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Titolo	Photovoltaic Pumping Systems for Domestic Sustainable Water Access in Off-Grid Areas [[electronic resource] /] / by Judith Alazraque Cherni, Simon Meunier, Loïc Quéval
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Collana	Green Energy and Technology, , 1865-3537
Disciplina	621.31244
Soggetti	Photovoltaic power generation Electric power distribution Water Hydrology Sustainability Photovoltaics Energy Grids and Networks
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Nota di contenuto	Introduction -- Photovoltaic pumping for domestic water access in off-grid communities: potential and challenges -- Planning and preparation of non-technical components - before installation -- Technology installation -- Operation and maintenance - after installation -- Discussion -- Conclusion.
Sommario/riassunto	This book offers practical guidance for practitioner engineers, policymakers, and other decision-makers on how to implement solar photovoltaic water pumping systems to provide domestic clean water in off-grid regions of developing countries. By championing genuine multidisciplinary research and generating interdisciplinary results, this book develops models and approaches which indicate how it might be possible to overcome some of the limitations that technocratic approaches to renewable energy and water access pose to truly sustainable development. The book addresses technical challenges often found when promoting photovoltaic water pumping systems. It

offers practical guidance to stakeholders on how to successfully select, install, and maintain photovoltaic water pumps to promote sustainable options for the poorest underserved areas/populations. A main novelty of this book is that, by using theoretical, as well as real/actual field-work data, and advanced modelling, it successfully connects energy systems engineering, environmental and geographical information and hydrology with population surveys which reveal local needs and conditions. The book is timely and important. More than 665 700 million worldwide still do not have access to improved drinking water sources; eight out of ten live in rural areas typically located either in off-grid territory, or where connection to nearby grid is too expensive or unfeasible. Unsafe water is responsible for 1.2 million deaths each year, mainly correlated with the diarrheal diseases generated from drinking water from unimproved water sources. Sustainable Development Goal 6 (clean water and sanitation) may be achieved only if water is accessible to everyone, available when needed and free from contamination.

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