



energies



Special Issue Reprint

Energy Management of Prosumer Communities

www.mdpi.com/books/reprint/4373

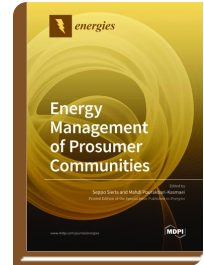
Edited by

Seppo Sierla

Mahdi Pourakbari-Kasmaei

ISBN 978-3-0365-2058-2 (Hardback)

ISBN 978-3-0365-2057-5 (PDF)



The penetration of distributed generation, energy storages and smart loads has resulted in the emergence of prosumers: entities capable of adjusting their electricity production and consumption in order to meet environmental goals and to participate profitably in the available electricity markets. Significant untapped potential remains in the exploitation and coordination of small and medium-sized distributed energy resources. However, such resources usually have a primary purpose, which imposes constraints on the exploitation of the resource; for example, the primary purpose of an electric vehicle battery is for driving, so the battery could be used as temporary storage for excess photovoltaic energy only if the vehicle is available for driving when the owner expects it to be. The aggregation of several distributed energy resources is a solution for coping with the unavailability of one resource. Solutions are needed for managing the electricity production and consumption characteristics of diverse distributed energy resources in order to obtain prosumers with more generic capabilities and services for electricity production, storage, and consumption. This collection of articles studies such prosumers and the emergence of prosumer communities. Demand response-capable smart loads, battery storages and photovoltaic generation resources are forecasted and optimized to ensure energy-efficient and, in some cases, profitable operation of the resources.



Order Your Print Copy

You can order print copies at

www.mdpi.com/books/reprint/4373

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.