Aloe Energy

COUNTRY BRIEF · NOVEMBER 2026

Madagascar: grid and electricity access

Mission 300 compact country

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

23%
of them live within 15 km of a power line

748
km of high-voltage lines, 66 kV and above

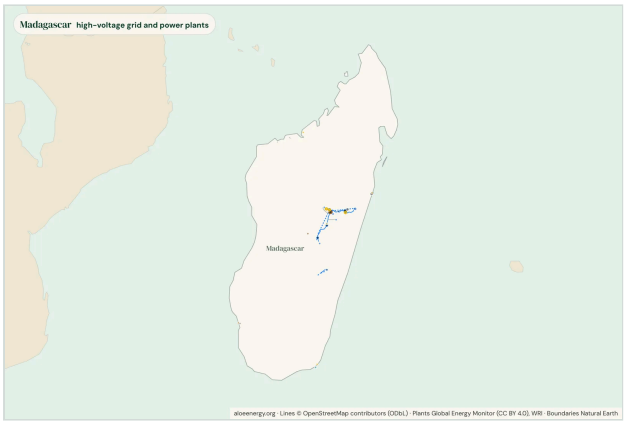
599
MW of operating power plants, 10 MW and above

32
power plants and transmission lines planned or under construction

About 25 million people in Madagascar live where satellites see no electric light at night, and 23% of them live within 15 km of a power line. This page brings together what our open atlases show for Madagascar: about 748 km of high-voltage lines, 599 MW of power plants and the projects still to come.

WHAT THIS MEANS

To reach 80% electricity access by 2030, Madagascar needs to add about 6 percentage points a year from 2022: from 36% today.



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

NEAR THE GRID, NOT ON IT

About 25 million people in Madagascar, roughly 78% of the population, live where satellites see no electric light at night. Of them, 23% live within 15 km of a mapped or predicted power line: 1.4 million within 2 km, 4.2 million 2 to 15 km away, and 19 million farther out. The largest group lives more than 15 km from any line, where standalone solar and mini-grids are the realistic first step for years to come. At its 2016-2023 pace, about 2.0 percentage points a year (World Bank), Madagascar would reach the 80% access target in its Mission 300 compact around 2043, not 2030; the target needs about 5.8 points a year.

- Within 2 km of a line: **1.4 million** (6%)
- 2 to 15 km: **4.2 million** (17%)
- More than 15 km: **19 million** (77%)

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

THE GRID TODAY

Madagascar's mapped high-voltage network runs to about 748 km of lines at 66 kV and above, with 9 substations. The highest voltage on the map is 132 kV. About 202 km come from older World Bank (2017) maps, used where OpenStreetMap has gaps. Installed capacity was about 828 MW (2024), and peak demand about 270 MW (Oct 2026 (RIA only)). The latest international tracking report puts access to electricity at 42% of people.

Mapped line length

Voltage	km
132 kV	151
66 kV	280
Voltage not recorded	114
Gap-fill from older public maps	202
Total	**748**

PLANTS AND PIPELINE

There are 18 operating power plants of 10 MW and above, adding up to about 599 MW, 40% of it coal. The largest is Ambatovy Nickel power station (120 MW, coal). Another 18 plants totaling about 1,305 MW are under construction or planned, 401 MW of them under construction.

Operating capacity by type



Coal: **240 MW** (40%) Hydro: **179 MW** (30%)
Solar: **65 MW** (11%) Oil: **60 MW** (10%)
Other: **55 MW** (9%)

Promised and now expected dates

Project	Type	MW	First promised	Now expected
Antetezambato	Hydro	142	2022	2030
Volobe Amont	Hydro	120	2022-2023	2030
Ranomafana (Ikopa)	Hydro	64	2023	2028
Bevory - Ambanja - Nosy Be 63 kV	Line	-	2025	2025

MISSION 300 COMPACT

Madagascar's Mission 300 energy compact commits to raising electricity access from 36% to 80% by 2030. New access is planned as 20% grid, 40% mini-grids and 40% standalone solar.

Electricity access



Now: **36%** (2022) Target: **80%** (2030)

Mission 300 energy compact

Commitment	Value
Planned split of new access	grid 20%, mini-grids 40%, standalone solar 40%
Clean cooking target	from 14% to 50% by 2030
Private investment sought	US$4.6 billion
Rules for mini-grids when the grid arrives	Mentioned only
E-waste commitment	No

SECOND LIFE

Between 2026 and 2040, about 5,800 tonnes of solar equipment and stationary batteries are expected to retire in Madagascar, most of it off-grid solar kits and mini-grids. That is 1.4% of the total for the 18 countries in our second-life atlas.

Solar and batteries retiring each year (tonnes)



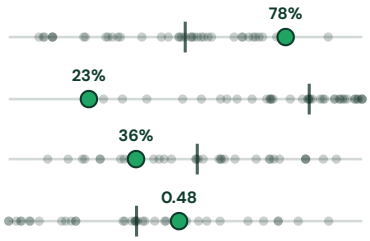
EMISSIONS

In 2024, each megawatt-hour used in Madagascar came with about 0.48 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	0.482
Electricity used, with imports	0.482
Combined margin (for carbon projects)	0.747

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; capacity and access: regulators, utilities and Tracking SDG7 2026; 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/madagascar. 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

Cite as: Aloe Energy (2026). Madagascar country brief, November 2026. aloeenergy.org/countries/madagascar. Free to share under CC BY 4.0.