CAPTIVE POWER

dcapital grupo

Captive Power
Delivering Cost-Effective and Reliable Power Solutions

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ORGANIZAÇÃO
ORGANISED BY

ALER Associação Lusófona de Energias Renováveis

AMER Associação Moçambicana de Energias Renováveis

APOIO
SUPPORTED BY

proMove Energia

GET.invest Mobilising Renewable Energy Investments

cooperação alemã DEUTSCHE ZUSAMMENARBEIT

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PARTNERS

AIMO

CTA Confederação das Associações Económicas de Moçambique

Captive Power's Offering for African Businesses

Captive Power undertakes and funds the full review process for a power facility, understanding a clients energy requirements, reviewing the local legal & regulatory framework and producing an economically viable power solution.

Energy Security & Capital Efficiency	✓ **All inclusive monthly payment during the offtake term, with no upfront capital requirements from the client*** ✓ A grid-tied solar plus BESS facility provides a level of operational independence and security of power supply to clients ✓ Utilizing proven reliable technology supported by warranties with system guaranteed performance for up to 15 years
Diesel Replacement	✓ **Captive Power solution provide cost savings for businesses utilizing onsite diesel generation** ✓ Captive Power provides immediate cost savings for businesses utilizing diesel generation for power supply ✓ Grid-tied solar facility provides a robust power solution, which minimizes the need for diesel generation on site
Captive Power Experience & Overview	✓ **An experienced team of power developers, with a strong track record in Africa** ✓ Understands the high standards to which solutions and services must be delivered to clients ✓ A single point of contact for holistic power services
Sustainable Power	✓ **Solution includes Operation & Maintenance service, crucial to maintaining performance standards in isolated sites** ✓ Our proposed solution generates meaningful environmental benefits, decreasing emissions and fossil fuel reliance ✓ Captive Power focus's on delivering a smooth integration of the solar facility with existing power infrastructure

** Client may elect to provide upfront contribution, in order to decrease monthly payment requirements or offtake term*

Mozambique: Energy Security

Captive Power has completed feasibility studies on over 15 grid tied Commercial & Industrial ("C&I") operations in Mozambique

Consistentt findings across all sites

EdM Medium Voltage tariffs are fairly cheap when compared to the cost of energy in Africa

EdM grid reliability is "OK", issues arise from "brownouts" and decreasing voltages:

- A brownout is an **intentional** or **unintentional** drop in voltage in an electrical power supply system;
- Voltage "dip" is consistent in the early morning and late evening

IMPACT: Operations suffer shutdowns and sensitive equipment's operating speeds vary due to fluctuating voltage:

