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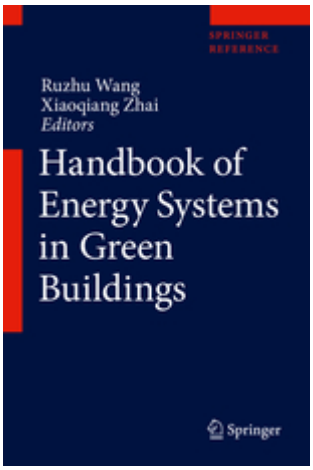

グリーンビルディングのエネルギーシステムハンドブック

1.Handbook of Energy Systems in Green Buildings

Edited by Ruzhu Wang & Xiaoqiang Zhai

2018年８月出版予定 1885ページ ￥107,990
Published by Springer; Hardcover ISBN 9783662491850

◇ エネルギーシステムの観点からグリーンビルディングへの総合的な洞察を行います。

◇ 再生可能で効率的なエネルギーシステムの設計に役立つ最も最新のレビューを提供します。

◇ ハイブリッドエネルギーシステムとビルディングを統合するためのガイドライン。

This handbook provides a comprehensive summary on the energy systems used in green buildings, with a particular focus on solar energy - the most common renewable energy source applied in this field. With the growing concern about environmental protections, the concepts of green building have been widely promoted and implemented in nowadays building designs and constructions. Among all, sustainable energy systems, including energy harvesting, conversion, and storage, is one of most important design factors in green buildings. Unlike traditional energy systems which highly rely on fossil fuel, green buildings utilize renewable energy source or high efficient energy systems, or both, to provide environmental friendly, low carbon waste energy. The most updated concepts, designs, technologies developed and implemented in heat pumps, cooling systems, power systems, and energy storage will be discussed here in details.
This handbook is subdivided into 7-9 main sections to provide an in-depth discussion from foundational principles to practical techniques. In addition, different cases about green energy systems implemented in global will be discussed. The book will be structured easy-to-read, to make it more accessible to graduate students and professionals in diverse scientific and engineering communities, including applied physics, civil engineering, electrical engineering, mechanical engineering, material engineering, and chemical engineering.

関　連　書

2.Biofuels: Greenhouse Gas Mitigation and Global Warming

Next Generation Biofuels and Role of Biotechnology

Edited by Ashwani Kumar, Shinjiro Ogita, & Yuan-Yeu Yau

Feb 2018, 432 pages, Hardcover (Springer) ISBN 9788132237617 **¥43,190**

This timely book is a compilation of edited articles by distinguished international scientists discussing global warming, its causes as well as present and future solutions. Social and economic growth at global level is measured in terms of GDP, which requires energy inputs generally based on fossil fuel resources. These, however, are major contributors to increasing levels of CO2, causing 15 tonnes of green house gas emissions per capita. Renewable sources of energy offer an alternative to fossil fuels, and would help reduce this to the 2 tonnes of greenhouse gas emissions per capita per annum needed to achieve sustainable growth. As such, the book discusses the next-generation of biofuels and all related aspects, based on the editors' significant investigations on biofuels over the last 30 years. It also presents the latest research findings from research work carried out by contemporary researchers. Presenting global biofuel perspectives, it examines various issues related to sustainable development of biofuels in the contexts of agriculture, forestry, industry and economic growth. It covers the 1st to 4th generation biofuels, as well as the status of biofuel resources and their potential in carbon neutral economy. Offering a comprehensive, state-of-art overview of current and future biofuels at local and global levels, this book appeals to administrators, policy makers, universities and research institutions.

3.Energy from Microalgae

(Series: Green Energy and Technology)

Edited by Eduardo Jacob-Lopes, Leila Queiroz Zepka, & Maria Isabel Queiroz

Feb 2018, 306 pages, Hardcover (Springer)

ISBN 9783319690926 **¥24,830**

This book presents an authoritative and comprehensive overview of the production and use of microalgal biomass and bioproducts for energy generation. It also offers extensive information on engineering approaches to energy production, such as process integration and process intensification in harnessing energy from microalgae.

Issues related to the environment, food, chemicals and energy supply pose serious threats to nations' success and stability. The challenge to provide for a rapidly growing global population has made it imperative to find new technological routes to increase the production of consumables while also bearing in mind the biosphere's ability to regenerate resources. Microbial biomass is a bioresource that provides effective solutions to these challenges.

Divided into eight parts, the book explores microalgal production systems, life cycle assessment and the bio-economy of biofuels from microalgae, process integration and process intensification applied to microalgal biofuels production. In addition, it discusses the main fuel products obtained from microalgae, summarizing a range of useful energy products derived from algae-based systems, and outlines future developments. Given the book's breadth of coverage and extensive bibliography, it offers an essential resource for researchers and industry professionals working in renewable energy.

4.Green and Smart Buildings

Advanced Technology Options

(Series: Green Energy and Technology)

by Nilesh Y. Jadhav

Oct 2016, 179 pages, Hardcover (Springer)

ISBN 9789811010002 **¥23,750**

This book highlights the various technologies that are currently available or are now being developed for the green and smart buildings of the future. It examines why green building performance is important, and how it can be measured and rated using appropriate benchmarking systems. Lastly, the book provides an overview of the state-of-the-art in green building technologies and the trend towards zero energy or net positive energy buildings in the future.

Power Stations Using Locally Available Energy Sources, 2nd Edition

Series: Encyclopedia of Sustainability Science and Technology

Edited by Lucien Y. Bronicki

April 2018, 512 pages, Hardback (Springer)

ISBN 9781493975099 **¥97,190**

This volume covers the utilization of geothermal and related energy resources that exploit variations in temperature, chemistry, etc. and require different plant designs and technologies for each location. Extending beyond power plants using geothermal and ocean energy, coverage includes hot dry rock systems, geothermal conditioning, solar ponds, osmotic power, dry air, and potential future deep sea hydrothermal sources. Some technologies have reached the prototype stage, some not even that, but where much work has been invested, it is important to provide a complete picture if only to prevent others from following a dead-end path. For geothermal power plants, the greatest challenge remains the geothermal resource itself. Power conversion is the least uncertain part of a geothermal project, as it consists of a straightforward engineering design with work executed by experienced manufacturers, engineering firms, and contractors. The issues associated with integrating large amounts of ocean energy into the overall supply are also explored.

Collecting more than 20 new articles and updated entries, all peer reviewed, this volume in the Encyclopedia of Sustainability Science and Technology, Second Edition, provides an authoritative introduction from exploration techniques to conversion systems for a wide range of locally available energy sources. This comprehensive reference is suitable for those just entering these fields, but also offers new insights for advanced researchers, industry experts, and decision makers.