

Energy Transitions Global And National Perspectives 2nd Edition

Energy transitions are fundamental to achieving a zero-carbon economy. This book explains the urgently needed transition in energy systems from the perspective of the global political economy. It develops an historical, global, political and ecological account of key features of energy transitions: from their production and financing, to how they are governed and mobilised. Informed by direct engagement in projects of energy transition, the book provides an accessible account of the real-world dilemmas in accelerating transitions to a low carbon economy. As well as changes to technology, markets, institutions and behaviours, *Power Shift* shows that shifts in power relations between and within countries, and across social groups and political actors, are required if the world is to move onto a more sustainable path. Using contemporary and historical case studies to explore energy transitions, it will be of interest to students and researchers across disciplines, policymakers and activists.

This dissertation explores the functional purpose of imagination as it is enacted in the context of shaping large transitions in sociotechnical systems. Large sociotechnical systems undergoing profound transitions embody instantiations where societies experience profound changes in the 'rules of the game' that underpin the conduct of daily life. The forms of imagination that guide these transformations, known in the political theory literature as 'imaginaries,' play a profound yet

Read Free Energy Transitions Global And National Perspectives 2nd Edition

undertheorized role in transition of sociotechnical systems from one configuration to another. Expanding on this relationship, the study draws on three case studies of energy systems change in the United States during 20th and 21st century. Each case study explores unique element of how actors at a variety of levels - transnational governance, regional electrification, and in-home energy marketing - define and the possibilities for ideal human and technological action and interaction through a transition. These actors defining the parameters of a new form of systems operation and configuration are as equally focused on defining how these new configurations shape fundamental ideas that underpin American democratic sensibility. Moreover, in the process of articulating a new configuration of energy and society - be that in terms of managing global resource flows or the automation of energy use in a residential home - questions of what makes an ideal member of a society are interlinked with new contractual relationships between energy producers and energy users. Transitions research could and should pay greater attention to the normative commitments emergent systems actors -as it is in these commitments we can chart pathways to redefine the parameters that underpin emergent transitions.

Energy Transitions: Global and National Perspectives, 2nd EditionABC-CLIO

Global energy is on the cusp of change, and it has become almost a truism that energy is in transition. But what does this notion mean exactly? This book explores the working hypothesis that, characteristically, the

Read Free Energy Transitions Global And National Perspectives 2nd Edition

energy system requires a strategy of the international community of states to deliver sustainable energy to which all have access. This strategy is for establishing rules-based governance of the global energy value-cycle. The book has four substantive parts that bring together contributions of leading experts from academia and practice on the law, policy, and economics of energy. Part I, 'The prospects of energy transition', critically discusses the leading forecasts for energy and the strategies that resource-rich countries may adopt. Part II, 'Rules-based multilateral governance of the energy sector', details the development and sources of rules on energy. Part III, 'Competition and regulation in transboundary energy markets', discusses principal instruments of rules-based governance of energy. Part IV, 'Attracting investments and the challenges of multi-level governance', focuses on the critical governance of the right investments. This book is a flagship publication of the Centre for Energy, Petroleum and Mineral Law and Policy at the University of Dundee. It launches the Hart series 'Global Energy Law and Policy' and is edited by the series general editors Professors Peter D Cameron and Volker Roeben, and also Dr Xiaoyi Mu. This book presents both the importance of energy transition and its associated difficulties. Energy Transition, Second Edition, provides an explanation of the physical concepts of energy and power and also reviews global energy consumption and our dependence on energy. The book discusses the links between the economy and energy. It explains the drawbacks and dangers of different energy sources and tries to compare

Read Free Energy Transitions Global And National Perspectives 2nd Edition

them. By reviewing future energy resources, it evaluates several transition scenarios. The book shows that the laws of physics prevent the emergence of simple, pleasant solutions, but it proposes potential solutions and encourages readers to develop better processes from energy sources to production to consumption. This book will be of interest to engineers and undergraduate and graduate students studying and working in various fields of energy; producers of fossil, gas, oil, coal, electric, renewable, and nuclear energy; and anyone interested in better understanding these fundamental problems for our future. FEATURES Discusses the current issues with energy transition Covers several energy transition scenarios and their associated difficulties Presents the links between economy and energy Highlights the importance of a global discussion of energy Encourages the development of better, improved processes in energy sources from production to consumption

This open access book is an encyclopaedic analysis of the current and future energy system of the world's most populous country and second biggest economy. What happens in China impacts the planet. In the past 40 years China has achieved one of the most remarkable economic growth rates in history. Its GDP has risen by a factor of 65, enabling 850,000 people to rise out of poverty. Growth on this scale comes with consequences. China is the world's biggest consumer of primary energy and the world's biggest emitter of CO₂ emissions. Creating a prosperous and harmonious society that delivers economic growth and a high quality of life for all

