

## International Energy Markets: Understanding Pricing, Policies Profits

***A stronger, more informed approach to the energy markets The Energy World Is Flat provides a forward-looking analysis of the energy markets and addresses the implications of their rapid transformation. Written by acknowledged expert Daniel Lacalle, who is actively engaged with energy portfolios in the financial space, this book is grounded in experience with the world of high-stakes finance, and relays a realist's perspective of the current and future state of the energy markets. Readers will be brought up to date on the latest developments in the area, and learn the strategies that allow investors to profit from these developments. An examination of the markets' history draws parallels between past and current shifts, and a discussion of technological advancements helps readers understand the issues driving these changes. Energy has always been at the forefront of the economic agenda, being both the key to and a driver for development and growth. Its centrality to the world of finance makes it imperative for investors and analysts to understand the energy markets, irrespective of where on the wide range of energy spectrum observers they fall. The Energy World Is Flat is a guide to the past, present, and future of these crucial markets, and the strategies that make them profitable. These include: Understanding the state of the energy markets, including key developments and changes Discovering the ten pillars of a successful energy investment strategy Reviewing the history of the energy markets to put recent changes into perspective Learning which technologies are driving the changes, and how it will affect investors The recent energy market changes were both unexpected and so fundamental in nature that they represent a true shift in the energy macro- and microeconomic landscape. Investors and analysts seeking a stronger approach to these markets need the expert guidance provided by The Energy World Is Flat. Presents an assessment of the outlook for international energy markets between 1990 & 2010. Hundreds of tables & charts.***

***Get the latest on rapidly evolving global electricity markets direct from the scholars and thought leaders who are shaping reform. In this volume, dozens of world-class experts from diverse regions provide a comprehensive assessment of the relevant issues in today's electricity markets. Amid a seething backdrop of rising energy prices, concerns about environmental degradation, and the introduction of distributed sources and smart grids, increasingly stringent demands are being placed on the electric power sector to provide a more reliable, efficient delivery infrastructure, and more rational, cost-reflective prices. This book maps out the electric industry's new paradigms, challenges and approaches, providing invaluable global perspective on this host of new and pressing issues being investigated by research institutions worldwide. Companies engaged in the power sector's extensive value chain including utilities, generation, transmission & distribution companies, retailers, suppliers, regulators, market designers, and the investment & financial rating community will benefit from gaining a more nuanced understanding of the impacts of key market design and restructuring choices. How can problems be avoided? Why do some restructured markets appear to function better than others? Which technological implementations represent the best investments? Which regulatory mechanisms will best support these new technologies? What lessons can be learned from experiences in Norway, Australia, Texas, or the U.K.? These questions and many more are undertaken by the brightest minds in the industry in this one comprehensive, cutting-edge resource. Features a unique global perspective from more than 40 recognized experts and scholars around the world, offering opportunities to compare and contrast a wide range of market structures Analyzes how the implementation of existing and developing market designs impacts real-world issues such as pricing and reliability Explains the latest thinking on timely issues such as current market reform proposals, restructuring, liberalization, privatization, capacity and energy markets, distributed and renewable energy integration, competitive generation and retail markets, and disaggregated vs. vertically integrated systems***

***This paper presents an analysis of the world energy and petroleum markets, carried out by means of an econometric simulation model. The model accepts a certain pricing path for OPEC crude oil together with assumptions about GDP and population growth, and generates energy balance projections for seven world regions, three industrial and four developing. The demand side of the model consists of three end-use sectors (transportation, industrial, and residential/commercial) and one energy transformation sector (thermal power generation). The model presently has an endogenous supply specification only for coal. Simulation results portend that world demand for energy and petroleum is likely to remain at relatively low levels throughout the 1980s and early 1990s, staying comfortably within OPEC's productive capacity through the early 1990s. In addition, the results show that a pricing path that calls for steady price increases at a moderate rate starting from the second half of the 1980s is probably close to the optimal long-term pricing path for OPEC. Revenues of the two OPEC subgroups show greater sensitivity to the choice of a production prorating regime than to the choice of a pricing path.***

