The Institution of Engineering and Technology

September 2024

Renewable energy:

An online reading list from the IET Library

These eBooks and eJournals, available via the IET Library, have been selected on the subject of renewable energy. They cover topics such as climate change, grids and solar power.

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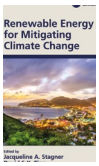
Contents

eBooks

Climate change

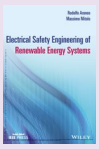
Engineering Sustainable Life on Earth : Alleviating Adverse Climate Change Through Better Design, John Coplin. (2022). Takes a wide-ranging approach, applying modern design and innovative engineering at a systemic level to provide novel approaches that will have far- reaching impact on reversing humankind's impact on this planet.



Renewable Energy for Mitigating Climate Change, Jacqueline A. Stagner and David S-K. Ting. (2021). This book disseminates the latest advancements concerning renewable energy and climate change and presents the best practices to utilize renewable energy for mitigation.

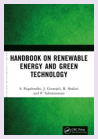
Energy Systems

Green and Smart Technologies for Smart Cities, Pradeep Tomar and Gurjit Kaur. (2020). Starts with an overview of the role of cities in climate change and environmental pollution worldwide, followed by the concept description of smart cities.



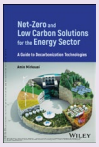
Electrical Safety Engineering of Renewable Energy Systems, Rodolfo Araneo and Massimo Mitolo. (2022). A reference to designing and developing electrical systems that offers an in-depth exploration to the safety challenges of renewable systems.

Heat Pumps : Fundamentals and Applications, Walter Grassi. (2018). The text describes the main features of currently available heat pumps, focusing on system operation and interactions with external heat sources.



Handbook on Renewable Energy and Green Technology, S. Pugalendhi et al. (2024). This book explores how we can use the sun, wind, biomass, geothermal, tidal and water resources to generate energy in a more sustainable form.

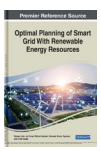
Heat recovery with commercial, institutional, and industrial heat pumps, Vasile Minea. (2024). Presents the basic concepts and thermodynamic behaviours of mechanical vapor compression and recompression. Includes theoretical and practical approaches, solved exercises, and case studies.



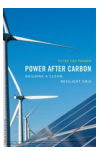
Net-Zero and Low Carbon Solutions for the Energy Sector : A Guide to Decarbonization Technologies, Amin Mirkouei. (2024). A resource for business professionals, academics, and policy makers who contribute to net-zero emissions targets.

Decarbonising Electricity Made Simple, Andrew F. Crossland. (2020). This book is built around developing a decarbonised electricity mix for Britain which reduces fossil fuels from 50 per cent of supply in 2018 down to levels within 2030 carbon targets.

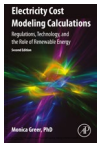
Grids



Optimal Planning of Smart Grid with Renewable Energy Resources, Naveen Jain et al. (2022). Covering topics such as electric drives and energy systems, this publication is ideal for researchers, engineers and students.



Power After Carbon : Building a Clean, Resilient Grid, Peter Fox-Penner. (2020). This book makes sense of all the moving parts, providing actionable recommendations for anyone involved with or relying on the electric power system.

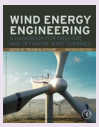


Electricity Cost Modeling Calculations : Regulations, Technology, and the Role of Renewable Energy, Monica Greer. (2022). This book provides engineers with a practical guide on the latest techniques in electricity pricing and applications for today's markets.

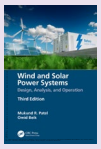
Smart Grids for Renewable Energy Systems, Electric Vehicles and Energy Storage Systems, Rajkumar Viral. (2022). This book covers analysis and modelling of the large-scale integration of renewable energy systems, electric vehicles, and energy storage systems.

Solar and wind power

Solar Energy Conversion Systems in the Built Environment, Ion Visa et al. (2020). This book focuses on solar energy conversion systems that can be implemented in the built environment, at building or at community level.



Wind Energy Engineering : A Handbook for Onshore and Offshore Wind Turbines, Trevor Letcher. (2022). Offers an all-around understanding of the links between worldwide resources, including wind turbine technology, electricity and environmental issues, and economics.



Wind and Solar Power Systems : Design, Analysis, and Operation, Mukund R. Patel and Omid Beik. (2021). This book provides technological and socio-economic coverage of renewable energy. It discusses wind power technologies and solar photovoltaic technologies.

eJournals

International Journal of Green Energy (Covers all aspects of energy and energy technologies and advanced technologies for energy conversion and power generation.)

Solar Today (A source for the latest technology, policy advances and analysis in renewable energy.)

International Journal of Photoenergy (Consolidates research activities in chemistry, physics and technology of photochemistry, and solar energy utilization.)

Wind Engineering (Devoted to the technology of wind energy; includes papers on the aerodynamics of rotors and blades, machine subsystems and components.)

International Journal of Sustainable Energy (Covers biomass, wave generators and wave power. Examines experimental, theoretical, and applied results.)

Worldwide Energy (Provides news & information on all types of energy sources and applications including renewables.)

IET Renewable Power Generation (Brings together the topics of all renewable energy generation technologies, power generation and systems integration, with techno-economic issues.)

Energy, Sustainability & Society (Covers various aspects of energy production, energy sources and power generation with a focus on sustainability.)