APPLICATION BRIEF

Rafiki Power

E.ON Off Grid Solutions GmbH

Tanzania, Africa

THE smarter award 2018 Finalist

E.ON Off Grid Solutions implements PV solar, battery-based microgrid systems under the brand name Rafiki Power (which means "friendly power" in Swahili) to supply electricity to regions in Africa where grid expansion is not an option. Rafiki Power established a battery-based microgrid with Trojan Solar AGM batteries as the energy storage solution to supply electricity to more than 70 households, businesses and local law enforcement in Ololosokwan, Tanzania.

CHALLENGE

While Africa is the second-largest and second-most-populous continent, it is the most "electricity poor" region in the world, and supplying clean and affordable electricity to a remote community in Tanzania, Africa is a challenge. Rafiki Power has met this challenge and brings electricity to the Ololosokwan village in Tanzania via a container-based PV solar and Trojan battery supported microgrid system. To build the microgrid, Rafiki Power used Trojan deep-cycle Solar AGM batteries to provide electricity to villagers, businesses and local police. This has increased the standard of living of residents, expanded educational opportunities, and enhanced overall economic development.

One of the flourishing businesses is Maasai Honey which is a beekeeping co-op that teaches the local Maasai women how to harvest honey, providing them with a sustainable income.

RE **RENEWABLE ENERGY/MICROGRID**

rafiki power

SOLUTIONS

Batteries:	(8) Trojan Solar SAGM 06 375 batteries, 750 Ah @ C20 - two strings in parallel in 24V configuration
PV Panels:	(24) 250W Lorentz LC250; 6kWp
Monitoring/ Managegment	Rafiki Power AMMP -- Asset Monitoring and Management Platform
Inverter/Charger:	(1) Victron MultiPlus/24/5000/ 120; 5kVa
Charge Controller:	(3) Victron Blue Solar MMPT, 150V/70A; 6kW

Trojan® BATTERY COMPANY

Clean energy for life™

"Overall, the standard of living in the village has improved significantly now that customers can light their homes and businesses can power their operations. The energy storage provided by Trojan batteries has expanded education and enhanced the village's overall economic development."

Hendrik Broering
Asset Operation & Engineering, E.ON Off Grid Solutions/Rafiki Power

BENEFITS

Trojan's deep-cycle Solar AGM line of advanced lead acid batteries was selected as the energy storage solution for the microgrid managed by Rafiki Power.

This results in the following benefits:

- Power to households, schools, businesses and local police
- Increased standard of living
- Expanded education opportunities
- Enhanced economic development

For more information please visit:
www.rafikipower.com
www.ammp.io

SOLUTION

Trojan Solar AGM batteries feature a non-spillable, maintenance-free design, engineered for peak performance in harsh and demanding environments of off-grid, as well as, grid-connected systems that require frequent cycling.

The remote operation of this container-based system is enabled by Rafiki Power's Asset Monitoring and Management Platform (AMMP) which significantly reduces operation and maintenance costs by providing real-time insights and alerts.

RESULTS

- **The Rafiki Power microgrid powered by Trojan not only provides much needed access to electricity to households and schools, it also enables the community to establish and expand business opportunities.**
- **Customers are connected to the distribution grid with pre-paid smart meters which enable mobile money payments and fully automated control of the energy consumption.**
- **A flourishing village business is Maasai Honey, a co-op established to provide an opportunity for local women to create a prosperous business.**

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