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Energy Economics-Subhes C. Bhattacharyya 2019-11-02 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.

Energy Economics-Subhes C. Bhattacharyya 2011-02-28 Since its modest beginning in the 1970s, the academic and research focus on energy has grown substantially and energy has established itself as an independent, interdisciplinary subject area. It attracts attention from people in a range of different fields including engineers, scientists, geologists, environmentalists, bankers, investors, policy makers and politicians. Energy Economics introduces the basic concepts of energy economics and explains how simple economic tools can be used to analyse contemporary energy issues. Energy Economics is organised into six parts that give the reader a thorough grounding in various key aspects of the subject: basic demand-related concepts and ideas used in energy economics; supply-side economics; energy markets, with specific emphasis on oil, gas and coal; the application of simple economic principles in analysing contemporary energy issues; environmental aspects of energy use; and regulatory and governance issues. Energy Economics is an easily accessible reference book for students of energy economics at the postgraduate level, as well as for a wider interdisciplinary audience. It provides readers with the skills required to understand and analyse complex energy issues from an economic perspective.

Energy Economics-Peter M. Schwarz 2017-08-14 With interest in topics such as climate change, energy security, and alternative energy sources being at an all-time high, the effects of today's decisions now rest on the shoulders of future generations. There are no easy answers to our energy issues, so costs and benefits must be considered when evaluating all energy alternatives; alongside that, prices must be right and need to reflect the full social costs to society of a given source of energy. Energy Economics outlines the fundamental issues and possible solutions to the challenges of energy production and use, and presents a framework for energy decisions based upon sound economic analysis. It considers market forces and policy goals, including economic prosperity, environmental protection, and other considerations that affect societal well-being. This book focuses on both energy choices and the impact of these choices on market performance, environmental conditions, and sustainability. The initial section covers the fundamental economic concepts for analyzing energy markets. Following this, a detailed analysis of established energy sources, specifically fossil fuels and nuclear energy, leads into consideration of energy alternatives such as renewable energy and next-generation alternatives. Electricity production and regulatory trends are covered in depth. The final section considers policy: environmental considerations, sustainability, and energy security. The concluding chapter is a comprehensive vision for our energy future. Drawing on current energy headlines, perspectives familiar from the popular press, and views outside economics, this text sharpens students' ability to understand, evaluate, and critique policy using appropriate economic analysis. The text builds a foundation that culminates in a view of a comprehensive energy policy that improves upon the vacillations of past decades.

Energy Economics-Thomas R Sadler 2020-02-15 Energy Economics: Science, Policy, and Economic Applications explains energy systems from an economics perspective. Specifically, the author uses the tools of economics to analyze the development of modern energy systems, the world's reliance on fossil fuels, and the components of a transition to cleaner energy resources. He also considers the science and policy underlying important energy issues, especially with respect to nuclear energy and the climate crisis, arguing that, without changes to the world's fossil fuel consumption patterns, an increase in demand for energy will exacerbate environmental problems. This reality demonstrates the importance of the book's analysis of primary energy sources, energy supply and demand, and energy systems. Energy matters are fundamental to our way of life; yet, when it comes to energy economics, many people do not have a working vocabulary.

International Energy Markets-Carol Ann Dahl 2004 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.

Energy Economics-Roy L. Nersesian 2016-03-02 Three quarters of our current electricity usage and transport methods are derived from fossil fuels and yet within two centuries these resources will dry up. Energy Economics covers the role of each fossil and renewable energy source in today's world, providing the information and tools that will enable students to understand the finite nature of fossil fuels and the alternative solutions that are available. This textbook provides detailed examinations of key energy sources - both fossil fuels and renewables including oil, coal, solar, and wind power - and summarises how the current economics of energy evolved. Subsequent chapters explore issues around policy, technology and the possible future for each type of energy. In addition to this, readers are introduced to controversial topics including fracking and global warming in dedicated chapters on climate change and sustainability. Each chapter concludes with a series of tasks, providing example problems and projects in order to further explore the proposed issues. An accompanying companion website contains extensive additional material on the history of the major types of fuel as well as technical material relating to oil exploration, the development of solar power and historical environmental legislation. This textbook is an essential text for those who study energy economics, resource economics or energy policy.

Energy Economics-Peter Zweifel 2017-03-27 This book provides an introduction to energy economics. It shows how to apply general economic theory as well as empirical and advanced econometric methods to explain the drivers of energy markets and their development. Readers learn about the specific properties of energy markets as well as the physical, technological, environmental, and geopolitical particularities of energy sources and products. The book covers all types of energy markets, ranging from liquid fuels, gaseous fuels, and solid fuels to electricity. It also addresses emission allowances, energy efficiency, and nuclear risks. The authors discuss the engineering properties of energy technologies including renewables, the economics of natural resources and environmental protection, market liberalization, and energy trade as well as the experience of the German energy transformation. This book will serve students as a textbook and practitioners as a reference for their understanding of energy markets and their development.

