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This book is a comprehensive guide to the digitalisation of local energy systems, exploring the latest technologies and strategies for enhancing efficiency, resilience, and sustainability. Written by leading experts in the field, the book covers key topics such as smart grids, IoT devices, blockchain technology, data analytics, renewable energy integration, demand-side management, electric vehicles, energy storage, virtual power plants, policy and regulation, and cybersecurity. With real-world case studies and examples of cutting-edge research, this book provides valuable insights for researchers, practitioners, and policymakers in the energy sector. The book is particularly relevant for professionals working on the transition to net zero and the decarbonisation of local energy systems. The book has the following unique features:

1. **Comprehensive Coverage:** This book offers a comprehensive guide to the digitalisation of local energy systems, covering a range of topics from smartgrids and renewable energy integration to demand-side management and cybersecurity.
2. **Cutting-edge Research:** The book includes cutting-edge research and real-world case studies from leading experts in the field, providing readers with valuable insights into the latest developments and trends.
3. **Interdisciplinary Approach:** The book takes an interdisciplinary approach to the digitalisation of local energy systems, drawing on expertise from engineering, data science, policy, and regulation.
4. **Net Zero Focus:** The book is particularly relevant for professionals working on the transition to net zero and the decarbonisation of local energy systems, providing practical strategies for enhancing efficiency, resilience, and sustainability.
5. **Global Perspective:** The book features contributions from authors based in the UK, USA, China, Ireland, Sweden, and Singapore, providing a global perspective on the digitalisation of local energy systems and its implications for the energy sector worldwide.
