CASE STUDY

Powering Kajiado County, Kenya with GoodWe Solar and Battery Storage System

Background

Kajiado County, Kenya, has grappled with frequent power outages and high electricity bills. Seeking a sustainable solution, the County Government of Kajiado partnered with Sentimental Energy Company to design and install a solar-plus-storage System. This project aimed to:

- **Reduce electricity bills:** Decrease the county government's dependence on the grid and reduce associated costs.
- **Enhance energy security:** Combat frequent blackouts by providing a reliable backup power source.
- **Promote sustainability:** Contribute to a cleaner, more sustainable energy future for the region in the long term.

This successful collaboration demonstrates the transformative potential of solar power and battery storage for local communities, offering both economic and environmental benefits.

Challenge

Kajiado County faced two primary challenges:

1. **High Electricity Costs:** The county government's reliance on the grid resulted in substantial monthly electricity bills (Kes. 10,000,000).
2. **Frequent Power Outages:** Blackouts disrupted daily operations and hindered development efforts.

Solution

As both EPC and installer, Sentimental Energy Company trusted GoodWe's proven technology to deliver a reliable and efficient solar power solution for Kajiado County. The 180kWp solar system, equipped with GoodWe's advanced PV products, included:

- **Inverter-**GoodWe ES G2 Series: 38 units of GW6000-ES-20, totaling 228kW of power generation capacity.
- **Battery Storage-**GoodWe Lynx Home U Series: 52 units of LX U5.4-20 batteries, providing a total storage capacity of 280.8 kWh.

Installation details

Location: Kajiado County, Kenya
System Owner: County Government of Kajiado
System Capacity: 180kWp
Installation time: June, 2024
Inverters: 38 × GW6000-ES-20
Batter Storage: 52 × LX U5.4-20

Key Features

- **Reduce grid dependence with clean energy:** When solar panels produce more energy than needed, the excess is stored in the Lynx Home U battery system, which works in conjunction with the ES G2 inverters. This stored energy can be used during peak hours or power outages. By reducing dependence on grid power, the county government is able to lower its electricity bills.

- **Maintain reliable backup power supply:** The ES G2 inverters offer UPS-level switching to backup mode in less than 10ms when blackouts happen, ensuring uninterrupted power supply even for heavy loads like air conditioners. Together with GoodWe Lynx Home U, the system seamlessly provides backup power, ensuring uninterrupted operations.

- **Scalable and Easy installation storage system:** The Lynx Home U batteries' plug-and-play design and auto-recognition features make installation and commissioning quick and easy. The Batteries' modular design allows for scalable storage capacities, meeting the county's growing energy needs.

- **Intelligent energy management:** The ES G2 inverters' intelligent control features optimize energy flow, maximizing self-consumption.

By combining the efficiency and reliability of the ES G2 inverters with the flexible storage capabilities of the Lynx Home U batteries, Kajiado County has created a sustainable and resilient energy solution.

System Performance

The Kajiado County solar power project serves as a model for sustainable energy solutions in local communities. By utilizing GoodWe's reliable inverters and battery storage technology, the project delivers significant economic and environmental benefits. This successful collaboration highlights the potential of solar power to empower communities, reduce reliance on the grid, and promote a more sustainable future.

- **Economic:** The project is estimated to save the County Government of Kajiado KES 10,000,000 (USD 77,520) per month on electricity bills.

- **Environmental:** This solar power generation contributes to a cleaner energy future for Kajiado County by reducing reliance on fossil fuels and their associated emissions.

About GoodWe

GoodWe is a world-leading PV inverter manufacturer and smart energy solution provider that was founded in 2010. The company was listed on the Shanghai Stock Exchange (Stock Code: 688390) in 2020, solidifying its corporate reputation as a company that achieves sustainable growth in all markets it operates in. GoodWe now is committed to being a comprehensive solution provider by offering an extensive product portfolio that includes inverters, lithium batteries, PV building materials, EV chargers, and smart energy management systems.