

## Investment in Electricity Generation and Transmission: Decision Making Under Uncertainty - DTU Orbit (09/11/2017)

### Investment in Electricity Generation and Transmission: Decision Making Under Uncertainty

This book provides an in-depth analysis of investment problems pertaining to electric energy infrastructure, including both generation and transmission facilities. The analysis encompasses decision-making tools for expansion planning, reinforcement, and the selection and timing of investment options.

In this regard, the book provides an up-to-date description of analytical tools to address challenging investment questions such as:

How can we expand and/or reinforce our aging electricity transmission infrastructure?

How can we expand the transmission network of a given region to integrate significant amounts of renewable generation?

How can we expand generation facilities to achieve a low-carbon electricity production system?

How can we expand the generation system while ensuring appropriate levels of flexibility to accommodate both demand-related and production-related uncertainties?

How can we choose among alternative production facilities?

What is the right time to invest in a given production or transmission facility?

Written in a tutorial style and modular format, the book includes a wealth of illustrative examples to facilitate comprehension. It is intended for advanced undergraduate and graduate students in the fields of electric energy systems, operations research, management science, and economics. Practitioners in the electric energy sector will also benefit from the concepts and techniques presented here.

### General information

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Organisations: Department of Electrical Engineering, Center for Electric Power and Energy, Electricity markets and energy analytics, University of Castilla-La Mancha, University College London, Ohio State University

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