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Edizione	[1st ed.]
Descrizione fisica	1 online resource (254 pages)
Altri autori (Persone)	TahourAhmed AissaouAbdel Ghani
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Sommario/riassunto	This book provides a platform for scientists and engineers to comprehend the technologies of solar wind hybrid renewable energy systems and their applications. It describes the thermodynamic analysis of wind energy systems, and advanced monitoring, modeling, simulation, and control of wind turbines. Based on recent hybrid technologies considering wind and solar energy systems, this book also covers modeling, design, and optimization of wind solar energy systems in conjunction with grid-connected distribution energy management systems comprising wind photovoltaic (PV) models. In addition, solar thermochemical fuel generation topology and evaluation of PV wind hybrid energy for a small island are also included in this book. Since energy storage plays a vital role in renewable energy systems, another salient part of this book addresses the methodology for sizing hybrid battery-backed power generation systems in off-grid connected locations. Furthermore, the book proposes solutions for sustainable rural development via passive solar housing schemes, and the impacts of renewable energies in general, considering social, economic, and environmental factors. Because this book proposes solutions based on recent challenges in the area of hybrid renewable technologies, it is hoped that it will serve as a useful reference to readers who would like to be acquainted with new strategies of control

and advanced technology regarding wind solar hybrid systems.