



[Book] Renewables: The Politics Of A Global Energy Transition (The MIT Press)

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Renewables-Michael Aklin 2018-03-23 A comprehensive political analysis of the rapid growth in renewable wind and solar power, mapping an energy transition through theory, case studies, and policy. Wind and solar are the most dynamic components of the global power sector. How did this happen? After the 1973 oil crisis, the limitations of an energy system based on fossil fuels created an urgent need to experiment with alternatives, and some pioneering governments reaped political gains by investing heavily in alternative energy such as wind or solar power. Public policy enabled growth over time, and economies of scale brought down costs dramatically. In this book, Michaël Aklin and Johannes Urpelainen offer a comprehensive political analysis of the rapid growth in renewable wind and solar power, mapping an energy transition through theory, case studies, and policy analysis. Aklin and Urpelainen argue that, because the fossil fuel energy system and political support for it are so entrenched, only an external shock—an abrupt rise in oil prices, or a nuclear power accident, for example—allows renewable energy to grow. They analyze the key factors that enable renewable energy to withstand political backlash, and they draw on this analysis to explain and predict the development of renewable energy in different countries over time. They examine the pioneering efforts in the United States, Germany, and Denmark after the 1973 oil crisis and other shocks; explain why the United States surrendered its leadership role in renewable energy; and trace the recent rapid growth of modern renewables in electricity generation, describing, among other things, the return of wind and solar to the United States. Finally, they apply the lessons of their analysis to contemporary energy policy issues.

Renewable Energy Policy and Politics-Karl Mallon 2012-06-25 Understanding why renewable energy policies succeed and fail is essential for a range of stakeholders in the energy and environmental sectors. Clear information on why and how to secure successful renewable energy markets is much needed. **Renewable Energy Policy and Politics** meets that need, bringing together the experience of world leaders in this field. The book addresses the politics of renewable energy, the key players required to drive energy reform and those likely to resist change. The interplay between government, industry and society is discussed and explained with a balanced hand, offering a rare insight into political campaigning on energy. International case studies are included, complemented by a step-by-step breakdown of the elements required to achieve legislation. This book sets out the rules of the game, the stakes and the strategies for success. It will be an invaluable tool for policy makers, energy consultants, non-governmental organizations and other professionals working in the fields of energy policy, climate change and environmental policy. Students and researchers keen to enhance their knowledge of renewable energy markets and policy development will also find this essential reading.

Comparative Renewables Policy-Elin Lerum Boasson 2020-10-30 Challenging one-eyed technology-focused accounts of renewables policy, this book provides a ground-breaking, deep-diving and genre-crossing longitudinal study of policy development. The book develops a multi-field explanatory approach, capturing inter-relationships between actors often analyzed in isolation. It provides empirically rich and systematically conducted comparative case studies on the political dynamics of the ongoing energy transition in six European countries. While France, Germany, Poland and the United Kingdom opted for 'technology-specific' renewables support mixes, Norway and Sweden embarked on 'technology-neutral' support mixes. Differences between the two groups result from variations in domestic political and organizational fields, but developments over time in the European

environment also spurred variation. These findings challenge more simplistic and static accounts of Europeanization. This volume will be of key interest to scholars and students of energy transitions, comparative climate politics, policy theory, Europeanization, European integration and comparative European politics more broadly, as well as practitioners with an interest in renewable energy and climate transition.

The Political Economy of Renewable Energy and Energy Security-E. Moe 2014-09-23 Bringing together renewable energy and energy security, this book covers both the politics and political economy of renewables and energy security and analyzes renewable technologies in diverse and highly topical countries: Japan, China and Northern Europe.

The Political Economy of Clean Energy Transitions-Douglas Jay Arent 2017 A volume on the political economy of clean energy transition in developed and developing regions, with a focus on the issues that different countries face as they transition from fossil fuels to lower carbon technologies.

