

The Energy Revolution

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[China ' s Renewable Energy Revolutio](#)dun 27 2022 The authors suggest that China's renewable energy system, the largest in the world, will quickly supersede the black energy system that has powered the country's rapid rise as workshop of the world and for reasons that have more to do with fixing environmental pollution and enhancing energy security than with curbing carbon emissions.

China's Energy Revolution in the Context of the Global Energy Transition Jan 11 2021 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 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 Coming Energy Revolution](#) Jan 29 2020 There is a new and exciting revolution coming. It will dramatically change our landscape, our environment, our economy, and our lives. It will provide each and every one of us with a truly unique sense of independence. It will mark the end of oil-influenced politics, and the beginning of a bright new millennium - a time in which we all will have our own unlimited sources of nonpolluting energy. However, it will not come without a struggle, as history has already shown. The Coming Energy Revolution provides us with an intriguing and insightful look at the forces behind the free-energy movement. The Coming Energy Revolution introduces us to some of the inventors, both past and present, who have insisted that we are surrounded by a sea of energy that we can tap once we have learned nature's secrets. Conventional science says that space is cold and still, and that what energy does exist cannot be put to useful work. The new-energy innovators say that

conventional science is wrong, and that new-energy research is being suppressed by a combination of scientific inertia and corporate self-interest. But the suppression cannot last, as this book shows - there are simply too many inventors who are close to new-energy breakthroughs. The Coming Energy Revolution examines the technologies on which these inventors are working. There are magnets that can redirect the energy of space. There is a gentler form of nuclear energy that can take place on a table top. There is hydrogen, a clean, abundant fuel that can be produced wherever needed. There is a form of hydropower that does not rely on massive dams. And there are other forms of new energy. The Coming Energy Revolution looks at them all, and at the kinds of changes that will be needed to overcome the roadblocks between our old-energy present and our new-energy future.

The Boom May 27 2022 The “ best all-around book yet on fracking ” (San Francisco Chronicle) from a Pulitzer Prize finalist: “ Gold's work is a tour de force of contemporary journalism ” (Booklist). First invented in 1947, hydraulic fracturing, or fracking, has not only become a major source of energy, it is changing the way we use energy, and the energy we use. It is both a threat and a godsend for the environment, and it is leading the revival of manufacturing in the United States. A definitive narrative history, The Boom follows the twists and turns in the development and adoption of this radical technology. It is a thrilling journey filled with colorful characters: the green-minded Texas oilman who created the first modern frack; a bare-knuckled Oklahoman natural gas empire-builder who gave the world an enormous new supply of energy and was brought down by his own success and excesses; an environmental leader whose embrace of fracking brought an end to his public career; and an aging fracking pioneer who is now trying to save the industry from itself. A fascinating and exciting exploration of one of the most controversial and promising sources of energy, The Boom “ brings new clarity to a subject awash in hype from all sides...a thoughtful, well-written, and carefully researched book that provides the best overview yet of the pros and cons of fracking. Gold quietly leads both supporters and critics of drilling to consider other views ” (Associated Press).

The Risk Pivot Dec 10 2020 The last decade has seen a revolution in global energy. First, we saw explosive growth in demand from Asia's rising powers, which fueled fears about scarcity and conflict. But we've also seen an American revolution in technology and markets, resulting in a dramatic increase in supply. This is strengthening America's hand in the world—but it's not without complications. There are major security consequences of these shifts. Among the most consequential are China and India, Asia's emerging giants, which are increasingly exposed to political risks associated with energy risks, as well as the energy flows, pivoting to Asia. Meanwhile the great powers struggle to balance their need for fossil fuels with a mounting effort to tackle climate change. The top powers, and the United States above all, face a strategic choice: whether to use energy as a weapon of geopolitics, or as a tool of a stable order. CONTENTS Introduction 1. The President and the King—Key Messages of the Book 2. The Energy Revolutions—A Primer Geopolitics in Flux—The Players 3. Choices—Scenarios, and the Choice the Powers Confront 4. Rough Seas Ahead—The Great Powers' Search for Energy Security Globalization and Complexity—The Problems 5. Transition in the Gulf 6. The Turbulent Middle 7. Fragile States 8. The Russian Problem 9. Connections—from Pipelines to Politics Governance—The Partners 10. An Emerging System of Global Energy Governance 11. Leadership Choices

