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### Botswana energy storage outlook

#### What is Botswana's energy potential?

For Botswana, the following technical potentials were identified: Wind (high capacity factor) - 1 152 MW. The least-cost analysis estimated a potential of 199 MW from renewable energy, 139 MW of which in utility-scale projects and 60 MW of-grid. The firm reserve margin would reach 23% in 2030, with zero net imports.

#### Why is energy important in Botswana?

Energy is recognised globally as essential to the economic development of any country and is considered a key driver for economic growthin the most important sectors of the economy. n.d). The current account balance of Botswana for 2019 shows a service sector at deficit of - 0.7% of the national GDP.

#### What is Botswana's energy policy?

A prominent objective of the Policy is to achieve a substantive penetration of new and renewable energy sourcesin the country's energy mix; the goal is to attain adequate economic energy self-suficiency and security, as well as positioning Botswana to fulfil its vision in becoming a regional net exporter, especially in the electricity sector.

#### Does Botswana have an Integrated Resource Plan?

Botswana has also issued an Integrated Resource Plan(IRP) for electricity generation over the next 20 years, covering renewable energy technologies such as solar photovoltaic, wind, concentrated solar thermal, and batteries for energy storage.

#### Will Botswana implement a 540 MW energy project in 2040?

In line with the IRP model results,the Government of Botswana has approved and intends to implement energy projects with a total installed capacity of 1 540 MW by the year 2040to meet the growing energy demand at least cost whilst also reducing the country's carbon footprint. These will be implemented as follows:

#### Does Botswana have a high energy dependency?

Botswana has high energy dependency, as the largest proportion of overall energy consumption is imported, and oil-based products are mainly imported from South Africa (ICA, 2017). As represented in Figure 6, the biofuels and waste category (traditional biomass) is directed towards the residential sector.

Energy Feed-In Tariffs (EFT) guidelines were issued by the Ministry of Mineral Resources, Green Technology and Energy Security in 2020. Botswana has tremendous potential for solar energy, with an annual direct normal irradiation equivalent of 3,000 kWh/m2/a in most parts of the country, and an average insolation on a horizontal surface of 21 MJ/m2.

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In BloombergNEF"s 2H 2023 Energy Storage Market Outlook report, the firm forecasts that global cumulative capacity will reach 1,877GWh capacity to 650GW output by the end of 2030, while DNV"s annual Energy Transition Outlook predicts lithium-ion battery storage alone will reach 1.6TWh by 2030. In other words, both see the terawatt-hour mark ...

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US distributed energy storage outlook 2023. 15 December 2023. The second edition of this annual storage report explores market drivers and barriers in the US distributed energy storage market. \$5,990. Market Report Europe energy storage investment outlook 2024. 21 October 2024.

However, Asia Pacific battery cell manufacturing reached 407 GWh in 2020, accounting for 81% of global capacity. This report provides an outlook for Asia Pacific energy storage markets and synthesizes key trends, the project pipeline, market and regulation considerations, technology and supply chain, storage investment and partnerships.

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