Read Free Energy Transitions Global And National Perspectives 2nd Edition

will require radical change in the energy sector, and a rewiring of the economy more widely. In China's Energy Revolution in the Context of the Global Energy Transition, a team of researchers from the Development Research Center of the State Council of China and Shell International examine how China can revolutionise its supply and use of energy. They examine the entire energy system: coal, oil, gas, nuclear, renewables and new energies in production, conversion, distribution and consumption. They compare China with case studies and lessons learned in other countries. They ask which technology, policy and market mechanisms are required to support the change and they explore how international cooperation can smooth the way to an energy revolution in China and across the world. And, they create and compare scenarios on possible pathways to a future energy system that is low-carbon, affordable, secure and reliable. .

The world is currently undergoing an historic energy transition, driven by increasingly stringent decarbonisation policies and rapid advances in low-carbon technologies. The large-scale shift to low-carbon energy is disrupting the global energy system, impacting whole economies, and changing the political dynamics within and between countries. This open access book, written by leading energy scholars, examines the economic and geopolitical implications of the global energy transition, from both regional and thematic perspectives. The first part of the book addresses the geopolitical implications in the worlds main energy-producing and energy-consuming regions, while the

Read Free Energy Transitions Global And National Perspectives 2nd Edition

second presents in-depth case studies on selected issues, ranging from the geopolitics of renewable energy, to the mineral foundations of the global energy transformation, to governance issues in connection with the changing global energy order. Given its scope, the book will appeal to researchers in energy, climate change and international relations, as well as to professionals working in the energy industry.

Managing Global Warming: An Interface of Technology and Human Issues discusses the causes of global warming, the options available to solve global warming problems, and how each option can be realistically implemented. It is the first book based on scientific content that presents an overall reference on both global warming and its solutions in one volume. Containing authoritative chapters written by scientists and engineers working in the field, each chapter includes the very latest research and references on the potential impact of wind, solar, hydro, geo-engineering and other energy technologies on climate change. With this wide ranging set of topics and solutions, engineers, professors, leaders and policymakers will find this to be a valuable handbook for their research and work. Presents chapters that are accompanied by an easy reference summary Includes up-to-date options and technical solutions for global warming through color imagery Provides up-to-date information as presented by a collection of renowned global experts

This book brings together diverse contributions exploring the integration of gender equality in current national energy policies and international energy frameworks across the

Read Free Energy Transitions Global And National Perspectives 2nd Edition

Global South and North. Taking a multi-disciplinary approach, this collection contributes to building a body of independent empirical evidence about the impacts of the energy transition on socio-economic outcomes, with a focus on gender differentiated choices of energy forms. The book includes short reflections in each chapter allowing the reader to explore the content from an alternative perspective. The common thread enabling the book to actively contribute to engendering the energy transition is its approach to the topic from a primarily 'gender' driven perspective. The book draws many useful lessons from practice and shares gender mainstreaming tools for use across the Global South and the North. Such an approach brings novel insights from theoretical, methodological and practical perspectives, which further promotes cross-disciplinary learning and will be of interest to researchers and practitioners from across the Energy and Gender disciplines.

The Regulation and Policy of Latin American Energy Transitions examines the ongoing revolution within the energy landscape of Latin America. This book includes real-world examples from across the continent to demonstrate the current landscape of energy policy in Latin America. It focuses on distributed energy resources, including distributed generation, energy efficiency and microgrids, but also addresses the role of less common energy sources, such as geothermal and biogas, as well as discusses the changing role of energy actors, where consumers become prosumers or prosumagers, and utilities become service providers. The legal frameworks that are still hampering the transformation of the energy landscape are explored, together with an analysis of the economic, planning-related and social aspects of energy transitions, which can help address the issue of how inequalities are affecting and being affected by energy transitions. The book is suitable for policy makers, lawyers,

Read Free Energy Transitions Global And National Perspectives 2nd Edition

economists and social science professionals working with energy policy, as well as researchers and industry professionals in the field. It is an ideal source for anyone involved in energy policy and regulation across Latin America. Reviews key legal and policy features defining success and failure within the diverse Latin American energy transitions Provides clear descriptions and comparisons of current and potential future policy frameworks in Latin America across differing social, economic, geo-political and policy contexts Analyzes the potential role of new technologies and practices in developing the region's energy economy Poses key regulatory challenges and possible means to finance the envisioned transitions

