

Energy storage research and development pretoria

The CSIR Indoor Energy Storage Testbed has been established within the framework of the World Bank Energy Storage Partnership. The partnership recognises that energy transitions - with increased wind and solar power use - are underway in many countries, and that to integrate renewable resources into grids, energy storage is key. The World Bank Group therefore established a partnership to help foster international cooperation on technology research and development in this field.

This in turn paved the way for the CSIR-VITO collaboration on an energy storage testbed to primarily performance-test lithium-ion batteries and emerging energy storage technologies for a South African and sub-Saharan market.

The facility equips the CSIR to test the performance and reliability of batteries, as expressed by their storage capacity, lifecycle and depth of discharge. It will help build capacity in the South African battery industry, as lower-capacity clients will have access to indoor testbed facilities and overall market knowledge can be improved. VITO and the CSIR will focus on energy storage technology innovation and localisation.

CSIR Chief Executive Officer Dr Thulani Dlamini expressed the organisation's appreciation for the level of collaboration and scientific support it has received from the Government of Flanders in Belgium and its research institutions.

"The visit by His Majesty the King of the Belgians to the CSIR demonstrates our mutual dedication to fostering interdisciplinary research for the benefit of society. The visit opens the door to expand the cooperation between the CSIR and Belgian businesses and research institutions.

"The facility brings hope for sustainable energy and a secure energy future. How we store energy is at the heart of the successful use of renewable resources such as solar and wind. A developing country such as South Africa has to think of technologies that offer long-duration storage, have low operational and maintenance requirements and can withstand harsh climatic conditions," says Dlamini.

The facility will provide much-needed testing for the country. It will be used as a service for technology developers or importers who would like to characterise their technologies for market entry.

"The testbed is a stepping stone towards addressing the intermittency challenge of renewable energy. Many businesses and residential homeowners are turning to solar power and batteries to secure their energy supply. But ensuring the quality of such systems is key. The testbed will assist in creating the standards for lithium-ion batteries in South Africa," he says.



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