**Energy Risk Management**

**International Energy Evaluation System**

**Energy and Economic Reform in the Former Soviet Union**

**Price Risk Management and Trading**

**The Economics of Electricity Markets**

**Modern Energy Markets**

Since the beginning of the 1990s, Europe has been struggling to establish a competitive as well as a fully integrated internal energy market. Until the early 1990s, the European energy markets consisted of national monopolies possessing vertically integrated structures. They were also still nationally segregated. Since, the EU has made the decision to open European energy markets to competition and subsequently establish an internal energy market. The European energy markets are currently controlled by a dual structure consisting of two different regulatory frameworks: competition law and sector-specific regulations. The primary goal of these legal instruments is the establishment of an internal energy market. This book aims at analysing the development of the European energy markets and policies from the perspective of competition law as well as sector-specific regulations and, hence, identifying the problems regarding the introduction of competition into the energy markets.

Making Energy Markets charts the emergence and early evolution of electricity markets in western Europe, covering the decade from the late 1980s to the late 1990s. Liberalising electricity marked a radical deviation from the established paradigm of state-controlled electricity systems which had become established across Europe after the Second World War. By studying early liberalisation processes in Britain and the Nordic region, and analysing the role of the EEC, the book shows that the creation of electricity markets involved political decisions about the feasibility and desirability of introducing competition into electricity supply industries. Competition introduced risks, so in designing the process politicians needed to evaluate who the likely winners and losers might be and the degree to which competition would impact key national industries reliant on cross-subsidies from the electricity sector, in particular coal mining, nuclear power and energy intensive production. The book discusses how an understanding of the origins of electricity markets and their political character can inform contemporary debates about renewables and low carbon energy transitions. .

Energy has moved to the forefront in terms of societal and economic development. Modern Energy Markets is a comprehensive, economically oriented, exploration of modern electricity networks from production and distribution to deregulation and liberalization processes. Updating previous work by the authors, different aspects are considered resulting in a complete and detailed picture of the systems and characteristics of modern electricity markets. Modern Energy Markets provides clear detail whilst encompassing a broad scope of topics and includes: •A method to model energy production systems including the main characteristics of future demand side management, •Different applications of this model in nuclear and renewable energy scenarios. •An analysis of Real-Time Pricing of electricity and its potential effects across the market, and, •A discussion of the need for regulation in an easily monopolized industry. Engineering and Economics students alike will find that Modern Energy Markets is a succinct and informative resource, as will researchers interested in environmental and energy issues. The inclusion of timely and relevant issues related to economic decision will also be of value to industry and civil officials.

Price Risk Management and Trading. Energy risk management expert, Tom James, does it again. His latestbook is a timely addition to the rapidly developing energy tradingmarkets. This book should be on every energy trader, risk managerand corporate planer's desk. it is an easy read as Tom goes intogreat detail to explain the intricacies of this market and itsvarious unique elements. - Peter C. Fusaro, Chairman, Global ChangeAssociates Inc., Best-selling Author and Energy Expert This sensible and practical guide is essential for those seeking anunderstanding of commerce in energy derivatives, beyond merelyinformative, this hand book for the practitioner details the finerpoints of the use of derivatives as tools for price-riskmanagement. No energy trading desk should be without it. - Ethan L.Cohen, Senior Director, Utility and Energy Technology, UtiliPointInternational Inc. Energy markets are much more volatile than other commodity markets,so risk mitigation is more of a concern. Energy prices, forexample, can be affected by weather, geopo9litical turmoil, changesin tax and legal systems, OPEC decisions, analysis' reports,transportation issues, and supply and demand - to name just a fewfactors. Tom James's book is a practical guide to assessing andmanaging these risks. It is a must-read for senior management aswell as risk and financial professionals.- Don Stowers, Editor, Oil& Gas Financial Journal This book is the most comprehensive on price riskmanagement-centric efforts. It provides the reader with a tangibleexperience of derivatives in today's capital and energy markets.The breadth and scope of the passages are immense, in that bothdeveloped and developing countries' energy markets are consideredand examples applied. Terrific read! - Rashpal Bhatti, MarketingManager, Energy Trading Asia, Enron/BHP Billiton Tom James has simplified the intricacies of a very complex market.In this new market of "hot" commodities, he has been able to give afresh course to those who are new to the energy markets and a solidreview for those that are well seasoned. he covers everythingwithin the oil market from A to Z in this book and does it well.Coming from a financial background myself, it's good to finallyfind a book that can bring a better understanding to the field ofenergy commodities. - Carl Larry, Vice President Citi Energy GlobalCommodities

