Republic of Botswana

PROJECT PROPOSAL:

Botswana Power Generation and Transmission Grid Development

MINISTRY OF MINERALS AND ENERGY

MAY 2025

Received by NSD/FARA Registration Unit 01/15/2026 2:15:55 PM

Table of Contents
Botswana Power Generation and Transmission Grid Development

1.1. 1.5GW (Up to 8GW) Solar Photovoltaic Power Plants Independent Power Producer (IPP) Projects

1.2. Battery Energy Storage System (BESS)

1.3. North West Transmission Grid Phase 2

1.4. Botswana – RSA 400kV Interconnector

1.5. Botswana – Zambia (Bo-Za) 400kV Interconnector

1.6. Morupule – Jindal 400kV Interconnector

1.7. Thamaga-Tsabong Transmission Grid (Kgalagadi South Transmission Grid Backbone Project)

1.8. Transmission and Substation Upgrade Grid

1.1 PROJECT NAME: 1.5GW (UP TO 8GW) SOLAR PHOTOVOLTAIC POWER PLANTS INDEPENDENT POWER PRODUCER (IPP) PROJECTS

1. Synopsis of the project

This project entails the development of distributed solar photovoltaic (PV) power plants across Botswana with a combined capacity of 1.5GW, with plans to scale up to 8GW subject to market demand. The projects will be executed under an Independent Power Producer (IPP) model, where developers will be responsible for designing, financing, constructing, owning, operating, maintaining, and ultimately decommissioning the plants. Electricity generated will be sold to Botswana Power Corporation (BPC) under a minimum 25-year Power Purchase Agreement (PPA).

2. Project background and justification:

The Ministry of Minerals and Energy (MME) views energy as a key driver of economic diversification. Accordingly, the MME developed the Integrated Resource Plan (IRP) for

Received by NSD/FARA Registration Unit 01/15/2026 2:15:55 PM

Electricity Generation 2020–2040 to achieve energy self-sufficiency and security. A revised IRP is underway, with an emphasis on solar energy.

Currently, Botswana's installed generation capacity includes 720MW from coal, 115MW from diesel peaking plants, and 55MW from solar PV, against a peak demand of 700MW. A 600MW coal-fired plant (2 x 300MW) is under construction, with the first unit expected in December 2026. Additionally, 150MW of solar PV projects are underway and expected to be commissioned in 2026.

Complementary transmission and interconnection projects are being developed, supported by ongoing power integration and regional market studies.The 1.5GW solar initiative aims to increase the renewable energy share from 30% to 50% by 2030.

3. Financial Estimate:

The estimated cost of the 1.5GW Plants is **BWP3.0 billion (US$300 million)**.

4. Project Timelines:

The expected Commercial Operation Date (COD) is December 2027.

5. Economic and Social Analysis:

a. The project is expected to attract Foreign Direct Investment- mobilisation of private sector capital for the development of the electricity supply industry.

b. Stimulation of economic growth for the communities around the power plant area.

c. Improved security of power supply in the country in terms of self-sufficiency and being a net exporter will bring revenue into the government coffers.

d. Significant economic growth which hinges on the sustainable and stable supply of electricity to all sectors of the economy as well as improved livelihoods of the people.

e. Job creation.

f. Mitigation of greenhouse gas emissions which contributes to climate change.

1.2. BATTERY ENERY STORAGE SYSTEMS (BESS)

1. Synopsis of the project

Received by NSD/FARA Registration Unit 01/15/2026 2:15:55 PM

	Botswana is constructing its first utility-scale Battery Energy Storage System (BESS), with a planned capacity of 500MW. The system will store surplus solar energy and improve grid stability. It serves as the foundation for a broader energy storage strategy, supporting a clean, reliable, and inclusive energy system.
2.	**Project background and justification:** The Government of Botswana (GoB) is committed to increasing its share of renewable energy. Botswana's Vision 2036 sets a goal to achieve a 50 percent share of renewable energy (RE) in its power mix by 2036. The Projects Energy Development Unit (PEDU), under the Ministry of Minerals and Energy (MME), together with the utility Botswana Power Corporation (BPC), is planning to operationalize the Integrated Resource Plan (IRP) by launching the country's first competitively held tenders for utility-owned Battery Energy Storage Systems (BESS). The GoB aims to have approximately 1.5 GW of solar and wind energy in operation by 2030, supported by 200MW of BESS to facilitate the integration of variable renewable energy (VRE) for both domestic use and export. The first wave of Independent Power Producers (IPPs) in renewable energy is already at different stages of implementation.
3.	**Financial Estimate:** The estimated cost of the 500MW BESS is **BWP2.0 billion (US$200 million)**.
4.	**Project Timelines:** The completion of the project is anticipated to reach commercial operation date in 2028.
5.	**Economic and Social Analysis:** a. The project is expected to attract Foreign Direct Investment - mobilisation of private sector capital for the development of the electricity supply industry. b. Improved security of power supply in the country in terms of self-sufficiency and being a net exporter will bring revenue into the government coffers. c. Mitigation of greenhouse gas emissions which contributes to climate change.
1.3.	**PROJECT NAME: NORTH-WEST TRANSMISSION GRID PHASE 2**
1.	**Synopsis of the project:** The project entails the construction of over 600 km of 400 kV transmission power line from the Phokoje Substation (Mmadinare) to Pandamatenga via Dukwi, including the