Global Energy Politics-Thijs Van de Graaf 2020-05-07 Ever since the Industrial Revolution energy has been a key driver of world politics. From the oil crises of the 1970s to today's rapid expansion of renewable energy sources, every shift in global energy patterns has important repercussions for international relations. In this new book, Thijs Van de Graaf and Benjamin Sovacool uncover the intricate ways in which our energy systems have shaped global outcomes in four key areas of world politics: security, the economy, the environment and global justice. Moving beyond the narrow geopolitical focus that has dominated much of the discussion on global energy politics, they also deftly trace the connections between energy, environmental politics, and community activism. The authors argue that we are on the cusp of a global energy shift that promises to be no less transformative for the pursuit of wealth and power in world politics than the historical shifts from wood to coal and from coal to oil. This ongoing energy transformation will not only upend the global balance of power; it could also fundamentally transfer political authority away from the nation state, empowering citizens, regions and local communities. **Global Energy Politics** will be an essential resource for students of the social sciences grappling with the major energy issues of our times.

Energopolitics-Dominic Boyer 2019-05-17 Between 2009 and 2013 Cymene Howe and Dominic Boyer conducted fieldwork in Mexico's Isthmus of Tehuantepec to examine the political, social, and ecological dimensions of moving from fossil fuels to wind power. Their work manifested itself as a new ethnographic form: the duograph—a combination of two single-authored books that draw on shared fieldsites, archives, and encounters that can be productively read together, yet can also stand alone in their analytic ambitions. In his volume, **Energopolitics**, Boyer examines the politics of wind power and how it is shaped by myriad factors, from the legacies of settler colonialism and indigenous resistance to state bureaucracy and corporate investment. Drawing on interviews with activists, campesinos, engineers, bureaucrats, politicians, and bankers, Boyer outlines the fundamental impact of energy and fuel on political power. Boyer also demonstrates how large conceptual frameworks cannot adequately explain the fraught and uniquely complicated conditions on the isthmus, illustrating the need to resist narratives of anthropocentric universalism and to attend to local particularities.

Politics of Renewable Energy in China-Chen Gang In this book, Chen Gang examines the real-world effectiveness of China's approach to the promotion of green technologies and practices, and discusses the political landscape in which it is situated.

China's Renewable Energy Revolution-John A. Mathews 2015-08-13 The authors suggest that China's renewable energy system, the largest in the world, will quickly supersede the black energy system that has powered the country's rapid rise as workshop of the world and for reasons that have more to do with fixing environmental pollution and enhancing energy security than with curbing carbon emissions.

Escaping the Energy Poverty Trap-Michael Aklin 2018-12-04 The first comprehensive political science account of energy poverty, arguing that governments can improve energy access for their citizens through appropriate policy design. In today's industrialized world, almost everything we do consumes energy. While industrialized countries enjoy all the amenities of modern energy, more than a billion people in the developing world still lack energy access. Why is energy poverty persistent in some countries and not in others? Offering the first comprehensive political science account of energy poverty, *Escaping the Energy Poverty Trap* explores why governments have or have not been able to lead in providing modern energy to their least advantaged citizens. Focusing on access to modern cooking fuels and household electrification, the authors develop a new political-economic theory that introduces government interest, institutional capacity, and local accountability as key determinants of energy access. They draw on case studies from India, East Asia, Africa, and Latin America to offer the optimistic conclusion that governments can improve institutional capacity and local accountability through appropriate policy design. Energy poverty is a policy problem, the authors assert, and engaging with it as such offers new opportunities not only for ensuring equal energy access, but also for political, economic, and environmental development.

Sustainable Energy Technologies-Eduardo Rincón-Mejía 2017-11-20 This book examines the key aspects that will define future sustainable energy systems: energy supply, energy storage, security and limited environmental impacts. It clearly explains the need for an integrated engineering approach to sustainable energies, based on mathematical, biogeophysical, and engineering arguments. Resilient and efficient alternatives are compared to non-sustainable options. This book results from the collaboration of 50 international contributors.