The Economics and Politics of China's Energy Security Transition-Hongtu Zhao 2018-09-05 The Economics and Politics of China's Energy Security Transition clarifies China's energy and foreign policies through a comprehensive examination of energy sources, providing an insider's unique perspective for assessing China's

energy policies. China's historic decline in coal consumption since 2013-2014 and a plateauing of its carbon dioxide emissions have given China an unprecedented opportunity to decarbonize while growing its economy. In response to global questions about China's institutional, administrative, and political challenges and risks, this book provides the answers that everyone is asking. Provides a rare assessment of China's energy policies and reveals insights into the Chinese government Devotes attention to issues of global energy governance and energy sanctions Includes data and reference content suitable for researchers in economics, sustainability, energy policy, geopolitics and political science

Encyclopedia of Energy, Natural Resource, and Environmental Economics- 2013-07-15 Every decision about energy involves its price and cost. The price of gasoline and the cost of buying from foreign producers; the price of nuclear and hydroelectricity and the costs to our ecosystems; the price of electricity from coal-fired plants and the cost to the atmosphere. Giving life to inventions, lifestyle changes, geopolitical shifts, and things in-between, energy economics is of high interest to Academia, Corporations and Governments. For economists, energy economics is one of three subdisciplines which, taken together, compose an economic approach to the exploitation and preservation of natural resources: energy economics, which focuses on energy-related subjects such as renewable energy, hydropower, nuclear power, and the political economy of energy resource economics, which covers subjects in land and water use, such as mining, fisheries, agriculture, and forests environmental economics, which takes a broader view of natural resources through economic concepts such as risk, valuation, regulation, and distribution Although the three are closely related, they are not often presented as an integrated whole. This Encyclopedia has done just that by unifying these fields into a high-quality and unique overview. The only reference work that codifies the relationships among the three subdisciplines: energy economics, resource economics and environmental economics. Understanding these relationships just became simpler! Nobel Prize Winning Editor-in-Chief (joint recipient 2007 Peace Prize), Jason Shogren, has demonstrated excellent team work again, by coordinating and steering his Editorial Board to produce a cohesive work that guides the user seamlessly through the diverse topics This work contains in equal parts information from and about business, academic, and government perspectives and is intended to serve as a tool for unifying and systematizing research and analysis in business, universities, and government

The Swedish Nuclear Dilemma-William D. Nordhaus 2014-04-04 Renowned economist William Nordhaus has developed many innovative approaches for analyzing complex environmental questions. He applies them to the possible phaseout of nuclear power in Sweden in The Swedish Nuclear Dilemma: Energy and the Environment. While making a major contribution to that debate, this book has value that extends well beyond the Swedish issue, to the careful and well-informed consideration of environmental and energy questions that industrialized nations and developing regions now face. It is essential for anyone interested in nuclear-power issues and climate change. The Swedish parliament has moved closer to eliminating nuclear energy, even while repeating commitments to reduce the greenhouse-gas emissions associated with fossil fuels. Nordhaus's Swedish Energy and Environmental Policy (SEEP) model quantifies the economic results of such a path. He analyzes the impact of factors such as deregulation of electricity generation, global climate-change policies, the decline of Sweden's economic growth, and the rethinking of its welfare state. He also sets the stage for more informed analysis of similarly difficult issues where economic and environmental goals clash.

International Handbook on the Economics of Energy-Lester C. Hunt 2011-01-01 As an essential component for economic growth, energy has a significant impact on the global economy. The need to meet growing energy demand has prompted cutting-edge innovation in clean technology in an attempt to realise environmental and cost objectives, whilst ensuring the security of energy supply. This Handbook offers a comprehensive review of the economics of energy, including contributions from a distinguished array of international specialists. It provides a thorough discussion of the major research issues in this topical field of economics. Themes addressed include the theory of energy supply, demand and policy, empirical modelling of energy demand, holistic energy models, an analysis of coal, gas, electricity, oil and the markets within which they operate, and a discussion of the current key energy policy issues. The topics of pricing, transmission, regulation, security, energy efficiency, new technologies and climate change are also discussed. The International Handbook on the Economics of Energy presents a comprehensive overview of the state-of-the-art research making it an indispensable reference for researchers, advanced students, practitioners and policy-makers alike.