Solar Revolution Jul 05 2020 An innovative analysis that shows how the shift to solar energy—in particular, the use of photovoltaic cells—is both economically advantageous and inevitable, and will rival the information and communication technologies revolution in its transformative effects. In Solar Revolution, fund manager and former corporate buyout specialist Travis Bradford argues—on the basis of standard business and economic forecasting models—that over the next two decades solar energy will increasingly become the best and cheapest choice for most electricity and energy applications. Solar Revolution outlines the path by which the transition to solar technology and sustainable energy practices will occur. Developments in the photovoltaic (PV) industry over the last ten years have made direct electricity generation from PV cells a cost-effective and feasible energy solution, despite the common view that PV technology appeals only to a premium niche market. Bradford shows that PV electricity today has become the choice of hundreds of thousands of mainstream homeowners and businesses in many markets worldwide, including Japan, Germany, and the American Southwest. Solar energy will eventually be the cheapest source of energy in nearly all markets and locations because PV can bypass the aging and fragile electricity grid and deliver its power directly to the end user, fundamentally changing the underlying economics of energy. As the scale of PV production increases and costs continue to decline at historic rates, demand for PV electricity will outpace supply of systems for years to come. Ultimately, the shift from fossil fuels to solar energy will take place not because solar energy is better for the environment or energy security, or because of future government subsidies or as yet undeveloped technology. The solar revolution is already occurring through decisions made by self-interested energy users. The shift to solar energy is inevitable and will be as

transformative as the last century's revolutions in information and communication technologies.

Women and the Energy Revolution in Asia Sep 18 2021 This book examines the low-carbon energy transition taking place in developing Asia, in the context of persisting social and gender inequalities, the threat of climate change which has necessitated the decarbonisation of industry, and examines how developing Asia can 'leap-frog' the carbon-emitting stages that more developed economies have passed through, while simultaneously 'leap-frogging' social and gender equity gaps. The book uses the concept of 'disruptive technologies', an area of study that assesses the potential of certain technologies to disrupt the status quo and the concept of socio-technical frameworks, where social considerations are factored in to engineering systems and models. Using case studies and methodologies drawn from interdisciplinary approaches to engineering, and from development studies, science and technology studies and feminist approaches, it assesses how the low-carbon energy transition potentially provides poor women in developing Asia the opportunity to get on board at the early phase of these changes and influence and even transform their societies and lives.

Energy Production and Alternative Energy Nov 28 2019 This essential volume helps readers explore in detail the range of current and impending challenges that energy production and resources face as a result of global warming. Readers will examine these issues from a variety of expert perspectives, highlighting key future challenges, and addressing the pros and cons of potential solutions. After a thorough introduction on energy and global warming, our reliance on fossil fuels is explained. Fascinating topics such as reinventing transportation energy and achieving a clean-energy economy are richly explored.

Shale Energy Revolution Oct 20 2021 This book answers the following questions: How will the global oil and gas market change in the next decade? How does the United States become the world's biggest oil and gas producer? What is the current condition of China's Shale Industry and energy security? Is hydraulic fracturing and horizontal drilling technology cheered or feared? Is energy production driven by economy or environment? Who are the major competitors in this market? This book covers not only macro analysis at country-level, but also micro analysis at firm-level, which helps investigate this industry more comprehensively.

Ocean, Tidal and Wave Energy May 03 2020 Describes the different types of energy that can be obtained using water, discussing dams, reservoirs, waves, tides, geothermal power, steam, and hydroelectric plants.

Energy Revolution Sep 30 2022 Using full-color visualizations of key concepts and data, Mara Prentiss interprets government reports, technology, and basic physical laws to advance a bold claim: wind and solar power alone could generate 100% of the U.S. average energy demand, without lifestyle sacrifices. And meeting the actual U.S. energy demand with renewables is within reach.