Renewable-Jeremy Shere 2013-11-26 Where does the energy we use come from? It's absolutely vital to every single thing we do every day, but for most people, it is utterly invisible. Flick a switch and the lights go on. It might as well be magic. Science writer Jeremy Shere shows us in *Renewable: The World-Changing Power of Alternative Energy* that energy is anything but magical. Producing it in fossil fuel form is a dirty, expensive—but also hugely profitable—enterprise, with enormous but largely hidden costs to the entire planet. The cold, hard fact is that at some point we will have wrung the planet dry of easily accessible sources of fossil fuel. And when that time comes, humankind will have no choice but to turn—or, more accurately, return—to other, cleaner, renewable energy sources. What will those sources be? How far have we come to realizing the technologies that will make these sources available? To find the answers, Shere began his journey with a tour of a traditional coal-fueled power plant in his home state of Indiana. He then continued on, traveling from coast to coast as he spoke to scientists, scholars and innovators. He immersed himself in the green energy world: visiting a solar farm at Denver's airport, attending the Wind Power Expo and a wind farm tour in Texas, investigating turbines deep in New York City's East River, and much more. Arranged in five parts—Green Gas, Sun, Wind, Earth, and Water—*Renewable* tells the stories of the most interesting and promising types of renewable energy: namely, biofuel, solar, wind, geothermal, and hydropower. But unlike many books about alternative energy, *Renewable* is not obsessed with megawatts and tips for building home solar panels. Instead, Shere digs into the rich, surprisingly long histories of these technologies, bringing to life the pioneering scientists, inventors, and visionaries who blazed the way for solar, wind, hydro, and other forms of renewable power, and unearthing the curious involvement of great thinkers like Henry Ford, Thomas Edison, and Nicola Tesla. We are at an important crossroads in the history of renewable technologies. The possibilities are endless and enticing, and it has become increasingly clear that renewable energy is the way of the future. In *Renewable*, Jeremy Shere's natural curiosity

and serious research come together in an entertaining and informative guide to where renewable energy has been, where it is today, and where it's heading.

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

Renewable Energy-Bruce Usher 2019 Renewable energy in the twenty-first century -- Energy transitions : fire to electricity -- The rise of renewables -- Renewable wind energy -- Renewable solar energy -- Financing renewable energy -- Energy transitions : oats to oil -- The rise of electric vehicles -- Parity -- Convergence -- Consequences -- No time to lose

Renewable Energy Transformation or Fossil Fuel Backlash-Espen Moe 2016-04-29 Renewable energy is rising within an energy system dominated by powerful vested energy interests in fossil fuels, nuclear and electric utilities. Analyzing renewables in six very different countries, the author argues that it is the extent to which states have controlled these vested interests that determines the success or failure of renewables.

Energy-Jose Goldemberg 2012-06-18 Without a doubt, the topic of energy--from coal, oil, and nuclear to geothermal, solar and wind--is one of the most pressing across the globe. It is of paramount importance to policy makers, economists, environmentalists, and industry as they consider which technologies to invest in, how to promote use of renewable energy sources, and how to plan for dwindling reserves of non-renewable energy. In *Energy: What Everyone Needs to Know*®, José Goldemberg, a nuclear physicist who has been hailed by *Time* magazine as one of the world's top "leaders and visionaries on the environment," takes readers through the basics of the world energy system, its problems, and the technical as well as non-technical solutions to the most pressing energy problems. Addressing the issues in a Q-and-A format, Goldemberg answers such questions as: What are wind, wave, and geothermal energy? What are the problems of nuclear waste disposal? What is acid rain? What is the greenhouse gas effect? What is Carbon Capture and Storage? What are smart grids? What is the Kyoto Protocol? What is "cap and trade"? The book sheds light on the role of population growth in energy consumption, renewable energy resources, the amount of available energy reserves (and when they will run out), geopolitical issues, environmental problems, the frequency of environmental disasters, energy efficiency, new technologies, and solutions to changing consumption patterns. It will be the first place to look for information on the vital topic of energy. *What Everyone Needs to Know*® is a registered trademark of Oxford University Press.

Taming the Sun-Varun Sivaram 2018-03-02 How solar could spark a clean-energy transition through transformative innovation—creative financing, revolutionary technologies, and flexible energy systems. Solar energy, once a niche application for a limited market, has become the cheapest and fastest-growing power source

on earth. What's more, its potential is nearly limitless—every hour the sun beams down more energy than the world uses in a year. But in *Taming the Sun*, energy expert Varun Sivaram warns that the world is not yet equipped to harness erratic sunshine to meet most of its energy needs. And if solar's current surge peters out, prospects for replacing fossil fuels and averting catastrophic climate change will dim. Innovation can brighten those prospects, Sivaram explains, drawing on firsthand experience and original research spanning science, business, and government. Financial innovation is already enticing deep-pocketed investors to fund solar projects around the world, from the sunniest deserts to the poorest villages. Technological innovation could replace today's solar panels with coatings as cheap as paint and employ artificial photosynthesis to store intermittent sunshine as convenient fuels. And systemic innovation could add flexibility to the world's power grids and other energy systems so they can dependably channel the sun's unreliable energy. Unleashing all this innovation will require visionary public policy: funding researchers developing next-generation solar technologies, refashioning energy systems and economic markets, and putting together a diverse clean energy portfolio. Although solar can't power the planet by itself, it can be the centerpiece of a global clean energy revolution. A Council on Foreign Relations Book