Based on the best international and national statistical sources, the second edition of "Energy Transitions: Global and National Perspectives" supplies an in-depth evaluation of how economies and nations around the world are striving to move away from traditional energy sources, the unfolding decarbonization process, and problems with intermittent energies and national transition plans. It supplies readers with a clear introduction to the basic properties of energy systems and key concepts of their appraisal, puts energy transition patterns in long-term historical perspective, and looks at the energy transition in eight of the world's leading economies. The last chapters focus on the advances in the decarbonization of the global energy supply and consider how the energy transition will continue in the coming decades. This fully updated and substantially expanded edition addresses the many new developments affecting energy supply, such as the recent expansion of hydraulic fracturing, oil price fluctuations, the Fukushima nuclear power plant catastrophe, advances in solar and wind generation, adoption of combined cycle gas turbines, and increased availability of electric cars. The coverage highlights the

Read Free Energy Transitions Global And National Perspectives 2nd Edition

differences in the pace of transitions in various countries, thereby providing a complete and accurate picture of the current state of energy development in different parts of the world. The book serves as an invaluable resource for students as well as for anyone interested in a realistic appraisal of the current state of energy transitions in various nations and regions and the likely future development of the global energy supply.

Addressing the apparent tensions between modernity and sustainability in Southeast Asia, this book offers novel insights into the global challenge of moving towards a low carbon energy system. With an original and accessible take on social theory related to energy transitions, modernity and sustainability, Mattijs Smits argues for a reinvigorated geography of energy. He also challenges universalistic and linear assumptions about energy transitions and makes the case for 'energy trajectories', stressing embeddedness, contingency and connections between scales. Contemporary and historical empirical examples from Southeast Asia, primarily Thailand and Laos, are drawn upon to show the importance of scale at regional, national, local and household levels. The transitions in the national power sectors here have been intimately related to discourses of modernity and state formation since the colonial era. More recently, plans for international cooperation and discourses of regional power trade have taken centre stage. Local energy trajectories are understood to be part of these transitions, but also as embedded in local social, political and spatial relations. Examining how energy practices go hand-in-hand with the dissemination of different technologies, this work shows the complexities of achieving sustainability in the context of rapidly changing energy modernities in Southeast Asia. *The Role of Public Participation in Energy Transitions* provides a conceptual and empirical approach to stakeholder

Read Free Energy Transitions Global And National Perspectives 2nd Edition

and citizen involvement in the ongoing energy transition conversation, focusing on projects surrounding energy conversion and efficiency, reducing energy demand, and using new forms of renewable energy sources. Sections review and contrast different approaches to citizen involvement, discuss the challenges of inclusive participation in complex energy policymaking, and provide conceptual foundations for the empirical case studies that constitute the second part of the book. The book is a valuable resource for academics in the field of energy planning and policymaking, as well as practitioners in energy governance, energy and urban planners and participation specialists. Explains both key concepts in public participation and involvement, along with empirical results gained in implementing these concepts Links theoretical knowledge with conceptual and real-life applications in the energy sector Instructs energy planners in how to improve planning and transformation processes by using inclusive governance methods Contains insights from case studies in the fully transitioned German system that provide an empirical basis for action for energy policymakers worldwide

"Changing Energy outlines how humanity came to its current energy economy through three previous energy transitions and now stands poised for a necessary fourth one. Despite the immense benefits conferred by a global energy economy based primarily on coal, oil, gas, and uranium, societies must now rebuild their energy economies to rely as much as possible on renewable energy used efficiently. This imperative to change comes from the risks of climate change plus the dangers of geopolitical tensions, health and environmental effects, and the long-term prospects for ever depleting sources of today's energy sources. Changing Energy argues that sustainability of the benefits from energy services will come from investments made in the technologies

Read Free Energy Transitions Global And National Perspectives 2nd Edition

of the fourth transition. Perkins envisions a viable post-fossil fuel energy economy and outlines the barriers that must be resolved to reach it."--Provided by publisher.

This book analyzes the entire spectrum of energy, from conventional sources to various alternative sources.

Historically, the Sun has been viewed as the ultimate source of energy on the Earth. All forms of energy – fossil fuels and renewables alike – owe their existence to the Sun. The book also provides a historical perspective on energy policy over the years. It explains the fundamentals of energy and all related aspects using clear and straightforward language, and will serve as a reference guide for all stakeholders including policymakers, academics, students and world citizens in general.