Received by NSD/FARA Registration Unit 01/15/2026 2:15:55 PM

establishment of a 400/132 kV substation in Dukwi, a 400/220 kV substation in Pandamatenga, and associated transmission works.

Lot 6 includes the extension of over 70 km of 400 kV transmission power line from Pandamatenga to Kazungula, the construction of a 400/66 kV substation in Kazungula, a 66 kV substation in Kasane along with associated lines and transmission works.

2. Project background and justification:

The North-West Transmission Grid Connection Phase 2 Project is a strategic infrastructure initiative designed to expand power transmission capacity in northern Botswana and support two major national projects: the Zambezi Integrated Agro-Commercial Development and the Kazungula–Moralane Water Transfer Scheme. The project will also establish a key cross-border electricity corridor, enhancing power trade and energy security within the SADC region.

Additionally, the project will provide two network nodes to enable interconnection with Zambia, Zimbabwe, and Namibia through the ZIZABONA project, and direct interconnection with Zambia through the BOZA project. These developments will help position Botswana as a net exporter of electricity, given the number of generation projects currently being rolled out.

3. Financial Estimate:

The projected cost estimates for project implementation, including firmed up prices from the Engineering & Environmental Consultants amount to **BWP5.3 million (US$530,000.00)**.

4. Project Timelines:

The project is expected to be completed by December 2027

5. Economic and Social Analysis:

There are several goals of the Energy Policy that this project serves to drive such as.

- Improved security and reliability of energy supply to all sectors of the economy.
- Increased and equitable access to affordable energy services for all sectors of the economy, particularly the low income and marginalized.
- Improved capacity for service delivery for all key stakeholders in the energy delivery chain.
- Strengthened energy trade and cooperation for enhanced energy security and reduction in costs.
- Effective private sector participation and investment at all levels in the energy sector.

Received by NSD/FARA Registration Unit 01/15/2026 2:15:55 PM

1.4.	**PROJECT NAME: BOTSWANA – RSA 400kV INTERCONNECTOR**
1.	**Synopsis of the project:** The project scope entails construction of approximately 211km of 400kV transmission line between Isang substation in Botswana and Watershed substation in South Africa and associated substations. The portion of the Line on the Botswana side, from Isang Substation up to Tlokweng boarder is 64km whist on the South African side is 147km from the Border up to Watershed.
2.	**Project background and justification:** BOSA Transmission Interconnector project (BOSA project) was conceptualized based on the Regional Infrastructure Master Plan of the Southern African Development Community (SADC), Infrastructure Vision 2027. The project objectives include; the alleviation of the congestion on the Matimba-Phokoje-Insukamini 400kV line, to complement other SAPP initiatives, improvement of the power pool stability between strong and weak systems, improvement of system control and reliability, improvement of regional power trading and provision of redundancy on the Southern Africa Power Pool (SAPP) Fiber-optic communication network. A feasibility study for the BOSA project was concluded in the year 2021. It entails the Environmental Impact Assessment (ESIA) studies conducted in Botswana and South Africa were approved in 2019 and 2020, respectively. It includes and not limited to line route selection, business case framework, legal framework, technical and financial analysis, commercial analysis, market survey.
3.	**Financial Estimate:** The total estimated project cost is **BWP1.5 billion (US$150 million)**. The project cost was to be apportioned as follows: Transmission line and associated infrastructure on the Botswana side: **BWP443 million (US$44.3 million)** Transmission line and associated infrastructure on the South African side: **BWP1,057 million (US$105.7 million)**
4.	**Project Timelines:** The project is expected to be completed by December 2028
5.	**Economic and Social Analysis:** • Reduced Generation Cost. The BOSA project is expected to provide access to alternative, cheaper sources of supply across the region. • Environmental Benefits. If cleaner, less emitting energy supply sources are price-competitive, they can now be dispatched more readily than before.