Introduction to Renewable Energy-Vaughn C. Nelson 2011-04-25 As the world population grows and places more demand on limited fossil fuels, renewable energy becomes more relevant as part of the solution to the impending energy dilemma. Renewable energy is now included in national policies, with goals for it to be a significant percentage of generated energy within the coming decades. A comprehensive overview, *Introduction to Renewable Energy* explores how we can use the sun, wind, biomass, geothermal resources, and water to generate more sustainable energy. Taking a multidisciplinary approach, the book integrates economic, social, environmental, policy, and engineering issues related to renewable energy. It explains the fundamentals of energy, including the transfer of energy, as well as the limitations of natural resources. Starting with solar power, the text illustrates how energy from the sun is transferred and stored; used for heating, cooling, and lighting; collected and concentrated; and converted into electricity. A chapter describes residential power usage—including underground and off-grid homes—and houses that are designed to use energy more efficiently or to be completely self-sufficient. Other chapters cover wind power; bioenergy, including biofuel; and geothermal heat pumps; as well as hydro, tidal, and ocean energy. Describing storage as a billion-dollar idea, the book discusses the challenges of storing energy and gives an overview of technologies from flywheels to batteries. It also examines institutional issues such as environmental regulations, incentives, infrastructure, and social costs and benefits. Emphasizing the concept of life-cycle cost, the book analyzes the costs associated with different sources of energy. With recommendations for further reading, formulas, case studies, and extensive use of figures and diagrams, this textbook is suitable for undergraduates in Renewable Energy courses as well as for non-specialists seeking an introduction to renewable energy. Pedagogical Features: End-of-chapter problems Numerous case studies More than 150 figures and illustrations A solutions manual is available upon qualifying course adoption

Clean Energy Nation-Gerald McNeerney 2012 This passionate, inspiring call to action reveals how the United States can lead the world into the "Clean Energy Age."

Renewable Energies-Matthias Gross 2014-09-15 Renewable Energy normally refers to usable energy sources that are an alternative to fuel sources, but without the negatively evaluated consequences of the replaced fuels. Although energy issues have a long tradition in sociology and other social sciences, it may now be high time to conceptualize these in sociological terms as the lynchpin in our understanding of the way societies are set to develop in the 21st century. This concise book focuses on sociological attempts at better framing contemporary theories of energy transformations and to deliver an accessible overview on the relationships between different types of renewable energy sources and their practical usages in modern societies. A strong focus is laid upon new forms of environmental governance and unavoidable knowledge gaps triggered by attempts to transform contemporary energy systems to renewable ones. Critical topics include the challenge of transition from centralized to decentralized system structures, the integration of renewable energies into existing energy structures or the replacement of these, coping strategies to unforeseen risks and conflict issues, and socio-cultural reservations to new technologies connected to renewable energies.

Renewable Energy-Bent Sorensen 2018-12-14 This four-volume set, edited by a leading expert in the field, brings together in one collection a series of papers that have been fundamental to the development of renewable energy as a defined discipline. Some of the papers were first published many years ago, but they remain classics in their fields and retain their relevance to the understanding of current issues. The papers have been selected with the assistance of an eminent international editorial board. The set includes a general introduction and each volume is introduced by a new overview essay, placing the selected papers in context. The range of subject matter is considerable, including coverage of all the main renewable technologies, the fundamental principles by which they function, and the issues around their deployment such as planning, integration and socio-economic assessment. Overall, the set provides students, teachers and researchers, confronted with thousands of journal articles, book chapters and grey literature stretching back decades, with a ready-made selection of and commentary on the most important key writings in renewable energy. It will be an essential reference for libraries concerned with energy, technology and the environment.