Energy Economics

Competition Law and Sector-Specific Regulations

Implications for Production, Consumption and Exports, and for the International Energy Markets

The Energy World is Flat

Transformation of the Electric Utility Business Model

Opportunities from the End of Peak Oil

This book provides an updated and expanded overview of basic concepts of energy economics and explains how simple economic tools can be used to analyse contemporary energy issues in the light of recent developments, such as the Paris Agreement, the UN Sustainable Development Goals and new technological developments in the production and use of energy. The new edition is divided into four parts covering concepts, issues, markets, and governance. Although the content has been thoroughly revised and rationalised to reflect the current state of knowledge, it retains the main features of the first edition, namely accessibility, research-informed presentation, and extensive use of charts, tables and worked examples. This easily accessible reference book allows readers to gain the skills required to understand and analyse complex energy issues from an economic perspective. It is a valuable resource for students and researchers in the field of energy economics, as well as interested readers with an interdisciplinary background.

Local Electricity Markets introduces the fundamental characteristics, needs, and constraints shaping the design and implementation of local electricity markets. It addresses current proposed local market models and lessons from their limited practical implementation. The work discusses relevant decision and informatics tools considered important in the implementation of local electricity markets. It also includes a review on management and trading platforms, including commercially available tools. Aspects of local electricity market infrastructure are identified and discussed, including physical and software infrastructure. It discusses the current regulatory frameworks available for local electricity market development internationally. The work concludes with a discussion of barriers and opportunities for local electricity markets in the future. Delineates key components shaping the design and implementation of local electricity market structure Provides a coherent view on the enabling infrastructures and technologies that underpin local market expansion Explores the current regulatory environment for local electricity markets drawn from a global panel of contributors Exposes future paths toward widespread implementation of local electricity markets using an empirical review of barriers and opportunities Reviews relevant local electricity market case studies, pilots and demonstrators already deployed and under implementation

This book provides a succinct account of what may happen to the energy sector in the former Soviet Union in the medium- to long-run under alternative scenarios for macroeconomic reform. The analyses reveal the serious damage of the oil resource base caused by the reckless exploitation practices of the past. Production of oil and coal can recover only slowly from the doldrums of the early 1990s, but the potential to expand gas output is very considerable. Energy consumption practices have been extremely wasteful in the past. The total savings potential that could be accomplished as energy prices are allowed to rise, and incentives to economise on energy use are introduced, is huge. The analysis of production, and consumption prospects is disaggregated by major republic. The likely evolution of FSU energy exports until 2005 is also explored, and the impact that changing export flows could have on the international prices of oil, coal and natural gas, is discussed in detail. How far can energy markets be free as well as competitive? What do low oil prices mean for the oil industry and other energy markets? How can economic efficiency in the energy industries be reconciled with environmental protection? How far is the UK model of liberalising electricity and gas industries being applied elsewhere in the world and how is it faring, at home and abroad? These are typical questions addressed in this collection of articles written by an international group of economists. Edited by the leaders of the two leading UK academic centres of energy economics, the book demonstrates how important the analysis of policy and regulatory frameworks has become for those interested in efficient energy and environmental outcomes./a

Reforming Turkish Energy Markets

Legal and Regulatory Framework of European Energy Markets

International Energy Experience, The: Markets, Regulation And The Environment

Electricity Markets

Financial Aspects in Energy

Understanding Pricing, Policies, and Profits

Innovation Dynamics and Policy in the Energy Sector discusses the process and future of global innovation in the energy sector based on the innovation leadership example of Texas. The book proposes that the positive dynamics of Texas energy sector innovations arises from a number of factors, including supportive institutions, the management of technological change, competitive markets, astute public policy, intraindustrial collaboration, a cultural focus on change and risk-taking, and natural resource abundance. Heavily case-study focused chapters review the history of innovation, from key discoveries at Spindletop: the proliferation of oil production through major field development; through electric sector deregulation; and recent innovation in hydraulic fracking, renewable integration, and carbon capture. The work closes to argue that sustaining innovation requires addressing the twin challenges of climate change and the energy transition must be driven by the promotion of competition and risk-taking which continually promotes the development of ideas, a process jointly funded by the public and private sectors and supported by collaboration between institutions. Reviews the fundamental drivers of energy innovation and examines each driver through 10 key episodes in the Texas energy innovation experience, inclusive of guidance to the international research community based on their example. Establishes the critical impact of energy policy, energy technology, and power markets in cultural settings that invite change and risk-taking and proposes them as key factors in building sustainable innovation. Consolidates current research and practice related to innovation from the perspectives of established energy economists, engineers, and policy makers (innovation economics and econometrics) disciplines.

