

SolarTech Power Solutions

East Africa Home System Energy Storage Battery



Overview

What is battery energy storage in South Africa?

In South Africa, Battery Energy Storage is a key aspect of the first-of-its-kind hybrid project, Oya. Straddling the Western and Northern Cape Provinces, the hybrid facility will offer 86MW wind and 155MW Solar PV dispatchable power, coupled with 92MW/ 242 MWh battery energy storage.

Does South Africa have a battery reconditioning service?

Several businesses within South Africa operate a Pb-acid battery reconditioning service which reverses the sulfation process that limits their working life. This presents opportunities to extend the longevity of VRLA batteries and reduce battery replacement costs over the system lifetime. No LIB recycling exists in Africa [40].

How many Pb-acid batteries are shipped to Africa?

In 2016, 1.232 million tonnes of Pb-acid batteries were shipped to Africa containing >800,000 tonnes of Pb (equivalent to 10% of global production) [36]. The African Renewable Energy Initiative that was launched in 2015 has a 300 GW target for 2030, and solar will form a major part of installed capacity.

Are solar batteries causing hazardous waste in Africa?

The issue of hazardous waste arising from increased deployment of batteries for solar home systems in Africa is significant. In 2016, 1.232 million tonnes of Pb-acid batteries were shipped to Africa containing >800,000 tonnes of Pb (equivalent to 10% of global production) [36].

Which battery is best for sustainable small scale PV in South Africa?

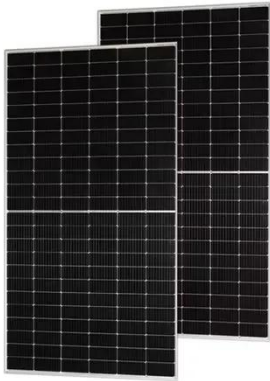
The specific outcome from this preliminary examination is the identification of VRLA batteries as current best choice of battery for sustainable small scale (50 kWh/month) domestic PV in South Africa, despite lower efficiencies and

shorter lifetimes than Li-ion and Aquion batteries.

Which battery technologies dominate stationary energy storage applications?

Currently four main battery technologies dominate stationary energy storage applications (Table 1) [17]. Lithium ion (Li-ion) batteries represent the majority of installed storage capacity and are commonly used in domestic PV systems.

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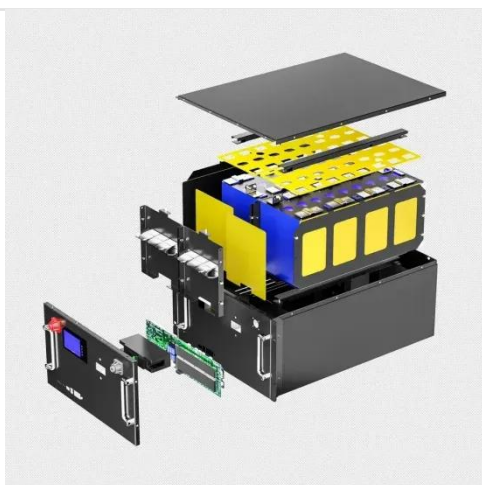


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