Aloe Energy

COUNTRY BRIEF · NOVEMBER 2026

Zimbabwe: grid and electricity access

Southern African Power Pool

12 M
people live without night-time light, a proxy for no power

89%
of them live within 15 km of a power line

8,003
km of high-voltage lines, 66 kV and above

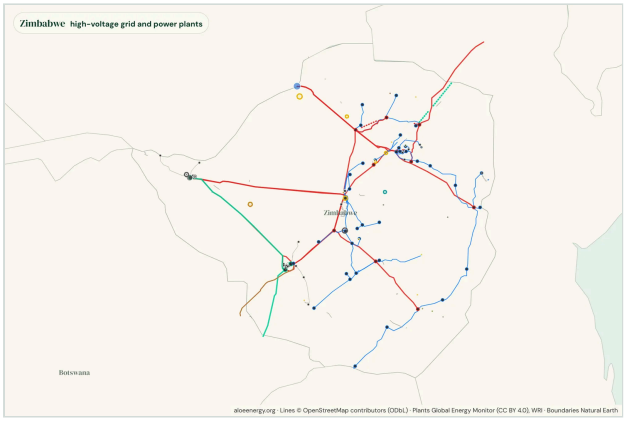
4,473
MW of operating power plants, 10 MW and above

66
power plants and transmission lines planned or under construction

About 12 million people in Zimbabwe live where satellites see no electric light at night, and 89% of them live within 15 km of a power line. This page brings together what our open atlases show for Zimbabwe: about 8,003 km of high-voltage lines, 4,473 MW of power plants and the projects still to come.

WHAT THIS MEANS

To reach 100% electricity access by 2030, Zimbabwe needs to add about 10 percentage points a year from 2024: from 41% today.



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

NEAR THE GRID, NOT ON IT

About 12 million people in Zimbabwe, roughly 70% of the population, live where satellites see no electric light at night. Of them, 89% live within 15 km of a mapped or predicted power line: 3.3 million within 2 km, 7.1 million 2 to 15 km away, and 1.3 million 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 2.2 percentage points a year (World Bank), Zimbabwe would reach the 100% access target in its Mission 300 compact around 2040, not 2030; the target needs about 5.4 points a year.



Within 2 km of a line: **3.3 million** (28%)
2 to 15 km: **7.1 million** (61%)
More than 15 km: **1.3 million** (11%)

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

THE GRID TODAY

Zimbabwe's mapped high-voltage network runs to about 8,003 km of lines at 66 kV and above, with 81 substations. The highest voltage on the map is 400 kV, and 56% of the line length runs at 220 kV or more. About 154 km come from older World Bank (2017) maps, used where OpenStreetMap has gaps. In August 2026, SAPP reported a peak demand of 1,693 MW against 1,505 MW available.

Mapped line length

Voltage	km
400 kV	479
330 kV	3,543
220 kV	370
132 kV	2,707
88 kV	411
66 kV	6
Voltage not recorded	334
Gap-fill from older public maps	154
Total	**8,003**

PLANTS AND PIPELINE

There are 23 operating power plants of 10 MW and above, adding up to about 4,473 MW, 48% of it hydro. The largest is Kariba Dam hydroelectric plant (2,130 MW, hydro). Another 65 plants totaling about 13,026 MW are under construction or planned, 1,400 MW of them under construction.

Operating capacity by type



Hydro: **2,145 MW** (48%) Coal: **2,045 MW** (46%)
Solar: **129 MW** (3%) Biomass: **96 MW** (2%)
Other: **58 MW** (1%)

Promised and now expected dates

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

MISSION 300 COMPACT

Zimbabwe's Mission 300 energy compact commits to raising electricity access from 41% to 100% by 2030. New access is planned as 62% grid, 1% mini-grids and 38% standalone solar.

Electricity access



Now: **41%** (2024) Target: **100%** (2030)

Mission 300 energy compact

Commitment	Value
Planned split of new access	grid 62%, mini-grids 1%, standalone solar 38%
Clean cooking target	from 39% to 70% by 2030
Private investment sought	US$4.42 billion
Rules for mini-grids when the grid arrives	Yes
E-waste commitment	No

SECOND LIFE

Between 2026 and 2040, about 5,200 tonnes of solar equipment and stationary batteries are expected to retire in Zimbabwe, most of it solar panels. That is 1.3% 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 Zimbabwe came with about 0.47 tonnes of CO2, including imports. The table also gives the combined margin used for carbon projects.

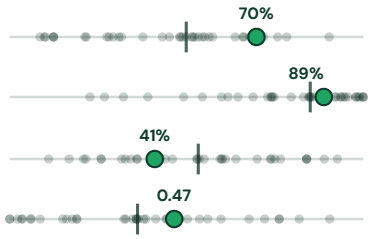
Grid emission factor, 2024 (tCO2/MWh)

Measure	tCO2/MWh
Generated in country	0.417
Electricity used, with imports	0.465
Combined margin (for carbon projects)	0.634

CLEAN ENERGY CERTIFICATES

I-REC status: issuing. 2 registered plants, 1,055 MW (hydro 1,055). Issued so far: 3.9 TWh, of which 3.8 TWh in 2026.

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/zimbabwe. 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.

Scan for the live page and map

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