



# Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance)

By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu

Download now

Read Online →

## Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance) By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu

As power and gas markets are becoming more and more mature and globally competitive, the importance of reaching maximum potential economic efficiency is fundamental in all the sectors of the value chain, from investments selection to asset optimization, trading and sales. Optimization techniques can be used in many different fields of the energy industry, in order to reduce production and financial costs, increase sales revenues and mitigate all kinds of risks potentially affecting the economic margin. For this reason the industry has now focused its attention on the general concept of optimization and to the different techniques (mainly mathematical techniques) to reach it.

*Optimization Methods for Gas and Power Markets* presents both theoretical elements and practical examples for solving energy optimization issues in gas and power markets. Starting with the theoretical framework and the basic business and economics of power and gas optimization, it quickly moves on to review the mathematical optimization problems inherent to the industry, and their solutions – all supported with examples from the energy sector. Coverage ranges from very long-term (and capital intensive) optimization problems such as investment valuation/diversification to asset (gas and power) optimization/hedging problems, and pure trading decisions.

This book first presents the readers with various examples of optimization problems arising in power and gas markets, then deals with general optimization problems and describes the mathematical tools useful for their solution. The remainder of the book is dedicated to presenting a number of key business cases which apply the proposed techniques to concrete market problems. Topics include static asset optimization, real option evaluation, dynamic optimization of structured products like swing, virtual storage or virtual power plant contracts and optimal trading in intra-day power markets. As the book progresses, so too does the level of mathematical complexity, providing readers with an appreciation of the growing sophistication of even common problems in current market practice.

*Optimization Methods for Gas and Power Markets* provides a valuable quantitative guide to the technicalities of optimization methodologies in gas and power markets; it is essential reading for practitioners in the energy industry and financial sector who work in trading, quantitative analysis and energy risk modeling.

 [Download Optimization Methods for Gas and Power Markets: Th ...pdf](#)

 [Read Online Optimization Methods for Gas and Power Markets: ...pdf](#)

# Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance)

By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu

## Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance)

By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu

As power and gas markets are becoming more and more mature and globally competitive, the importance of reaching maximum potential economic efficiency is fundamental in all the sectors of the value chain, from investments selection to asset optimization, trading and sales. Optimization techniques can be used in many different fields of the energy industry, in order to reduce production and financial costs, increase sales revenues and mitigate all kinds of risks potentially affecting the economic margin. For this reason the industry has now focused its attention on the general concept of optimization and to the different techniques (mainly mathematical techniques) to reach it.

*Optimization Methods for Gas and Power Markets* presents both theoretical elements and practical examples for solving energy optimization issues in gas and power markets. Starting with the theoretical framework and the basic business and economics of power and gas optimization, it quickly moves on to review the mathematical optimization problems inherent to the industry, and their solutions – all supported with examples from the energy sector. Coverage ranges from very long-term (and capital intensive) optimization problems such as investment valuation/diversification to asset (gas and power) optimization/hedging problems, and pure trading decisions.

This book first presents the readers with various examples of optimization problems arising in power and gas markets, then deals with general optimization problems and describes the mathematical tools useful for their solution. The remainder of the book is dedicated to presenting a number of key business cases which apply the proposed techniques to concrete market problems. Topics include static asset optimization, real option evaluation, dynamic optimization of structured products like swing, virtual storage or virtual power plant contracts and optimal trading in intra-day power markets. As the book progresses, so too does the level of mathematical complexity, providing readers with an appreciation of the growing sophistication of even common problems in current market practice.

*Optimization Methods for Gas and Power Markets* provides a valuable quantitative guide to the technicalities of optimization methodologies in gas and power markets; it is essential reading for practitioners in the energy industry and financial sector who work in trading, quantitative analysis and energy risk modeling.

## Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance)

By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu Bibliography

- Sales Rank: #5165735 in Books
- Published on: 2016-02-12
- Released on: 2016-02-12
- Original language: English

- Number of items: 1
- Dimensions: 9.50" h x 6.50" w x .75" l, 1.00 pounds
- Binding: Hardcover
- 192 pages

 [Download Optimization Methods for Gas and Power Markets: Th ...pdf](#)

 [Read Online Optimization Methods for Gas and Power Markets: ...pdf](#)

## **Download and Read Free Online Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance) By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu**

---

### **Editorial Review**

#### Review

Energy markets are extremely competitive markets. Optimization of business decisions is fundamental for performance maximization. This book represents an excellent synthesis of optimization theory and practice applied to a wide and significant range of cutting-edge business problems characterizing power and natural gas markets.'

- Domenico De Luca, CEO, Axpo Trading and Member of Executive Board Axpo Group

'Optimization methods play an important role when making decisions and managing risk in today's liberalized energy markets. When planning a power plant or entering a structured gas contract, stochastic control is the key mathematical tool to assess the inherent risk. The authors of this book present an excellent account of the problems and methods for optimization in energy and power markets. The scope ranges from a rigorous theoretical analysis of the control problems, through numerical methods and to in-depth discussions of relevant practical case studies. This book is unique in providing a solid mathematical analysis of various optimization problems, yet never losing the market practice out of sight. It will be an invaluable reference for both academics and practitioners in power and gas markets.'

- Fred Espen Benth, Professor of Mathematical Finance at the University of Oslo, Department of Mathematics and Deputy Manager

#### Review

Energy markets are extremely competitive markets. Optimization of business decisions is fundamental for performance maximization. This book represents an excellent synthesis of optimization theory and practice applied to a wide and significant range of cutting-edge business problems characterizing power and natural gas markets.'

