

Special Issue

Renewable Water Pumping Systems: Concept, Design and Methods of Optimization

Message from the Guest Editor

Renewable energy is considered environment friendly energy source. One of the most popular applications of renewable energy is renewable water pumping system (REPS). REPS utilizes the power generated from renewable energy sources such as photovoltaic and wind turbine to power a pumping system for different water pumping applications such as providing drinking water for domestic and irrigation. A properly designed REPS can be efficient and economical competitive to grid connected or diesel generator (DG) based pumping systems especially in the rural areas. However, the low energy conversion efficiency, maximum power operation, load matching, system control and optimization are still the major challenges of this technology. Therefore, this special issue aim to cover topics such as photovoltaic and wind water pumping systems concept, theory, performance and feasibility, photovoltaic and wind water pumping systems design and control procedures modelling of photovoltaic and wind water pumping systems, power electronics applications for RE water pumping systems.

Guest Editor

Prof. Dr. Tamer Khatib

Energy Engineering and Environment, An-Najah National University,
97300 Nablus, Palestine

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
sustainability@mdpi.com

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Editor-in-Chief

Prof. Dr. Steve W. Lyon

School of Environment and Natural Resources, Ohio State University,
Columbus, OH 43210, USA

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