

Technical and Economical Feasibility Analysis of Solar Water Pumping System - Case Study in Iran

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Abstract : The technical analysis of using solar energy and electricity for water pumping in the Khuzestan province in Iran is investigated. For this purpose, the ecological conditions such as the weather data, air clearness and sunshine hours are analyzed. The nature of groundwater in the region was examined in terms of depth, static and dynamic head, water pumping rate. Three configurations for solar water pumping system were studied in this thesis; AC solar water pumping with a storage battery, AC solar water pumping with a storage tank, and DC direct solar water pumping.

Keywords : technical and economic feasibility, solar energy, photovoltaic systems, solar water pumping system

Conference Title : ICPEE 2015 : International Conference on Power and Energy Engineering

Conference Location : Rome, Italy

Conference Dates : September 17-18, 2015