Energy and Geopolitics-Per Högselius 2018-10-09 The idea that energy shapes and is shaped by geopolitics is firmly rooted in the popular imagination – and not without reason. Very few countries have the means to secure their energy needs through locally available supplies; instead, enduring dependencies upon other countries have developed. Given energy's strategic significance, supply systems for fuels and electricity are now seamlessly interwoven with foreign policy and global politics. *Energy and Geopolitics* enables students to enhance their understanding and sharpen their analytical skills with respect to the complex relations between energy supply, energy markets and international politics. Per Högselius guides us through the complexities of world energy and international energy relations, examining a wide spectrum of fossil fuels, alongside nuclear and renewable energies. Uniquely, the book also shows how the geopolitics of energy is not merely a matter for the great powers and reveals how actors in the world's smaller nations are as active in their quest for power and control. Encouraging students to apply a number of central concepts and theoretical ideas to different energy sources within a multitude of geographical, political and historical contexts, this book will be a vital resource to students and scholars of geopolitics, energy security and international environmental policy and politics.

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

Renewable Energy - The Facts-Walter Witzel 2013-05-13 Interest in renewable energy has never been greater, but much uncertainty remains as to the role the various technologies will play in the transition to a low-carbon future. This book sets out the facts – how the technologies work, where and to what extent they are currently employed, and where the greatest potential lies. Covering all the major fields – solar electricity, solar thermal, solar architecture, bioenergy, wind, geothermal, hydropower, as well as new energy technologies – it also includes sections on how best to promote the uptake of renewables and answers to common questions and opposition. The authors provide a number of German-sourced yet internationally relevant examples and strategies which have become increasingly significant in the promotion of renewable energy in recent years. The convenient layout mixes detailed explanation with clear, take-away facts and messages on each double-page spread. This straight-talking, information filled guide is the perfect primer for anyone who wants to better understand and promote renewable energy, whether in industry, study, policy or campaigns.

Harnessing Renewable Energy in Electric Power Systems-Boaz Moselle 2010 Reflecting its reliance on fossil fuels, the electric power industry produces the majority of the world's greenhouse gas emissions. The need for a

revolution in the industry becomes further apparent given that 'decarbonization' means an increasing electrification of other sectors of the economy—in particular, through a switch from gasoline to electric vehicles. Of the options for producing electric power without significant greenhouse gas emissions, renewable energy is most attractive to policymakers, as it promises increased national self-reliance on energy supplies and the creation of new industries and jobs, without the safety and political concerns of nuclear power or the unproven technology of carbon capture and storage. Drawing on both economic theory and the experiences of the United States and EU member states, *Harnessing Renewable Energy* addresses the key questions surrounding renewable energy policies. How appropriate is the focus on renewable power as a primary tool for reducing greenhouse gas emissions? If renewable energy is given specific support, what form should that support take? What are the implications for power markets if renewable generation is widely adopted? Thorough and well-evidenced, this book will be of interest to a broad range of policymakers, the electric power industry, and economists who study energy and environmental issues.

Energy Democracy-Craig Morris 2016-09-09 This book outlines how Germans convinced their politicians to pass laws allowing citizens to make their own energy, even when it hurt utility companies to do so. It traces the origins of the *Energiewende* movement in Germany from the Power Rebels of Schönau to German Chancellor Angela Merkel's shutdown of eight nuclear power plants following the 2011 Fukushima nuclear accident. The authors explore how, by taking ownership of energy efficiency at a local level, community groups are key actors in the bottom-up fight against climate change. Individually, citizens might install solar panels on their roofs, but citizen groups can do much more: community wind farms, local heat supply, walkable cities and more. This book offers evidence that the transition to renewables is a one-time opportunity to strengthen communities and democratize the energy sector - in Germany and around the world.

The Political and Economic Challenges of Energy in the Middle East and North Africa-David Ramin Jalilvand 2017-11-22 The Middle East and North Africa (MENA) are in disarray, and shifts in the field of energy have the potential to drastically affect the course of political and economic developments in the region. Declining oil prices, skyrocketing domestic demand, the rise of unconventional oil and natural gas production in North America, as well as shifting patterns of global energy trade all put severe pressures on both producing and importing countries in the MENA region. Policy-makers are facing fundamental challenges in light of the duality of grand transformations in (geo)politics and energy. Changes in the field of energy require substantial political and economic reforms, affecting the very fabric of sociopolitical arrangements. At the same time, the MENA region's geopolitical volatility makes any such reforms extremely risky. Including contributions by academics and analysts from both inside and outside the MENA region, this volume explores the changes in global and regional energy, the impact of changing international energy dynamics on politics and economies in the MENA region, and the challenges that will result. This is essential reading for researchers, postgraduates, and professionals in Middle Eastern and North African politics, global energy governance and regionalism.