The International Energy Outlook 1997 (IEO97) presents an assessment by the Energy Information Administration (EIA) of the outlook for international energy markets through 2015.

DOE/EIA-O484(2013). Presents an assessment by the Energy Information Administration of the outlook for internationalenergy markets through 2040. The International Energy Outlook 2013 (IEO2013) projects that world energy consumption will grow by 56 percent between 2005 and 2040. World world energy use rises from 524 quadrillion British thermal units (Btu) in 2010 to 630 quadrillion Btu in 2020 and to 820 quadrillion Btu in 2040 (Figure 1). Much of the growth in energy consumption occurs in countries outside the Organization for Economic Cooperation and Development (OECD) and is known as non-OECD, where demand is driven by strong, long-term economic growth. Energy use in non-OECD countries increases by 90 percent; in OECD countries, the increase is 17 percent. The IEO2013 Reference case does not incorporate prospective legislation or policies that would affect energy markets.

This book examines business model transformation through the study of electrical utilities, an industry at the center of today's efforts to combat climate change. When change comes to the business model of such a mature industry, the pattern is often recognizable. The found a new industry shift, allowing the innovation of business models by new competitors, while established firms face the threat of disruption. The utility sector, after decades of relative stability, is in the midst of such a transformation today. After providing a historical summary of the development of the utility sector, Transformation of the Electric Utility Business Model looks at the factors currently impacting the industry. Utilities and policy makers today are facing two long-term issues that will dominate their agendas in the coming decades: rebuilding utility infrastructure and decarbonization of the economy, and managing the risk of catastrophic events that can leave large areas without power for extended periods. Fortunately, with proper planning, many utility investments in decarbonization will also support risk management. However, these investments must be compatible with current utility business models, requiring creativity and new regulatory frameworks to successfully implement. This book considers the impact of these factors, and then discusses the future. This well-researched, extremely insightful book is essential reading for anyone with an interest in business strategy, energy studies and sustainability.

Economics of Electricity

Concepts, Issues, Markets and Governance

Perspectives on Energy Risk

Energy Markets

Beyond Market Assumptions: Oil Price as a Global Institution

International Energy Markets, Competition, and Policy

This book defines oil price as a social institution that exists beyond supply-demand mechanisms. Discussing oil markets in the context of the broader sociology of prices, it covers a number of theoretical and practical dimensions, such as new market uncertainties and trends, and social perceptions of energy security and of power. Further, based on case studies it explores the implications for OPEC, Russia, and Central and Eastern Europe, as well as for the energy transition and for international investment arbitration. Featuring contributions from leading academics, researchers and business professionals, the book offers an interdisciplinary perspective on the oil price. "This book brings together an impressive team of scholars with fresh perspectives on the oil price. Even as the world attempts energy transition, oil consumption continues and the oil price is likely to become even more unpredictable and unclear than in the past. This book helps make sense of this challenging topic." -Indra Overland is a Research Professor and Head of Centre for Energy Research, Norwegian Institute of International Affairs (NUPI) "A revealing and multidimensional analysis of oil price fluctuations in a market that seeks less uncertainty. This book discusses market and price evolution in the context of market theories, history and real-time market analysis. A welcome and timely contribution to our understanding of global energy markets." Dr. Sara Vakhshouri is Founder and President of SVB Energy International and Professor of Energy Security at the Institute of World Politics.

This comprehensive and up-to-date book explains the economic rationale behind the production, delivery and exchange of electricity. Cret and Fontini explain why electricity markets exist, outlining the economic principles behind the exchange and supply of power to consumers and firms. They identify the specificities of electricity, as compared to other goods, and furthermore suggest how markets should be optimally designed to produce and deliver electricity effectively and efficiently. The authors also address key issues, including how electricity can be decarbonized. Written in a technical yet accessible style, this book will appeal to readers studying power system economics and the economics of electricity, as well as those more generally interested in energy economics, including engineering and management students looking to gain an understanding of electricity market analysis.