- Domenico De Luca, CEO, Axpo Trading and Member of Executive Board Axpo Group

'Optimization methods play an important role when making decisions and managing risk in today's liberalized energy markets. When planning a power plant or entering a structured gas contract, stochastic control is the key mathematical tool to assess the inherent risk. The authors of this book present an excellent account of the problems and methods for optimization in energy and power markets. The scope ranges from a rigorous theoretical analysis of the control problems, through numerical methods and to in-depth discussions of relevant practical case studies. This book is unique in providing a solid mathematical analysis of various optimization problems, yet never losing the market practice out of sight. It will be an invaluable reference for both academics and practitioners in power and gas markets.'

- Fred Espen Benth, Professor of Mathematical Finance at the University of Oslo, Department of Mathematics and Deputy Manager

#### From the Back Cover

As power and gas markets are becoming more and more mature and globally competitive, the importance of reaching maximum potential economic efficiency is fundamental in all the sectors of the value chain, from investments selection to asset optimization, trading and sales. Optimization techniques can be used in many different fields of the energy industry, in order to reduce production and financial costs, increase sales

revenues and mitigate all kinds of risks potentially affecting the economic margin. For this reason the industry has now focused its attention on the general concept of optimization and to the different techniques (mainly mathematical techniques) to reach it.

*Optimization Methods for Gas and Power Markets* presents both theoretical elements and practical examples for solving energy optimization issues in gas and power markets. Starting with the theoretical framework and the basic business and economics of power and gas optimization, it quickly moves on to review the mathematical optimization problems inherent to the industry, and their solutions – all supported with examples from the energy sector. Coverage ranges from very long-term (and capital intensive) optimization problems such as investment valuation/diversification to asset (gas and power) optimization/hedging problems, and pure trading decisions.

This book first presents the readers with various examples of optimization problems arising in power and gas markets, then deals with general optimization problems and describes the mathematical tools useful for their solution. The remainder of the book is dedicated to presenting a number of key business cases which apply the proposed techniques to concrete market problems. Topics include static asset optimization, real option evaluation, dynamic optimization of structured products like swing, virtual storage or virtual power plant contracts and optimal trading in intra-day power markets. As the book progresses, so too does the level of mathematical complexity, providing readers with an appreciation of the growing sophistication of even common problems in current market practice.

*Optimization Methods for Gas and Power Markets* provides a valuable quantitative guide to the technicalities of optimization methodologies in gas and power markets; it is essential reading for practitioners in the energy industry and financial sector who work in trading, quantitative analysis and energy risk modeling.

## **Users Review**

### **From reader reviews:**

#### **Samantha Peay:**

Why don't make it to be your habit? Right now, try to ready your time to do the important work, like looking for your favorite reserve and reading a e-book. Beside you can solve your short lived problem; you can add your knowledge by the reserve entitled *Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance)*. Try to make book *Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance)* as your good friend. It means that it can to be your friend when you feel alone and beside associated with course make you smarter than ever before. Yeah, it is very fortunated for you personally. The book makes you considerably more confidence because you can know almost everything by the book. So , we need to make new experience and also knowledge with this book.

#### **Nicholas Sheen:**

This *Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance)* book is just not ordinary book, you have it then the world is in your hands. The benefit you have by reading this book is definitely information inside this guide incredible fresh, you will get details which is getting deeper an individual read a lot of information you will get. That *Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance)* without we comprehend teach the one who

examining it become critical in imagining and analyzing. Don't possibly be worry Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance) can bring when you are and not make your tote space or bookshelves' become full because you can have it in the lovely laptop even mobile phone. This Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance) having very good arrangement in word as well as layout, so you will not experience uninterested in reading.

### **Diana Keller:**

Reading a guide can be one of a lot of activity that everyone in the world really likes. Do you like reading book and so. There are a lot of reasons why people enjoyed. First reading a guide will give you a lot of new facts. When you read a e-book you will get new information because book is one of a number of ways to share the information or even their idea. Second, studying a book will make anyone more imaginative. When you studying a book especially tale fantasy book the author will bring one to imagine the story how the character types do it anything. Third, you can share your knowledge to other people. When you read this Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance), you are able to tells your family, friends and soon about yours publication. Your knowledge can inspire different ones, make them reading a reserve.

### **Odelia Dennis:**

A lot of people always spent their particular free time to vacation or go to the outside with them friends and family or their friend. Were you aware? Many a lot of people spent they free time just watching TV, or even playing video games all day long. In order to try to find a new activity here is look different you can read the book. It is really fun in your case. If you enjoy the book that you read you can spent 24 hours a day to reading a e-book. The book Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance) it is rather good to read. There are a lot of folks that recommended this book. These folks were enjoying reading this book. Should you did not have enough space to bring this book you can buy the actual e-book. You can m0ore effortlessly to read this book through your smart phone. The price is not too costly but this book offers high quality.

**Download and Read Online Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance)**  
**By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu**  
**#EKNW5DHO90S**

## **Read Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance) By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu for online ebook**

Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance) By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance) By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu books to read online.

### **Online Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance) By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu ebook PDF download**

**Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance) By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu Doc**

Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance) By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu Mobipocket

Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance) By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu EPub

EKNW5DHO90S: Optimization Methods for Gas and Power Markets: Theory and Cases (Applied Quantitative Finance) By Enrico Edoli, Stefano Fiorenzani, Tiziano Vargiolu