Geothermal Energy Jul 17 2021 Geothermal energy makes use of the energy already present within the earth. This clean, renewable energy is growing in its technology and popularity. Readers will learn how it is harnessed, how it compares to other forms of energy, and how they may get involved in this exciting growing field some day. Get ready for an Energy Revolution!

The Hydrogen Revolution Aug 25 2019 Named a Financial Times Best Book of 2021 An energy expert shows why hydrogen can fight climate change and become the fuel of the future We're constantly told that our planet is in crisis; that to save it, we must stop traveling, stop eating meat, even stop having children. But in *The Hydrogen Revolution*, Marco Alverà argues that we don't need to upend our lives. We just need a new kind of fuel: hydrogen. From transportation and infrastructure to heating and electricity, hydrogen could eliminate fossil fuels, boost economic growth, and encourage global action on climate change. It could also solve the most bedeviling aspects of today's renewable energy—from transporting and storing wind and solar energy and their vulnerability to weather changes to the inefficiency and limited utility of heavy, short-lasting batteries. *The Hydrogen Revolution* isn't just a manifesto for a powerful new technology. It's a hopeful reminder that despite the gloomy headlines about the fate of our planet, there's still an opportunity to turn things around.

China's Energy Revolution in the Context of the Global Energy Transition Dec 22 2021 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 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.

Powering Forward Apr 25 2022 A historic energy revolution is underway in the United States. Wind, sunlight, and other sustainable resources are now the fastest growing sources of energy in the U.S. and worldwide. American families are installing power plants on their roofs and entire communities are switching to 100 percent renewable energy. The urgent need to prevent climate change is causing people around the planet to question their reliance on carbon-intensive oil, coal, and natural gas. Author Bill Ritter, Jr., the 41st governor of Colorado and one of America's key thought leaders on this topic, discusses the forces behind the energy revolution, the new ways we must think about energy, and the future of fossil and renewable fuels. It is an essential read for any who want to understand one of history's biggest challenges to peace, prosperity, and security in the United States. Written in partnership with the Center for a New Energy Economy.

Energy Revolution and Chemical Research Nov 20 2021 The conference discussed relevant topics such as energy engineering and chemical engineering, aiming to provide an academic and technical communication platform for scholars and engineers engaged in scientific research and engineering practice in the field of energy materials, energy equipment and electrochemistry.

The Risk Pivot May 15 2021 The last decade has seen a revolution in global energy. First, we saw explosive growth in demand from Asia's rising powers, which fueled fears about scarcity and conflict. But we've also seen an American revolution in technology and markets, resulting in a dramatic increase in supply. This is strengthening America's hand in the world—but it's not without complications. There are major security consequences of these shifts. Among the most consequential are China and India, Asia's emerging giants, which are increasingly exposed to political risks associated with energy risks, as well as the energy flows, pivoting to Asia. Meanwhile the great powers struggle to balance their need for fossil fuels with a mounting effort to tackle climate change. The top powers, and the United States above all, face a strategic choice: whether to use energy as a weapon of geopolitics, or as a tool of a stable order. CONTENTS Introduction 1. The President and the King—Key Messages of the Book 2. The Energy Revolutions—A Primer Geopolitics in Flux—The Players 3. Choices—Scenarios, and the Choice the Powers Confront 4. Rough Seas Ahead—The Great Powers' Search for Energy Security Globalization and Complexity—The Problems 5. Transition in the Gulf 6. The Turbulent Middle 7. Fragile States 8. The Russian Problem 9. Connections—from Pipelines to Politics Governance—The Partners 10. An Emerging System of Global Energy Governance 11. Leadership Choices

Energy and the English Industrial Revolution Nov 08 2020 Retrospective: 9.

