

Bp Energy Outlook 2017 Bp Global

This Handbook is the first volume to comprehensively analyse and problem-solve how to manage the decline of fossil fuels as the world tackles climate change and shifts towards a low-carbon energy transition. The overall findings are straight-forward and unsurprising: although fossil fuels have powered the industrialisation of many nations and improved the lives of hundreds of millions of people, another century dominated by fossil fuels would be disastrous. Fossil fuels and associated greenhouse gas emissions must be reduced to a level that avoids rising temperatures and rising risks in support of a just and sustainable energy transition. Divided into four sections and 25 contributions from global leading experts, the chapters span a wide range of energy technologies and sources including fossil fuels, carbon mitigation options, renewables, low carbon energy, energy storage, electric vehicles and energy sectors (electricity, heat and transport). They cover varied legal jurisdictions and multiple governance approaches encompassing multi- and interdisciplinary technological, environmental, social, economic, political, legal and policy perspectives with timely case studies from Africa, Asia, Australia, Europe, North America, South America and the Pacific. Providing an insightful contribution to the

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literature and a much-needed synthesis of the field as a whole, this book will have great appeal to decision makers, practitioners, students and scholars in the field of energy transition studies seeking a comprehensive understanding of the opportunities and challenges in managing the decline of fossil fuels.

A truly comprehensive introduction to the topic, *Understanding Sustainable Development* is designed to give students on a wide range of courses an appreciation of the key concepts and theories of sustainable development. Fully updated, the third edition includes detailed coverage of the Sustainable Development Goals and their impact on global development. Major challenges and topics are explored through a range of international case studies and media examples which maintain the 'global to local' structure of the previous edition. With an extensive website and pedagogy, *Understanding Sustainable Development* is the most complete guide to the subject for course leaders, undergraduates and postgraduates.

Energy and Climate Change: An Introduction to Geological Controls, Interventions and Mitigations examines the Earth system science context of the formation and use of fossil fuel resources, and the implications for climate change. It also examines the historical and economic trends of fossil fuel usage and the ways in which these have begun to affect

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the natural system (i.e., the start of the Anthropocene). Finally, the book examines the effects we might expect in the future looking at evidence from the "deep time" past, and looks at ways to mitigate climate change by using negative emissions technology (e.g. bioenergy and carbon capture and storage, BECCS), but also by adapting to perhaps a higher than "two degree world," particularly in the most vulnerable, developing countries. Energy and Climate Change is an essential resource for geoscientists, climate scientists, environmental scientists, and students; as well as policy makers, energy professionals, energy statisticians, energy historians and economists. Provides an overarching narrative linking Earth system science with an integrated approach to energy and climate change Includes a unique breadth of coverage from modern to "deep time" climate change; from resource geology to economics; from climate change mitigation to adaptation; and from the industrial revolution to the Anthropocene Readable, accessible, and well-illustrated, giving the reader a clear overview of the topic

Discover foundational topics in smart grid technology as well as an exploration of the current and future state of the industry As the relationship between fossil fuel use and climate change becomes ever clearer, the search is on for reliable, renewable and

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less harmful sources of energy. Sometimes called the electronet or the energy Internet, smart grids promise to integrate renewable energy, information, and communication technologies with the existing electrical grid and deliver electricity more efficiently and reliably. *Smart Grid and Enabling Technologies* delivers a complete vision of smart grid technology and applications, including foundational and fundamental technologies, the technology that enables smart grids, the current state of the industry, and future trends in smart energy. The book offers readers thorough discussions of modern smart grid technology, including advanced metering infrastructure, net zero energy buildings, and communication, data management, and networks in smart grids. The accomplished authors also discuss critical challenges and barriers facing the smart grid industry as well as trends likely to be of import in its future development. Readers will also benefit from the inclusion of: A thorough introduction to smart grid architecture, including traditional grids, the fundamentals of electric power, definitions and classifications of smart grids, and the components of smart grid technology An exploration of the opportunities and challenges posed by renewable energy integration Practical discussions of power electronics in the smart grid, including power electronics converters for distributed generation, flexible alternating current transmission systems,

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and high voltage direct current transmission systems. An analysis of distributed generation. Perfect for scientists, researchers, engineers, graduate students, and senior undergraduate students studying and working with electrical power systems and communication systems. Smart Grid and Enabling Technologies will also earn a place in the libraries of economists, government planners and regulators, policy makers, and energy stakeholders working in the smart grid field.