Rural Electrification-Najib Altawell 2020-12-04 Rural Electrification poses solutions to the insuperable modern challenge of providing 24/7 electricity for populations, housing and territory located outside towns and cities. The book reviews the historical development of rural energy systems, their status quo, and the role of renewable and fossil fueled solutions in delivering electricity. It addresses core issues of energy source typologies, resource deployment, fundamental challenges and limitations, the burgeoning threat of climate change, and the role of the renewable energy transition. Chapters account for almost all forms of fuel solutions, with a focus on electrification economics, planning, and policy using the most cost-effective fuels and systems available. Novel approaches to address the challenges of rural electrification, including distributed generation systems, new management and ownership models, off-grid systems, and future energy technologies are thoroughly explored. The work concludes with a comparative assessment of different energy supply technologies and scenarios, contrasting the pros and cons of fossil fuels versus renewable energy resources to achieve the goal of comprehensive rural electrification. Provides a suite of new approaches to deliver and expand electrification across challenging rural environments Describes optimal economics, planning and policy for electrification where there is no access to electricity Reviews how practitioners can achieve cost reductions for rural energy supply using existing technologies Addresses routes to power rural electrification within a transitioning energy economy while simultaneously accounting for climate change considerations

Understanding the Global Energy Crisis-Richard A. Simmons 2014-03-15 We are facing a global energy crisis caused by world population growth, an escalating increase in demand, and continued dependence on fossil-based fuels for generation. It is widely accepted that increases in greenhouse gas concentration levels, if not reversed, will result in major changes to world climate with consequential effects on our society and economy. This is just the kind of intractable problem that Purdue University's Global Policy Research Institute seeks to address in the Purdue Studies in Public Policy series by promoting the engagement between policy makers and experts in fields such as engineering and technology. Major steps forward in the development and use of technology are required. In order to achieve solutions of the required scale and magnitude within a limited timeline, it is essential that engineers be not only technologically-adept but also aware of the wider social and political issues that policy-makers face. Likewise, it is also imperative that policy makers liaise closely with the academic community in order to realize advances. This book is designed to bridge the gap between these two groups, with a particular emphasis on educating the socially-conscious engineers and technologists of the future. In this accessibly-written volume, central issues in global energy are discussed through interdisciplinary dialogue between experts from both North America and Europe. The first section provides an overview of the nature of the global energy crisis approached from historical, political, and sociocultural perspectives. In the second section, expert contributors outline the technology and policy issues facing the development of major conventional and renewable energy sources. The third and final section explores policy and technology challenges and opportunities in the distribution and consumption of energy, in sectors such as transportation and the built environment. The book's epilogue suggests some future scenarios in energy distribution and use.

The Material Basis of Energy Transitions-Alena Bleicher 2020-08-05 The Material Basis of Energy Transitions explores the intersection between critical raw material provision and the energy system. Chapters draw on examples and case studies involving energy technologies (e.g., electric power, transport) and raw material provision (e.g., mining, recycling), and consider these in their regional and global contexts. The book critically discusses issues such as the notion of criticality in the context of a circular economy, approaches for estimating the need for raw materials, certification schemes for raw materials, the role of consumers, and the impact of renewable energy development on resource conflicts. Each chapter deals with a specific issue that characterizes the interdependency between critical raw materials and renewable energies by examining case studies from a particular conceptual perspective. The book is a resource for students and researchers from the social sciences, natural sciences, and engineering, as well as interdisciplinary scholars interested in the field of renewable energies, the circular economy, recycling, transport, and mining. The book is also of interest to policymakers in the fields of renewable energy, recycling, and mining, professionals from the energy and resource industries, as well as energy experts and consultants looking for an interdisciplinary assessment of critical materials. Provides a comprehensive overview of key issues related to the nexus between renewable energy and critical raw materials Explores interdisciplinary perspectives from the natural sciences, engineering, and social sciences Discusses critical strategies to address the nexus from a practitioner’s perspective

Renewable Energy Finance-Santosh Raikar 2019-12-03 Renewable Energy Finance: Theory and Practice integrates the special characteristics of renewable energy with key elements of project finance. Through a mixture of fundamental analysis and real-life examples, readers learn how renewable energy project finance works in actual deals that mix finance, public policy, legal, engineering and environmental issues. The skills developed in analyzing non-recourse cash flow-based finance are applicable not only to green energy, but also apply more widely in project finance and infrastructure investing. The book’s comparisons of developed and developing countries make it valuable to readers worldwide. Presents real world cases in each chapter Includes a companion website that contains renewable energy project finance models and other resources Supports efforts to achieve environmental sustainability through renewable financing projects and cleaner production techniques

