## **Energy storage solutions zambia**



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Arlington, VA - Today, the U.S. Trade and Development Agency announced that is has awarded a grant to Zambia"s GreenCo Power Storage Limited (GreenCo) for a feasibility study to expand battery energy storage systems ("BESS") throughout the country. The project will help facilitate the integration of renewable power into Zambia"s grid, while ensuring its stability and reliability. GreenCo selected Maryland-based K& M Advisors, LLC, to carry out the study.

"The scale of this project and its potential impact on renewable energy development in Zambia and across southern Africa is quite remarkable. USTDA"s partnership with GreenCo is a strong example of our focus on deploying innovative renewable energy solutions that are tailored to Africa"s requirements," said Enoh T. Ebong, USTDA's Director. "U.S. companies offer many of the solutions required by this project, which will benefit communities across the region. USTDA is proud to be partnering with GreenCo on this endeavor."

When implemented, GreenCo's BESS project will be one of the largest such battery installations in all of Africa. This infrastructure will also place Zambia at the center of renewable energy trading across southern Africa and allow energy traders to buy renewable energy from anywhere in the region, store it in Zambia, and then sell it to any customer that is connected to the Southern Africa Power Pool.

"We are excited to receive USTDA"s support in developing Zambia"s first utility scale BESS, which will help increase the solar PV and wind power capacities that can be safely connected to the national grid," said GreenCo Group CEO Ana Hajduka. "The BESS and the solar PV pilot project will directly enable are expected to create 600 short-term and 20 long-term jobs. We look forward to working with the Zambia Energy Regulatory Board, ZESCO and the Government of Zambia in ensuring the project"s success."

USTDA"s study supports the U.S. government's Partnership for Global Infrastructure and Investment, to deliver game-changing projects to close the infrastructure gap in developing countries; Prosper Africa, which fosters economic engagement between the United States and Africa; and Power Africa, which aims to increase energy access on the continent. USTDA"s study also supports the Agency's Global Partnership for Climate-Smart Infrastructure, an initiative that connects U.S. industry to major clean energy and transportation infrastructure projects in emerging economies.

The U.S. Trade and Development Agency helps companies create U.S. jobs through the export of U.S. goods and services for priority infrastructure projects in emerging economies TDA links U.S. businesses to export opportunities by funding project preparation and partnership building activities that develop sustainable infrastructure and foster economic growth in partner countries.

Zambia, a nation blessed with sunshine and boasting of fertile lands rich with minerals, faces a stark contrast:

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limited access to electricity, particularly in its vast rural expanses. Here, where traditional farming practices and vibrant communities thrive, a mere 3% to 10% of residents have access to the power that fuels modern life. This lack of electricity hinders economic participation, restricts access to essential services like healthcare and education, and limits the potential for growth and development.

Historically, Zambia has relied heavily on hydroelectric power generated by large dams like Kariba and Kafue Gorge. While these dams have served the nation well, their dependence on consistent rainfall creates a vulnerability. Recent droughts have served as a stark reminder of this, with reduced water levels significantly impacting dam capacity and electricity generation. This precarious situation underscores the urgent need for Zambia to diversify its energy mix and explore alternative, more sustainable solutions.

Zambia's current energy landscape is dominated by hydropower. Large-scale dams, like the Kariba Dam and the Kafue Gorge Dam, have historically been the workhorses of the nation's electricity grid. While this reliance on hydropower has provided a seemingly stable source of energy, it presents a vulnerability in the face of a changing climate.

The harsh reality of this dependence became evident during recent droughts. As rainfall patterns shifted and precipitation levels dropped, water levels in these vital reservoirs declined dramatically. This decrease in water storage capacity directly impacted the dams' ability to generate electricity, exposing the limitations of a hydropower-centric energy mix. The threat of climate change, with its potential for increased variability in rainfall patterns, further underscores the need for Zambia to explore alternative energy sources.

Beyond the limitations of its current energy landscape lies a wealth of opportunity. Zambia is blessed with an abundance of natural resources that can be harnessed to create a more sustainable and secure energy future. Sunshine bathes the land for an average of 2,000 to 3,000 hours annually, presenting a perfect scenario for solar power generation. Similarly, strong and consistent winds, particularly in the eastern regions, offer vast potential for wind energy. Embracing these renewable energy sources presents a multi-pronged approach to tackling Zambia's energy challenges:

The Upfront Investment Barrier:Setting up solar panels, wind turbines, and the supporting infrastructure requires significant initial investment. This can be a major obstacle for both the government and private entities considering renewable energy projects.

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