Received by NSD/FARA Registration Unit 01/15/2026 2:15:55 PM

- Transmission Savings. Having more competing transmission routes is expected to reduce the cost of wheeling energy, as well as reducing the unit rate of the energy that is lost en route (since energy is bought cheaper at source).
- Improve the supply reliability specifically to Botswana, which would then experience fewer supply interruptions because of the additional contingency provided by the BOSA connection.
- During the construction phase, the project will create jobs in engineering, logistics, security, and skilled trades.
- Post-construction, maintenance and operations will continue to generate employment.
- Reliable power translates to better healthcare, education, and public services, particularly in newly connected or stabilized areas.
- Strengthening energy cooperation fosters diplomatic goodwill, regional peace, and shared prosperity — critical for long-term political and social stability in the region.

1.5.	**PROJECT NAME: BOTSWANA – BOTSWANA–ZAMBIA (BOZA) 400kV INTERCONNECTOR**
1.	**Synopsis of the project:** This project involves the establishment of a new cross-border electricity interconnector between Botswana and Zambia at Kazungula. A high-capacity 400kV transmission line to support long-term power trade and future connectivity with ZIZABONA.
2.	**Project background and justification:** A high-capacity 400kV transmission line to support long-term power direct trade between Botswana and Zambia and future connectivity with the region through the ZIZABONA project.
3.	**Financial Estimate:** The estimated cost of the project is **BWP500 million** (**US$50 million)**
4.	**Project Timelines:** The project is expected to be completed by December 2028
5.	**Economic and Social Analysis:** The project will improve regional electricity trade, enhance supply security in northern Botswana (Chobe), and reinforce integration with the Southern African Power Pool (SAPP).

Received by NSD/FARA Registration Unit 01/15/2026 2:15:55 PM

Beyond enabling regional electricity trade, the interconnector is expected to significantly enhance power supply reliability in northern Botswana, particularly in the Chobe region—and reinforce the long-term resilience of the transmission networks on both sides of the border.

1.6. MORUPULE – JINDAL 400kV LINE

1. Synopsis of the project:

This project involves the design, supply, installation, and commissioning of a 140 km, 400 kV transmission line from Morupule B to Jindal, including the necessary equipment for integration at the respective substations. The remaining section of the line, from Jindal to the Isang substation (90km), will be constructed by Jindal under the Power Purchase Agreement.

2. Project background and justification:

Botswana Power Corporation (BPC) has entered into a Power Purchase Agreement (PPA) with Independent Power Producer (IPP), Jindal Energy Botswana, for the supply of 600MW of electricity over a 30-year period

This agreement comes at a critical time, as the Southern African region including Botswana is experiencing widespread power supply challenges. It represents a significant milestone towards ensuring energy security and promoting a sustainable energy future. The new power plant will bolster the country's electricity supply, which currently relies heavily on the performance of the Morupule B Power Station.

Under the terms of the agreement, Jindal Energy Botswana will be responsible for the design, construction, financing, operation, ownership, and maintenance of the 600MW thermal power station. The plant is scheduled to commence commercial operation in two phases: the first 300MW by 2026, and the second 300MW by 2027.

To facilitate the evacuation of power from the new plant, a second 400kV transmission line from Morupule B to Jindal and onward to the Isang substation is proposed. This line is essential for integrating the Jindal plant into the BPC network.

3. Financial Estimate

The projected cost estimated project cost is **BWP490 million (US$49 million)** excluding VAT.

4. Project Timelines:

The project is expected to be completed by July 2027.

5. Economic and Social Analysis:

Received by NSD/FARA Registration Unit 01/15/2026 2:15:55 PM

- Enables evacuation of 600MW from the Jindal power plant, strengthening Botswana's electricity supply and reducing dependence on imports.
- Supports economic growth by providing reliable power to key sectors such as mining, manufacturing, and other services.
- Attracts local and foreign investment by improving energy infrastructure and supply stability.
- Creates job opportunities during construction, operation, and maintenance phases, with potential for skills development and capacity building.
- Stimulates local economies through procurement of materials, logistics, accommodation, and other support services.
- Enhances quality of life by reducing power outages, improving electricity access for households, schools, clinics, and other essential services.
- Opens up opportunities for corporate social responsibility (CSR) initiatives and infrastructure development in nearby communities.
- Contributes to long-term national development goals by supporting a sustainable and inclusive energy future.

1.7. THAMAGA-TSABONG TRANSMISSION GRID (KGALAGADI SOUTH TRANSMISSION GRID BACKBONE PROJECT)

1. Synopsis of the project:

This project entails the design, supply, installation and commissioning of 2 x 20MVA 220/33kV substation at Werda, 2 x 20MVA 220/132kV substation at Tsabong, 2 x 20MVA 220/33kV substation at Middlepits and 2 x 20MVA 220/33kV substation at Bokspits and 570km 220kV line from Thamaga terminating at each substation and development of associated power distribution infrastructure.