Conventional Energy in North America: Current and Future Sources for Electricity Generation provides in-depth information on the current state of conventional energy sources used for electricity generation in the United States and Canada. As energy is a major force of civilization, determining, to a high degree, the level of economic and social development, this book provides relevant information and a deep analysis regarding the main problems associated with the use of fossil fuels for the generation of electricity in both countries. Finally, the book offers guidance for countries seeking to expand their use of conventional energy sources for electricity generation. Users in government, energy experts, economists, politicians, academics, scientific institutions and universities, international organizations and the private and public power industry will find this book to be a great reference on what type of conventional energy sources should be

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used for electricity generation with the aim of reducing the emission of CO₂ and other contaminated gases to the atmosphere. Includes comprehensive information on the different types of conventional energy sources available in the USA and Canada, including their impact on climate, level of energy reserves, and levels of production and consumption Covers the pros and cons of each type of conventional energy source for electricity generation Features an analysis of what types of conventional energy sources should be used for future electricity generation in the USA and Canada, with the aim of reducing the emission of CO₂ and other contaminated gas to the atmosphere Showcasing recent developments in inorganic materials in an area of societal interest and importance, this book provides an up-to-date introduction to the contemporary use of functional solids in emerging technologies. Energy Storage and Conversion Materials describes the application of inorganic materials in the storage and conversion of energy, with an emphasis on how solid-state chemistry allows development of new functional solids for energy applications. Dedicated chapters cover co-electrolysis, low temperature fuel cells, oxide thermoelectric devices for energy conversion, solid-state Li batteries and thermochemical energy conversion. Edited and written by world-renowned scientists, this book will provide a comprehensive

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introduction for advanced undergraduates, postgraduates and researchers wishing to learn about the topic.

This book will guide Photovoltaics researchers in a new way of thinking about harvesting light energy from all wavelengths of the solar spectrum. It closes the gap between general solar cells books and photovoltaics journal articles, by focusing on the latest developments in our understanding of solid-state device physics. The material presented is experimental and based on II-VI thin-film materials, mainly CdTe-based solar cells. The authors describe the use of new device design, based on multilayer graded bandgap configuration, using CdTe-based solar cells. The authors also explain how the photo-generated currents can be enhanced using multi-step charge carrier production. The possibility of fabricating these devices using low-cost and scalable electroplating is demonstrated. The value of electroplating for large area electronic devices such as PV solar panels, display devices and nanotechnology devices are also demonstrated. By enabling new understanding of the engineering of electroplated semiconductor materials and providing an overview of the semiconductor physics and technology, this practical book is ideal to guide researchers, engineers, and manufacturers on future solar cell device designs and fabrications. Discusses in detail the processes of growths, treatments, solar

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cell device fabrication and solid state physics, improving readers' understanding of fundamental solid state physics; Enables future improvements in CdTe-based device efficiency; Explains the significance of defects in deposited semiconductor materials and interfaces that affect the material properties and resulting device performance.

The global energy scene is in a state of flux. Large-scale shifts include: the rapid deployment and steep declines in the costs of major renewable energy technologies; the growing importance of electricity in energy use across the globe; profound changes in China's economy and energy policy, moving consumption away from coal; and the continued surge in shale gas and tight oil production in the United States. These changes provide the backdrop for the World Energy Outlook-2017, which includes a full update of energy demand and supply projections to 2040 based on different scenarios. The projections are accompanied by detailed analyses of their impact on energy industries and investment, as well as implications for energy security and the environment. The report this year includes a focus on China, which examines how China's choices could reshape the global outlook for all fuels and technologies. A second focus, on natural gas, explores how the rise of shale gas and LNG are changing the global gas market as well as the opportunities and risks for gas in the transition to a

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cleaner energy system. Finally, the WEO-2017 introduces a major new scenario -the Sustainable Development Scenario -that outlines an integrated approach to achieving internationally agreed objectives on climate change, air quality and universal access to modern energy.

