



LEAD BATTERIES: ENERGY STORAGE CASE STUDY



Photo | Rafiki Power

Trojan Battery Company

Large Scale Microgrids in Tanzania and Nigeria, Africa

Fostering Economic Activity and Increasing the Standard of Living

Two case studies that demonstrate the power of advanced lead battery technology in supporting solar microgrid installations in African communities with no access to the grid.



Bisanti, Nigeria

Trojan partnered with Green Village Electricity (GVE) Projects Limited, a leading PV Solar Mini-Grid Developer in West Africa to electrify a village with 260 households and 60 businesses in Nigeria. The project supported street lights along the main street of the village, providing enhanced security at night, extended business operating hours and extended play time for children. The solution resulted in a 50% reduction in energy related expenditure and an 80% reduction in malaria cases.

Technical Specification

- 48V system; IND17 Industrial flooded lead batteries, 8 batteries per string
- Inverter: Schneider Electric XW8548E 48V
- Charge controller: Schneider Electric XW80 HV 600VDC
- 24kW PV solar array

“Trojan Battery provides clean and reliable energy storage that enhances the way people live and work around the world. Having reliable electricity provided by microgrids are key to expanding the economy and improving the quality of life of local communities.”

Ivan Menjak, Director of Global Product Solutions for Trojan Battery



Ololosokwan, Tanzania

E.ON Off-Grid Solutions GmbH (Rafiki Power) installed a microgrid in Ololosokwan, Tanzania. To build the microgrid, Rafiki Power used Trojan deep-cycle Solar AGM batteries to provide electricity to villagers, businesses and police. This has increased the standard of living of residents, expanded educational opportunities, and enhanced overall economic development.

- www.rafikipower.com
- www.ammp.io

Technical Specification

- 24V system; 8 batteries, SAGM 06 375, 750Ah
- 6 kWp solar PV (24 x 250W Lorentz LC250PV Modules)
- 5 kVA Victron MultiPlus/24/5000/120
- 3 x Victron Blue Solar MMPT, 150V/70A; 6kW charge controller

- AMMP monitoring and management solution. AMMP is an operations solution for portfolios of off-grid, mini-grid, and grid-edge energy assets. AMMP provides open and secure end-to-end asset connectivity, flexible data management, as well as advanced analytics, visualizations, and alerting. AMMP has significantly reduced operation and maintenance costs for Rafiki Power.

About the Company

Trojan Battery Company is the world's leading manufacturer of deep-cycle batteries. Trojan is headquartered in Santa Fe Springs in California and has four plants in California and Georgia. Products range from batteries for golf and utility vehicles, transportation, floor machines, aerial platforms to renewable energy and marine applications. The company has a strong commitment to research and development and is a leader in advanced lead batteries.

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