Aloe Energy

COUNTRY BRIEF · NOVEMBER 2026

Namibia: grid and electricity access

Southern African Power Pool

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

92%
of them live within 15 km of a power line

11,536
km of high-voltage lines, 66 kV and above

869
MW of operating power plants, 10 MW and above

48
power plants and transmission lines planned or under construction

About 1.5 million people in Namibia live where satellites see no electric light at night, and 92% of them live within 15 km of a power line. This page brings together what our open atlases show for Namibia: about 11,536 km of high-voltage lines, 869 MW of power plants and the projects still to come.

WHAT THIS MEANS

737,000 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 1.5 million people in Namibia, roughly 50% of the population, live where satellites see no electric light at night. Of them, 92% live within 15 km of a mapped or predicted power line: 658,000 within 2 km, 737,000 2 to 15 km away, and 117,000 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 0.9 percentage points a year (World Bank), Namibia would reach the 70% access target in its Mission 300 compact around 2038, not 2030; the target needs about 1.9 points a year.



Within 2 km of a line: **658,000** (44%)
2 to 15 km: **737,000** (49%)
More than 15 km: **117,000** (8%)

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

THE GRID TODAY

Namibia's mapped high-voltage network runs to about 11,536 km of lines at 66 kV and above, with 60 substations. The highest voltage on the map is 400 kV, and 47% of the line length runs at 220 kV or more. In August 2026, SAPP reported a peak demand of 672 MW against 490 MW available.

Mapped line length

Voltage	km
400 kV	1,406
350 kV	952
330 kV	524
220 kV	2,570
132 kV	2,359
66 kV	3,480
Voltage not recorded	245
Total	**11,536**

PLANTS AND PIPELINE

There are 19 operating power plants of 10 MW and above, adding up to about 869 MW, 41% of it solar. The largest is Ruacana hydroelectric plant (332 MW, hydro). Another 43 plants totaling about 24,144 MW are under construction or planned, 7,417 MW of them under construction.

Operating capacity by type



Solar: **357 MW** (41%) · Hydro: **332 MW** (38%)
Coal: **120 MW** (14%) · Gas: **50 MW** (6%)
Other: **10 MW** (1%)

Promised and now expected dates

Project	Type	MW	First promised	Now expected
Angola-Namibia interconnector (ANNA)	Line	-	2026	2029
ZiZaBoNa interconnector	Line	-	2028	2030
Botswana-Namibia interconnector	Line	-	2029	2029

MISSION 300 COMPACT

Namibia's Mission 300 energy compact commits to raising electricity access from 60% to 70% by 2030.

Electricity access



Now: **60%** (2023) Target: **70%** (2030)

Mission 300 energy compact

Commitment	Value
Clean cooking target	from 48% to 61% by 2030
Private investment sought	US$0.411 billion
Rules for mini-grids when the grid arrives	Not stated
E-waste commitment	No

SECOND LIFE

Between 2026 and 2040, about 8,600 tonnes of solar equipment and stationary batteries are expected to retire in Namibia, most of it solar panels. That is 2.1% 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 Namibia came with about 0.45 tonnes of CO2, including imports. The table also gives the combined margin used for carbon projects.

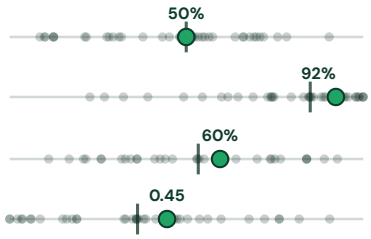
Grid emission factor, 2024 (tCO2/MWh)

Measure	tCO2/MWh
Generated in country	0.024
Electricity used, with imports	0.445
Combined margin (for carbon projects)	0.010

CLEAN ENERGY CERTIFICATES

I-REC status: issuing. 4 registered plants, 19 MW (solar 19). Issued so far: 56 GWh, of which 22 GWh 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/namibia. 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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