This Handbook provides a comprehensive overview of local governance in China, and offers original analysis of key factors underpinning trends in this field drawing on the expertise of scholars both inside and outside China. It explores and analyzes the dynamic interaction and collaboration among multiple governmental and non-governmental actors and social sectors with an interest in the conduct of public affairs to address horizontal challenges faced by the local government, society, economy, and civil community and considers key issues such as governance in urban and rural areas, the impact of technology on governance and related issues of education, healthcare, environment and energy. As the result of a global and interdisciplinary collaboration of leading experts, this Handbook offers a cutting-edge insight into the characteristics, challenges and trends of local governance and emphasizes the promotion of good governance and democratic development in China.

Do you want to Live the Dream? The state of believing that your life is at the pinnacle and you possess everything you could want. Of course, you

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do! Who doesn't? The good news is that anyone can live life at the zenith if they are willing to do a few unconventional things. A polymath and serial experimenter, *Live the Dream*, unpacks the author's secrets to a happy and fulfilled life. Be prepared for a wild thrilling ride, meandering through a wide array of subjects including behavioural and positive psychology, personal development, sports science, philosophy, history, technology and alternative medicine/therapies. Can you get rich from reading? Why is wine tasting good for you? Is it possible to acquire any skill and if so, how long does it take? Is meditation the panacea that it is made out to be? And what about the new craze of intermittent fasting? Can you reduce your weight, reverse diabetes and become smarter by regularly starving yourself? Why is nutrition controversial? What does it take to lift four times your body weight? Can you build a six-pack body with just six exercises – done twice a week? What is the best sport to raise your heart-rate? Should you do genetic testing like Angelina Jolie did? Can you find love using personality tests? What is your personality? What is the one thing you can do, instantly, to create two hours in your day? What is the most important skill of the future? Are malls bad? How do you achieve optimal experience? What aspect of our happiness can we control? *Live the Dream* answers all these questions and more. If you read and apply the

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wisdom contained in the book, the author guarantees that you will become fitter, smarter, more productive and less bored. You will join the club of those living at the zenith, those living the dream. The Harvard professor argues that fears of energy scarcity have resulted in energy abundance, and describes how new energy realities create a strategic environment to Americas advantage. This book assesses the impact of energy transitions on the future of natural gas in the EU energy mix. As we approach 2050, the requirement to sharply decrease CO₂ and other GHG emissions means that the role of gas infrastructure in the EU and beyond will change drastically. But what does such change mean? To address this question the author critically analyses the EU's evolving natural gas market policy and law. Clearly structured throughout, the book explores the following questions: How can we maximise the potential of gas infrastructure to reduce carbon emissions? What are the lessons learned from decision making experience in the natural gas sector? Is the EU moving towards or away from a climate neutral gas sector? How will green and low carbon gas technologies be supported? And, are proposals to drive a growing share of hydrogen, biomethane, and synthetic methane to the system just an excuse to prolong fossil fuel operations? The book explores whether the EU will continue to subsidy natural gas projects

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or decarbonise the gas grid before 2050, and at what cost. Recommendations are proposed for a new regulatory and policy framework for development and operation of hydrogen pipelines, injection of biomethane into the existing gas grid and for pipelines carrying CO₂. Filling an important gap in the literature, this book aims to develop an understanding of and clarify the complex range of legislation involved within a single analytical framework. Although the focus is mainly on the future of gas in the EU, the findings and recommendations are relevant for a much wider geography. This book will be an invaluable reference to policy makers and practitioners as well as researchers and students across the social sciences interested in the future of energy.

This book discusses recent trends and developments in the microbial conversion process, which serves as an important route for biofuel production, with particular attention to bioreactors. It combines microbial conversion with multiphase flow and mass transfer, providing an alternative perspective for the understanding of microbial biomass and energy production process as well as enhancement strategy. This book is relevant to students and researchers who work in the fields of renewable energy, engineering and biotechnology. Policymakers, economists and industry engineers also benefit from this book, as it can be used as a

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resource for the implementation of renewable energy technologies.