Understand the electricity market, its policies and how they drive prices, emissions, and security, with this comprehensive cross-disciplinary book. Author Chris Harris includes technical and quantitative arguments so you can confidently construct pricing models based on the various fluctuations that occur.

Whether you're a trader or an analyst, this book will enable you to make informed decisions about this volatile industry.

This book uses updated examples, statistics and models to explore energy policy, economics, institutions, and production in a global context. It will be of interest to anyone who wants to learn more about the global energy industry, and is a perfect classroom resource. This practical textbook contains toolbox of models, along with institutional, technological, and historical information on oil, coal, gas, and electricity.Norman's new book will provide managers and supervisors in the power and petroleum fields basic economic skills that will enable them to make better policy decisions relating to energy.

The Origins of Electricity Liberalisation in Europe

International Energy Outlook 1997 with Projections to 2015

A European Perspective

Conference Proceedings : 18th Annual North American Conference, September 7-10, 1997, Fairmont Hotel, San Francisco, California

Markets, Competition and Rules

Local Electricity Markets

***Energy deregulation, privatization and competition are a hot international topic. Professionals in this field understand the importance of hedging their financial risk, but are often unclear how to do so. The result is that either they take undue and unwarranted risk or they shy away from futures and derivatives investments that could improve their financial position while preventing substantial losses. Energy Risk Management is the first book to address the important issues of worldwide energy price risk management. Peter C. Fusaro has assembled the leading industry figures to explain general theories and practices for hedging risk, and specific methods to effectively manage risk in markets such as coal, natural gas, electricity, hydropower and others. Topics include: The ABCs of energy financial instruments - How to use hedging tools like futures and options, forwards and spreads; Energy securitization - Ways to securitize oil and gas production, and project finance implications; The future of energy price risk management - Globalization of energy markets, and an integrated approach to managing all risks. Energy professionals and investors worldwide require information to clarify risk management concepts and applications that are new to them. Energy Risk Management steps into that void, providing proven hedging strategies in non-technical language that simplifies this intimidating topic.***

***Energy production and supply, as well as sourcing and consumption, are becoming evermore important in a volatile world. In this book, attention is paid to prevalent energy issues from a finance perspective. The topics discussed cover markets, prices, regulations and firms. An international group of authors from both academia and energy practice provides in twelve chapters a state of the art of the energy markets in a finance environment. They do so by discussing the current knowledge and presenting empirical research in this quickly changing and developing field. This book is the first in a planned series on energy at a high scientific level organized by the Centre for Energy and Value Issues (CEVI).***

Since the Industrial Revolution, the efficiency with which energy resources are extracted and converted into work has played a prominent role in the accumulation of material wealth. The prominent role of energy resources, in conjunction with their scarcity and their uneven geographic distribution, has had significant repercussions. Collaboration, competition and conflict among nation states for energy resources have created global, geopolitical and market risks. In this volume, academic scholars and practitioners assess these risks from global, geopolitical and market perspectives. They do so by presenting empirical research and discussing our current understanding of this quickly changing and developing field. This is the third volume in a series on energy organized by the Centre for Energy and Value Issues (CEVI). The previous volumes in the series were *Financial Aspects in Energy (2011)* and *Energy Economics and Financial Markets (2012)*.

Industry leader, Carol Dahl has thoroughly revised and updated her classic text *International Energy Markets: Understanding Pricing, Policies, and Profits*. The second edition uses updated examples, statistics and models to explore energy policy, economics, institutions, and production in a global context. It will be of interest to anyone who wants to learn more about the global energy industry, and is a perfect classroom resource. Additional materials can be found at <http://dahl.mines.edu>

Selected Legal Issues

Real-Time Pricing, Renewable Resources and Efficient Distribution

Economic Mechanisms and Policy Evaluation

International Energy Outlook (1995)