This book explores how, in the wake of the Anthropocene, the growing call for urgent decarbonisation and accelerated energy transitions might have unintended consequences for energy poverty, justice and democracy, especially in the global South. *Dilemmas of Energy Transitions in the Global South* brings together theoretical and empirical contributions focused on rethinking energy transitions conceptually from and for the global South, and highlights issues of justice and inclusivity. It argues that while urgency is critical for energy transitions in a climate-changed world, we must be wary of conflating goals and processes, and enquire what urgency means for due process. Drawing from a range of authors with expertise spanning environmental justice, design theory, ethics of technology, conflict and gender, it examines case studies from countries including Bolivia, Sri Lanka, India, The Gambia and Lebanon in order to expand our understanding of what energy transitions are, and how just energy transitions can be done in different parts of the world. Overall, driven by a postcolonial and decolonial sensibility, this book brings to the fore new concepts and ideas to help balance the

Read Free Energy Transitions Global And National Perspectives 2nd Edition

demands of justice and urgency, to flag relevant but often overlooked issues, and to provide new pathways forward. This volume will be of great interest to students and scholars of energy transitions, environmental justice, climate change and developing countries. The Open Access version of this book, available at <https://www.taylorfrancis.com/books/oa-edit/10.4324/9781003052821> has been made available under a Creative Commons Attribution-Non Commercial-No Derivatives 4.0 license.

Completely updated edition; the big picture of how humanity can combat the climate emergency, from a leading environmental author.

Aligning global governance to the challenges of sustainability is one of the most urgent international issues to be addressed. This book is a timely and up-to-date compilation of the main pieces of the global environmental governance puzzle. *Essential Concepts of Global Environmental Governance* synthesizes writing from an internationally diverse range of well-known experts. Each entry defines a central concept in global environmental governance, presents its historical evolution and related debates, and includes key bibliographical references. This new edition takes stock of several recent developments in global environmental politics including the 2015 Paris Agreement on Climate Change, the UN Global Pact for the Environment attempt in 2017, and the 2018 Oceans Plastics Charter. More precisely, this book: offers cutting-edge analysis of the state of global environmental governance; presents an up-to-date debate on sustainable development at the global level; gives an in-depth exploration of current architecture of global environmental governance; examines the interaction between environmental politics and other policy fields such as trade, development, and security; provides a critical review of the recent global environmental governance literature. Innovative thinking and

Read Free Energy Transitions Global And National Perspectives 2nd Edition

high-profile expertise come together to create a volume that is accessible to students, scholars, and practitioners alike. The Global Carbon Cycle and Climate Change examines the global carbon cycle and the energy balance of the biosphere, following carbon and energy through increasingly complex levels of metabolism from cells to ecosystems. Utilizing scientific explanations, analyses of ecosystem functions, extensive references, and cutting-edge examples of energy flow in ecosystems, it is an essential resource to aid in understanding the scientific basis of the role played by ecological systems in climate change. This book addresses the need to understand the global carbon cycle and the interrelationships among the disciplines of biology, chemistry, and physics in a holistic perspective. The Global Carbon Cycle and Climate Change is a compendium of easily accessible, technical information that provides a clear understanding of energy flow, ecosystem dynamics, the biosphere, and climate change. "Dr. Reichle brings over four decades of research on the structure and function of forest ecosystems to bear on the existential issue of our time, climate change. Using a comprehensive review of carbon biogeochemistry as scaled from the physiology of organisms to landscape processes, his analysis provides an integrated discussion of how diverse processes at varying time and spatial scales function. The work speaks to several audiences. Too often students study their courses in a vacuum without necessarily understanding the relationships that transcend from the cellular process, to organism, to biosphere levels and exist in a dynamic atmosphere with its own processes, and spatial dimensions. This book provides the template whereupon students can be guided to see how the pieces fit together. The book is self-contained but lends itself to be amplified upon by a student or professor. The same intellectual quest would also apply for the lay reader

Read Free Energy Transitions Global And National Perspectives 2nd Edition

who seeks a broad understanding." --W.F. Harris| Deputy Assistant Director, Biological Sciences, National Science Foundation (Retired); Associate Vice Chancellor for Research, University of Tennessee, Knoxville (Retired) Provides clear explanations, examples, and data for understanding fossil fuel emissions affecting atmospheric CO₂ levels and climate change, and the role played by ecosystems in the global cycle of energy and carbon Presents a comprehensive, factually based synthesis of the global cycle of carbon in the biosphere and the underlying scientific bases Includes clear illustrations of environmental processes

This book focuses on Renewable Energy (RE) governance - the institutions, plans, policies and stakeholders that are involved in RE implementation - and the complexities and challenges associated with this much discussed energy area. Whilst RE technologies have advanced and become cheaper, governance schemes rarely support those technologies in an efficient and cost-effective way. To illustrate the problem, global case-studies delicately demonstrate successes and failures of renewable energy governance. RE here is considered from a number of perspectives: as a regional geopolitical agent, as a tool to meet national RE targets and as a promoter of local development. The book considers daring insights on RE transitions, governmental policies as well as financial tools, such as Feed-in-Tariffs; along with their inefficiencies and costs. This comprehensive probing of RE concludes with a treatment of what we call the "Mega-What" question - who is benefitting the most from RE and how society can get the best deal? After reading this book, the reader will have been in contact with all aspects of RE governance and be closer to the pulse of RE mechanisms. The reader should also be able to contribute more critically to the dialogue about RE rather than just reinforce the well-worn

Read Free Energy Transitions Global And National Perspectives 2nd Edition

adage that “RE is a good thing to happen”.