This book presents essential information for the development of a comprehensive sustainable energy policy. It examines the diverse types of energy, their resource abundance and the material needs to develop and use them, and how communities and cities can better control their own destinies by locally managing energy use and generation. This approach does not suggest the undoing of existing infrastructures and energy providers, but rather a cooperative transition from national-regional energy management to a more local-centered system. The information is the foundation for eight specific legislative initiatives necessary for a national comprehensive sustainable policy that can both facilitate and drive the process of evolution from a carbon-energy economy to a sustainable renewable energy future.

Like all investors, sustainable investors juggle various motivations: improving investment performance, achieving an economic or a societal outcome, and investing in ways consistent with their values/beliefs. The challenge for sustainable investment professionals is to understand their clients' motivations and then shape their expectations and investment strategy accordingly. Given this range of motivations and the diversity of environmental, social, and governance systems, it

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should not be surprising that there are many ways to approach investing sustainably.

In the wake of the Brexit vote and the election of Donald Trump, globalization has found itself increasingly under the microscope. An active international discussion is underway, and the ideological viewpoint that the reversal of globalization and a return to protectionism and isolation will cure the world's ills is touted by many. In the midst of the growing prominence of international interconnectivity and contradicting attention attained by skewed misinformation about global impact, *Global Business* is a straightforward commentary on mega trends in globalization. With insights and observations from academics, practitioners, and practical thinkers from around the world *Global Business* demystifies the economic, social, and cultural impacts of globalism and globalization, and presents a balanced explanation of what is happening and how it affects everyone. It highlights that technology and change are not new, and explores the path taken to reach our current interconnected global state. It encourages a realistic examination of where we are and invites a dialogue on where we can go together.

Renewable energy (RE) is a subject of great interest today. It is one of the two main means for implementing climate change mitigation programmes, and presently the only perceived

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means for replacing the declining global fossil fuel reserves. It also helps fight poverty and assists in the global quest for gender equity by taking clean energy where it is needed most for development. It is perhaps not surprising therefore that there is so much coverage of RE in both the conventional media and the internet by media and tech writers, economists and bloggers, many of who only have a partial understanding of the technology itself. The end result is mostly promotional rhetoric that says little about the true value of the technology, and leads to a confused picture for the serious individual or decision-maker who wants to know what the technology is really capable of doing. This book provides a clear and factual picture of the status of RE and its capabilities today. The need for such a book was first realized by the author when he was engaged in a renewable energy capacity-building project encompassing countries from Europe, the Caribbean, Africa, and the Pacific. The book is largely non-technical in nature; it does however contain enough mention of the science and technology to enable readers to go further with their own investigations should they wish to. The book covers all areas of renewable energy (RE), starting from biomass energy and hydropower and proceeding to wind, solar and geothermal energy before ending with an overview of ocean energy. It begins with a simple introduction to the physical

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principles of the RE technologies, followed by an enumeration of the requirements for their successful implementation. The last two chapters consider how the technologies are actually being implemented today and their roles in climate change mitigation and poverty alleviation.

The World Energy Outlook series is a leading source of strategic insight on the future of energy and energy-related emissions, providing detailed scenarios that map out the consequences of different energy policy and investment choices. This year's edition updates the outlooks for all fuels, technologies and regions, based on the latest market data, policy initiatives and cost trends. In addition, the 2019 report tackles some key questions in depth: (i) What do the shale revolution, the rise of liquefied natural gas, the falling costs of renewables and the spread of digital technologies mean for tomorrow's energy supply?; (ii) How can the world get on a pathway to meet global climate targets and other sustainable energy goals?; (iii) What are the energy choices that will shape Africa's future, and how might the rise of the African consumer affect global trends?; (iv) How large a role could offshore wind play in the transformation of the energy sector?; (v) Could the world's gas grids one day deliver low-carbon energy?