Energy Revolution Apr 13 2021 We need a global energy revolution. In developed nations we are wasting massive quantities of energy providing heat and light to our homes and businesses while one and a half billion people have no access to electricity at all. The existing central-power-station model is based on old technology that spews carbon, energy, and money straight up the chimney. Energy Revolution shows us how we can change all of this. Telling stories from around the world of the change that 's already happening and drawing on two decades of his own unique experience, Howard Johns demonstrates how we can develop our own renewable-energy projects to provide local energy and create a new fleet of businesses. He shows us how communities can build local energy solutions—renewable-power stations that will be a new form of building society where we come together to develop, finance, and construct the infrastructure that we and future generations so desperately need. Howard Johns explains how to design, set up, and fund community energy systems, citing examples from countries that already have cut the amount of energy they use and supply their needs from renewable energy. These new systems will create new jobs and businesses, reduce energy imports, and create new local-investment models. This handbook contains the map we need to change the system from the bottom up and make the next great leap forward to achieving clean, affordable energy. It covers everything needed to structure your community power company—the technology, site assessment, legal and business planning, fundraising and financial modeling, and putting people at the heart of your strategy. It 's time to take control, re-localize, reduce costs and carbon emissions, and join the energy revolution.

The Investor's Guide to the Energy Revolution Sep 26 2019 This book is for two types of people. First, it's for all those who are interested in today's energy issues. Second, for those who consider investing in the energy industry. The author, an independent thinker and experienced international investor, explains in a clear, concise way the role of the different energy sources in the developed societies - and why an Energy Revolution is inevitable. The book presents different alternatives for the challenges ahead and assesses their long-term viability

with full pragmatism. The author provides a unique investment approach, and shows with the aid of many real-life examples how to use it for making important investment decisions with confidence. You will also learn how to invest successfully during recessions and find recession-proof energy stocks. Whether you are a new, or an experienced investor - or just curious about oil and energy - you will learn a great deal from this book.

Solar Energy Aug 06 2020 Solar energy harnesses the power of the sun. This clean, renewable energy is growing in its technology and popularity. Readers will learn how it works, how it compares to other forms of energy, and how they may get involved in this exciting growing field some day. Get ready for an Energy Revolution!

China's Renewable Energy Revolution Aug 18 2021 China's formidable energy system, which has powered the nation's rise as workshop of the world and thereby lifted hundreds of millions of its people out of poverty, is undergoing dramatic changes. China's industrial transformation started, like that of all previous industrial powers, with extensive reliance on fossil fuels, principally coal for electric power and oil for transport. But China is now running into the limits of this fossil-fuelled expansion, both for reasons of immediate environmental degradation (unbreathable air), energy insecurity (imports from problematic parts of the world) as well as increasing international pressure over carbon emissions. An alternative has to be found. Mathews and Tan describe how an alternative is indeed being developed. Over the past decade China has been pursuing an alternative 'green' energy strategy that complements the better-known 'black' energy strategy based on burning fossil fuels. This has involved a much less widely discussed investment in expansion of power generating capacity utilizing renewable energy sources such as water, wind and solar – making China by far the largest manufacturer, builder and utilizer of renewable power systems on the planet.

Hydrogen Dec 30 2019 Describes the different ways that hydrogen can be produced, including gasifying coal and biomass, and explains how hydrogen can be converted into energy.

The Fourth Industrial Revolution Jun 23 2019 World-renowned economist Klaus Schwab, Founder and Executive Chairman of the World Economic Forum, explains that we have an opportunity to shape the fourth industrial revolution, which will fundamentally alter how we live and work. Schwab argues that this revolution is different in scale, scope and complexity from any that have come before. Characterized by a range of new technologies that are fusing the physical, digital and biological worlds, the developments are affecting all disciplines, economies, industries and governments, and even challenging ideas about what it means to be human. Artificial intelligence is already all around us, from supercomputers, drones and virtual assistants to 3D printing, DNA sequencing, smart thermostats, wearable sensors and microchips smaller than a grain of sand. But this is just the beginning: nanomaterials 200 times stronger than steel and a million times thinner than a strand of hair and the first transplant of a 3D printed liver are already in development. Imagine “ smart factories ” in which global systems of manufacturing are coordinated virtually, or implantable mobile phones made of biosynthetic materials. The fourth industrial revolution, says Schwab, is more significant, and its ramifications more profound, than in any prior period of human history. He outlines the key technologies driving this revolution and discusses the major impacts expected on government, business, civil society and individuals. Schwab also offers bold ideas on how to harness these changes and shape a better future—one in which technology empowers people rather than replaces them; progress serves society rather than disrupts it; and in which innovators respect moral and ethical boundaries rather than cross them. We all have the opportunity to contribute to developing new frameworks that advance progress.