The book presents a comprehensive and systematic account of the concept, the current status and the costs of the German energy transition: the Energiewende. Written by an insider who has been working in the German energy industry for over 20 years, it follows a strictly non-political, neutral approach and clearly outlines the most relevant facts and figures. In particular, it describes the main impacts of the Energiewende on the German power system and Germany’s national economy. Furthermore, it addresses questions that are of global interest with respect to energy transitions, such as the cost to the national economy, the financial burden on private households and companies and the actual effects on CO2 emissions. The book also discusses what could have been done better in terms of planning and implementing the Energiewende, and identifies important lessons for other countries that are considering a similar energy transition. The book contains the latest studies on digitalization of transport and logistics, improving vehicle fuel efficiency, information technology and digital security, land management and cadastres, building structures, structural analysis, and energy conservation in construction. This book consists of papers presented during the XIII International Scientific Conference on Architecture and Construction 2020, which is dedicated to the 90th anniversary of Novosibirsk State University of Architecture and Civil Engineering, held on September 22–24, 2020. The book caters to researchers, scientists and industrial practitioners in the field of transportation engineering, logistics, intelligent transport systems, sustainable construction for housing and industrial buildings.

Natural gas is the world’s cleanest fossil fuel; it generates less air pollution and releases less CO2 per unit of useful energy than liquid fuels or coals. With its vast supplies of

Read Free Energy Transitions Global And National Perspectives 2nd Edition

conventional resources and nonconventional stores, the extension of long-distance gas pipelines and the recent expansion of liquefied natural gas trade, a truly global market has been created for this clean fuel. *Natural Gas: Fuel for the 21st Century* discusses the place and prospects of natural gas in modern high-energy societies. Vaclav Smil presents a systematic survey of the qualities, origins, extraction, processing and transportation of natural gas, followed by a detailed appraisal of its many preferred, traditional and potential uses, and the recent emergence of the fuel as a globally traded commodity. The unfolding diversification of sources, particularly hydraulic fracturing, and the role of natural gas in national and global energy transitions are described. The book concludes with a discussion on the advantages, risks, benefits and costs of natural gas as a leading, if not dominant, fuel of the 21st century. This interdisciplinary text will be of interest to a wide readership concerned with global energy affairs including professionals and academics in energy and environmental science, policy makers, consultants and advisors with an interest in the rapidly-changing global energy industry.

Abstract: Since the 2011 Fukushima nuclear disaster, energy policy in Japan and Germany appears to have taken radically different directions. In contrast to Germany's consensus for an *Energiewende* ("energy transition"), Japan has renewed its political support for nuclear power. Yet, energy transitions in both countries are highly contested - with a much less predictable future than government plans would like us to believe. Japan has always connected energy self-sufficiency with national security due to its lack of natural resources and its isolated - as well as fragmented - national electricity grid. In contrast, Germany has a single grid, can trade electricity with its neighbours, and has large coal reserves. In Japan, nuclear power became a quasi "home-grown" energy source

Read Free Energy Transitions Global And National Perspectives 2nd Edition

without strong opposition, while in Germany it has been increasingly contested by the "coal lobby," wind power, and the public. When the Fukushima disaster happened, both countries generated about 30 per cent of their e

This book provides a detailed, global examination of energy transitions, supplying a long-term historical perspective, an up-to-date assessment of recent and near-term advances in energy production technology and implementation, and an explanation of why efforts to limit global warming and to shift away from fossil fuels have been gradual. • Presents historical coverage of energy production, energy use, and key technical and economic factors that affect the currently unfolding transitions • Offers insightful analysis of energy transitions on both the national and global scale to explain the possibilities and limitations of the process • Supplies a critical appraisal of new renewable conversions that makes clear their advantages and potential benefits as well as their inherent unavoidable limitations • Enables general readers to gain an in-depth understanding of energy transitions from the perspective of an acclaimed scientist with expertise in the fields of energy, environmental and population change, technical innovation, and public policy

Reaching Net Zero: What It Takes to Solve the Global Climate Crisis addresses the imminent need to fully understand the causes, effects, and evidence of global warming; due to the large amount of climate disinformation and complexity of much of the available valid science, this book addresses the science of global warming in a concise, readable manner while providing an in-depth reference for readers who want more details or to study the sources of information. This book also investigates potential practical next steps of interest to concerned scientists, engineers, and citizens, with an aim to further discuss and achieve the eventual Intergovernmental Panel on Climate Change (IPCC)

