

The Fracking Debate The Risks Benefits And Uncertainties Of The Shale Revolution Center On Global Energy Policy Series

Documents the troubling influence of a small group of scientists who the author contends misrepresent scientific facts to advance key political and economic agendas, revealing the interests behind their detractions on findings about acid rain, DDT, and other hazards. K347191 BCC Drinking water quality is a sensitive issue, and the public is constantly barraged by contaminant reports now routinely at parts-per-trillion. Protection from microbial disease risks from drinking water must always be predominant; trace chemicals usually fall farther down the scale of possible health risks, but even negligible detections raise public concerns. Drinking Water Quality and Contaminants Guidebook presents information and guidance on drinking water quality and regulatory issues reflecting experiences and judgments from the author's more than 43 years of extensive experience. It contains digested comprehensive information on important chemical, microbial, and radionuclide water contaminants, and discussions of several drinking water-related policy issues. Information is presented for long-standing regulated contaminants and chemicals of emerging concern in understandable terms for professionals and non-experts alike. Dossiers contain readily accessed information on sources, physical and chemical properties, toxicity, analytical methodology, water treatment technology, regulations and health advisories, and also include World Health Organization Guidelines. Aesthetic and acceptance factors such as water hardness and salinity that influence public perceptions of drinking water quality are also addressed. Features: Compiles and interprets essential information on numerous key chemical, microbial, and radionuclide water contaminants Provides standardized entries for each contaminant, including occurrence, health, analytical, water treatment, regulations, and World Health Organization guidance and recommendations with source citations Examines many water-related topics including fracking, potable water reuse, desalination, boil water notices, bottled water, foodborne and waterborne disease, and public perceptions about public drinking water quality Provides essential information and the basis for management of many long-standing contaminants such as lead, mercury, disinfection by-products, E. coli, and also emerging issues such as legionella, glyphosate, BPA, and more A pharmacologist and a veterinarian pull back the curtain on the human and animal health effects of hydraulic fracturing, or "fracking" Across the country, fracking—the extraction of natural gas by hydraulic fracturing—is being touted as the nation's answer to energy independence and a fix for a flagging economy. Drilling companies assure us that the process is safe, politicians push through drilling legislation without a serious public-health debate, and those who speak out are marginalized, their silence purchased by gas companies and their warnings about the dangers of fracking stifled. The Real Cost of Fracking pulls back the curtain on how this toxic process endangers the environment and harms people, pets, and livestock. Michelle Bamberger, a veterinarian, and Robert Oswald, a pharmacologist, combine their expertise to show how contamination at drilling sites translates into ill health and heartbreak for families and their animals. By giving voice to the people at ground zero of the fracking debate, the authors vividly illustrate the consequences of fracking and issue an urgent warning to all of us: fracking poses a dire threat to the air we breathe, the water we drink, and even our food supply. Bamberger and Oswald reveal the harrowing experiences of small farmers who have lost their animals, their livelihoods, and their peace of mind, and of rural families whose property values have plummeted as their towns have been invaded by drillers. At the same time, these stories give us hope, as people band together to help one another and courageously fight to reclaim their communities. The debate over fracking speaks to a core dilemma of contemporary life: we require energy to live with modern conveniences, but what degree of environmental degradation, health risks, and threats to our food supply are we willing to accept to obtain that energy? As these stories demonstrate, the stakes couldn't be higher, and this is an issue that none of us can afford to ignore. Shale Gas and Fracking: The Science Behind the Controversy explains the relevant geological principles before examining the peer-reviewed evidence and presenting it through a simple and compelling illustrated narrative. Each chapter focuses on a particular controversy, such as contamination of well water with gas from fracking, and follows a similar format: starting with the principles; then detailing peer-reviewed case studies for earthquakes, radioactivity, and climate change; and concluding with a judgment of the general risks involved. Shale Gas and Fracking: The Science Behind the Controversy provides readers with the unbiased information they need to make informed decisions on the controversial issue of fracking. Presents a clear and unbiased view of the pros and cons of fracking in

Europe and the US, through a simple and compelling narrative from an informed publicly-funded scientist Includes full-colour diagrams, photographs, and maps to present information clearly and simply Focuses on peer-reviewed, documented examples, particularly of earthquakes and groundwater contamination due to fracking

