

Solar Water Pumping

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Pumping water is a universal need and a major energy challenge, especially where electrical service is absent, expensive or unreliable. Water demands are greatest when the sun shines most intensely. Could there be a better power source for pumping, than the sunshine itself? Over a million solar pumps are already in use for irrigation, livestock, pond and stream management, water treatment, homes and communities, emergency relief, government and recreational facilities, and more. They are rapidly replacing hand pumps, engines, windmills, and even public grid power. To succeed, designers, suppliers, funders and owners need to understand the unique aspects of this technology.

This comprehensive and unique volume fills a major gap in the literature on this rapidly-growing industry. Three pioneering authors share over 80 years of combined solar pumping experience in private, public and educational sectors. They describe the theory and practice of solar pumping, including small, medium and large scale approaches, for the developing and the developed world. The book covers solar power, pump and control technologies, system sizing and design, storage and back-up, installation, operation and maintenance, and remote connectivity. It presents accessibility solutions for small farms and villages, as well as advice for involving communities, business, NGOs and financial institutions, based on the diverse experience of the authors. Examples with full colour illustrations and photos are included throughout. Real world case studies are presented from around the world, including Africa, Asia and the US, plus a ten-year follow-up study of more than 200 systems in Mexico. Overall, the volume will serve as a standard reference for years to come.

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Glossary of Solar Power and Pumping

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