Aloe Energy

COUNTRY BRIEF · NOVEMBER 2026

Botswana: grid and electricity access

Southern African Power Pool

312k
people live without night-time light, a proxy for no power

85%
of them live within 15 km of a power line

7,808
km of high-voltage lines, 66 kV and above

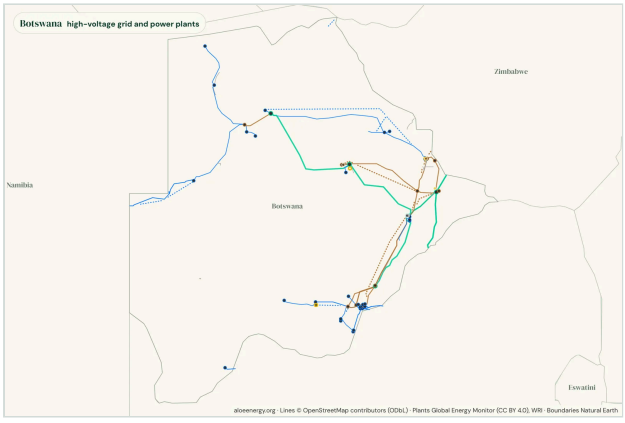
1,012
MW of operating power plants, 10 MW and above

16
power plants and transmission lines planned or under construction

About 312,000 people in Botswana live where satellites see no electric light at night, and 85% of them live within 15 km of a power line. This page brings together what our open atlases show for Botswana: about 7,808 km of high-voltage lines, 1,012 MW of power plants and the projects still to come.

WHAT THIS MEANS

163,000 people without power live 2 to 15 km from a line: close enough to plan for the grid, too far for a quick connection.



Map: Aloe Energy SAPP grid atlas. Lines © OpenStreetMap contributors (ODbL).

NEAR THE GRID, NOT ON IT

About 312,000 people in Botswana, roughly 12% of the population, live where satellites see no electric light at night. Of them, 85% live within 15 km of a mapped or predicted power line: 101,000 within 2 km, 163,000 2 to 15 km away, and 48,000 farther out. The largest group lives 2 to 15 km out: close enough to plan for the grid, too far for a quick connection. That is where mini-grids built to join the grid later can do the most good. At its 2016-2023 pace, about 1.7 percentage points a year (World Bank), Botswana would reach the 100% access target in its Mission 300 compact around 2037, not 2030; the target needs about 3.4 points a year.



Within 2 km of a line: **101,000** (32%)
2 to 15 km: **163,000** (52%)
More than 15 km: **48,000** (15%)

"Without night-time light" is a satellite proxy, not a measured access rate.

THE GRID TODAY

Botswana's mapped high-voltage network runs to about 7,808 km of lines at 66 kV and above, with 64 substations. The highest voltage on the map is 400 kV, and 45% of the line length runs at 220 kV or more. About 1,634 km come from older World Bank (2017) maps, used where OpenStreetMap has gaps. In August 2026, SAPP reported a peak demand of 698 MW against 475 MW available.

Mapped line length

Voltage	km
400 kV	1,253
220 kV	1,548
132 kV	2,564
66 kV	437
Voltage not recorded	371
Gap-fill from older public maps	1,634
Total	**7,808**

PLANTS AND PIPELINE

Five operating power plants of 10 MW and above add up to about 1,012 MW, 72% of it coal. The largest is Morupule B power station (600 MW, coal). Another 14 plants totaling about 5,285 MW are under construction or planned, 700 MW of them under construction.

Operating capacity by type



Coal: **732 MW** (72%) Oil: **160 MW** (16%)
Solar: **120 MW** (12%)

Promised and now expected dates

Project	Type	MW	First promised	Now expected
ZiZaBoNa interconnector	Line	-	2028	2030
Botswana-Namibia interconnector	Line	-	2029	2029

MISSION 300 COMPACT

Botswana's Mission 300 energy compact commits to raising electricity access from 77% to 100% by 2030.

Electricity access



Now: **77%** (2025) Target: **100%** (2030)

Mission 300 energy compact

Commitment	Value
Clean cooking target	from 67% to 90% by 2030
Rules for mini-grids when the grid arrives	Mentioned only
E-waste commitment	No

SECOND LIFE

Between 2026 and 2040, about 4,200 tonnes of solar equipment and stationary batteries are expected to retire in Botswana, most of it batteries. That is 1.0% of the total for the 18 countries in our second-life atlas.

Solar and batteries retiring each year (tonnes)



EMISSIONS

In 2024, each megawatt-hour used in Botswana came with about 0.91 tonnes of CO2, including imports. The table also gives the combined margin used for carbon projects.

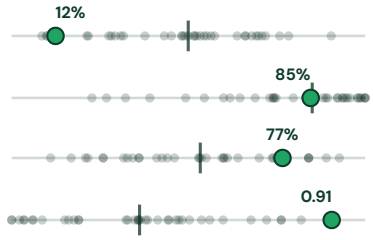
Grid emission factor, 2024 (tCO2/MWh)

Measure	tCO2/MWh
Generated in country	0.967
Electricity used, with imports	0.905
Combined margin (for carbon projects)	0.929

CLEAN ENERGY CERTIFICATES

I-REC status: approved, but no plants registered yet.

HOW IT COMPARES



Each dot is one country with a page on aloeenergy.org; the line marks the median. Positions only, no ranking.

Sources: Grid lines: OpenStreetMap contributors (ODbL), gap-fill from the World Bank Africa grid (2017); power plants: Global Energy Monitor (September 2026), WRI and public project sources; supply and demand: SAPP monthly report; people and distance to the grid: WorldPop 2020 and gridfinder (CC BY 4.0); second life: Aloe second-life model (central case); emission factor: Aloe grid emission factors (Ember); compact: the national Mission 300 energy compact.

Aloe Energy

The full page, with the interactive atlas, is at aloeenergy.org/countries/botswana. The maps are free to view; the data behind them is available on request: brandon@aloeenergy.org. Aloe Energy is a not-for-profit initiative working at the grid edge in Sub-Saharan Africa.

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