

Small wind power generation system in Gambia

Why is wind energy important in Gambia?

In addition to solar power, wind energy is becoming a valuable resource in Gambia. Small wind turbines are increasingly supplementing the energy mix, particularly in coastal regions where wind conditions are ideal. These turbines power irrigation systems and water pumps, which are vital for agriculture and everyday household use.

Can wind energy be used for water pumping in the Gambia?

In the mechanical energy application, wind energy has been used for water pumping for many decades in The Gambia. This technology has provided water to populations for decades, especially in the absence of electricity services and thereby providing the much-needed vital essentials of life.

What is the wind speed in the Gambia?

When it comes to wind power, The Gambia benefits from favorable conditions, with wind speeds ranging from 3.4 meters per second (m/s) to 4.2 m/s at a height of 30 m, particularly in locations like Kanuma and Jambanjelly near the coast, where free winds flow in from the sea.

How much solar power does the Gambia have?

According to the International Renewable Energy Agency (IRENA), The Gambia only had 2 MW of installed solar photovoltaic capacity at the close of 2022. Similarly, in the realm of wind energy, only small-scale projects initiated by private investors and non-governmental organizations are currently in operation.

Is there a hybrid energy power system in the Gambia?

Table 3 Comparison of the present study with other recent research papers done using similar tools. Technical and economic simulation of a proposed hybrid renewable energy power system has been carried out in the Basse Santa Su district area of The Gambia.

Why is the Gambia embracing green energy initiatives?

The Gambia is embracing green energy initiatives in an effort to raise national electrification rates and lower energy costs for its citizens.

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