The disputes around fracking, and oil and gas policy, follow a long tradition of complicated intergovernmental relationships. Proponents argue that fracking supports new and well-paying jobs, revitalizes state and local economies, and that it can help replace reliance on other fossil fuels. Skeptics and opponents contend that oil and gas production via fracking contaminates air and water resources, causes earthquakes, and can ruin the character of many communities. Examining the intergovernmental politics of the first oil and natural gas boom of the 21st century, *The Fracking Debate, Second edition* offers a holistic understanding of the politics that characterize oil and natural gas operations, including why local governments are challenging their state's preemptive authority, in order to initiate a larger conversation about improving intergovernmental relationships. Author Jonathan Fisk presents a novel argument about the ways in which local, state, regional, and national approaches to governance of shale gas development can work together to reduce conflict and forward the interests of the communities exposed to development, asking important questions such as: What state structures govern state-local relations? What state institutions impact and shape oil and gas production? What is the policymaking context in the state? What are the costs and benefits of hydraulic fracturing at the national, state, and local levels? How are risks and rewards distributed within states? What local policies have challenged the state, and why would local communities challenge the state? The result is a book that demonstrates that when stakeholders acknowledge their interdependencies and one another's expertise, they create, design, and implement more responsive, strategic, and targeted public policies. *The Fracking Debate, Second edition* will be required reading for courses on oil and gas policy in the United States, environmental politics, and domestic energy politics, as well as a vital reference for practitioners and policymakers working in these fields.

Adjusting to the Shale Revolution in a Green World

Energy, Opportunity, and the Battle for America's Future

Saudi America

The Fracking War

The Lost Spring

Dispatches from the Frack Zone

CSR Conceptualisations and International Practices in Times of Uncertainty

Looks at the clash between gas/oil proponents and supports of alternative energies and offers a plan for the future that combines the best of both worlds.

Bringing together normative and instrumental CSR conceptualizations, practice based examples and international case studies, this edited volume brings together important contributions on the conceptualizations of CSR post financial crisis. Including coverage of a variety of practices in developing and developed contexts, industry-specific activities, business ethics and sustainable development issues, Corporate Social Responsibility in the Post-Financial Crisis brings together a variety of perspectives to provide knowledge and understanding across contexts.

Since the beginning of the Obama Administration, conservative politicians have railed against the President's "War on Coal." As evidence of this supposed siege, they point to a series of rules issued by the Environmental Protection Agency that aim to slash air pollution from the nation's power sector . Because coal produces far more pollution than any other major energy source, these rules are expected to further reduce its already shrinking share of the electricity market in favor of cleaner options like natural gas and solar power. But the EPA's policies are hardly the "unprecedented regulatory assault " that opponents make them out to be. Instead, they are merely the latest chapter in a multi-decade struggle to overcome a tragic flaw in our nation's most important environmental law. In 1970, Congress passed the Clean Air Act, which had the remarkably ambitious goal of eliminating essentially all air pollution that posed a threat to public health or welfare. But there was a problem: for some of the most common pollutants, Congress empowered the EPA to set emission limits only for newly constructed industrial facilities, most notably power plants. Existing plants, by contrast, would be largely exempt from direct federal regulation—a regulatory practice known as "grandfathering." What lawmakers didn't anticipate was that imposing costly requirements on new plants while giving existing ones a pass would simply encourage those old plants to stay in business much longer than originally planned. Since 1970, the core problems of U.S. environmental policy have flowed inexorably from the smokestacks of these coal-fired clunkers, which continue to pollute at far higher rates than their younger peers. In *Struggling for Air*, Richard L. Revesz and Jack Lienke chronicle the political compromises that gave rise to grandfathering, its deadly consequences, and the repeated attempts-by presidential administrations of both parties-to make things right.

A riveting portrait of a rural Pennsylvania town at the center of the fracking controversy Shale gas extraction—commonly known as fracking—is often portrayed as an energy revolution that will transform the American economy and geopolitics. But in greater Williamsport, Pennsylvania, fracking is personal. *Up to Heaven and Down to Hell* is a vivid and sometimes heartbreaking account of what happens when one of the most momentous decisions about the well-being of our communities and our planet—whether or not to extract shale gas and oil from the very land beneath our feet—is largely a private choice that millions of ordinary people make without the public's consent. The United States is the only country in the world where property rights commonly extend "up to heaven and down to hell," which means that landowners have the exclusive right to lease their subsurface mineral estates to petroleum companies. Colin Jerolmack spent eight months living with rural communities outside of Williamsport as they confronted the tension between property rights and the commonwealth. In this deeply intimate book, he reveals how the decision to lease brings financial rewards but can also cause irreparable harm to

neighbors, to communal resources like air and water, and even to oneself. Up to Heaven and Down to Hell casts America's ideas about freedom and property rights in a troubling new light, revealing how your personal choices can undermine your neighbors' liberty, and how the exercise of individual rights can bring unintended environmental consequences for us all.

