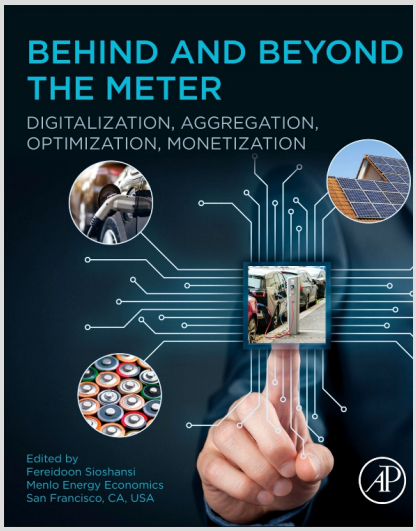

Behind and Beyond the Meter

Digitalization, Aggregation, Optimization, Monetization

Edited by: **Fereidoon P. Sioshansi**

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ISBN: 978-0-12-819951-0
VOLUME:
EDITION: 1
PUB DATE: June 2020
LIST PRICE: $125.00
DISCOUNT: Non-serials
FORMAT: Paperback
TRIM: 7.5w x 9.25h
PAGES: c. 496
AUDIENCE: Technology providers in BTM services, building energy management, P2P trading; regulators, policy makers, researchers, power system professionals in generation and distribution, academics
SHELVING CLASSIFICATIONS: Energy Policy, Business and Economics
BISAC CODES: KNB, RND
THEMA CLASSIFICATION: THEMAKNB; THEMARND

AUTHORS DISCOUNT: 30% using the code ATR30

DESCRIPTION

The historical ways in which electricity was generated in large central power plants and delivered to passive customers through a one-way transmission and distribution network is radically changing to one where consumers can generate, store and consume a significant portion of their energy needs locally. This is soon to be followed by the ability to share and trade with others using the distribution network. More exciting opportunities are emerging with the increased digitalization of BTM assets, which in turn can be aggregated into large portfolios of flexible load and generation and optimized using artificial intelligence and machine learning.

KEY FEATURES

- Examines the latest advances in digitalization of behind-the-meter assets including distributed generation, distributes storage, electric vehicles and – more important – how these assets can be aggregated and remotely monitored unleashing tremendous value and a myriad of innovative services and business models
- Examines what lies behind-the-meter of typical customers and why managing these assets increasingly matters
- Describes how smart aggregators with intelligent software are creating value by optimizing how energy may be generated, consumed, stored or potentially shared or traded between consumers; prosumers and prosumagers – that is, prosumers with storage
- Explores new business models that are likely to disrupt the traditional interface between the incumbents and their customers

"Our electricity grid was not built to accommodate large amounts of power being generated back into it from multiple small sources – reverse electricity flows. Getting the integration of the behind-the-meter technologies right could deliver more than $1 billion in benefits to customers by 2030 in Australia alone."

Andrew Dillon, CEO, Energy Networks Australia

"As options to generate, store and potentially trade energy proliferate and intermediaries emerge to aggregate and optimize the behind-the-meter loads and resources, the principle function of the distribution network and the interface among the stakeholders will be radically altered."

Paul de Wit, Sr. Adviser at Alliander, the Netherlands and Chair of Eurelectric's Working Group on Institutional Frameworks

"The evolving nature of electric generation, consumption, storage and the distribution system has significant implications for the grid, incumbent utilities, consumers, grid managers and the regulatory framework. These are among the central matters the Alberta Utilities Commission will examine in its ongoing distribution inquiry."

Mark Kolesar, Chair, Alberta Utilities Commission

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