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Sommario/riassunto

URBAN ENERGY SYSTEMS With climate change and energy issues infiltrating seemingly every aspect of our lives, it is more important than ever to continue the march toward sustainability. It is not just about switching to a gasoline-free car or installing solar panels. Many countries, including our own, are dealing with these very difficult problems by converting to "smart cities" and other "green energy" projects. This is perhaps one of the most important issues facing our world today. Urban energy systems play a critical role in the sustainability and resilience of smart cities. As cities continue to grow and face increasing energy demands, it becomes essential to develop efficient and sustainable energy solutions. Modelling and simulation techniques provide valuable insights into the design, operation, and optimization of urban energy systems, supporting the transition towards more sustainable and smart cities. This perspective highlights the importance of modelling and simulation in achieving sustainable urban energy systems and their role in shaping smart cities. Modelling and simulation play a crucial role in achieving sustainable urban energy systems and shaping smart cities. By integrating diverse energy systems, optimizing renewable energy integration, enabling demand-side management, supporting microgrid and storage system design, enhancing resilience, and facilitating policy evaluation, these tools empower decision-makers to develop and implement sustainable energy solutions. Embracing a modelling and simulation perspective in urban energy planning supports the transition towards more sustainable, efficient, and resilient smart cities that meet the energy needs of present and future generations. This book uncovers the latest research in the field of urban energy sustainability and climate management. Urban energy sustainability and climate management have been employed successfully for various purposes like human-computer interaction, decision-making, recommender systems, and so on. Data analytics have supported these applications through various efficient and effective methods. Covering all of these topics, this is a "one-stop shop" for engineers, students, policymakers, scientists, and other industry professionals working with smart cities and urban energy systems. It is a must have for any library.