Nanobiotechnology for Sustainable Bioenergy and Biofuel Production provides insights into the most

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recent innovations, trends, concerns and challenges in the production of biofuels. This book highlights a number of key research topics and practical applications of modern nanomaterials and nanocomposite-driven enzyme biotechnology for biofuels production, including the advances in the nanoscaffolds design (nanomaterials support) for immobilizing bioenergy producing enzymes (nanobiocatalyst system), the recent trends in biomass processing (untreated/treated agriculture and food waste, grasses, algal, etc.) using advanced nanobiocatalysts for biofuels production and the scale-up study of bioenergy production using nanomaterials immobilized enzymes and biofuel harvesting using nanomaterials. At the outset of new nanobiotechnology applications in biofuel production, there is a need for a new resource in the bioenergy field. This book delivers an overview of the contributions of biofuel production and the most up-to-date advances in nanobiotechnology to a diverse audience ranging from post-graduate students to researchers in biochemical engineering, biotechnology, bioremediation and environmental studies and pharmaceutical professionals. Key Features • Outlines the most recent nanobiotechnological advances in biofuels and bioenergy for biofuels productions • Covers biodiesel, bioethanol, biomethane, biohydrogen, biorefineries and biofuel harvesting using

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nanomaterials • Explains the scale-up nanobiotechnological study of biofuel production at the bioreactor level

Due to the influence of pore-throat size distribution, pore connectivity, and microscale fractures, the transport, distribution, and residual saturation of fluids in porous media are difficult to characterize. Petrophysical methods in natural porous media have attracted great attention in a variety of fields, especially in the oil and gas industry. A wide range of research studies have been conducted on the characterization of porous media covers and multiphase flow therein. Reliable approaches for characterizing microstructure and multiphase flow in porous media are crucial in many fields, including the characterization of residual water or oil in hydrocarbon reservoirs and the long-term storage of supercritical CO₂ in geological formations. This book gathers together 15 recent works to emphasize fundamental innovations in the field and novel applications of petrophysics in unconventional reservoirs, including experimental studies, numerical modeling (fractal approach), and multiphase flow modeling/simulations. The relevant stakeholders of this book are authorities and service companies working in the petroleum, subsurface water resources, air and water pollution, environmental, and biomaterial sectors.

A comprehensive review of the current status and

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challenges for natural gas and shale gas production, treatment and monetization technologies Natural Gas Processing from Midstream to Downstream presents an international perspective on the production and monetization of shale gas and natural gas. The authors review techno-economic assessments of the midstream and downstream natural gas processing technologies.

Comprehensive in scope, the text offers insight into the current status and the challenges facing the advancement of the midstream natural gas treatments. Treatments covered include gas sweetening processes, sulfur recovery units, gas dehydration and natural gas pipeline transportation. The authors highlight the downstream processes including physical treatment and chemical conversion of both direct and indirect conversion. The book also contains an important overview of natural gas monetization processes and the potential for shale gas to play a role in the future of the energy market, specifically for the production of ultra-clean fuels and value-added chemicals. This vital resource: Provides fundamental chemical engineering aspects of natural gas technologies Covers topics related to upstream, midstream and downstream natural gas treatment and processing Contains well-integrated coverage of several technologies and processes for treatment and production of natural gas Highlights the economic

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factors and risks facing the monetization technologies Discusses supply chain, environmental and safety issues associated with the emerging shale gas industry Identifies future trends in educational and research opportunities, directions and emerging opportunities in natural gas monetization Includes contributions from leading researchers in academia and industry Written for Industrial scientists, academic researchers and government agencies working on developing and sustaining state-of-the-art technologies in gas and fuels production and processing, Natural Gas Processing from Midstream to Downstream provides a broad overview of the current status and challenges for natural gas production, treatment and monetization technologies.

Petroleum Resource Management offers a thought-provoking examination of how countries manage their offshore petroleum resources by comparing the different approaches to licensing and regulation taken by Australia, Norway and the UK. Based on extensive research into their policies, licensing systems and resource management regulations, including interviews with government regulators and companies, John Chandler explores how these countries all face similar challenges as their offshore petroleum basins mature, including smaller discoveries, marginal production and ageing infrastructure. Identifying further challenges such as

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climate change and the increasing accountability in relation to sustainability and social issues, Chandler analyses how their petroleum policy, systems of regulation, and regulators developed up to the present, and how they are responding to these challenges, as well as how they deal with exploration, development, infrastructure sharing, and production. This timely and informative book will be essential reading for those in petroleum policy and governance, including petroleum lawyers, government officials, regulators and analysts. Academics and students on courses relating to petroleum regulation and the governance of resources will also benefit from this engaging book.

