

Asmara residential solar

Eritrea, particularly in Asmara, receives an average of 3,002 hours of sunshine per year. This translates to about 8 hours and 13 minutes of sunlight daily, with sunny conditions present approximately 68.5% of daylight hours. 1

The reliability of Eritrea's electrical power supply grid is poor due to insufficient generation capacity and aging infrastructure. Voltage drops are severe due to the age of the transmission/distribution network, and transformers and lines are overloaded. 4

The country is advancing its solar energy infrastructure with the development of a new 30 MW solar photovoltaic plant near Dekemhare, which will significantly enhance overall capacity and integrate battery storage into the grid. This project is expected to raise the share of renewable energy in Eritrea's energy mix from 3% to 23% upon completion. 6

Eritrea's electricity generation is predominantly from oil and diesel, accounting for over 96% of total generation. The average electricity price in Eritrea is approximately 240 \$/MWh, with generation costs around 27 cents per kWh. 3

Approximately 70% of the Eritrean population in rural areas has limited or no access to modern energy services, while the national grid covers around 31% of the country of Form. 5

Eritrea has one solar farm under development with 30 MW capacity in Dekemhare. This facility will be the largest PV installation in the country once completed. 8

With support from the European Union and UNDP, the Ministry of Energy and Mines (MEM) has delivered modern, affordable, and sustainable energy to previously off-grid villages and rural towns, including Areza and Maidma in the Debub region. The project aims to serve more than 40,000 residents across 40 villages, along with over 513 small businesses, 15 schools, 2 kindergartens, 2 community hospitals, 5 health stations, and 80 organizations. 10 11

The Eritrean National Energy Policy aims to increase electrification rates and supply 20% of electric power demand through renewable energy sources by 2030. This goal indicates a significant projected increase in demand for solar panels as the country seeks to expand its renewable energy capacity. 12

In this context, the Government of the State of Eritrea, with grant support from the African Development Bank (AfDB), is establishing a 25-megawatt Solar Photovoltaic (PV) Power Project in Village-Hadamu, Dekemhare Subzoba, Zoba Debub.



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Access to tap water is a significant challenge in Eritrea. As of 2020, over 80% of the population lacks basic water services, relying on unprotected sources like wells and rivers, which are often contaminated.

Eritrea has initiated several programs to improve access to affordable tap water. The One WASH (Water, Sanitation, and Hygiene) strategy, launched in partnership with UNICEF, aims to ensure adequate WASH services for all citizens by 2030. This includes efforts to end open defecation and enhance access to clean water and sanitation.

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