Read Free Energy Transitions Global And National Perspectives 2nd Edition

'Net Zero' goals. Solving the problem of reaching net zero requires educating others to support the changes that must occur and to provide the possible solutions required. This is a necessary read for academics in climate and environmental science, and specialists such as those in earth science or environmental studies, covering the science, technology, economics, politics, international, and other issues involved in doing something about global warming. It is also important for those interested in global warming and anyone involved in decision-making processes and legislation that deal with reduction in carbon footprints. Provides in-depth discussion of understanding the problem of global warming, with clear explanations of the science behind global warming and climate change Features case studies of successes and failures in reducing carbon footprints, with advised potential solutions for reaching net zero Takes a realistic approach to the problems and solutions of global warming in light of all available evidence across multiple disciplines

This book explores current developments in the African energy sector and highlights how these are likely to be affected by the ongoing global efforts to transition to a low-carbon economy. It analyses the legal, regulatory and policy frameworks at the national and regional level as they relate to Energy transition in Africa and discusses how regionalism is increasingly utilized to tackle energy access and climate change challenges. Using case studies from across the continent, several key thematic issues, including gender justice, social license to operate, local content and conflict of energy laws are covered in detail. The authors also uniquely examine the progressive nature of global energy use and introduce the new concept of 'Energy Progression.' This book will be an invaluable reference for researchers and policymakers looking for a comprehensive overview of the field.

Read Free Energy Transitions Global And National Perspectives 2nd Edition

Auch wenn die Dringlichkeit einer sozial-ökologischen Transformation zur Nachhaltigkeit längst von praktisch allen Seiten anerkannt wird - moderne Gesellschaften verteidigen ihren Wohlstand und Lebensstil entschiedener denn je. Beharrlich wird eine sozial und ökologisch zerstörerische Politik der Nicht-Nachhaltigkeit betrieben. Die Konjunktur des Rechtspopulismus signalisiert, wie sehr das ökologisch-demokratische Projekt vergangener Jahrzehnte brüchig geworden ist. Und die Corona-Pandemie verschiebt die Prioritäten erneut in Richtung Wachstumspolitik und Konsumstimulation. Dieser Band stellt grundlegende Annahmen der Nachhaltigkeitsforschung und Umweltsoziologie in Frage. Er skizziert neue sozialwissenschaftliche Forschungsperspektiven, um die eigenartige Fortdauer der Nicht-Nachhaltigkeit zu erhellen. This book collects and summarizes current scientific knowledge concerning coal-mined landscapes of the Appalachian region in eastern United States. Containing contributions from authors across disciplines, the book addresses topics relevant to the region's coal-mining history and its future; its human communities; and the soils, waters, plants, wildlife, and human-use potentials of Appalachia's coal-mined landscapes. The book provides a comprehensive overview of coal mining's legacy in Appalachia, USA. It book describes the resources of the Appalachian coalfield, its lands and waters, and its human communities – as they have been left in the aftermath of intensive mining, drawing upon peer-reviewed science and other regional data to provide clear and objective descriptions. By understanding the Appalachian experience, officials and planners in other resource extraction- affected world regions can gain knowledge and perspectives that will aid their own efforts to plan and manage for environmental quality and for human welfare. Appalachia's Coal-Mined Landscapes: Resources and Communities in a

Read Free Energy Transitions Global And National Perspectives 2nd Edition

New Energy Era will be of use to natural resource managers and scientists within Appalachia and in other world regions experiencing widespread mining, researchers with interest in the region's disturbance legacy, and economic and community planners concerned with Appalachia's future. In diesem dringenden, maßgeblichen Buch legt Bill Gates einen weitreichenden, praktischen - und zugänglichen - Plan dafür vor, wie die Welt die Treibhausgasemissionen rechtzeitig auf Null senken kann, um eine Klimakatastrophe zu verhindern. Seit einem Jahrzehnt untersucht Bill Gates die Ursachen und Auswirkungen des Klimawandels. Mithilfe von Experten aus Physik, Chemie, Biologie, Ingenieurwesen, Politikwissenschaft und Finanzwesen hat er sich auf das konzentriert, was getan werden muss, um die unserem Planeten bevorstehende Umweltkatastrophe zu verhindern. In diesem Buch erklärt er nicht nur, warum wir auf eine Netto-Null-Emission der Treibhausgase hinarbeiten müssen, sondern erläutert auch, was wir konkret tun müssen, um dieses überaus wichtige Ziel zu erreichen. Mit klarem Blick beschreibt er die Herausforderungen, vor denen wir stehen. Ausgehend von seinem Verständnis von Innovation und dem, was nötig ist, um neue Ideen auf den Markt zu bringen, beschreibt er die Bereiche, in denen die Technologie bereits zur Emissionsreduzierung beiträgt, wo und wie die aktuelle Technologie effektiver gestaltet werden kann, wo bahnbrechende Technologien benötigt werden und wer an diesen wesentlichen Innovationen arbeitet. Abschließend legt er einen konkreten, praktischen Plan zur Erreichung des Ziels vor, hinsichtlich der Emissionen auf Null zu kommen. Er schlägt nicht nur politische Maßnahmen vor, die Regierungen ergreifen sollten, sondern auch, was wir als Einzelne tun können, um unsere Regierung, unsere Arbeitgeber und uns selbst in diesem entscheidenden Unterfangen zur Verantwortung zu ziehen. Wie Bill Gates deutlich macht, wird