The rock matrix and the fluids contained therein define the aquifer as a whole, the custodian of continuity of life on this planet Earth. Its sustainable development, equitable utilization, quality maintenance, and balanced discharge and recharge are the essential elements to ensure that the next generation receives the resource baton passed on by the current generation. Spanning across the political and regional frontiers, transboundary aquifers have the potential to provide a uniting platform to the participatory nations. The common good of water can be enhanced by synergized research, data and knowledge sharing, joint development ventures, and hazard mitigation. Covering the multifarious facets of aquifers, this book will form an essential and interesting reading for all stakeholders?researchers, engineers, academia, intelligentsia, and the common consumer.

The History and the Future of Boom-Bust Oil Prices

U.S. Policy in the Middle East and Catastrophes to Avoid

Energy's Digital Future

Risk, Uncertainty, and Economics for a Warming World

A Global Perspective on Fracking and Shale Development

Up to Heaven and Down to Hell

A Global Perspective

"A lively, exciting, and definitely thought-provoking book." —Booklist Things looked grim for American energy in 2006, but a handful of wildcatters were determined to tap massive deposits of oil and gas that giants like Exxon and Chevron had ignored. They risked everything on a new process called fracking. Within a few years, they solved America's dependence on imported energy, triggered a global environmental controversy, and made and lost astonishing fortunes. No one understands the frackers—their ambitions, personalities, and foibles—better than Wall Street Journal reporter Gregory Zuckerman. His exclusive access drives this dramatic narrative, which stretches from North Dakota to Texas to Wall Street.

A Wall Street Journal bestseller and a USA Today Best Book of 2020 Named Energy Writer of the Year for The New Map by the American Energy Society "A master class on how the world works." —NPR Pulitzer Prize-winning author and global energy expert, Daniel Yergin offers a revelatory new account of how energy revolutions, climate battles, and geopolitics are mapping our future The world is being shaken by the collision of energy, climate change, and the clashing power of nations in a time of global crisis. Out of this tumult is emerging a new map of energy and geopolitics. The "shale revolution" in oil and gas has transformed the American economy, ending the "era of shortage" but introducing a turbulent new era. Almost overnight, the United States has become the world's number one energy powerhouse. Yet concern about energy's role in climate change is challenging the global economy and way of life, accelerating a second energy revolution in the search for a low-carbon future. All of this has been made starker and more urgent by the coronavirus pandemic and the economic dark age that it has wrought. World politics is being upended, as a new cold war develops between the United States and China, and the rivalry grows more dangerous with Russia, which is pivoting east toward Beijing. Vladimir Putin and China's Xi Jinping are converging both on energy and on challenging American leadership, as China projects its power and influence in all directions. The South China Sea, claimed by China and the world's most critical trade route, could become the arena where the United States and China directly collide. The map of the Middle East, which was laid down after World War I, is being challenged by jihadists, revolutionary Iran, ethnic and religious clashes, and restive populations. But the region has also been shocked by the two recent oil price collapses--and by the very question of oil's future in the rest of this century. A master storyteller and global energy expert, Daniel Yergin takes the reader on an utterly riveting and timely journey across the world's new map. He illuminates the great energy and geopolitical questions in an era of rising political turbulence and points to the profound challenges that lie ahead.

Energy opportunities and challenges

This book explains the drivers and implications of unconventional gas at regional, national and global scales with case studies and in-depth analyses.

Fracking, or hydraulic fracturing to give its proper name, has become part of our lives recently, due to the massive exploitation of America's shale oil and gas fields. Along the way it has stirred up controversy, with passionate opponents fighting against the oil companies. The fight has generated a lot of heat, but not much understanding. This guide, written by some-one who knows what he is talking about takes a detached, neutral view of the subject. Without pushing a view for or against, it provides the factual background you need to form an opinion of your own. An Informed and Neutral Introduction Like most people I have heard of fracking, but did I really understand what it was? To answer honestly, no. I knew it had something to do with mining and was perhaps destructive to the land. To me, it was just one of those words of the moment. This guide has given me a real sense and understanding of what fracking is. It allowed me, someone who has no experience in this field, to learn about the pros and cons of fracking, without having the good and bad of it forced down my throat. If you want an informed and neutral introduction into fracking, then this is the guide for you. ~ Debbie Prewer

Shale Gas and Fracking

Aquifers

What is it really all about ?

