

# BOTSWANA DOES ENERGY STORAGE

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What is Botswana's energy policy? Botswana's energy policy is anchored on three key aspects: increasing access to electricity through the Rural Electrification Project, security, and stabilization of the power supply, and onboarding Independent Power Producers, especially within the Solar PV sector (BPC 2020).



Can Botswana generate enough solar power? With an annual Direct Normal Irradiation of 3000 kWh/m<sup>2</sup>/a, Botswana has a huge potential to generate enough solar power to meet its domestic demand and export to neighboring countries (International Trade Administration 2021). Overall, the country gets more than 3200 hours of sunshine per year.



What is the Botswana Power Corporation doing? The Botswana Power Corporation is undertaking key projects that will expand the power grid and stabilize the power supply. The BPC has laid out coherent plans to improve access to electricity and to diversify the energy mix.



Does Botswana have oil reserves? While Botswana does not have any definitive oil reserves, the country has expanded oil exploration efforts. Licenses now allow for oil and gas exploration in the Okavango Delta. The company behind the project, ReconAfrica, has indicated the potential oil and gas deposits in a formation known as the Kavango Basin (Barbee and Neme 2021).



How much power does Botswana generate a year? There are two diesel operating stations: Orapa and Matshelagabedi, which serve the primary function of emergency power supply or when the Morupule plants are undergoing planned maintenance (BPC 2020) (Fig. 2). Taking a deeper look at historical power generation figures, Botswana's annual generation has plateaued around the 3700-4000 GWh range.

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Should Botswana import electricity from South Africa? Since the Union of South Africa ran a highly developed power sector with surplus power, there was a consensus to avoid developing Botswana's domestic resources further and instead import the electricity, just like many other commodities (Kanduza 2009, p. 40).



Has a storage facility for regulated products exceeding 30,000L (including for own use). constructs petroleum and gas infrastructure. Licensed activities under Petroleum. Botswana Energy Regulatory Authority (BERA) announces adjustments of fuel pump prices for petrol, diesel, aviation fuel and illuminating paraffin as approved by the



I spent the 2015/2016 academic year at the Clean Energy Research Centre at the University of Botswana as a Fulbright Scholar. My research project involved studying energy issues in Botswana and, particularly, battery storage associated with off-grid solar projects.



The World Bank and the Green Climate Fund have approved a package of loans and grants totalling \$125.5 million (P1.7 billion) to help Botswana develop its first 50-megawatt utility-scale battery



Botswana Figure 1: Energy profile of Botswana AS wt Energy Consumption and Production By 2013, Botswana had a small population of only 2.02 million people (Table 1) (IEA, 2016). According to the African Energy Commission (AFREC, 2015), total electricity produced in 2015 was 278 ktoe with 99.6 per cent of it produced from fossil fuels.



Puma Energy Botswana Plot 682/3 Botswana Road, The Mall, Gaborone, Botswana +267 (0) 395 1077 Terminals . 2 km 3. Storage capacity . Our Solutions and Services in Botswana. Energising Communities Across Botswana . Retail . At Puma Energy, we always put our customers first

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a?? offering a great all-round experience all-day every day.

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GABORONE, August 11, 2014 a?? The government of Botswana invited different renewable energy sector partners to the first ever major workshop on renewable energy. Under the theme, "Towards the Adoption of Renewable Energy," the event aimed to help the government further its strategy for increasing the role of renewables in Botswana's energy mix.



Renewable energy resources for Botswana are solar, wind, and various forms of bioenergy that include biofuels and biomass wastes. Lack of perennial rivers in the country has ruled out potential for hydro power. Botswana does not have a dedicated Renewable Energy Policy,



In addition the national energy policy for Botswana (2010) quotes the rural electrification figure as at 2010 to be 52.3% while the BPC (2011) quotes the figure of 50.8% accessibility for 2010 and



But I digressa?| Let's return to energy flows. I have prepared the following Sankey diagram for energy flows in Botswana, based on 2012 data from the International Energy Agency (IEA). The IEA have prepared Sankey diagrams for most countries in the world (including Botswana), and, although this is a wonderful source of data, their flow diagrams are two-part a?|



Solar plant to help renewable energy drive in Botswana . At the PPA signing ceremony, Botswana's President Mokgweetsi Masisi said the signing is a key milestone in the country's energy transition. "The initiative is in line with Botswana's energy policy goal of providing affordable, reliable and adequate supply of energy for sustainable development, as well as a?|

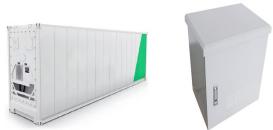
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The Botswana Institute for Technology Research and Innovation (Bitri) is partnering with Canada's Process Research Ortech (Pro) to set up a \$80m plant to produce 30,000 t/yr of high-grade nickel and cobalt salts to be used for electric vehicle (EV) and energy storage batteries.



