



# Call for Book Chapter Proposal

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Book Title:

## IoT Enabled Multi-Energy Systems: From Isolated Energy Grids to Modern Interconnected Energy Networks

*Publisher: Elsevier*

### **Synopsis:**

Nowadays, the energy grid in its diverse carriers is undergoing tremendous evolution due to rapidly appearing hybrid energy systems as well as stochastic devices in the core of the energy network infrastructure. Indeed, rapid developments in information technologies, different clean energy production systems, energy conversion units, and communication paradigms have driven the energy landscape to experience great changes. In such a hybrid energy structure, some crucial challenges threaten the reliable and sustainable operation of integrated energy networks due to the lack of cloud-based intelligent energy management and control systems, high level of stochastic fluctuations in the energy generation sector, and coordinated operation of different energy networks. In this respect, coordinated operation and energy management of multi-carrier energy networks are essential for unbroken serving multi-energy demand, which needs cloud-based intelligent energy systems to realize secure connections among smart devices. In this regard, the Internet of Things (IoT) is recognized as a dominant solution for creating a cloud-based intelligent energy management scheme that enables hybrid energy networks for optimal cooperation. This book is aimed to evaluate IoT-based solutions for facilitating the modernization process of multi-carrier energy networks with a high/full share of renewables. It is targeted to cover the modelling, optimization, and assessing the necessity of IoT technologies and their applications for grid modernization and coordinated operation of multi-vector energy grids.

### **Potential topics include but are not limited to:**

- **Chapter 1:** Overview of the Transition from Isolated Energy Grids to Modern Interconnected Energy Networks
- **Chapter 2:** Overview of Multi-Energy Interconnected Systems in Different Energy Grids
- **Chapter 3:** IoT Development Path for Future Multi-Integrated Energy Networks
- **Chapter 4:** IoT-Based Multi-Energy Management of Cleaner Multi-Energy Mix (CMEM)
- **Chapter 5:** Multi-Energy Economic Dispatch in a Cloud-Edge Computing Environment
- **Chapter 6:** IoT-Enabled Energy Trading Technologies for CMEM
- **Chapter 7:** Artificial Intelligence-Enabled IoT Technologies in Revolution of Future Modern Energy Grids
- **Chapter 8:** Data Science Leverage and Big Data Analysis for IoT Energy Systems
- **Chapter 9:** IoT-Enabled Cooperative Cyber-Physical Systems for CMEM
- **Chapter 10:** Edge of Things (EoT)-Enabled IoT technologies for CMEM
- **Chapter 11:** Blockchain-Based IoT Systems for CMEM
- **Chapter 12:** Digital Twin Driven IoT Energy Systems for CMEM
- **Chapter 13:** Communication Technologies for IoT Energy Systems

**Important Dates:**

- Deadline for Submission of Book Chapter Proposals: **January 25, 2022**
- Accept/Reject Notification for Submitted Proposals: **January 30, 2022**
- Full Chapter Submission: **March 5, 2022**
- Accept/Revise/Reject Notification for Submitted Chapters: **March 25, 2022**
- Revised Chapter Submission: **April 15, 2022**
- Final Print Version Available (Tentative): **April 30, 2022**

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**Submission Procedure:**

Interested authors are welcome to send their book chapter proposals (abstract of the proposed book chapter, tentative sections and subsections of the proposed chapter) via <https://easychair.org/conferences/?conf=iotemes2022>. For any questions, please feel free to contact editors.