The Frackers

Drinking Water Quality and Contaminants Guidebook

Corporate Social Responsibility in the Post-Financial Crisis Era

What Climate Science Tells Us, What It Doesn't, and Why It Matters

Daniel Raimi gives a balanced and accessible view of oil and gas development, clearly and thoroughly explaining the key issues surrounding the shale revolution. The Fracking Debate provides the evidence and context that have so frequently been missing from discussion of the future of oil and gas production.

Environmental and Health Issues in Unconventional Oil and Gas Development offers a unique and bipartisan perspective relevant to a variety of stakeholders on the use of directional drilling and hydraulic fracturing in the oil and gas industry in North America and worldwide. Including such important considerations as air exposure, water exposure, worker safety, ecological health, and seismic impacts, the book presents the issues as written from a broad range of experts in order to present a clear, non-partisan picture of these potential impacts of the process. Utilizing expertise from a range of contributors in academia, non-governmental organizations, and the oil and gas industry, Environmental and Health Issues in Unconventional Oil and Gas Development is an essential resource for academics and professionals in the oil and gas, environmental, and health and safety industries as well as for policy makers. Offers a multi-disciplinary examination of the environmental and health issues related to unconventional oil and shale gas development Serves as a collective resource for academics and professionals in the oil and gas, environmental, health, and safety industries, as well as environmental scientists and policymakers Features a diverse and expert group of chapter authors from academia, non-governmental organizations, and the oil and gas industry

Gary Sernovitz leads a double life. A typical New York liberal, he is also an oilman - a fact his left-leaning friends let slide until the word "fracking" entered popular parlance. "How can you frack?" they suddenly demanded, aghast. But for Sernovitz, the real question is, "What happens if we don't?" Fracking has become a four-letter word to environmentalists. But most people don't know what it means. In his fast-paced, funny, and lively book, Sernovitz explains the reality of fracking: what it is, how it can be made safer, and how the oil business works. He also tells the bigger story. Fracking was just one part of a shale revolution that shocked our assumptions about fueling America's future. The revolution has transformed the world with consequences for the oil industry, investors, environmentalists, political leaders, and anyone who lives in areas shaped by the shales, uses fossil fuels, or cares about the climate - in short, everyone. Thanks to American engineers' oilfield innovations, the United States is leading the world in reducing carbon emissions, has sparked a potential manufacturing renaissance, and may soon eliminate its dependence on foreign energy. Once again the largest oil and gas producer in the world, America has altered its balance of power with Russia and the Middle East. Yet the shale revolution has also caused local disruptions and pollution. It has prolonged the world's use of fossil fuels. Is there any way to reconcile the costs with the benefits of fracking? To do so, we must start by understanding fracking and the shale revolution in their totality. The Green and the Black bridges the gap in America's energy education. With an insider's firsthand knowledge and unprecedented clarity, Sernovitz introduces readers to the shales - a history-upturning "Internet of oil" - tells the stories of the shale revolution's essential characters, and addresses all the central controversies. To capture the economic, political, and environmental prizes, we need to adopt a balanced, informed perspective. We need to take the green with the black. Where we go from there is up to us.

As OPEC has loosened its grip over the past ten years, the oil market has been rocked by wild price swings, the likes of which haven't been seen for eight decades. Crafting an engrossing journey from the gushing Pennsylvania oil fields of the 1860s to today's fraught and fractious Middle East, Crude Volatility explains how past periods of stability and volatility in oil prices help us understand the new boom-bust era. Oil's notorious volatility has always been considered a scourge afflicting not only the oil industry but also the broader economy and geopolitical landscape; Robert McNally makes sense of how oil became so central to our world and why it is subject to such extreme price fluctuations. Tracing a history marked by conflict, intrigue, and extreme uncertainty, McNally shows how—even from the oil industry's first years—wild and harmful price volatility prompted industry leaders and officials to undertake extraordinary efforts to stabilize oil prices by controlling production. Herculean market interventions—first, by Rockefeller's Standard Oil, then, by U.S. state regulators in partnership with major international oil companies, and, finally, by OPEC—succeeded to varying degrees in taming the beast. McNally, a veteran oil market and policy expert, explains the consequences of the ebbing of OPEC's power, debunking myths and offering recommendations—including mistakes to avoid—as we confront the unwelcome return of boom and bust oil prices.