Energy Transition-Jens Lowitzsch 2019-01-09 Consumer (co-)ownership in renewable energy (RE) is essential to the overall success of Energy Transition. In June 2018, the European Union agreed on a corresponding enabling framework as part of a recast of the Renewable Energy Directive (RED II). The transposition of these comprehensive rules - in particular those on local RE communities - requires developing, implementing and rolling out business models that broaden the capital participation of consumers. The challenge is to include municipalities and/or commercial investors like SMEs and advance to economies of scale while retaining the benefits of individual consumer participation. This book is addressed to energy consumers in local communities, their municipalities and to the policy makers who represent them. Additionally, non-EU countries, in particular those where rural areas have limited access to energy, e.g. in Asia, Africa and Latin America, may be interested in the benefits of consumer ownership. While demand for energy in developing countries is growing, access to energy is crucial for improving the quality of life. The editor of this book presents a new model of consumer ownership in RE for both the EU and countries worldwide. Part One describes the rationale for consumer ownership in RE with regard to social, organizational, legal and financial conditions. Part Two discusses the issue of financing RE and introduces a new financing technique, the Consumer Stock Ownership Plan (CSOP), comparing it to traditional models. Part Three provides 18 country studies from Europe, North America, South America and Asia, organized so as to enable a cross-country comparison of policy approaches and feasibility.

Policy recommendations are based on the results of this survey. Part Four summarizes, compares the best practice cases, presents a cost-benefit analysis of "prosumage" and against this background evaluates the impact on future policy.

Renewable Energy and the Public-Patrick Devine-Wright 2014-10-14 Throughout the world, the threat of climate change is pressing governments to accelerate the deployment of technologies to generate low carbon electricity or heat. But this is frequently leading to controversy, as energy and planning policies are revised to support new energy sources or technologies (e.g. offshore wind, tidal, bioenergy or hydrogen energy) and communities face the prospect of unfamiliar, often large-scale energy technologies being sited near to their homes. Policy makers in many countries face tensions between 'streamlining' planning procedures, engaging with diverse publics to address what is commonly conceived as 'NIMBY' (not in my back yard) opposition, and the need to maintain democratic, participatory values in planning systems. This volume provides a timely, international review of research on public engagement, in contexts of diverse, innovative energy technologies. Public engagement is conceived broadly - as the interaction between how developers and other key actors engage with publics about energy technologies (including assumptions held about the methods used, such as the provision of financial benefits or the holding of deliberative events), and how individuals and groups engage with energy policies and projects (including indirectly through the media and directly through emotional and behavioural responses). The book's contributors are leading experts in the UK, Europe, North and South America and Australia drawn from a variety of relevant social science disciplinary perspectives. The book makes a significant contribution to our existing knowledge, as well as providing interested professionals, policymakers and members of the public with a timely overview of the critical issues involved in public engagement with low carbon energy technologies.

The Renewable Revolution-Sajed Kamal 2013-05-13 Our environment and society is threatened by fuel shortages, a changing climate and energy wars. In our race for survival we are awakened to the simple truth that the essential condition of sustainability lies in our ability to live within the limits and renewability of natural resources. It invokes within us an urgent need for transition from an obsolete, destructive and unsustainable energy path to a sustainable path of innovation, renewable energy and peace. The good news is that the technology required to make this transition is already available. From an author with over thirty years' experience campaigning for and setting up renewable energy projects around the world, this book is unique for its interdisciplinary approach-interweaving technology, economics, environmental science, philosophy, history, spirituality and politics, asserting that to understand the crisis and find a sustainable solution requires a holistic perspective. Readers will understand the vast renewable resource we have at our disposal in the form of solar, wind, water, heat and biogas, and the technologies used to harness this power. There are also the emerging prospects of solar hydrogen fuel cells, biofuels and geothermal. The true economic advantages of a shift to a renewables-based economy (and how we can get there) are also laid out clearly. There's much to learn from examples around the world while we devise local and appropriate solutions. Written for a crossover readership of students, educators, professionals, academics, activists and policymakers, both nationally and internationally, this is a comprehensive but readable and practical book that will inspire readers to wake others up to our renewable solutions.

