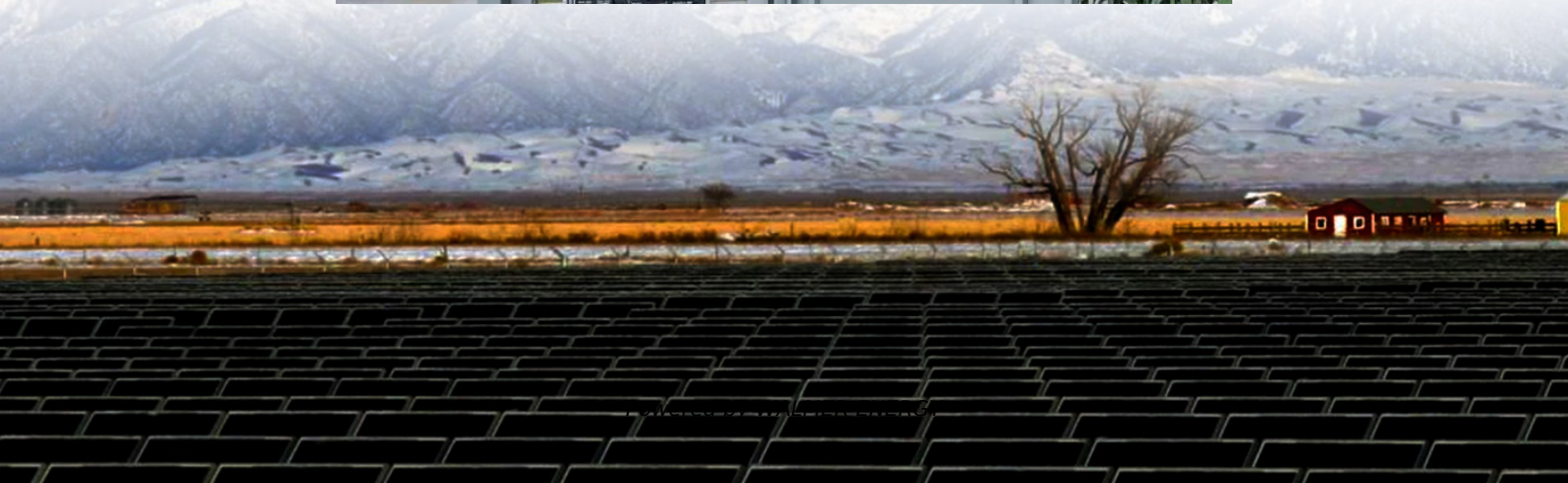


The principle of battery wind power in solar container communication stations





Overview

This paper discusses about remote area power supply (RAPS) system for the conversion of power from wind into electrical energy along with supercapacitor and battery storage to supply main load and dump.

How a wind energy storage system works?

To meet the power demand, the wind generator operates to generate power. When the power demand can be met with the wind energy generation, energy storage system is not supplying power to the load. If the demand is more than the wind power generator, energy storage system is operated along with windmill.

How is wind energy power generation and storage implemented?

In this paper, standalone operation of wind energy power generation and storage is discussed. The storage is implemented using supercapacitor, battery, dump load and synchronous condenser. The system is simulated for different power generation and storage capacity. The system is regulated to provide required voltage.

Why is battery storage important in wind power generation system?

The battery storage system in the wind power generation system can provide an improved efficiency with less consumption of the fuel. When the windmill generation is more than the required demand, it can be stored in the battery for future use.

How a windmill is used for battery storage?

The block diagram shows that the windmill is used to convert the wind power to electrical power, and it is rectified using rectifier to convert ac into dc signal. Thus, the low voltage is boosted in DC/DC boost converter to boost 5 V to 40 V for battery storage and to load.



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