Natural gas sits in deposits across vast regions of the United States, and hydraulic fracturing ("fracking") is the current method used to extract it. Fracking for natural gas has been billed as the next economic boon to poor communities and the key to mitigating the negative effects of climate change. But fracking also involves risks: Risks to our environment, to our communities, and to our markets. To date, the debate about fracking -- and efforts to address concerns about the risks of fracking -- has largely been a debate about who should regulate, the federal government, the states, or some combination of the two. Framing the current fracking debate as a federalism question is a mistake. This Article argues that the narrow frame of the current fracking debate misses important features of the problem. It argues that fracking is best understood within the much broader context of development in the United States, and more specifically as an example of an approach to development called "hybridity." The Article maps hybridity as comprised of the following three key features: (1) private actors engaged in difficult-to-regulate activities, (2) involvement of public goods, and (3) creation of systemic risk. Drawing together the financial crisis of 2008, the BP oil spill of 2010, and fracking shows that all three share the common features of hybridity, and give rise to a similar suite of concerns. Regulation alone is not sufficient to address these concerns. Instead, the Article proposes several ways in which the hybridity of fracking might be disrupted, thereby easing the overall risks of fracking while realizing its potential benefits.

Fracking
Energy Kingdoms

A Field Philosopher's Guide to Fracking: How One Texas Town Stood Up to Big Oil and Gas

The Climate Casino

The Real Cost of Fracking

A Guide for Lawyers, Public Officials, Planners, and Citizens

From the front lines of the fracking debate, a "field philosopher" explores one of our most divisive technologies. When philosophy professor Adam Briggie moved to Denton, Texas, he had never heard of fracking. Only five years later he would successfully lead a citizens' initiative to ban hydraulic fracturing in Denton—the first Texas town to challenge the oil and gas industry. On his journey to learn about fracking and its effects, he leaped from the ivory tower into the fray. In beautifully narrated chapters, Briggie brings us to town hall debates and neighborhood meetings where citizens wrestle with issues few fully understand. Is fracking safe? How does it affect the local economy? Why are bakeries prohibited in neighborhoods while gas wells are permitted next to playgrounds? In his quest for answers Briggie meets people like Cathy McMullen. Her neighbors' cows asphyxiated after drinking fracking fluids, and her orchard was razed to make way for a pipeline. Cathy did not consent to drilling, but those who profited lived far out of harm's way. Briggie's first instinct was to think about fracking—deeply. Drawing on philosophers from Socrates to Kant, but also on conversations with engineers, legislators, and industry representatives, he develops a simple theory to evaluate fracking: we should give those at risk to harm a stake in the decisions we make, and we should monitor for and correct any problems that arise. Finding this regulatory process short-circuited, with government and industry alike turning a blind eye to symptoms like earthquakes and nosebleeds, Briggie decides to take action. Though our field philosopher is initially out of his element—joining fierce activists like "Texas Sharon," once called the "worst enemy" of the oil and gas industry—his story culminates in an underdog victory for Denton, now nationally recognized as a beacon for citizens' rights at the epicenter of the fracking revolution. After the discovery of oil in the 1930s, the Gulf monarchies—Saudi Arabia, Kuwait, Qatar, the United Arab Emirates, Oman, and Bahrain—went from being among the world's poorest and most isolated places to some of its most ostentatiously wealthy. To maintain support, the ruling sheikhs provide their subjects with boundless cheap energy, unwittingly leading to some of the highest consumption rates on earth. Today, as summertime temperatures set new records, the Gulf's rulers find themselves caught in a dilemma: can they curb their profligacy without jeopardizing the survival of some of the world's last absolute monarchies? In Energy Kingdoms, Jim Krane takes readers inside these monarchies to consider their conundrum. He traces the history of the Gulf states' energy use and policies, looking in particular at how energy subsidies have distorted demand. Oil exports are the lifeblood of their political-economic systems—and the basis of their strategic importance—but domestic consumption has begun eating into exports while climate change threatens to render their desert region uninhabitable. At risk are the sheikhdoms' way of life, their relations with their Western protectors, and their political stability in a chaotic region. Backed by rich fieldwork and deep knowledge of the region, Krane expertly lays out the hard choices that Gulf leaders face to keep their states viable.