Horizons in Sustainable Industrial Chemistry and Catalysis, Volume 178, presents a comprehensive picture of recent developments in terms of sustainable industrial processes and the catalytic needs and opportunities to develop these novel routes. Each chapter includes an introduction and state-of-the-art in the field, along with a series of specific aspects and examples. The book identifies new opportunities for research that will help us transition to low carbon and sustainable energy and chemical production. Users will find an integrated view of the new possibilities in this area that unleashes new possibilities in energy and chemistry. Combines an analysis of each scenario, the state-of-the art, and specific examples to help users better

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understand needs, opportunities, gaps and challenges Offers an integrated view of new catalytic technologies that are needed for future use Presents an interdisciplinary approach that combines broad expertise Brings together experts in the area of sustainable industrial chemistry

The Commodities at a Glance series aims to collect, present and disseminate accurate and relevant statistical information linked to international primary commodity markets in a clear, concise and reader-friendly format. This edition is specifically dedicated to the shale gas problem.

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-

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date information as presented by a collection of renowned global experts

Sustainable Planet is a two-volume resource that provides comprehensive coverage on the world's most pressing environmental issues, their impact in countries around the world, and how—or if—they are being addressed. Sustainable Planet: Issues and Solutions for Our Environment's Future examines contemporary challenges to sustainability, including population, climate change, decreasing biodiversity, land degradation, and water quality. Each chapter analyzes one of these challenges by first providing an introduction to the topic as well as key concepts to provide readers with a basic understanding of the issue. Essays deepen comprehension by investigating different aspects of the challenge. Case studies written by experts in the field follow. Each case study considers how a specific country is affected by the particular issue as well as the measures the country is taking to find solutions that will provide for a more sustainable future. The final chapter of the book explores sustainability at a global level by examining, through annotated primary documents, a number of multinational initiatives and alliances intended to create a more sustainable planet. Delivers comprehensive content that builds on introductory material, culminating in case studies that examine real-world problems and solutions Examines the most important global sustainability issues as addressed by the United Nations and a number of sustainability degree programs across the country Provides annotated primary documents, furthering understanding of the issues

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explored in the book Includes interesting facts relevant to the discussion in sidebars generously sprinkled throughout the text

Soil and Fertilizers: Managing the Environmental Footprint presents strategies to improve soil health by reducing the rate of fertilizer input while maintaining high agronomic yields. It is estimated that fertilizer use supported nearly half of global births in 2008. In a context of potential food insecurity exacerbated by population growth and climate change, the importance of fertilizers in sustaining the agronomic production is clear. However, excessive use of chemical fertilizers poses serious risks both to the environment and to human health. Highlighting a tenfold increase in global fertilizer consumption between 2002 and 2016, the book explains the effects on the quality of soil, water, air and biota from overuse of chemical fertilizers. Written by an interdisciplinary author team, this book presents methods for enhancing the efficiency of fertilizer use and outlines agricultural practices that can reduce the environmental footprint. Features: Includes a thorough literature review on the agronomic and environmental impact of fertilizer, from degradation of ecosystems to the eutrophication of drinking water Devotes specific chapters to enhancing the use efficiency and effectiveness of the fertilizers through improved formulations, time and mode of application, and the use of precision farming technology Reveals geographic variation in fertilizer consumption volume by presenting case studies for specific countries and regions, including India and Africa Discusses the pros and cons of organic vs. chemical fertilizers,

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innovative technologies including nuclear energy, and the U.N.'s Sustainable Development Goals Part of the Advances in Soil Sciences series, this solutions-focused volume will appeal to soil scientists, environmental scientists and agricultural engineers.

