Aloe Energy

COUNTRY BRIEF · NOVEMBER 2026

Tanzania: grid and electricity access

Southern African Power Pool · Eastern Africa Power Pool

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

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

9,206
km of high-voltage lines, 66 kV and above

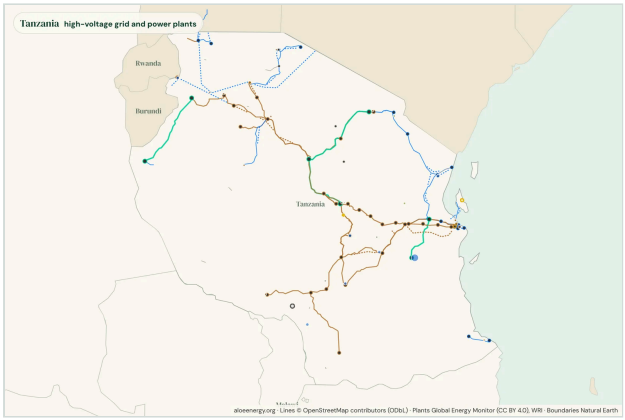
3,870
MW of operating power plants, 10 MW and above

47
power plants and transmission lines planned or under construction

Tanzania sits in both the Southern African and the Eastern Africa Power Pools, and it is building the lines to prove it: links to Kenya are running, and lines toward Zambia and Uganda are on the way. The Julius Nyerere hydro plant has roughly doubled what the country can generate. About 35 million people still live without night-time light, and 85% of them live within 15 km of a power line, so the next step is reaching homes near the grid.

WHAT THIS MEANS

To reach 75% electricity access by 2030, Tanzania needs to add about 4 percentage points a year from 2022: from 46% today.



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

NEAR THE GRID, NOT ON IT

About 35 million people in Tanzania, roughly 52% 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: 9.3 million within 2 km, 21 million 2 to 15 km away, and 5.2 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 2.4 percentage points a year (World Bank), Tanzania would reach the 75% access target in its Mission 300 compact around 2034, not 2030; the target needs about 3.8 points a year.



Within 2 km of a line: **9.3 million** (26%)
2 to 15 km: **21 million** (59%)
More than 15 km: **5.2 million** (15%)

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

THE GRID TODAY

Tanzania's mapped high-voltage network runs to about 9,206 km of lines at 66 kV and above, with 64 substations. The highest voltage on the map is 400 kV, and 69% of the line length runs at 220 kV or more. About 1,631 km come from older World Bank (2017) and TANESCO (2015) maps, used where OpenStreetMap has gaps. Installed capacity was about 3,092 MW (2025), and peak demand about 1,944 MW (2025). The latest international tracking report puts access to electricity at 52% of people.

Mapped line length

Voltage	km
400 kV	959
220 kV	4,270
132 kV	1,769
66 kV	395
Voltage not recorded	181
Gap-fill from older public maps	1,631
Total	**9,206**

PLANTS AND PIPELINE

There are 27 operating power plants of 10 MW and above, adding up to about 3,870 MW, 75% of it hydro. The largest is Julius Nyerere (2,115 MW, hydro). Another 42 plants totaling about 8,550 MW are under construction or planned, 402 MW of them under construction.

Operating capacity by type



Hydro: **2,894 MW** (75%) Oil: **412 MW** (11%)
Gas: **360 MW** (9%) Solar: **150 MW** (4%)
Other: **54 MW** (1%)

Promised and now expected dates

Project	Type	MW	First promised	Now expected
Nyakanazi-Kigoma 400 kV (North West Grid)	Line	-	2023	2026
Tanzania-Zambia interconnector (TAZA), Tanzania section	Line	-	2026	2026
Mozambique-Tanzania interconnector	Line	-	2028	2028

MISSION 300 COMPACT

Tanzania's Mission 300 energy compact commits to raising electricity access from 46% to 75% by 2030.

Electricity access



Now: **46%** (2022) Target: **75%** (2030)

Mission 300 energy compact

Commitment	Value
Clean cooking target	from 7% to 75% by 2030
Private investment sought	US$4.039 billion
Rules for mini-grids when the grid arrives	Mentioned only
E-waste commitment	No

SECOND LIFE

Between 2026 and 2040, about 6,500 tonnes of solar equipment and stationary batteries are expected to retire in Tanzania, most of it off-grid solar kits and mini-grids. That is 1.6% 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 Tanzania came with about 0.36 tonnes of CO2, including imports. The table also gives the combined margin used for carbon projects.

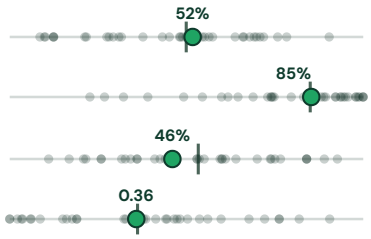
Grid emission factor, 2024 (tCO2/MWh)

Measure	tCO2/MWh
Generated in country	0.350
Electricity used, with imports	0.358
Combined margin (for carbon projects)	0.429

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; 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/tanzania. 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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