## Eritrea off-grid systems



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In 2019, some off-the-grid community systems rely on a combination of solar power, diesel generators and grid batteries.[2]

Eritrea is developing building its sustainable energy capacity from such sources as wind and solar.[3] Development of renewable energy sources helps give the country access to reliable energy and lower greenhouse gas emissions.[4]

The government of Eritrea built a wind energy pilot project in the city of Assab in the Southern Red Sea region in 2010 with the help of the United Nations Development Programme. The wind farm has a capacity of 750 kilowatts.[3] It also installed six small stand-alone decentralized wind turbines in the villages of Beilul, Berasole, Dekemhare, Edi, Gahro, and Rahayta.

Eritrea has two hybrid mini-grids (solar-diesel) with a total capacity of 2.25 MW. One is in the town of Areza with a production capacity of 1.25 MW; another is in Maidma with a production capacity of 1 MW.[5] Both use photovoltaic solar panels connected to lithium batteries.[5]

Eritrea. 26 March 2019: Solarcentury, the global integrated solar power company with operations across Europe, Latin America and Africa, is pleased to announce the completion and commissioning of two solar-hybrid mini grids, bringing power to the rural communities of Areza and Maidma in Eritrea in east Africa.

This project is a state-of-the-art hybrid power system, combining solar photovoltaics with lithium batteries and backup diesel generators in a location remote from the country's power grid. The system integrates world-class technologies, including Tesla batteries and Caterpillar generators.

Construction of the project took 8 months, employing local contractors and consultants working with Solarcentury project managers, as well as international contractors. After final completion the site will be operated by the Eritrean Electricity Company - whose staff have received extensive training by Solarcentury and are now closely involved in site operations.

The 1.25 MWp system in Areza and 1 MWp in Maidma are mini-grids, providing grid-quality power to 40,000 people and businesses where there is no main grid power. These communities were previously served by small diesel generators which are environmentally damaging, costly to run, and only able to provide limited power. The solar mini-grids provide clean, stable power 24/7.

The project was funded by the Eritrean Government with support from the European Union Delegation to the State of Eritrea and the United Nations Development Programme.



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"The community are at the heart of this project. Our hope is that access to reliable electricity will support wider economic growth in the region, and social development. For example, there's a clinic in Areza that will now benefit from uninterrupted electricity.

"Solarcentury were very focused, and kept the project progressing at a quick pace in remote conditions. The Ministry of Energy and Mines are very pleased with the process and results."

Founded by Solarcentury, SolarAid"s mission is to combat poverty and climate change by providing access to solar lights and helping to eradicate the kerosene lamp.

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