EnergyTrend is forecasting that large-scale energy storage installations in the US could reach 11.6GW/38.2GWh in 2023. Finally, the research firm said it expected the growth rate of European energy storage a?|



The Winners Are Set to Be Announced for the Energy Storage Awards! Energy Storage Awards, 21 November 2024, Hilton London Bankside. World Bank Group has approved plans to develop Botswana's first utility-scale battery energy storage system with a capacity of 50MW/200MWh. Email Newsletter. Email Address Firstname Lastname Company



EnergyTrend is forecasting that large-scale energy storage installations in the US could reach 11.6GW/38.2GWh in 2023. Finally, the research firm said it expected the growth rate of European energy storage deployment in 2024 to be slower than during this year, but did not put figures on that expectation in analysis seen by Energy-Storage.news

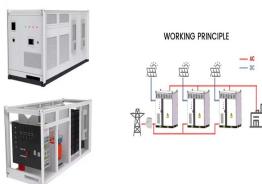


It also includes non-energy uses of energy products, such as fossil fuels used to make chemicals. Some of the energy found in primary sources is lost when converting them to useable final products, especially electricity. As a result, the breakdown of final consumption can look very different from that of the primary energy supply (TES).

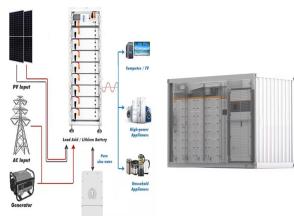
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Energy self-sufficiency (%) 55 64 Botswana COUNTRY INDICATORS AND SDGS TOTAL ENERGY SUPPLY (TES) Total energy supply in 2021 Renewable energy supply in 2021 45% 48% 7% Oil Gas Nuclear Coal + others Renewables 1% 99% Hydro/marine Wind Solar Bioenergy Geothermal 76% 66% 27% 0% 20% 40% 60% 80% 100%



The World Bank Group has approved plans to develop Botswana's first utility-scale battery energy storage system (BESS) with 50MW output and 200MWh storage capacity. The World Bank will support the 4-hour duration BESS via a loan of US\$88 million.



Energy Catalyst Country Guide: Botswana 2 Country Guide: Botswana Botswana is located in the centre of Southern Africa, bordered by Zimbabwe in the east, South Africa in the internal strategic storage capacity and the challenge of supplying energy to areas far removed from each other. With regards to electricity, the main challenges



The BESS will be situated at Selebi Phikwe/Mmadinare and Jwaneng, where the Southern African country's first large-scale solar PV plants, each with a capacity of 100MW, are planned. The targeted operational date for Selebi Phikwe/Mmadinare is 2025, and for Jwaneng, it is 2026. According to documents accompanying the World Bank's announcement, it is hoped a?



Botswana is set to transform its energy landscape with a \$78M solar plant in Jwaneng. Discover how this project will drive sustainability, create jobs, and shape the future of clean energy. Looking ahead, Botswana is exploring other renewable energy initiatives, including battery storage systems and additional solar power projects. These

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BOL mandate includes managing state-owned strategic reserve facilities, strategic stocks, bulk storage and distribution facilities as well as facilitating meaningful participation of citizens in the petroleum industry value chain. market restructuring and energy security. As Botswana contemplates to attract investors in CTL development, it



The standard scientific definition is that Energy is the ability of a system to do work is the quantity which we need to get something to move, heat up, light up, burn, explode, etc. Energy is not just one thing, however a?? it comes in different forms, for example, electrical energy, chemical energy, nuclear energy, kinetic energy, etc.: much of energy technology a?|



Botswana's energy resource base is dominated by huge coal reserves estimated at 212 billion tons. Only the Morupule Colliery is currently operational most of the coal is used for exacerbated by inadequate internal strategic storage capacity and the long distances to



Botswana strengthens fuel security with 60-million-litre storage . Botswana Oil Limited (BOL), the national oil company, has taken the lead in addressing this critical issue by investing a total of P1 billion (approximately \$74.5 million) in the construction of the 60-million-litre storage facility.