

# **Lesotho Bay solar container communication station Wind and Solar Complementary Query**





## Overview

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An application of the Weather Research and Forecasting model aiming to estimate wind and photovoltaic energy resources over Lesotho is presented. To this scope, the whole year 2015 was simulated i.

Does Lesotho have solar energy potential?

This study represents the first assessment of solar photovoltaic and wind energy potential production over Lesotho at high horizontal resolution (1 km), based on the state-of-the-art atmospheric model WRF.

How was the photovoltaic power potential map produced for Lesotho?

The photovoltaic power potential map for Lesotho was produced using WRF Sim2 hourly values of normal, direct and diffuse solar radiation, 2 m temperature, 10 m wind and albedo. As for the wind energy assessment, the use of an hourly model output allowed us to take into account diurnal variability of the involved physical quantities.

What is the main power plant in Lesotho?

At present the Muela hydroelectric plant is the major power station in Lesotho with a total power of 72 MW and it is accountable for almost the total energy production of the country.

How much energy does Lesotho need?

In Lesotho, the energy demand has been constantly increasing over the past years, reaching 177 MW in 2019, and has greatly surpassed the 72 MW hydropower domestic generation, which has been stagnant since 1998 .



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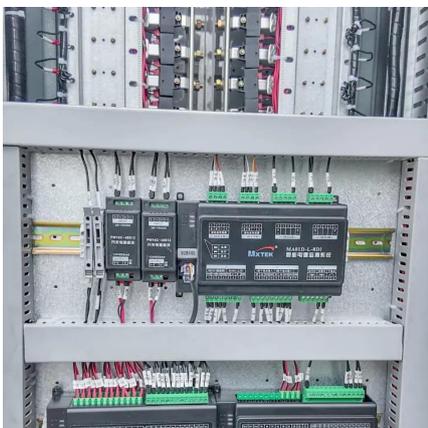
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