- **6 policies** proposed and adopted to enhance energy sector governance.

Quantitative Impact

Goal was to develop a CMS and accompanying Roadmap with strategic initiatives to address weaknesses along EdM's commercial metering installations and revenue collection processes as well as to establish adequate meter-testing processes to facilitate implementation of the CMS.

- ✓ Identified 9 EDM priority areas for loss reduction and commercial metering improvements
- ✓ Developed specifications for a meter testing laboratory which were adopted and will be used to test all future meters procured by EdM

Cooperating Partners

- Worked in partnership with **USAID Mozambique** to support their energy program goals.



THE CHALLENGE

EdM is experiencing high levels of aggregate commercial and technical (AT&C) losses costing an estimated US\$50 million annually, and needs to substantially reduce these losses to achieve reduction loss targets.

EdM's **loss reduction efforts are currently hindered by a number of weaknesses related to commercial metering**, including:

- **High failure rate of pre-payment meters**, possibly due to voltage spikes.
- **Insufficient testing of meters** (only 5% of meters tested each year).
- **Inadequate meter testing capacity** and processes/procedures.



APPROACH

In collaboration with EdM, worked to improve commercial metering through two stages:

- **CMS & Roadmap**
 - Evaluated organizational changes and infrastructure investments necessary for CMS implementation, and provided an associated cost estimate for these changes.
 - Developed a toolkit for meter inspections, and advised on new Advanced Metering Infrastructure (AMI) technologies.
 - Developed a detailed Roadmap outlining strategic initiatives for CMS implementation.
- **Meter Testing Laboratory Roadmap**
 - Reviewed meter testing procedures along with a gap analysis. Developed a Roadmap to stand up a laboratory.



RESULTS & FOLLOW-ON

SRUC's support to EdM in CMS development resulted in the following key impacts:

- **Buy-in from the EdM leadership** on the CMS initiatives as transformation priorities.
- **A comprehensive CMS** customized for EdM that will support loss reduction nationwide.
- Specifications for a **meter testing laboratory** in line with international leading practice.

Development of the CMS has set the stage for future SRUC support to EdM focused on:

- Detailed **prospectuses on 4 of the 9 initiatives** included in the CMS Roadmap
- Design and implementation of a **Network Commercial Integrated System (NCIS) pilot**.



OUR WORK

From August 2017 to May 2018, SRUC continued its partnership with Electricidade de Moçambique (EdM) to pilot a Network Customer Information System (NCIS) to better understand its electricity losses through an energy balancing exercise. The pilot registered EdM's network assets and customers in a small area of Maputo and laid the foundation for a national rollout.

M&E Indicators

- 7,920 beneficiaries with improved energy services
- 76 people (9F, 67M) trained in technical energy fields

Goal was to undertake a pilot to provide the utility a better understanding of losses on its distribution system as well as to estimate the level of effort required to implement the NCIS on a national scale.

- ✓ 41 Technicians Trained
- ✓ 23 Frauds Identified
- ✓ 4,750 Light Bulbs Replaced
- ✓ 700 Network Assets Registered
- ✓ 1,702 Customers Registered

Cooperating Partners

Laid the groundwork for a national roll-out funded by the \$150 mm **World Bank Power Efficiency and Reliability Project (PERIP)**.



OUR WORK

THE CHALLENGE

With the national utility experiencing high losses costing an estimated US\$50 million annually, there is an urgent **need for a better understanding of the energy balance** on the distribution network. **Improved asset/customer management and measurement capability** is critical to improving EdM's energy balancing capabilities, as the utility prepares to connect another 400,000 customers a year through its new national electrification program.

- **AT&C losses in EdM territory are estimated at ~26%, primarily due to power theft.**
- Utility staff have **minimal experience with national-level project implementation** on the scale of NCIS, as well as an understanding of the time, financial, and human resources required for successful deployment.

APPROACH

Assisted EdM in designing an integrated solution for capturing the location of their assets (network and customer locations) along with the ancillary processes for their loss management program:

- **Analyzed EdM's technology and staff ability** to undertake energy balancing.
- **Developed six detailed sets of technical instructions** to register customers and assets, maintain data, and distribute lamps
- **Developed an interface** between GIS and customer management software systems.
- **Trained EdM field staff** and conducted asset and customer mapping pilot in Magnoine B area of Maputo.

RESULTS & FOLLOW-ON

The pilot project resulted in a number of key outputs that will ensure success for the national rollout of NCIS, including:

- **Provided baseline data and KPIs** for a plan to register all network assets and customers.
- **Provided valuable information** about the success/failure of past grid improvements and areas in need of further improvement.
- **Determined losses may be significantly higher than current EdM estimates** - Magnoine B had commercial losses of ~40%.
- Provided **technical and organizational groundwork** before EdM's national rollout.
- Rolled out to 5 districts in Maputo; mapped 150 new assets and 38,00 new customers.