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 safe 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 cost is compared using the presented and the basic algorithms are compared. Obtained results confirm that the water demand is covered during the crops' period with a minimum use of the battery's bank and minimum cost.

References


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

Index Terms

Computer Science Algorithms

Keywords
Photovoltaic energy sizing algorithm water pumping.