Inequality and Energy-Ray Galvin 2019-10-31 Inequality and Energy: How Extremes of Wealth and Poverty in High Income Countries Affect CO2 Emissions and Access to Energy challenges energy consumption researchers in developed countries to reorient their research frameworks to include the effects of economic inequality within the scope of their investigations, and calls for a new set of paradigms for energy consumption research. The book explores concrete examples of energy deprivation due to inequality, and provides conceptual tools to explore this in relation to other issues regarding energy consumption. It thereby urges that energy consumption approaches be updated for a world of increasing inequality. Extreme economic inequality has increased within developed countries over the past three decades. The effects of inequality are now seen increasingly in health, housing affordability, crime and social cohesion. There are signs it may even threaten democracy. Researchers are also exploring its effects on energy consumption. One of their key findings is that less privileged groups have lost consistent access to basic energy services like warm homes and affordable transport, leading to huge disparities of climate damaging emissions between rich and poor. Provides overwhelming evidence of the persistent and increasing income inequality and wealth inequality in developed countries over the past three decades Showcases recent empirical work that explores correlates of this inequality with energy consumption behavior and some of the key problems of access to adequate energy services Shows the connections between these findings and the existing ways of researching energy consumption behavior and policy

Regulations in the Energy Industry-André Dorsman 2020-02-12 This book provides a broad overview of the financial, economic and legal implications of energy industry regulations in various countries. In light of significant changes around the globe, it analyses various institutions that are involved in regulative measures, and based on various country studies, it offers insights into how energy sector regulations differ across countries with different market structures and institutions. Covering major topics such as laws and regulations geared to market competition and sustainability and the impact of noncompliance to regulations, from the perspectives of financial markets, and financial risks, the book is divided into four parts: Part I Regulations: price and trade controls; Part II. Non-price & trade control regulations; Part III: Compliance with regulations; and Part IV: Market issues and regulation. It will appeal to scholar in economics, finance and related fields as well as to policymakers and practitioners in the energy industry. This is the seventh 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), Energy Economics and Financial Markets (2012), Perspectives on Energy Risk (2014), Energy Technology and Valuation Issues (2015), Energy and Finance (2016) and Energy Economy, Finance and Geostrategy (2018).

Energy Transformation towards Sustainability-Manuela Tvaronaciene 2019-10-21 Energy Transformation towards Sustainability explores how researchers, businesses and policymakers can explore and usefully improve energy systems and energy consumption behavior, both to reflect the reality of climate change and related environmental degradation and to adapt to the expanding periphery of renewable energy technologies. It introduces the reader to a suite of potential policy pathways to the necessary transformation in societal energy consumption, usage and behavior. Solutions discussed include energy efficiency, energy security, the role of political leadership, green public policy, and the transition to renewable energy sources. International contributions address the range and depth of current research from a position of advocacy for ‘energy stewardship’ as the driver of this transformation. Case studies illustrate the range of various countries to diminish energy use. Finally, policy avenues are covered in depth. Reviews the interrelationship between economic growth, energy consumption and climate change Uses a wide variety of case studies to support practical implementation across national energy systems Highlights a wide spectrum of urgent issues, including threats related to energy use and secure and sustainable development Contains contributions that reflect a breadth and depth of scholarship from international backgrounds

The Palgrave Handbook of the International Political Economy of Energy-Thijs Van de Graaf 2016-08-05 This Handbook is the first volume to analyse the International Political Economy, the who-gets-what-when-and-how, of global energy. Divided into five sections, it features 28 contributions that deal with energy institutions, trade, transitions, conflict and justice. The chapters span a wide range of energy technologies and markets - including oil and gas, biofuels, carbon capture and storage, nuclear, and electricity - and it cuts across the domestic-international divide. Long-standing issues in the IPE of energy such as the role of OPEC and the ‘resource curse’ are combined with emerging issues such as fossil fuel subsidies and carbon markets. IPE perspectives are interwoven with insights from studies on governance, transitions, security, and political ecology. The Handbook serves as a potent reminder that energy systems are as inherently political and economic as they are technical or technological, and demonstrates that the field of IPE has much to offer to studies of the changing world of energy.

Key Concepts in Energy-Nuno Luis Madureira 2014-07-08 Organized around eight fundamental ideas, Key concepts in energy history explores the discoveries, technologies and new paradigms in the field of energy, and how they have changed the course of history. Complex technical concepts such as the “rebound effect”, “technological hybridization”, “marginal cost pricing” are explained in clear terms and a balanced and concise account of t energy sources in the XIX and XX century such as wood, coal, oil, hydroelectricity and nuclear energy is provided. Key concepts in energy considers the process of energy-substitutions and analyzes it as a process of complementary usages, hybridization and technological mixes. The ex-post view tends to focus on replacement from among alternative energy-technologies and is basically innovation-centric. This means that little attention has been given to factors such as the windows of opportunities created by governments, inventors and entrepreneurs. This book highlights how key energy concepts surfaced, tracing their evolution throughout history. It encompasses four economic concepts (rebound effect, energy intensity, marginal cost pricing and levelized cost accounting) and four technological-engineering concepts (primary/final energy, technological hybridization, last gasp and probable oil reserves). The main benefit from reading the book is a cross disciplinary overview of energy fundamentals in a short and focused reading.