New paradigms, new challenges, new approaches

International Energy Governance

An overview of today's energy markets from a multi-commodity perspective As global warming takes center stage in the public and private sectors, new debates on the future of energy markets and electricity generation have emerged around the world. The Second Edition of *Managing Energy Risk* has been updated to reflect the latest products, approaches, and energy market evolution. A full 30% of the content accounts for changes that have occurred since the publication of the first edition. Practitioners will appreciate this contemporary approach to energy and the comprehensive information on recent market influences. A new chapter is devoted to the growing importance of renewable energy sources, related subsidy schemes and their impact on energy markets. Carbon emissions certificates, post-Fukushima market shifts, and improvements in renewable energy generation are all included. Further, due to the unprecedented growth in shale gas production in recent years, a significant amount of material on gas markets has been added in this edition. *Managing Energy Risk* is now a complete guide to both gas and electricity markets, and gas-specific models like gas storage and swing contracts are given their due. The unique, practical approach to energy trading includes a comprehensive explanation of the interactions and relations between all energy commodities. Thoroughly revised to reflect recent changes in renewable energy, impacts of the financial crisis, and market fluctuations in the wake of Fukushima Emphasizes both electricity and gas, with all-new gas valuation models and a thorough description of the gas market Written by a team of authors with theoretical and practical expertise, blending mathematical finance and technical optimization Covers developments in the European Union Emissions Trading Scheme, as well as coal, oil, natural gas, and renewables The latest developments in gas and power markets have demonstrated the growing importance of energy risk management for utility companies and energy intensive industry. By combining energy economics models and financial engineering, *Managing Energy Risk* delivers a balanced perspective that captures the nuances in the exciting world of energy.

Bridges the knowledge gap between engineering and economics in a complex and evolving deregulated electricity industry, enabling readers to understand, operate, plan and design a modern power system With an accessible and progressive style written in straight-forward language, this book covers everything an engineer or economist needs to know to understand, operate within, plan and design an effective liberalized electricity industry, thus serving as both a useful teaching text and a valuable reference. The book focuses on principles and theory which are independent of any one market design. It outlines where the theory is not implemented in practice, perhaps due to other over-riding concerns. The book covers the basic modelling of electricity markets, including the impact of uncertainty (an integral part of generation investment decisions and transmission cost-benefit analysis). It draws out the parallels to the Nordpool market (an important point of reference for Europe). Written from the perspective of the policy-maker, the first part provides the introductory background knowledge required. This includes an understanding of basic economics concepts such as supply and demand, monopoly, market power and marginal cost. The second part of the book asks how a set of generation, load, and transmission resources should be efficiently operated, and the third part focuses on the generation investment decision. Part 4 addresses the question of the management of risk and Part 5 discusses the question of market power. Any power system must be operated at all times in a manner which can accommodate the next potential contingency. This demands responses by generators and loads on a very short timeframe. Part 6 of the book addresses the question of dispatch in the very short run, introducing the distinction between preventive and corrective actions and why preventive actions are sometimes required. The seventh part deals with pricing issues that arise under a regionally-priced market, such as the Australian NEM. This section introduces the notion of regions and interconnectors and how to formulate constraints for the correct pricing outcomes (the issue of "constraint orientation"). Part 8 addresses the fundamental and difficult issue of efficient transmission investment, and finally Part 9 covers issues that arise in the retail market. Bridges the gap between engineering and economics in electricity, covering both the economics and engineering knowledge needed to accurately understand, plan and develop the electricity market Comprehensive coverage of all the key topics in the economics of electricity markets Covers the latest research and policy issues as well as description of the fundamental concepts and principles that can be applied across all markets globally Numerous worked examples and end-of-chapter problems Companion website holding solutions to problems set out in the book, also the relevant simulation (GAMS) codes

Turkey has been reforming its energy markets since the 1980s, culminating in two major bills in the early 2000s. The country has restructured electricity and natural gas markets, establishing an independent regulatory agency (EMRA) and passed legislation on renewable and nuclear energy.

With these regulatory reforms, Turkey, as a candidate country for accession to the European Union (EU), has aimed to direct the energy markets to a more competitive environment in parallel with EU energy directives. This book contains an analysis of regulatory reforms in Turkish energy markets (electricity, natural gas, renewable and nuclear energy), the impact of these reforms on country's energy portfolio and role in global energy trade, especially between the EU, the Caspian, Caucasus, and Central Asia. Finally, the book concludes with recommendations for Turkish energy policy. The authors are expert scholars who have written extensively on Turkish regulatory reform and energy economics and who have broad knowledge of global energy market dynamics. The book will be a unique guide for those concerned with the different areas of the Turkish economy and international audiences interested in energy markets of Turkey and surrounding regions, making the book of interest to not only researchers in academia but also industry practitioners, regulators and policy makers as well.