Power Hungry-Robert Bryce 2011-04-26 The promise of "green jobs" and a "clean energy future" has roused the masses. But as Robert Bryce makes clear in this provocative book, that vision needs a major re-vision. We cannot--and will not--quit using carbon-based fuels at any time in the near future for a simple reason: they provide the horsepower that we crave. The hard reality is that oil, coal, and natural gas are here to stay. Fueling our society requires that we make good decisions and smart investments based on facts. In *Power Hungry*, Bryce crushes a phalanx of energy myths, showing why renewables are not green, carbon capture and sequestration won't work, and even--surprise!--that the U.S. is leading the world in energy efficiency. *Power Hungry* delivers a clear-eyed view of what's needed to transform the gargantuan global energy sector.

Energy Democracy-Ashura Lewis 2017-10-12 The near-unanimous consensus among climate scientists is that the massive burning of gas, oil, and coal is having cataclysmic impacts on our atmosphere and climate. These climate

and environmental impacts are particularly magnified and debilitating for low-income communities and communities of color. Energy democracy tenders a response and joins the environmental and climate movement with broader movements for social and economic change in this country and around the world. Energy Democracy brings together racial, cultural, and generational perspectives to show what an alternative, democratized energy future can look like. The book will inspire others to take up the struggle to build the energy democracy movement.

Sustainable Energy-D. Elliott 2007-07-31 In this timely book, leading authors explore the technologies that might help us to develop a sustainable energy future, emphasising renewable energy and the political and economic context needed for them to prosper. This collection makes hard-headed assessments of what is possible and what is not.

Windfall-Meghan L. O'Sullivan 2017-09-12 Windfall is the boldest profile of the world's energy resources since Daniel Yergin's *The Quest*, asserting that the new energy abundance—due to oil and gas resources once deemed too expensive—is transforming the geo-political order and is boosting American power. “Riveting and comprehensive...a smart, deeply researched primer on the subject.” —The New York Times Book Review As a new administration focuses on driving American energy production, O'Sullivan's “refreshing and illuminating” (*Foreign Policy*) Windfall describes how new energy realities have profoundly affected the world of international relations and security. New technologies led to oversupplied oil markets and an emerging natural gas glut. This did more than drive down prices—it changed the structure of markets and altered the way many countries wield power and influence. America's new energy prowess has global implications. It transforms politics in Russia, Europe, China, and the Middle East. O'Sullivan considers the landscape, offering insights and presenting consequences for each region's domestic stability as energy abundance upends traditional partnerships, creating opportunities for cooperation. The advantages of this new abundance are greater than its downside for the US: it strengthens American hard and soft power. This is “a powerful argument for how America should capitalise on the ‘New Energy Abundance’” (*The Financial Times*) and an explanation of how new energy realities create a strategic environment to America's advantage.

South Africa's Energy Transition-Andrew Lawrence 2019-10-21 This book provides a succinct overview of the evolution of policies addressing energy and climate justice in South Africa. Drawing on a range of analytical perspectives, including socio-technical studies, just transitions, and critical political economy, it explains why South Africa's energy transition from a coal-dependent, centralised power generation and distribution system has been so slow, and reveals the types of socio-political inequalities that persist across regimes and energy sources. Topics explored include critical approaches to the South African state and its state-owned energy provider, Eskom; the political ecologies of coal and water; the politics of non-renewable energy alternatives; as well as the trajectory and fate of the Renewable Energy Independent Power Producers Procurement Programme (REIPPPP), the country's major renewable energy policy. The book concludes with reflections on alternative, neglected energy and development paths, suggesting how the political economy of South Africa's energy system could be further transformed for the better.