Read Free Energy Transitions Global And National Perspectives 2nd Edition

das Ziel von null Emissionen nicht einfach oder leicht zu erreichen sein, aber wenn wir den von ihm hier dargelegten Plan befolgen, ist es ein Ziel, das durchaus in unserer Reichweite liegt.

'The author leavens his discussion of a transition to a sustainable energy mix with the views of three prominent energy experts; following this is an introduction to 'Goldilocks policy' and a detailed discussion of its obstacles. The author stresses the importance of factoring in capacity, cost, safety, reliability, and environmental effects in developing a sustainable energy policy.'

CHOICE This book makes the case for a grand energy bargain that recognizes the need to protect the environment from the combustion of fossil fuels while protecting the national and global economies during the transition from fossil fuels to sustainable energy. Our future energy mix depends on choices we make, which depends, in turn, on energy policy. Society is continuing a trend toward decarbonization: the reduction in the relative amount of carbon in combustible fuels. The 21st century energy mix will depend on technological advances, including some advances that cannot be anticipated, and on choices made by society. There are competing visions for reaching a sustainable energy mix. If the energy transition is too fast, it could significantly damage the global economy. If the energy transition is too slow, damage to the environment could be irreversible. The 'Goldilocks Policy for Energy Transition' is designed to establish a middle ground between these competing visions. We need the duration of the energy transition to be just right; we need to adopt a reasonable plan of action that reduces uncertainty for businesses and innovators with predictable public policy while simultaneously minimizing environmental impact. The question of climate change is still unsettled, but enough is known to motivate a transition away from fossil fuels. The transition does not have

Read Free Energy Transitions Global And National Perspectives 2nd Edition

to be abrupt and catastrophic, however. Historical energy transitions can be a guide to a reasonable duration for making an orderly transition. If we exercise discipline and patience, we can overcome the obstacles to successful implementation of a grand energy bargain.

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 climate solutions depend on low-carbon energy transitions in developing countries, but little is known about how those will unfold. Examining the transitions of Brazil and South Africa, Hochstetler reveals how choices about wind and solar power respond to four different constellations of interests and institutions, or four simultaneous political economies of energy transition. The political economy of climate change set Brazil and South Africa on different tracks, with South Africa's coal-based electricity system fighting against an existential threat. Since deforestation dominates Brazil's climate emissions, climate concerns were secondary there for electricity planning. Both saw significant mobilization around industrial policy and cost and consumption issues, showing the importance of economic considerations for electricity choices in emerging economies. Host communities resisted Brazilian wind power, but accepted other forms. Hochstetler argues that national energy transition finally depends on the intersection of these political economies, with South Africa illustrating a politicized transition mode and Brazil presenting a bureaucracy-dominant one.

The world is at a pivotal crossroad in energy choices. There is a strong sense that our use of energy must be more sustainable. Moreover, many also broadly agree that a way must be found to rely increasingly on lower carbon energy sources. However, no single or clear solution exists on the

Read Free Energy Transitions Global And National Perspectives 2nd Edition

means to carry out such a shift at either a national or international level. Traditional energy planning (when done) has revolved around limited cost projections that often fail to take longer term evidence and interactions of a wider set of factors into account. The good news is that evidence does exist on such change in case studies of different nations shifting toward low-carbon energy approaches. In fact, such shifts can occur quite quickly at times, alongside industrial and societal advance, innovation, and policy learning. These types of insights will be important for informing energy debates and decision-making going forward. *Low Carbon Energy Transitions: Turning Points in National Policy and Innovation* takes an in-depth look at four energy transitions that have occurred since the global oil crisis of 1973: Brazilian biofuels, Danish wind power, French nuclear power, and Icelandic geothermal energy. With these cases, Dr. Arajo argues that significant nationwide shifts to low-carbon energy can occur in under fifteen years, and that technological complexity is not necessarily a major impediment to such shifts. Dr. Arajo draws on more than five years of research, and interviews with over 120 different scientists, government workers, academics, and members of civil society in completing this study. *Low Carbon Energy Transitions* is written for for professionals in energy, the environment and policy as well as for students and citizens who are interested in critical decisions about energy sustainability. Technology briefings are provided for each of the major technologies in this book, so that scientific and non-scientific readers can engage in more even discussions about the choices that are involved.