Against the backdrop of energy markets that have radically changed in recent decades, this book offers an in-depth study of energy regulation in international trade law. The author seeks to clarify what we define as 'energy' in the context of the applicable international trade rules, and gives the reader a thorough analysis of the concepts, history and law of the various legal frameworks underpinning international energy trade. In addition, several case studies address the ongoing quest for energy security and show how the existing rules relate to some of the vast challenges that energy markets face today, notably the decentralisation and decarbonisation of energy markets.

Managing Energy Risk

Quantitative and Empirical Analysis of Energy Markets

Concepts, Regulation and Changing Markets

An Integrated View on Power and Other Energy Markets

Hedging Strategies and Instruments for the International Energy Markets

Evolution of Global Electricity Markets

This textbook explains the main economic mechanisms behind energy markets and assesses how governments can implement policies to improve how these markets function. Adopting a micro-economic perspective, the book systematically analyses the various types of market failures on the electricity and gas markets as well as coal, oil, hydrogen and heat markets to identify government policies that can improve welfare. These shortcomings include the natural monopoly and the public-good character of energy infrastructures; market power resulting from inflexibility of supply and demand; international trade restrictions; negative externalities concerning the use of fossil energy; positive externalities concerning innovative new energy technologies; information asymmetries with regard to the product characteristics of energy commodities; and other public concerns, such as energy poverty. In turn, readers will learn about various measures that governments can use to address these market failures, including incentive regulation for electricity grids; international integration of wholesale energy markets; environmental regulatory measures like emissions trading schemes; subsidy schemes for new technologies; green-energy certificate schemes; and energy taxes. Given its scope, the book will appeal to upper-undergraduate and graduate students from various disciplines who want to learn more about the economics and regulation of energy systems and markets.

Bringing together leading-edge research and innovative energy markets econometrics, this book collects the author's most important recent contributions in energy economics. In particular, the book: - applies recent advances in the field of applied econometrics to investigate a number of issues regarding energy markets, including the theory of storage and the efficient markets hypothesis - presents the basic stylized facts on energy price movements using correlation analysis, causality tests, integration theory, cointegration theory, as well as recently developed procedures for testing for shared and codependent cycles - uses recent advances in the financial econometrics literature to model time-varying returns and volatility in energy prices and to test for causal relationships between energy prices and their volatilities - explores the functioning of electricity markets and applies conventional models of time series analysis to investigate a number of issues regarding wholesale power prices in the western North American markets - applies tools from statistics and dynamical systems theory to test for nonlinear dynamics and deterministic chaos in a number of North American hydrocarbon markets (those of ethane, propane, normal butane, iso-butane, naptha, crude oil, and natural gas)

Professor Derrick McClure has traveled the world studying energy economics. His new book will provide managers and supervisors in the power and petroleum fields basic economic skills that will enable them to make better policy decisions relating to energy. This practical textbook contains toolbox of models, along with institutional, technological, and historical information on oil, coal, gas, and electricity.

Selected legal deficiencies relating to international energy governance are identified in this salient book. The currently fragmented and multi-layered international energy governance regime is exposed and reviewed. If governance were streamlined for

Regulation of Energy Markets

Pricing, Structures and Economics

From Edison to Musk

Political Economy, Regulation and Competition in the Search for Energy Policy

International Energy Markets

Making Energy Markets

*This book is designed to provide the economic skills to make better management or policy decisions relating to energy. It requires a knowledge of calculus and contains a toolbox of models along with institutional, technological and historical information for oil, coal, electricity, and renewable energy resources.*

*International Energy Outlook 2013 With Projections to 2040*

*International Energy Prices, 1980-1984*

*Understanding International Energy Markets*

*International Energy Prices, 1955-1980*

*Innovation Dynamics and Policy in the Energy Sector*

*Building Global Energy Markets, Institutions, Public Policy, Technology and Culture on the Texan Innovation Example*