Spain ' s Photovoltaic Revolution Jul 25 2019 The Energy Return on Energy Invested (EROI or EROEI) is the amount of energy acquired from a particular energy source divided by the energy expended, or invested, in obtaining that energy. EROI is an essential and seemingly simple measure of the usable energy or “ energy profit ” from the exploitation of an energy source, but it is not so easy to determine all of the energy expenditures that should be included in the calculation. Because EROI values are generally low for renewable energy sources, differences in these estimates can lead to sharply divergent conclusions about the viability of these energy technologies. This book presents the first complete energy analysis of a large-scale, real-world deployment of photovoltaic (PV) collection systems representing 3.5 GW of installed, grid-connected solar plants in Spain. The analysis includes all of the factors that limit and adjust the real electricity output through one full-year cycle, and all of the fossil fuel inputs required to achieve these results. The authors ' comprehensive analysis of energy inputs, which assigns energy cost estimates to all financial expenditures, yields EROI values that are less than half of those claimed by other investigators and by the solar industry. Sensitivity analysis is used to test various assumptions in deriving these EROI estimates. The results imply that the EROI of current, large-scale PV systems may be too low to seamlessly support an energy and economic transition away from fossil fuels. Given the pervasiveness of fossil fuel subsidies in the modern economy, a key conclusion is that all components of the

system that brings solar power to the consumer, from manufacturing to product maintenance and life cycle, must be improved in terms of energy efficiency. The materials science of solar conversion efficiency is only one such component. Sunny Spain represented an ideal case study as the country had the highest penetration of solar PV energy at 2.3 percent of total national demand as well as state-of-the-art expertise in solar power including grid management of intermittent, modern renewable systems. This book, written by a uniquely qualified author team consisting of the chief engineer for several major photovoltaic projects in Spain and the world ' s leading expert on the concept and application of EROI, provides a comprehensive understanding of the net energy available to society from energy sources in general and from functioning PV installations under real-world conditions in particular. The authors provide critical insight into the capacity of renewable energy sources to fill the foreseeable gap between world energy demand and depletion rates for fossil fuels. · Presents the first comprehensive study of the EROI of large-scale solar PV systems in a developed country · Uses real-world operational data rather than laboratory approximations and extrapolations · Describes the dependence of one alternative energy source on the goods and services of a fossil-fueled economy · Has global implications for the potential of renewable energy sources to replace dwindling reserves of fossil fuels · Written with the first-hand knowledge of the chief, on-site engineer for many solar installations in Spain together with the leader in the development and application of the concept of EROI

The Coal Trap Jun 15 2021 Between 2009 and 2019, West Virginian politicians aligned themselves with the interests of the coal industry to the substantial detriment of the citizens and economy of the state. Despite the undeniable low-carbon transformation that was occurring in the energy industry in the US during this period, state political leaders doubled down on coal. Rather than provide the leadership necessary to manage the transition of the state's economic drivers away from fossil fuels, they largely blamed the demise of the coal industry on the federal government. At every turn, the interests of the coal industry were placed above the economic and environmental health of West Virginians. James Van Nostrand tells the story of why West Virginia now faces overwhelming obstacles to competing in the economic marketplace of the twenty-first century. The book serves as a warning of how a fair energy transition can be derailed by political failure.