Behavioral Finance-H. Kent Baker 2010-10-01 A definitive guide to the growing field of behavioral finance This reliable resource provides a comprehensive view of behavioral finance and its psychological foundations, as well as its applications to finance. Comprising contributed chapters written by distinguished authors from some of the most influential firms and universities in the world, Behavioral Finance provides a synthesis of the most essential elements of this discipline, including psychological concepts and behavioral biases, the behavioral aspects of asset pricing, asset allocation, and market prices, as well as investor behavior, corporate managerial behavior, and social influences. Uses a structured approach to put behavioral finance in perspective Relies on recent research findings to provide guidance

through the maze of theories and concepts Discusses the impact of sub-optimal financial decisions on the efficiency of capital markets, personal wealth, and the performance of corporations Behavioral finance has quickly become part of mainstream finance. If you need to gain a better understanding of this topic, look no further than this book.

A Manual for the Economic Evaluation of Energy Efficiency and Renewable Energy Technologies-Walter Short 2005 A Manual for the Economic Evaluation of Energy Efficiency and Renewable Energy Technologies provides guidance on economic evaluation approaches, metrics, and levels of detail required, while offering a consistent basis on which analysts can perform analyses using standard assumptions and bases. It not only provides information on the primary economic measures used in economic analyses and the fundamentals of finance but also provides guidance focused on the special considerations required in the economic evaluation of energy efficiency and renewable energy systems.

Principles of Economics 2e-Steven A. Greenlaw 2017-10-11

Handbook of Natural Resource and Energy-A.V. Kneese 1985 The Handbook of Natural Resource and Energy Economics examines the current theory and sample current application methods for natural resource and energy economics. This third volume deals primarily with non-renewable resources. It analyzes the economics of energy and minerals, and includes chapters on the economics of environmental policy. The Handbook provides a source, reference and teaching supplement for use by professional researchers and advanced graduate students. The surveys summarize not only received results but also newer developments from recent journal articles and discussion papers.

The Geopolitics of Renewables-Daniel Scholten 2018-01-11 Renewables are a game changer for interstate energy relations. Their abundance and intermittency, possibilities for decentral generation and use of rare earth materials, and generally electric nature of transportation make them very different from fossil fuels. What do these geographic and technical characteristics of renewable energy systems imply for infrastructure topology and operations, business models, and energy markets? What are the consequences for the strategic realities and policy considerations of producer, consumer, and transit countries and energy-related patterns of cooperation and conflict between them? Who are the winners and losers? The Geopolitics of Renewables is the first in-depth exploration of the implications for interstate energy relations of a transition towards renewable energy. Fifteen international scholars combine insights from several disciplines - international relations, geopolitics, energy security, renewable energy technology, economics, sustainability transitions, and energy policy - to establish a comprehensive overview and understanding of the emerging energy game. Focus is on contemporary developments and how they may shape the coming decades on three levels of analysis: · The emerging global energy game; winners and losers · Regional and bilateral energy relations of established and rising powers · Infrastructure developments and governance responses The book is recommended for academics and policy makers. It offers a novel analytical framework that moves from geography and technology to economics and politics to investigate the geopolitical implications of renewable energy and provides practical illustrations and policy recommendations related to specific countries and regions such as the US, EU, China, India, OPEC, and Russia

The Hydrogen Economy-National Academy of Engineering 2004-09-05 The announcement of a hydrogen fuel initiative in the Presidentâ€™s 2003 State of the Union speech substantially increased interest in the potential for hydrogen to play a major role in the nationâ€™s long-term energy future. Prior to that event, DOE asked the National Research Council to examine key technical issues about the hydrogen economy to assist in the development of its hydrogen R&D program. Included in the assessment were the current state of technology; future cost estimates; CO2 emissions; distribution, storage, and end use considerations; and the DOE RD&D program. The report provides an assessment of hydrogen as a fuel in the nationâ€™s future energy economy and describes a number of important challenges that must be overcome if it is to make a major energy contribution. Topics covered include the hydrogen end-use technologies, transportation, hydrogen production technologies, and transition issues for hydrogen in vehicles.