Balancing Renewable Electricity-Bert Droste-Franke 2012-02-02 An important aim behind the restructuring of Germany's and Europe's electricity systems is to reduce the environmental burden, especially with respect to greenhouse gas emissions, of the current systems. Emissions must be brought down to a level that is sustainable in the long run and consistent with greenhouse gas emission reduction goals. Meeting these goals will require a system (as best as current knowledge suggests) that will be able to cope simultaneously with the fundamental demands for economic efficiency, environmental sustainability and supply security. Making use of existing scenarios, this study sketches such a system. It focuses in particular on auxiliary systems such as energy storage methods and network extensions. The study introduces technologies that can balance electricity in energy systems and that can serve as enabling technologies for the integration of large quantities of renewable energies in the power supply system. It begins with a discussion of normative aims for the future electricity system before continuing with a description of current policies and political developments and an overview of relevant existing energy system studies. These sections serve as background for the remainder of the study. They are followed by discussion and analysis of the growing demand for means to balance the fluctuations found in electricity

generated in power systems with a high penetration of renewable energies, the potentials of diverse technologies, requirements for electrical networks, economic impacts and important legal issues. Finally, the main challenges to the achievement of developing balancing technologies and processes for renewable electricity-dominant systems are summarised and recommendations made.

Climate Crisis and the Global Green New Deal-Noam Chomsky 2020-08-18 The environmental crisis under way is unique in human history. It is a true existential crisis. Those alive today will decide the fate of humanity. Meanwhile, the leaders of the most powerful state in human history are dedicating themselves with passion to destroying the prospects for organized human life. At the same time, there is a solution at hand, which is the Green New Deal. Putting meat on the bones of the Green New Deal starts with a single simple idea- we have to absolutely stop burning fossil fuels to produce energy within the next 30 years at most; and we have to do this in a way that also supports rising living standards and expanding opportunities for working people and the poor throughout the world. This version of a Green New Deal program is, in fact, entirely realistic in terms of its purely economic and technical features. The real question is whether it is politically feasible. Chomsky and Pollin examine how we can build the political force to make a global Green New Deal a reality.

Energy in Brazil-Antônio Dias Leite 2009-09-25 Rapidly developing countries such as China and India are the real main players in the climate debate, with the potential for massive increases in their carbon emissions in coming years. Brazil is often included in their number, yet this country is in fact notable for its exceptionally high reliance on energy from renewable sources -- approaching 50%. However, the fact that much of this energy comes from hydropower and biofuels, and recent discoveries of massive oil reserves off of the Brazilian coast, are a recipe for controversy.

Renewable Energy Systems-Henrik Lund 2014-03-24 In this new edition of *Renewable Energy Systems*, globally recognized renewable energy researcher and professor, Henrik Lund, sets forth a straightforward, comprehensive methodology for comparing different energy systems' abilities to integrate fluctuating and intermittent renewable energy sources. The book does this by presenting an energy system analysis methodology. The book provides the results of more than fifteen comprehensive energy system analysis studies, examines the large-scale integration of renewable energy into the present system, and presents concrete design examples derived from a dozen renewable energy systems around the globe. *Renewable Energy Systems, Second Edition* also undertakes the socio-political realities governing the implementation of renewable energy systems by introducing a theoretical framework approach aimed at understanding how major technological changes, such as renewable energy, can be implemented at both the national and international levels. Provides an introduction to the technical design of renewable energy systems Demonstrates how to analyze the feasibility and efficiency of large-scale systems to help implementers avoid costly trial and error Addresses the socio-political challenge of implementing the shift to renewables Features a dozen extensive case studies from around the globe that provide real-world templates for new installations

Renewable Energy-David Elliott 2020-08-17 The use of renewables is spreading rapidly. Over a quarter of global electricity is already generated from solar, wind, hydro and biomass energy. With costs falling significantly, renewables are booming, helping to avoid the major climate change risks associated with fossil fuel use in power stations, homes and vehicles. But can we get rid of all of these dirty energy sources - and nuclear power, as well - and deliver 100% of our energy from renewables? Or are renewable energy systems inherently unreliable and expensive, given the need to deal with their variability? In this timely analysis, leading energy expert David Elliott tackles these issues head on and asks to what extent renewables can deliver a technologically and economically viable energy future. Exploring both the progress and problems of renewables against a backdrop of rising energy demand, he argues that, on balance, they do seem to be living up to their promises. With renewables rapidly expanding across the globe, and China now leading the pack, a renewable future could really be on the horizon.

