Energy storage market analysis south africa

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In November 2023, SouthAfrica announced preferred bidders for the first Battery Energy Storage IPP Procurement Programme tender, which - if all implemented in full - would add 360MW of dispatchable battery storage capacity to the national grid, and are now expected to enter into power purchase agreements (PPAs) negotiations with Eskom. Building on the success of this first tender, SouthAfrica announced its plan to release a second tender in June 2024 with more than 1200MW capacity.

Within its Risk Mitigation IPP Procurement Programme, SouthAfrica also signed project agreements with six hybrid solar PV, wind and battery storage projects that could see more than 400MW of capacity added. Out of those, three projects with a capacity of 150MW have already begun commercial operation under a 15-year PPA with Eskom, and the others have or were expected to commence construction in late 2023.

The international community is also contributing to the development of battery storage systems in SouthAfrica. For example, the World Bank and the African Development Bank recently approved funding for the battery storage element - worth around USD500million - of a hybrid project within the Eskom Just Energy Transition Partnership (JETP). This project aims to decommission one of SouthAfrica"s oldest coal-fired power plants and replace it with 220MW solar PV and wind power, as well as 150MW battery storage. The funding comprises significant amounts of highly concessional financing.

Nevertheless, significant obstacles still remain that require action: battery storage as well as hybrid projects often still face delays due to lengthy negotiation processes and bureaucracy and, given Eskom"s financial state, off-taker risk is still prevalent. Moreover, available grid capacity remains a significant constraint faced in particular by hybrid projects that combine battery storage with variable renewables, leading to project delays or cancellations.

Africa Energy Outlook 2019 is the IEA"s most comprehensive and detailed work to date on energy across the African continent, with a particular emphasis on sub-Saharan Africa. It includes detailed energy profiles of 11 countries that represent three-quarters of the region"s gross domestic product and energy demand.

The government is focussing on diversifying the power mix by introducing natural gas and renewables, including concentrating solar power (CSP); South Africa has excellent natural resources for CSP development.

The role of coal in South African industry dwindles in the AC as gas and bioenergy are increasingly used, especially in steel production and in light industries.

The least-cost way to connect those without access is in most cases via the grid (81%) with the residual population served by mini-grids (12%) and stand-alone systems.

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In both urban and rural areas, electricity is the favourite option for cooking in South Africa, but more than 4 million living mainly in rural areas continue to use fuelwood for heating and cooking in 2030 in the STEPS.

Improved cookstoves and LPG would help close the gap between the STEPS and the AC and eliminate the use of traditional biomass, reducing household premature deaths by 80% in 2030.

Diversifying energy supply away from coal would have many benefits, including a reduction in the number of premature deaths from pollution, but the social implications of changes would need careful management.

Reforming and restructuring ESKOM would strengthen the reliably of the power system, support increased industrialisation and help efforts to diversify the energy mix.

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