Resource And Environmental Economics: Modern Issues And Applications (Second Edition)-Clement A Tisdell 2021-04-14 This important book deals with the essential principles of resource and environmental economics, provides applications to contemporary issues in this field, and outlines and assesses policies being used or proposed for managing the use of environmental and natural resources. Covering specific contemporary topics such as agriculture and the environment, water use, greenhouse gas management, biodiversity conservation, tourism and the environment, and environmental economics and health, leading issues in resource and environmental economics are outlined and analyzed in an innovative manner. Institutional economics (both new and traditional) is applied and compared with other approaches such as neoclassical economics, behavioral economics and the Austrian School of Economics. This heterogeneous, multi-perspective approach enables problems to be considered from several different angles, thus enhancing the reader's comprehension of the subject matter. Furthermore, using minimal technical jargon, the book takes into account aspects of modern economic analysis such as the costs of and constraints on decision-making and the transaction costs involved in policy implementation.

Hydropower Economics-Finn R. Forsund 2007-09-19 There are few more urgent topics in today’s world, so full of ecological uncertainty. Hydropower Economics uses various econometric measures to examine sustainable alternative energy sources. It kicks off by modeling hydropower, yes, but it does not end there. Forsund has extended his model to include thermal power and wind power, too – forms of alternative energy that are taking on an ever larger profile.

Energy Politics-Brenda Shaffer 2011-06-03 It is not uncommon to hear states and their leaders criticized for "mixing oil and politics." The U.S.-led Iraq War was criticized as a "war for oil." When energy exporters overtly use energy as a tool to promote their foreign policy goals, Europe and the United States regularly decry the use of energy as a "weapon" rather than accept it as a standard and legitimate tool of diplomacy. In Energy Politics, Brenda Shaffer argues that energy and politics are intrinsically linked. Modern life—from production of goods, to means of travel and entertainment, to methods of waging war—is heavily dependent on access to energy. A country’s ability to acquire and use energy supplies crucially determines the state of its economy, its national security, and the quality and sustainability of its environment. Energy supply can serve as a basis for regional cooperation, but at the same time can serve as a source of conflict among energy seekers and between producers and consumers. Shaffer provides a broad introduction to the ways in which energy affects domestic and regional political developments and foreign policy. While previous scholarship has focused primarily on the politics surrounding oil, Shaffer broadens her scope to include the increasingly important role of natural gas and alternative energy sources as well as emerging concerns such as climate change, the global energy divide, and the coordinated international policy-making required to combat them. Energy Politics concludes with examinations of how politics and energy interact in six of the world’s largest producers and consumers of energy: Russia, Europe, the United States, China, Iran, and Saudi Arabia.

Handbook of the International Political Economy of Energy and Natural Resources-Andreas Goldthau 2018-01-26 This Handbook offers a comprehensive overview of the latest research from leading scholars on the international political economy of energy and resources. Highlighting the important conceptual and empirical themes, the chapters study all levels of governance, from global to local, and explore the wide range of issues emerging in a changing political and economic environment.

Renewable Energy Finance: Funding The Future Of Energy (Second Edition)-Charles W Donovan 2020-05-08 Foreword by Lord Browne of MadingleyReviews of the First Edition:"The entire text is quite readable and can be moved through with relative ease. This reviewer heartily recommends that, regardless of your

background, you read this book to really get a grasp of the cutting-edge of climate finance.'LSE Review of BooksRenewable Energy Finance (Second Edition) describes in rich detail current best practices and evolving trends in clean energy investing. With contributions by some of the world's leading experts in energy finance, the book documents how investors are spending over \$300 billion each year on financing renewable energy and positioning themselves in a growing global investment market. This second edition documents, with practical examples, the ways in which investors have funded over \$2.6 trillion in solar, wind, and other renewable energy projects over the past decade. The book will be a go-to reference manual for understanding the factors that shape risk and return in renewable energy, the world's fastest growing industrial sector. The book is suitable for executives new to the field, as well as advanced business students.Edited by Dr Charles Donovan, Principal Teaching Fellow at Imperial College Business School and formerly Head of Structuring and Valuation for Global Power at BP, the book will give readers a unique insiders' perspective on how renewable energy deals actually get done.

