Aloe Energy

COUNTRY BRIEF · NOVEMBER 2026

Eswatini: grid and electricity access

Southern African Power Pool

342k
people live without night-time light, a proxy for no power

100%
of them live within 15 km of a power line

1,113
km of high-voltage lines, 66 kV and above

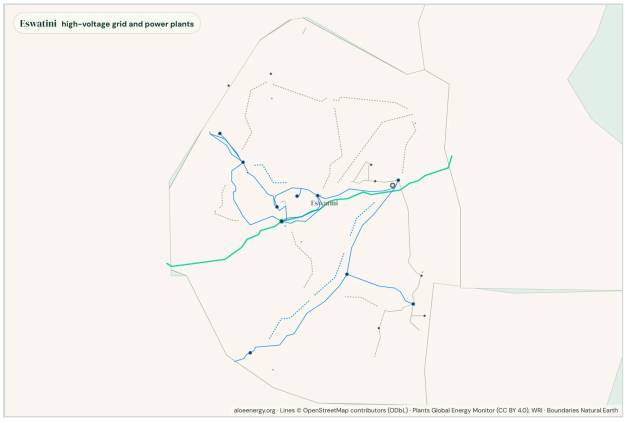
202
MW of operating power plants, 10 MW and above

9
power plants and transmission lines planned or under construction

About 342,000 people in Eswatini live where satellites see no electric light at night, and 100% of them live within 15 km of a power line. This page brings together what our open atlases show for Eswatini: about 1,113 km of high-voltage lines, 202 MW of power plants and the projects still to come.

WHAT THIS MEANS

95,000 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 342,000 people in Eswatini, roughly 27% of the population, live where satellites see no electric light at night. Of them, 100% live within 15 km of a mapped or predicted power line: 247,000 within 2 km, 95,000 2 to 15 km away, and 0 farther out. The largest group lives within 2 km of a line, so the main gap is last-mile connections and affordability, more than new lines.



Within 2 km of a line: **247,000** (72%)
2 to 15 km: **95,000** (28%)
More than 15 km: **0** (0%)

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

THE GRID TODAY

Eswatini's mapped high-voltage network runs to about 1,113 km of lines at 66 kV and above, with 18 substations. The highest voltage on the map is 400 kV, and 19% of the line length runs at 220 kV or more. About 365 km come from older World Bank (2017) maps, used where OpenStreetMap has gaps. In August 2026, SAPP reported a peak demand of 229 MW against 60 MW available.

Mapped line length

Voltage	km
400 kV	144
132 kV	426
66 kV	170
Voltage not recorded	8
Gap-fill from older public maps	365
Total	**1,113**

PLANTS AND PIPELINE

Ten operating power plants of 10 MW and above add up to about 202 MW, 47% of it biomass. The largest is Ubombo Sugar Mill power station (40 MW, biomass). Another 9 plants totaling about 574 MW are under construction or planned.

Operating capacity by type



Biomass: **95 MW** (47%) Hydro: **80 MW** (39%)
Other: **17 MW** (8%) Solar: **10 MW** (5%)

EMISSIONS

In 2024, each megawatt-hour used in Eswatini 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	0.032
Electricity used, with imports	0.473
Combined margin (for carbon projects)	0.016

SECOND LIFE

Between 2026 and 2040, about 318 tonnes of solar equipment and stationary batteries are expected to retire in Eswatini, most of it solar panels. That is 0.1% of the total for the 18 countries in our second-life atlas.

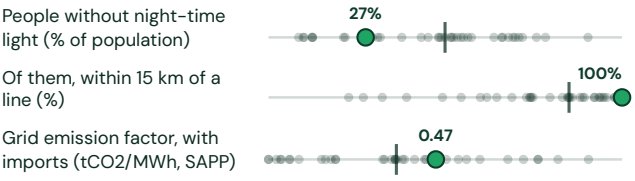
Solar and batteries retiring each year (tonnes)



CLEAN ENERGY CERTIFICATES

I-REC status: not approved yet, so renewable plants here cannot issue I-RECs.

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).

Aloe Energy

The full page, with the interactive atlas, is at aloeenergy.org/countries/eswatini. 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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