Wind Energy Oct 27 2019 "Describes the use of wind energy in the past and present and discusses how it could be used in the future"--

Rooftop Revolution Jun 03 2020 The Biggest Untold Economic Story of Our Time Here is the truth that the powerful Dirty Energy public relations machine doesn ' t want you to know: the ascent of solar energy is upon us. Solar-generated electricity has risen exponentially in the last few years and employment in the solar industry has doubled since 2009. Meanwhile, electricity from coal has declined to pre-World War II levels as the fossil fuel industry continues to shed jobs. Danny Kennedy systematically refutes the lies spread by solar ' s opponents—that it is expensive, inefficient, and unreliable; that it is kept alive only by subsidies; that it can ' t be scaled; and many other untruths. He shows that we need a rooftop revolution to break the entrenched power of the coal, oil, nuclear, and gas industries Solar energy can create more jobs, return our nation to prosperity, and ensure the sustainability and safety of our planet. Now is the time to move away from the dangerous energy sources of the past and unleash the amazing potential of the sun.

The Decentralized Energy Revolution Mar 25 2022 The global energy system stands at the verge of a far-reaching paradigm shift. The established model of centralized supply services will be challenged by new, decentralized technologies, with Germany being an international role model for energy efficiency and renewable energy generation.

Energy Revolutions: A History Mar 13 2021

Green Nov 01 2022 A critical study of new green energy initiatives illuminates a range of issues associated with renewable energy sources, examining the technological and economic future of energy research, political factors, what the U.S. should be doing to promote ecologically friendly technologies, and what each person can do to help the situation. Original. 40,000 first printing.

America's Energy Revolution Jan 23 2022

Lithium Feb 09 2021 A global energy revolution is unfolding before our eyes: ever-growing numbers of electric vehicles on our roads, laptops that last all day on a single charge and solar panels on our roofs, all reliant on lithium-ion batteries. This revolution is happening at breath-taking speed, with the potential to completely transform key industries and the way we live. For the first time in history, we can now actually store this green energy we talk so much about. Often referred to as 'the new oil', lithium allows large amounts of energy to be squeezed into a very small space. Demand is soaring, and the lithium business is full of drama: bitter rivalries, shady deals and exceptionally talented visionaries such as Elon Musk, who is building lithium battery giga-factories across the world. This book travels from the salt lakes of the Tibetan plateau, where Chinese

government-linked companies extract lithium, to Argentina, Chile and Bolivia, which hold the world's biggest resources of the mineral. It reveals superpowers' struggle to secure strategic supplies, and the astonishing efforts of lone-wolf inventors and entrepreneurs. Lithium also explores the environmental impact of lithium extraction, the limits to battery electrification, and lithium battery recycling as the way forward.

American Shale Energy and the Global Economy Sep 06 2020 This brief explores the business and global implications of the American shale energy, or natural gas, revolution. Specifically, it provides a rational, comprehensive look at the major business themes and management implications that surround the new abundance of natural gas in the United States and identifies some of the most significant geopolitical considerations globally. While acknowledging some of the controversies and hazards surrounding the extraction techniques, commonly known as "fracking", the author also looks at the hopes this technique poses and details how shale energy will impact supply chains for firms. The discovery of new sources of domestic natural gas in recent years - coupled with innovations that facilitated their extraction - has altered the global landscape. However, the vast majority of the information out there for business students, faculty, and practitioners about the natural gas revolution is focused on the impact of "longer and lower" energy prices; and, secondarily, opportunities within the domestic energy sector. Each of these is crucial for business people to understand, however, the natural gas revolution is about much more. Companies of all sizes, whether they see it or not, are having new opportunities open up for their products and services. Further, the globalization of shale energy will have far reaching influence beyond simply economic factors. Geopolitical considerations and the re-structuring of international relations around shale energy will impact supply chains in a myriad of ways. This book aims to examine these opportunities. Featuring case studies from contemporary companies, this book will be of interest to students, academics, researchers, professionals and policy makers who are seeking to understand the business and global implications of the shale energy revolution.

