Abstract

A sizing algorithm for a photovoltaic water pumping installation composed of photovoltaic panels, battery's bank, DC/AC converters and a water pump is presented. Considering criteria related to the battery's bank operation, fulfilling the water volume needed by the crops and ensuring a continuous operation of the pump, the algorithm decides the size of the installation's components. The installation's components cost using the presented and the basic algorithms are compared. Obtained results confirm that the water demand is covered during the crops' cycle with a minimum use of the battery's bank and minimum cost.

References

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hybrid renewable energy systems. Renewable and Sustainable Energy Reviews. (2009), 2111-2118.

Index Terms

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