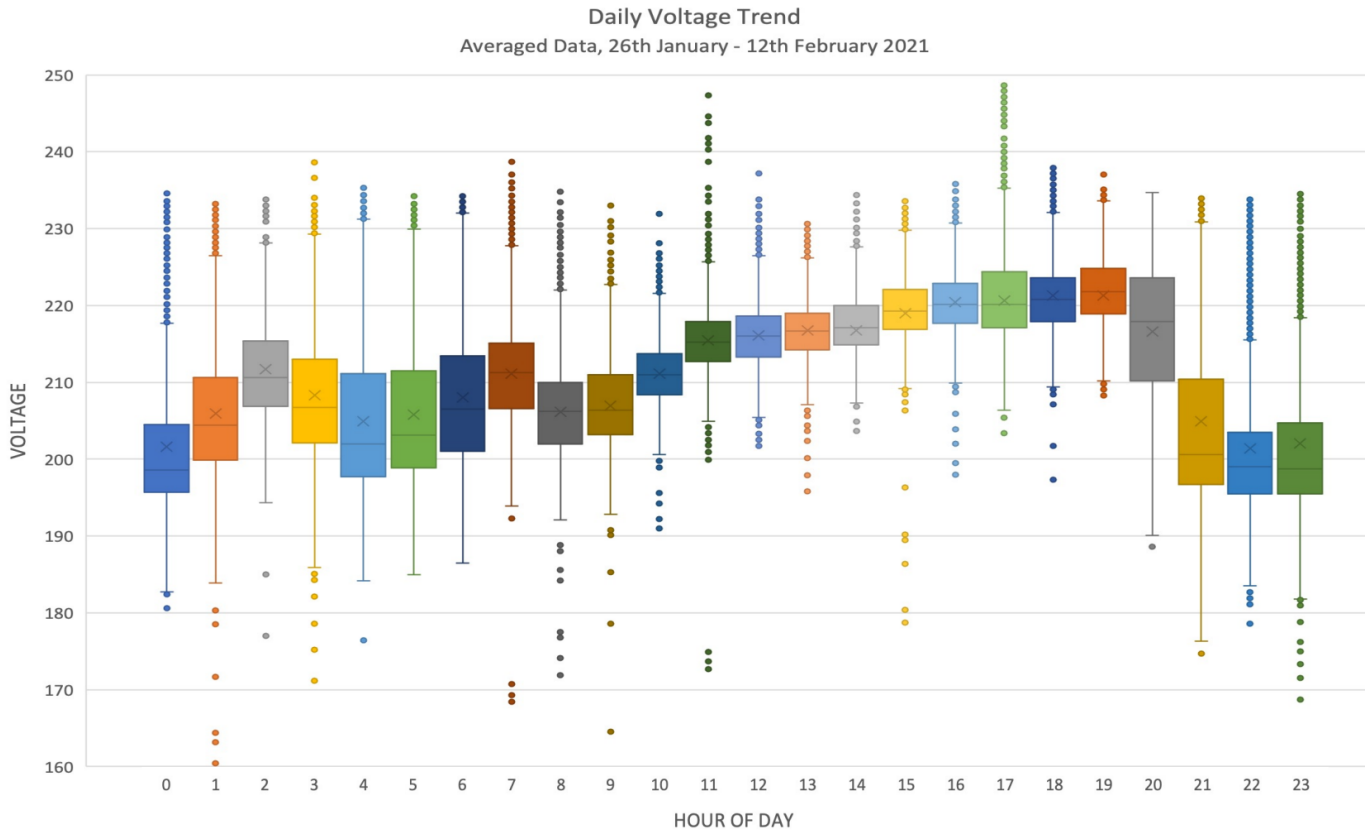
- Oscillating voltages impact equipment as the changes in voltages increase / decrease critical equipment's operating speeds

Mozambique: Case Study

Recordings have been taken from a large Agri-Processing facility

Client suffers from Voltage instability all year

- EdM nominal grid voltage is 220V
- Voltage is seen to "dip" below 200V, causing shutdowns
- Voltage quality from EdM below 200V can greatly reduce the speed of machinery, the Clients speed sensitive processing machinery falls out of sync and has the potential to "jam"



Mozambique: Potential Solutions

Unless major investment into large scale base load energy projects is completed, these issues will continue to hamper Mozambique business's

Key equipment that may reduce EdM power quality issues

- Uninterrupted Power Supply ("UPS")
- Battery Energy Storage System ("BESS")
- Automatic Voltage Regulator ("AVR")
- ***Solar Inverter:*** *For grid tied solar projects, the solar inverters operating range is +- 10%, this means that with no storage support forming a microgrid, the solar inverter will shutdown and therefore produce no energy from the solar PV panels*

Benefits from some of our solution

Balancing the Grid - Effectively balance supply and demand even as reliance on intermittent energy sources like wind and solar increases.

Stable Voltage - Targeted injection of reactive power for stabilizing the grid voltage and compensation for short-term voltage interruptions

Microgrid - Network forming with stable voltage and frequency as well as compensation for fluctuating power balance

Power Leveling - Compensation of fluctuating amounts of generated energy

Team & Track Record

Team brings strong project development experience, local knowledge and sector-specific power experience.

1st approved financed captive microgrid project with the Mozambique Central Bank

Developed, financed and operating the largest C&I microgrid in Mozambique

400kWP plus 928kWh Tesla Powerpack facility:

- Designed to provide ~90% renewables for the operations
- Operational since September 2021

Legacy gas generators powered the Lodge:

- Financed solution on a 15 year offtake agreement
- Savings of over 35% from historic forms of power generation

Captive Power is an Energy-as-a-Service company that focuses on energy awareness and first reducing our client's power needs before using a holistic approach to developing power solutions for C&I users.

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