

Energy storage for renewable energy namibia

The deployment of renewables can help Namibia reach its goal of providing universal electricity access by 2040. Despite significant progress over the past two decades, nearly 45% of Namibians still lack access to electricity. Most people without power live in sparsely populated rural areas across the country. Off-grid renewables are therefore particularly compelling as an access solution. Closing the gap will depend on sustained government efforts, support from development partners and active participation from the private sector.

Namibia's abundant world-class wind and solar resources present significant opportunities for the country. Backed by robust policies to help harness these resources, renewable energy could play a central role in advancing Namibia's vision for sustainable development and economic growth - driving local value creation and industrialisation.

Renewables can reduce the country's reliance on expensive electricity imports, improve energy security, and lower costs for consumers, thereby fostering a more resilient and sustainable power sector. Renewables can also help Namibia achieve universal electricity access, particularly in remote areas through off-grid solutions.

The mining industry, which plays a central role in the country's economy, can also benefit from renewables. By reducing energy costs and lowering emissions, they can improve mining operations and enhance the global competitiveness of Namibian mineral products, as demand for sustainably sourced minerals is set to grow.

Thanks to high-quality renewable resources, combined with ample available land for large-scale project development, Namibia is well-positioned to produce renewable hydrogen and its derivatives and develop a new industry. These projects can help attract investment thanks to their large size and foreign offtake. Care should be taken to ensure that large-scale projects support - rather than compete with - key priorities of the country. If designed and managed well, they can offer multiple levers for sustainable development.

This new IEA report - the first focusing on Namibia - explores these opportunities and how they can support the country's development vision by integrating socio-economic considerations to achieve broader development goals.

The International Rivers and EarthLife Namibia released a study on 18 July by TMP Public on the least-cost pathway for Namibia's energy needs. Namibia is at a crucial point in its energy system development and must make difficult decisions over the coming years to increase energy supply as demand could double in the next 20 years, while also managing costs and negative impacts.

The Least-cost Energy Study provides a least-cost energy investment pathway for Namibia until 2040,

alongside a comparative analysis of the proposed Baynes Hydro-power Project and least-cost solar and wind alternatives.

The analysis covers both techno-economic factors, providing multiple assessments that consider costs, social and environmental impact, and risk, as well as forward-looking climate factors for different energy technologies.

Namibia currently has a small energy system that is dominated by its 347 megawatts (MW) Ruacana hydropower plant. The country is also considering an additional hydro-power plant, the Baynes Hydro-power Project on the Kunene River. The Kunene River basin is heavily climate-exposed and extreme drought periods have already created energy shortfalls for Namibia because of its overreliance on the Ruacana hydro-power plant.

Namibia is one of the driest countries south of the Sahara and has been experiencing persistent drought conditions for more than seven years. These events are likely to become more frequent and severe over the coming decades, exacerbated further by competing upstream water demands.

Chairperson of Earth Life Namibia, Bertchen Kohrs said Earthlife Namibia critically observed the planned hydro-power plant at Epupa in the 1990s. "A similar plant in the Baynes Mountains raises the same environmental and social concerns and Namibia is blessed with renewable energy resources like solar and wind. It would be a shame not to utilize them," added Kohrs.

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