A Framework for Assessing Effects of the Food System-National Research Council 2015-06-17 How we produce and consume food has a bigger impact on Americans' well-being than any other human activity. The food industry is the largest sector of our economy; food touches everything from our health to the environment, climate change, economic inequality, and the federal budget. From the earliest developments of agriculture, a major goal has been to attain sufficient foods that provide the energy and the nutrients needed for a healthy, active life. Over time, food production, processing, marketing, and consumption have evolved and become highly complex. The challenges of improving the food system in the 21st century will require systemic approaches that take full account of social, economic, ecological, and evolutionary factors. Policy or business interventions involving a segment of the food system often have consequences beyond the original issue the intervention was meant to address. A Framework for Assessing Effects of the Food System develops an analytical framework for assessing effects associated with the ways in which food is grown, processed, distributed, marketed, retailed, and consumed in the United States. The framework will allow users to recognize effects across the full food system, consider all domains and dimensions of effects, account for systems dynamics and complexities, and choose appropriate methods for analysis. This report provides example applications of the framework based on complex questions that are currently under debate: consumption of a healthy and safe diet, food security, animal welfare, and preserving the environment and its resources. A Framework for Assessing Effects of the Food System describes the U.S. food system and provides a brief history of its evolution into the current system. This report identifies some of the real and potential implications of the current system in terms of its health, environmental, and socioeconomic effects along with a sense for the complexities of the system, potential metrics, and some of the data needs that are required to assess the effects. The overview of the food system and the framework described in this report will be an essential resource for decision makers, researchers, and others to examine the possible impacts of alternative policies or agricultural or food processing practices.

Pathways to Urban Sustainability-National Academies of Sciences, Engineering, and Medicine 2016-10-11 Cities have experienced an unprecedented rate of growth in the last decade. More than half the world's population lives in urban areas, with the U.S. percentage at 80 percent. Cities have captured more than 80 percent of the globe's economic activity and offered social mobility and economic prosperity to millions by clustering creative, innovative, and educated individuals and organizations. Clustering populations, however, can compound both positive and negative conditions, with many modern urban areas experiencing growing inequality, debility, and environmental degradation. The spread and continued growth of urban areas presents a number of concerns for a sustainable future, particularly if cities cannot adequately address the rise of poverty, hunger, resource consumption, and biodiversity loss in their borders. Intended as a comparative illustration of the types of urban sustainability pathways and subsequent lessons learned existing in urban areas, this study examines specific examples that cut across geographies and scales and that feature a range of urban sustainability challenges and opportunities for collaborative learning across metropolitan regions. It focuses on nine cities across the United States and Canada (Los Angeles, CA, New York City, NY, Philadelphia, PA, Pittsburgh, PA, Grand Rapids, MI, Flint, MI, Cedar Rapids, IA, Chattanooga, TN, and Vancouver, Canada), chosen to represent a variety of metropolitan regions, with consideration given to city size, proximity to coastal and other waterways, susceptibility to hazards, primary industry, and several other factors.

How to Avoid a Climate Disaster-Bill Gates 2021-02-16 #1 NEW YORK TIMES BEST SELLER • In this urgent, authoritative book, Bill Gates sets out a wide-ranging, practical—and accessible—plan for how the world can get to zero greenhouse gas emissions in time to avoid a climate catastrophe. Bill Gates has spent a decade investigating the causes and effects of climate change. With the help of experts in the fields of physics, chemistry, biology, engineering, political science, and finance, he has focused on what must be done in order to stop the planet's slide to certain environmental disaster. In this book, he not only explains why we need to work toward net-zero emissions of greenhouse gases, but also details what we need to do to achieve this profoundly important goal. He gives us a clear-eyed description of the challenges we face. Drawing on his understanding of innovation and what it takes to get new ideas into the market, he describes the areas in which technology is already helping to reduce emissions, where and how the current technology can be made to function more effectively, where breakthrough technologies are needed, and who is working on these essential innovations. Finally, he lays out a concrete, practical plan for achieving the goal of zero emissions—suggesting not only policies that governments should adopt, but what we as individuals can do to keep our government, our employers, and ourselves accountable in this crucial enterprise. As Bill Gates makes clear, achieving zero emissions will not be simple or easy to do, but if we follow the plan he sets out here, it is a goal firmly within our reach.

Improving Energy Efficiency in Industrial Energy Systems-Patrik Thollander 2012-08-10 Industrial energy efficiency is one of the most important means of reducing the threat of increased global warming. Research however states that despite the existence of numerous technical energy efficiency measures, its deployment is hindered by the existence of various barriers to energy efficiency. The complexity of increasing energy efficiency in manufacturing industry calls for an interdisciplinary approach to the issue. Improving energy efficiency in industrial energy systems applies an interdisciplinary perspective in examining energy efficiency in industrial energy systems, and discusses how “cross-pollinating” perspectives and theories from the social and engineering sciences can enhance our understanding