Energy Revolution Jul 29 2022 The transformation from a carbon-based world economy to one based on high efficiency and renewables is a necessary step if human society is to achieve sustainability. But while scientists and researchers have made significant advances in energy efficiency and renewable technologies in recent years, consumers have yet to see dramatic changes in the marketplace--due in large part to government policies and programs that favor the use of fossil fuels. Energy Revolution examines the policy options for mitigating or removing the entrenched advantages held by fossil fuels and speeding the transition to a more sustainable energy future, one based on improved efficiency and a shift to renewable sources such as solar, wind, and bioenergy. The book examines today's energy patterns and trends and their consequences describes the barriers to a more sustainable energy future and how those barriers can be overcome provides ten case studies of integrated strategies that have been effective in different parts of the world examines international policies and institutions and recommends ways they could be improved reviews global trends that suggest that the transition to renewables and increased efficiency is underway and is achievable Energy policy represents a linchpin for achieving a broader transition to a more sustainable economy. Energy Revolution offers a unique focus on policies and programs, and on the lessons provided by recent experience. It represents a key statement of the available options for reforming energy policy that have proven to be successful, and is an essential work for policymakers, researchers, and anyone concerned with energy and sustainability issues.

Asia 's Energy Revolution Feb 21 2022 Asia is home to 60 per cent of the world's population, including the world's two most populous nations, China and India. The region's economic gains and rising middle class are accelerating demand for more consumer goods and a better quality of life. For further economic growth to be realised, the region will need a massive supply of additional energy, three- to five-fold 2020 's amount by 2050. These changes create new business and investment opportunities for domestic companies and overseas participants. Asia 's energy market, already the world 's biggest, will soon be the most advanced. There will be mass adoption of digital technologies, like artificial intelligence, to make the distribution of solar, wind and other clean resources, smarter and more efficient. Led by China, billions of dollars in capital investment will drive the region's shift to green, sustainable energy, replacing polluting and expensive fossil fuels, which will help to rein in climate change. In Asia 's Energy Revolution, leading energy markets analyst and practitioner Joseph Jacobelli explains why Asia is the world 's most important territory for energy transition, how developments in the region will drive change in the rest of the world as well as how it will all be financed. The book discussion includes: Analysis of past events and forward-looking analysis of the industry in the region encompassing commercial, economic, and financial aspects Appraisal of new energy technologies, such as electric vehicles, and digital solutions, such as blockchain for energy Review of the capital flows and sustainable financing channels needed to fund energy infrastructure and tech growth

The Atom and the Energy Revolution Oct 08 2020

Sparking a Worldwide Energy Revolution Aug 30 2022 The earth's not dying, it's being killed. Only a movement for renewable energy will save it.

Total Transition Mar 01 2020 "In this exciting and provocative new book, readers are taken into the homes of the coal miners who live and work in Jharia, a town in India that has been on fire for the past 100 years due to poor coal mining practices. Life in Jharia is a version of Dante ' s inferno – 700,000 people live in the most unimaginable conditions. Yet even though residents of Jharia say they are dying slowly every day, they also say they ' ll never leave. Almost 11,000 kilometres away, in the Canadian oil sands, workers and indigenous people similarly describe their complex relationship with the industry that employs them. Although fossil fuel extraction is harming the environment and impacting people ' s way of life in the oil sands region, a much-needed shift to renewable energy could also leave communities without their livelihoods."--

Total Transition Apr 01 2020 Follow the journey of a Canadian and Indian couple, Savannah and Sandeep, as they travel the world to capture the human side of one of the biggest energy transitions of our times - the global shift from fossil fuels to renewables. In this exciting and provocative new book, readers are taken into the homes of the coal miners who live and work in Jharia, a town in India that has been on fire for the past 100 years due to poor coal mining practices. Life in Jharia is a version of Dante's inferno - 700,000 people live in the most unimaginable conditions. Yet even though residents of Jharia say they are dying slowly every day, they also say they'll never leave. Almost 11,000 kilometres away, in the Canadian oil sands, workers and indigenous people similarly describe their complex relationship with the industry that employs them. Although fossil fuel extraction is harming the environment and impacting people's way of life in the oil sands region, a much-needed shift to renewable energy could also leave communities without their livelihoods. Written in the form of a travelogue, Total Transition provides a whirlwind look at the global growth of renewable energy - highlighting exciting developments in solar and wind energy in Canada, India, Africa and Europe, and discussing hurdles standing in the way of a total transition. Energy experts and leaders of innovative renewable energy projects share hope and optimism about the future of fossil fuel workers and their communities in an increasingly renewable world.