The 4Ds of Energy Transition: Decarbonization, Decentralization, Decreasing Use, and Digitalization
Muhammad Asif (Editor)

E-Book 978-3-527-83143-2 July 2022 £90.99
Hardcover 978-3-527-34882-4 July 2022 Print-on-demand £100.00

DESCRIPTION

The 4Ds of Energy Transition

Enables readers to understand technology-driven approaches that address the challenges of today’s energy scenario and the shift towards sustainable energy transition

This book provides a comprehensive account of the characteristics of energy transition, covering the latest advancements, trends, and practices around the topic. It charts the path to global energy sustainability based on existing technology by focusing on the four dynamic approaches of decarbonization, decreasing use, decentralization, and digitalization, plus the important technical, economic, social and policy perspectives surrounding those approaches.

Each technology is demonstrated with an introduction and a set of specific chapters. The work appropriately incorporates up-to-date data, case studies, and comparative assessments to further aid in reader comprehension. Sample topics discussed within the work by key thinkers and researchers in the broader fields of energy include:

• Renewable energy and sustainable energy future
• Decarbonization in energy sector
• Hydrogen and fuel cells
• Electric mobility and sustainable transportation
• Energy conservation and management

• Distributed and off-grid generation, energy storage, and batteries

• Digitalization in energy sector; smart meters, smart grids, blockchain

This book is an ideal professional resource for engineers, academics, and policy makers working in areas related to the development of energy solutions.

ABOUT THE AUTHOR

Dr. Muhammad Asif is a Senior Lecturer at the Glasgow Caledonian University (GCU). He completed his PhD in Applied Energy Engineering from Edinburgh Napier University in 2002. He is a Certified Charted Engineer (UK), Certified Energy Manager (AEE, USA), Member of the Energy Institute (UK) and Fellow of the Higher Education Academy (UK). He is the chair of several international energy forums including the accreditation panel of the Energy Institute. His areas of research interests include renewable energy, energy policy, sustainable development and life cycle assessment. He has authored over 100 research publications. He has authored one book and edited two books ‘Energy Crisis in Pakistan: Origins, Challenges and Pakistan?, published by Oxford University Press, ‘Dynamics of Energy, Environment and Economy: A Sustainability Perspective? published by Springer and ‘Energy- and Environmental Security in Developing Countries? by CRC Press respectively. He is cited in several European policy documents and directives. He has provided consultancy services to several prominent international organizations.

To purchase this product, please visit https://www.wiley.com/en-ae/9783527348824