of barriers, energy audits, energy management, policies, and programmes as they pertain to improved energy efficiency in industry. Apart from classical technical approaches from engineering sciences, Improving energy efficiency in industrial energy systems couples a sociotechnical perspective to increased energy efficiency in industry, showing that industrial energy efficiency can be expected to be shaped by social and commercial processes and built on knowledge, routines, institutions, and methods established in networks. The book can be read by researchers and policy-makers, as well as scholars and practitioners in the field. “This book is extremely valuable for anyone who is designing or executing energy efficiency policies, schemes or projects aiming at SMEs. Both authors deserve the highest respect, and the combination of their expertise makes the results truly unique.” - Daniel Lundqvist, programme manager at the Swedish energy agency “For anyone interested in improving energy efficiency in industry, this is a must-read. The book combines tools from social science and engineering to discuss the state of art today as well as possible development path tomorrow. This is a compelling book that I find useful both in my teaching and my research.” - Kajsa Ellegård, Professor at Linköping University, Sweden “The book Improving energy efficiency in industrial energy systems is a novel approach on how improved levels of energy efficiency can be reached in industrial energy systems by merging engineering with social sciences. It is with delight that I can recommend their book to anyone interested in the field.”- Mats Söderström, Director Energy Systems Programme, Linköping University, Sweden

Renewable Energy-Bent Sørensen 2004-07-30 &Quot;Renewable Energy is essential reading for undergraduates and graduates in Earth Sciences, Environmental Sciences, and Engineering. Researchers will find it a useful reference tool. The book will also prove invaluable to consultants and planners working in both the public and private sectors of government and international agencies."--BOOK JACKET.

Basic Economics-Thomas Sowell 2014-12-02 The bestselling citizen's guide to economics Basic Economics is a citizen's guide to economics, written for those who want to understand how the economy works but have no interest in jargon or equations. Bestselling economist Thomas Sowell explains the general principles underlying different economic systems: capitalist, socialist, feudal, and so on. In readable language, he shows how to critique economic policies in terms of the incentives they create, rather than the goals they proclaim. With clear explanations of the entire field, from rent control and the rise and fall of businesses to the international balance of payments, this is the first book for anyone who wishes to understand how the economy functions. This fifth edition includes a new chapter explaining the reasons for large differences of wealth and income between nations. Drawing on lively examples from around the world and from centuries of history, Sowell explains basic economic principles for the general public in plain English.

Achieving the Paris Climate Agreement Goals-Sven Teske 2019-02-01 This open access book presents detailed pathways to achieve 100% renewable energy by 2050, globally and across ten geographical regions. Based on state-of-the-art scenario modelling, it provides the vital missing link between renewable energy targets and the measures needed to achieve them. Bringing together the latest research in climate science, renewable energy technology, employment and resource impacts, the book breaks new ground by covering all the elements essential to achieving the ambitious climate mitigation targets set out in the Paris Climate Agreement. For example, sectoral implementation pathways, with special emphasis on differences between developed and developing countries and regional conditions, provide tools to implement the scenarios globally and domestically. Non-energy greenhouse gas mitigation scenarios define a sustainable pathway for land-use change and the agricultural sector. Furthermore, results of the impact of the scenarios on employment and mineral and resource requirements provide vital insight on economic and resource management implications. The book clearly demonstrates that the goals of the Paris Agreement are achievable and feasible with current technology and are beneficial in economic and employment terms. It is essential reading for anyone with responsibility for implementing renewable energy or climate targets internationally or domestically, including climate policy negotiators, policy-makers at all levels of government, businesses with renewable energy commitments, researchers and the renewable energy industry.

Good Economics for Hard Times-Abhijit V. Banerjee 2019-11-12 The winners of the Nobel Prize show how economics, when done right, can help us solve the thorniest social and political problems of our day. Figuring out how to deal with today's critical economic problems is perhaps the great challenge of our time. Much greater than space travel or perhaps even the next revolutionary medical breakthrough, what is at stake is the whole idea of the good life as we have known it. Immigration and inequality, globalization and technological disruption, slowing growth and accelerating climate change—these are sources of great anxiety across the world, from New Delhi and Dakar to Paris and Washington, DC. The resources to address these challenges are there—what we lack are ideas that will help us jump the wall of disagreement and distrust that divides us. If we succeed, history will remember our era with gratitude; if we fail, the potential losses are incalculable. In this revolutionary book, renowned MIT economists Abhijit V. Banerjee and Esther Duflo take on this challenge, building on cutting-edge research in economics explained with lucidity and grace. Original, provocative, and urgent, Good Economics for Hard Times makes a persuasive case for an intelligent interventionism and a society built on compassion and respect. It is an extraordinary achievement, one that shines a light to help us appreciate and understand our precariously balanced world.

The Moral Ecology of Markets-Daniel Finn 2006-01-16 This book provides a framework for understanding disagreements about the morality of markets.