This book discusses the recent advances in combustion strategies and engine technologies, with specific reference to the automotive sector. Chapters discuss the advanced combustion technologies, such as gasoline direct ignition (GDI), spark assisted compression ignition (SACI), gasoline compression ignition (GCI), etc., which are the future of the automotive sector. Emphasis is given to technologies which have the potential for utilization of alternative fuels as well as emission reduction. One special section includes a few chapters for methanol utilization in two-wheelers and four wheelers. The book will serve as a valuable resource for academic researchers and professional automotive engineers alike.

This book explores the types of conflicts that occur over marine and coastal resources, the underlying causes, and attempts to prevent them. Despite the emergence of various marine and coastal governance approaches to address the effects of human activities within the marine environment, conflict continues. In this book, the author outlines the reasons conflicts can, and do, arise in the marine and coastal environment. Drawing on case studies from both the northern and southern hemispheres, the book takes a broad view of how we interact with our environment, of how and why conflict is perpetuated as a political and cultural phenomenon, and

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how this varies or remains constant across space and place. The case studies explore not only the underlying perceptions and needs of those involved in marine and coastal conflict and the types of conflicts that arise in oceanic and coastal areas, but also the underpinning reasons for these conflicts. Marine and coastal resource conflicts have the potential to derail conservation efforts and blue growth policies, as well as the United Nations Sustainable Development Goals. Thus, it is imperative we understand the drivers and exacerbating factors of marine and coastal conflict. Arguing that there is an urgent need for renewed thinking and focus on conflict prevention, the author develops a theory of marine and coastal conflict which allows us to understand those factors and the means to help prevent such conflicts arising in the first place. This book will be of interest to students and researchers of coastal and marine science and environmental management as well as those working in the field of marine resource management, including coastal zone managers and fisheries managers.

Over the past 20 years, social scientists, government officials, and investors have expressed mounting interest in the BRICS countries, which include Brazil, Russia, India, China and South Africa. These countries are widely viewed as both key actors in the global economy and important regional powers. The Political Economy of the BRICS Countries is a three-volume set that aims to address various crucial issues regarding these countries. Volume 1 analyzes whether economic growth in the BRICS countries has been broad-based and

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promoted equitable economic and social outcomes. The authors examine specific dimensions of growth in these five economies that constrain their ability to act effectively and cohesively in international affairs. Volume 2 considers how the BRICS have affected global economic governance and the international political economy. Volume 3 provides various approaches to economic informality in the BRICS. Moreover, the chapters deal with several connections between informality and important political, economic, and institutional phenomena such as economic globalization and international aid, economic development, political regimes, social capital, political networks and political participation, labor market rules, and social policy preferences. The BRICS countries have attracted rising attention over the past two decades. The volumes provide an in-depth analysis of various key issues regarding these countries and chart a course for future research.

Future Energy: Improved, Sustainable and Clean Options for Our Planet, Third Edition provides scientists and decision-makers with the knowledge they need to understand the relative importance and magnitude of various energy production methods in order to make the energy decisions necessary for sustaining development and dealing with climate change. The third edition of Future Energy looks at the present energy situation and extrapolates to future scenarios related to global warming and the increase of carbon dioxide and other greenhouse gases in the atmosphere. This thoroughly revised and updated edition contains over 40 chapters

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on all aspects of future energy, with each chapter updated and expanded by expert scientists and engineers in their respective fields. Provides readers with an up-to-date overview of available energy options, both traditional and renewable, as well as the necessary tools needed to make informed decisions Covers a wide spectrum of future energy resources presented in a single book with chapters written by experts from each particular field Includes many new chapters that cover topics on conventional oil and fossil fuels, a new section on energy storage, and a look at new energy International Energy OutlookWorld Energy Outlook 2019 This book focuses on the most serious social and economic challenges faced by China from a public international law perspective. The vast and diversified nature of public international law inspires the author to organize the book on a topic oriented basis, i.e. selecting five most crucial and interrelated issues in contemporary China to investigate and address. It reviews and evaluates China's response to these challenges and its continuing efforts in searching for solutions to these problems. These issues are inter-related and mutually affective, and moreover, impact collectively on the nation's standings in the international community. The country's national stability and economic sustainability may be retained only when these issues are dealt with efficiently and appropriately. This is a timely and comprehensive book addressing the most crucial problems confronted by

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contemporary China in the field of public international law, mainly concerning border issues, natural resources, environment and corruption. The work not only addresses these issues separately, but also delineates their interrelationships. In doing so, the complexity of these issues is revealed to a full extent.

