

#### **SolarInnovate Energy Solutions**

# **Ethiopia Photovoltaic Power Storage Project**





#### **Overview**

Since a majority of rural areas in Ethiopia have no access to the main electric grid, a plan has been devised to build micro off-grid photovoltaic and wind energy stations and to use these for energy storage. Can solar power transform Ethiopia's energy landscape?

Among these, solar energy emerges as a beacon of hope, poised to transform Ethiopia's energy landscape and drive socioeconomic development. Significantly, the country has relied heavily on hydropower, which accounts for more than 90% of its electricity generation.

Why is solar energy important in Ethiopia?

By improving energy access, solar energy can stimulate local economies, enhance educational opportunities, and improve healthcare services, thereby contributing to overall development. Moreover, the transition to solar energy aligns with Ethiopia's ambitious climate goals.

Why is Ethiopia investing 300 million USD in solar energy?

She mentioned that the country's focus is on the solar energy sector, where Ethiopia is investing 300 million USD in a project aimed at generating 300 megawatts of solar energy. It does not only support the country's renewable energy goals but also contributes to reducing carbon emissions and promoting sustainability, she said.

Is solar photovoltaic water pumping system feasible in Ethiopia?

Study site In this research, the feasibility of solar photovoltaic water pumping system was studied selecting one potential site from three administrative regions of Ethiopia. The regions selected are Amhara, Oromia and Tigray regions.

Should Ethiopia invest in photovoltaics?

Predicted by Swanson's law, the levelized costs for photovoltaics have



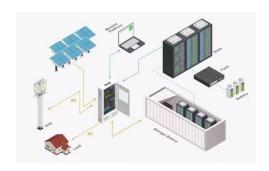
plunged to levels just above that of hydropower and wind power. Ethiopia aims to diversify its electricity generation capabilities by investing into an energy mix, of which photovoltaics will be a part.

How big is Ethiopia's photovoltaic potential?

The remaining  $\sim 300$  GW are more evenly distributed across Ethiopia (1,000 TWh per annum for a capacity factor of 0.4). This potential is still much bigger than that from hydropower. Predicted by Swanson's law, the levelized costs for photovoltaics have plunged to levels just above that of hydropower and wind power.



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