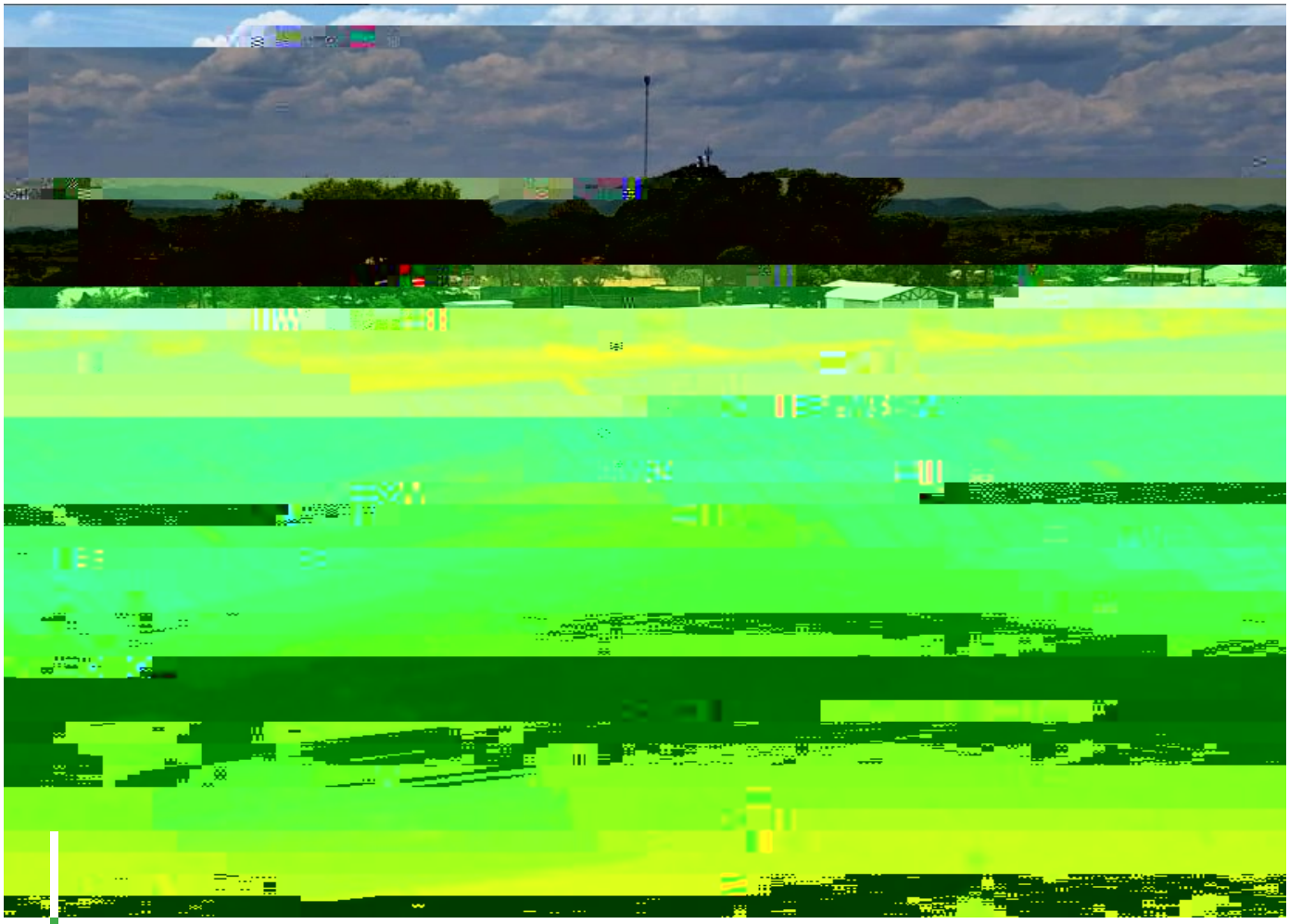

250kW/945kWh Li-ion BESS Project in Madagascar

The project is in Chifunde District, Tete Province, Mozambique. Mozambique's electricity access stands at a national average of 31.1% due to the unfavorable market conditions and distribution networks. The location of the project has less than 1% of the population with electricity access. The majority electricity power generation in the country is from Hydropower sources. However, the country's vast landscape and sparse population makes the power transmission and distribution from the hydropower sources expensive and costly. With these challenges off-grid solar solutions have become a go to option to ensure distributed energy access.

Jinko ESS micro-grid solution was deployed to provide power to the households of the location by harnessing the solar power from the photovoltaic (PV) system to directly supply the loads and be stored by the energy -28(s)-6(to)89(s)-6)-28(h)-3(a)9(v)-6(e)

Featuring a 945kWh LFP battery, a 250kW hybrid PCS with a 250kW DC-DC converter, 200kWp PV system, a 100 kVA DG, and an Energy Management System (EMS), this project has emerged as a successful modern hybrid micro-grid solution in Sub-Sahara Africa boasting the following features:

During the day, the PV system directly supports the community's load and charges the battery via a DC-DC converter, without the need for additional PV inverters. This setup enhances

I. Enhanced Energy Efficiency and Reliability and Simplified Infrastructure

The DC-coupled PV-ESS's remarkable efficiency is particularly beneficial in a micro-grid, where optimizing the use of generated renewable energy is crucial for energy independence. Energy