2. Project background and justification:

The Kgalagadi South Area has a total number of 24 villages electrified in the catchment area of Werda and Tsabong Villages. These villages are all fed from South Africa by Eskom Electricity Utility.

The area generally has been experiencing severe loading shedding starting from April 2022 up to date. The load management is mainly due to reduced generation in South

Received by NSD/FARA Registration Unit 01/15/2026 2:15:55 PM

Africa. This is a long-term solution project aimed at addressing frequent power outages exacerbated by inadvertent power generation in South Africa thus resulting in protracted loading shedding.

3. Financial Estimate:

The projected cost estimated project cost is **BWP 3.6 million (US$360,000)** excluding VAT.

4. Project Timelines:

The project is expected to be completed by December 2028.

5. Economic and Social Analysis:

There are several goals of the Energy Policy that this project serves to drive such as:

- Improved security and reliability of energy supply to all sectors of the economy.
- Increased and equitable access to affordable energy services for all sectors of the economy, particularly the low income and marginalized.
- Improved capacity for service delivery for all key stakeholders in the energy delivery chain.
- Strengthened energy trade and cooperation for enhanced energy security and reduction in costs.
- Effective private sector participation and investment at all levels in the energy sector.

1.8. TRANSMISSION AND SUBSTATIONS UPGRADE GRID

1. Synopsis of the project

This project involves the comprehensive upgrade of key substations (e.g., Isang Substation, Broadhurst Substation, 22x transformers etc) within the transmission and distribution network to improve reliability, efficiency, and capacity. The existing infrastructure, much of which is outdated, will be modernized with advanced equipment such as digital protection relays, upgraded switchgear, improved transformers, and SCADA integration.

The upgrade aims to enhancing grid stability, and support increased electricity demand from residential, commercial, and industrial sectors.
By strengthening critical nodes in the power system, the project ensures a more resilient and responsive grid, ultimately improving service delivery and operational efficiency for the utility and its customers.

Received by NSD/FARA Registration Unit 01/15/2026 2:15:55 PM

2. Project background and justification:

As part of ongoing efforts to modernize and strengthen the national power grid, this project focuses on the upgrade of aging substations within the transmission and distribution network. Many existing substations, originally constructed several decades ago, are operating beyond their intended capacity and lifespan, leading to increased maintenance costs, frequent equipment failures, and reduced operational efficiency.

Also, the rapid growth in electricity demand—driven by urban expansion, industrial development, and rural electrification—has further stressed the grid infrastructure, therefore the exigent need to upgrade and strengthen the transmission and distribution network alike.

In addition, the integration of variable renewable energy sources and the need for more reliable power supply call for smarter, more flexible substations capable of real-time monitoring, automation, and remote control. This will greatly improve faults turnaround.

3. Financial Estimate:

The estimated cost of the combined upgrades is **BWP500 million (US$ 50million)**.

4. Project Timelines:

The expected completion timelines is twenty-four (24) months, which is inclusive of transformers lead time.

5. Economic and Social Analysis:

The project is expected to improve social quality - More stable power supply improves quality of life for power users.

- Modern substations come with better protection systems, reducing risk of fires, shocks, or failures,
- Fewer outages benefit schools, hospitals, and public services
- Significant economic growth which hinges on the sustainable and stable.
- supply of electricity to all sectors of the economy as well as improved
- livelihoods of the people.
- Job creation and local empowerment to citizens

Received by NSD/FARA Registration Unit 01/15/2026 2:15:55 PM

TOTAL COST - PROJECTS

PROJECT NAME	COST (US$)
1. 1.5GW(UP TO 8GW) SOLAR PHOTOVOLTAIC POWER PLANTS INDEPENDENT POWER PRODUCER (IPP) PROJECTS	300,000,000
2. BATTERY ENERGY STORAGE SYSTEMS (BESS); 500MW	200,000,000
3. NORTH- WEST TRANSMISSION GRID PHASE 2	530,000
4. BOTSWANA – RSA 400kV INTERCONNECTOR	150,000,000
5. PROJEBOTSWANA – BOTSWANA–ZAMBIA (BOZA) 400kV INTERCONNECTOR	50,000,000
6. MORUPULE – JINDAL 400kV LINE	49,000,000
7. THAMAGA-TSABONG TRANSMISSION GRID (KGALAGADI SOUTH TRANSMISSION GRID BACKBONE PROJECT)	360,000
8. TRANSMISSION AND SUBSTATIONS UPGRADE GRID	50,000,000
TOTAL PROJECTS COST	(799,890,000) ~800,000,000

Received by NSD/FARA Registration Unit 01/15/2026 2:15:55 PM