Reviews the latest advances in biofuel manufacturing technologies and discusses the deployment of other renewable energy for transportation Aimed at providing an interface useful to business and scientific managers, this

Read Free Energy Transitions Global And National Perspectives 2nd Edition

book focuses on the key challenges that still impede the realization of the billion-ton renewable fuels vision. It places great emphasis on a global view of the topic, reviewing deployment and green energy technology in different countries across Africa, Asia, South America, the EU, and the USA. It also integrates scientific, technological, and business development perspectives to highlight the key developments that are necessary for the global replacement of fossil fuels with green energy solutions. Green Energy to Sustainability: Strategies for Global Industries examines the most recent developments in biofuel manufacturing technologies in light of business, financial, value chain, and supply chain concerns. It also covers the use of other renewable energy sources like solar energy for transportation and proposes a view of the challenges over the next two to five decades, and how these will deeply modify the industrial world in the third millennium. The coming of age of electric vehicles is also looked at, as is the impact of their deployment on the biomass to biofuels value chain. Offers extensive updates on the field of green energy for global industries Covers the structure of the energy business; chemicals and diesel from biomass; ethanol and butanol; hydrogen and methane; and more Provides an expanded focus on the next generation of energy technologies Reviews the latest advances in biofuel manufacturing technologies Integrates scientific, technological and business perspectives Highlights important developments needed for replacing fossil fuels with green energy Green Energy to Sustainability: Strategies for Global Industries will appeal to academic researchers working on the production of fuels from renewable feedstocks and those working in green and sustainable chemistry, and chemical/process engineering. It is also an excellent textbook for courses in bioprocessing technology, renewable resources, green energy, and sustainable chemistry.

Read Free Energy Transitions Global And National Perspectives 2nd Edition

This bold and controversial argument shows why energy transitions are inherently complex and prolonged affairs, and how ignoring this fact raises unrealistic expectations that the United States and other global economies can be weaned quickly from a primary dependency on fossil fuels. * Includes case studies of energy transitions in eight nations * Presents graphs of energy transitions on global and national scales, showing both common features and idiosyncratic patterns * Features photographs of the containment vessel of America's first nuclear reactor and of a stationary gas turbine * Provides a thorough bibliography

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.

Read Free Energy Transitions Global And National Perspectives 2nd Edition

An understanding of the role of energy-related governance systems and the conditions required for a shift towards renewables in developing countries is urgently needed in order to tap into the global potential of low-carbon development. Although renewable energy sources have become technically feasible and economically viable, social and political factors continue to persist as the most critical obstacles for their dissemination. *How Power Shapes Energy Transitions in Southeast Asia* conceptualizes power for the field of sustainable energy governance. Based on empirical findings from the Philippines and Indonesia, the book develops an analytical approach that incorporates power theory into a multi-level governance framework. The book begins with a profound background on renewable energy development around the world and presents major trends in development cooperation. A power-based multi-level governance approach is introduced that is rooted in development thinking. Examining how coordination and power relations shape the development and dissemination of renewable energy technologies, the book also shows how decentralization affects low carbon development in emerging economies. Sparking debate on the ways in which energy transitions can be triggered and sustained in developing countries, this book will be of great interest to students and scholars of renewable energy development and environmental politics and governance as well as practitioners in development cooperation.

Electrification: Accelerating the Energy Transition offers a widely applicable framework to delineate context-sensitive pathways by which this transition can be accelerated and lists the types of processes and structures that may hinder progress towards this goal. The framework draws insights from well-established literature, ranging from technological studies to socio-technical studies of energy transitions, on to

Read Free Energy Transitions Global And National Perspectives 2nd Edition

strategic niche management approaches, (international) political economy approaches, and institutionalist literatures, while also adopting wider social theoretical ideas from structuration theory. Contributors discuss a multitude of case studies drawn from global examples of electrification projects. Brief case studies and text boxes help users further understand this domain and the technological, infrastructural and societal structures that may exercise significant powers. Proposes a globally applicable, inclusive framework linking together several literatures of energy transition research (ranging from the social sciences to law and engineering) Assesses the regional and national applicability of solutions, covering the societal structures and interests that shape the prospects of their implementation Extends the analysis from technological and infrastructural solutions to the policies required to accelerate transition Introduces several country level case studies, thus demonstrating how to harness niches of innovation, kick-start the adoption of a solution, and make it mainstream

[Copyright: cf4f10103f9879e4f2c8c31722525b01](https://www.pdfdrive.com/energy-transitions-global-and-national-perspectives-2nd-edition-ebook.html)