Zambia benefits of energy storage

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However, not only the share of hydropower generated but also the total electrical energy generated grew to 17,636 GWh in 2021 compared to 15,159 GWh in 2020, representing a 16% increase. Consumption in-creased from 11,481 GWh in 2020 to 12,832 GWh in 2021, representing a 12% increase.

Overall, the implementation of long duration storage systems in Zambia can help to improve the country"s energy security, promote sustainable development, and reduce greenhouse gas emissions.

Embracing these renewable energy sources presents a multi-pronged approach to tackling Zambia"s energy challenges: Enhanced Energy Security : By diversifying its energy mix and reducing dependence on a single source like hydropower, Zambia can mitigate the risks associated with climate variability.

Zambia"s energy sources can increase industry competitiveness, improve rural service delivery and reduce rural poverty. This PMRC Energy Series Background Note (BN) critically reviews the state of the energy sector in Zambia and what it means for future economic expansion, industrial development and job creation.

Access to clean and modern energy services is important to ensure socio-economic development in the country. To this effect, the Government of the Republic of Zambia (GRZ) has made significant efforts to develop energy infrastructure across the country. Despite these efforts, there is significant

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Zambia has 2,800 MW of installed electricity generation capacity, of which 83 percent is from hydro, nine percent from coal, five percent from heavy fuel oil, and three percent from solar. The mining sector is the country"s largest power consumer, using 51 percent of total generated electricity, followed by the domestic sector at 33 percent. Only 43 percent of Zambians have access to the national power grid (67 percent of urban residents; and 14.5 percent of rural residents).

Zambia"s installed solar capacity is 89 MW. Zambia has two utility scale solar power plants: French company, Neoen, and U.S. company, First Solar, own and operate the 47.5 MW Bangweulu Solar Power Station in Lusaka, of which the Zambian government holds a 20 percent stake through its Industrial Development Corporation (IDC). Italian firm, Enel Green Power, owns and operates the 34 MW Ngonye Solar Power Station, in Lusaka Province.

Given Zambia"s continually growing power needs, for commercial and residential use, and ability to export

through the Southern Africa Power Pool, there are significant investment opportunities in on- and off-grid power generation, particularly with regards to renewable energy sources.

There are opportunities in electricity generation and transmission, storage, particularly with regards to renewable energy sources (i.e. wind, solar, and hydro). While Zambia has the potential to generate 2,300 MW of solar and 3,000 MW of wind, only 76 MW of solar has been installed and there is no wind power to date.

Key government and regulatory agencies for energy and solar projects:

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