This book presents an integrated approach to sustainably fulfilling energy requirements, considering various energy-usage sectors and applicable technologies in those sectors. It discusses smart cities, focusing on the design of urban transport systems and sources of energy for mobility. It also shares thoughts on individual consumption for ensuring the sustainability of energy resources and technologies for emission reductions for both mobility and stationary applications. For the latter, it examines case studies related to energy consumption in the manufacturing sector as well as domestic energy requirements. In addition it explores various distribution and policy aspects related to the power sector and sources of energy such as coal and biomass. This book will serve as a valuable resource for researchers, practitioners, and policymakers alike.

Nanostructured Materials for Next-Generation Energy Storage and Conversion: Photovoltaic and Solar Energy, is volume 4 of a 4-volume series on sustainable energy. Photovoltaic and Solar Energy

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while being a comprehensive reference work, is written with minimal jargon related to various aspects of solar energy and energy policies. It is authored by leading experts in the field, and lays out theory, practice, and simulation studies related to solar energy and allied applications including policy, economic and technological challenges. Topics covered include: introduction to solar energy, fundamentals of solar radiation, heat transfer, thermal collection and conversion, solar economy, heating, cooling, dehumidification systems, power and process heat, solar power conversion, policy and applications pertinent to solar energy as viable alternatives to fossil fuels. The aim of the book is to present all the information necessary for the design and analysis of solar energy systems for engineers, material scientists, economics, policy analysts, graduate students, senior undergraduates, solar energy practitioner, as well as policy or lawmakers in the field of energy policy, international energy trade, and libraries which house technical handbooks related to energy, energy policy and applications. This collection considers the future of climate innovation after the Paris Agreement. It analyses the debate over intellectual property and climate change in a range of forums – including the climate talks, the World Trade Organization, and the World Intellectual Property Organization, as well as multilateral institutions dealing with food, health, and

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biodiversity. The book investigates the critical role patent law plays in providing incentives for renewable energy and access to critical inventions for the greater public good, as well as plant breeders' rights and their impact upon food security and climate change. Also considered is how access to genetic resources raises questions about biodiversity and climate change. This collection also explores the significant impact of trademark law in terms of green trademarks, eco labels, and greenwashing. The key role played by copyright law in respect of access to environmental information is also considered. The book also looks at deadlocks in the debate over intellectual property and climate change, and provides theoretical, policy, and practical solutions to overcome such impasses. Beyond Blood Oil expands on the themes and proposals laid out in Leif Wenar's previous book and engages a distinguished group of scholars to explore philosophical arguments, assessing the prospects of his practical policy proposal. The book addresses how oil resources can undermine democracy and discusses moral obligations of those who consume oil

In this collection of CUDES 2017, wide spectrum of topics that occupy primary place in the current debates of International Relations and Law were addressed by the papers presented at the Current Debates in Social Sciences Conference which was

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held in Istanbul, on December 14-16, 2017. The purpose of this conference was to provide a forum for scholars, researchers and students to foster discussion and expand understanding on the current themes of Social Sciences. In parallel to changing and multiplying dynamics of world politics, papers reflect diversity of issues in International Relations and Law including: the impacts of the Syrian Refugee Crisis on EU-Turkey relations, lone wolf terrorism, energy security, Russia's domestic factors in its foreign policy, foreign policy of Iran and Russia in the Middle East, Mirziyoyev's first year in presidency, Turkish foreign aid under the Justice and Development Party, the place of civil aviation in Turkish foreign policy as a soft power instrument, the Kosovo intervention in the context of UN's human security discourse, UN and gender issues, mediation in international law and Turkey, the development of good corporate governance in Turkey, Ombudsman institution in Turkey, the status of surviving spouse in terms of law of succession and the regime of participation in acquired property in Turkey, legitimacy of censorship in the West from the perspective of human rights, intellectual property protection for plant innovation, legal framework of 'autonomy in modern liberal eugenics', the impact of the new technologies on the law.

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