"A rare, honest, beautiful, and, yes, sometimes heartbreaking examination of the echoes of water-powered natural gas drilling—or fracking—in the human community . . . vivid, personal and emotional."—Minneapolis Star Tribune Susquehanna County, in the remote northeastern corner of Pennsylvania, is a community of stoic, low-income dairy farmers and homesteaders seeking haven from suburban sprawl—and the site of the Marcellus Shale, a natural gas deposit worth more than one trillion dollars. In *The End of Country*, journalist and area native Seamus McGraw opens a window on the battle for control of this land, revealing a conflict that pits petrodollar billionaires and the forces of corporate America against a band of locals determined to extract their fair share of the windfall—but not at the cost of their values or their way of life. Rich with a sense of place and populated by unforgettable personalities, McGraw tells a tale of greed, hubris, and envy, but also of hope, family, and the land that binds them all together. "To tell a great story, you need a great story. Seamus McGraw . . . has lived a great story. . . . [He] is just one of its many characters—very real characters—caught up in a very human story in which they must make tough, life-altering decisions for themselves, their community, and ultimately their country."—Allentown Morning Call "Compelling . . . *The End of Country* is like a phone call from a close friend or relative living smack-dab in the middle of the Pennsylvania gas rush. . . . Anyone with even a passing interest in the [fracking debate should] read it."—Harrisburg Patriot-News "This cautionary tale should be required reading for all those tempted by the calling cards of easy money and precarious peace of mind."—Tom Brokaw "A page-turner . . . McGraw brings us to the front lines of the U.S. energy revolution to deliver an honest and humbling account that could hardly possess greater relevance."—The Humanist

Risk and Return for Regulated Industries provides a much-needed, comprehensive review of how cost of capital risk arises and can be measured, how the special risks regulated industries face affect fair return, and the challenges that regulated industries are likely to face in the future. Rather than following the trend of broad industry introductions or textbook style reviews of utility finance, it covers the topics of most interest to regulators, regulated companies, regulatory lawyers, and rate-of-return analysts in all countries. Accordingly, the book also includes case studies about various countries and discussions of the lessons international regulatory procedures can offer. Presents a unified treatment of the regulatory principles and practices used to assess the required return on capital Addresses current practices before exploring the ways methods play out in practice, including irregularities, shortcomings, and concerns for the future Focuses on developed economies instead of providing a comprehensive global reviews Foreword by Stewart C. Myers

The US shale boom and efforts by other countries to exploit their shale resources could reshape energy and environmental landscapes across the world. But how might those landscapes change? Will countries with significant physical reserves try to exploit them? Will they protect or harm local communities and the global climate? Will the benefits be shared or retained by powerful interests? And how will these decisions be made? The Shale Dilemma brings together experts working at the forefront of shale gas issues on four continents to explain how countries reach their decisions on shale development. Using a common analytical framework, the authors identify both local factors and transnational patterns in the decision-making process. Eight case studies reveal the trade-offs each country makes as it decides whether to pursue, delay, or block development. Those outcomes in turn reflect the nature of a country's political process and the power of interest groups on both sides of the issue. The contributors also ask whether the economic arguments made by the shale industry and its government supporters have overshadowed the concerns of local communities for information on the effects of shale operations, and for tax policies and regulations to ensure broad-based economic development and environmental protection. As an informative and even-handed account, The Shale Dilemma recommends practical steps to help countries reach better, more transparent, and more far-sighted decisions.

U.S. Policy Options

Oil and Political Survival in the Persian Gulf

Silent Spring

The Risks, Benefits, and Uncertainties of the Shale Revolution

Beyond the Fracking Wars

The New Map

The Science Behind the Controversy

Climate change is profoundly altering our world in ways that pose major risks to human societies and natural systems. We have entered the Climate Casino and are rolling the global-warming dice, warns economist William Nordhaus. But there is still time to turn around and walk back out of the casino, and in this essential book the author explains how. Bringing together all the important issues surrounding the climate debate, Nordhaus describes the science, economics, and politics involved—and the steps necessary to reduce the perils of global warming. Using language accessible to any concerned citizen and taking care to present different points of view fairly, he discusses the problem from start to finish: from the beginning, where warming originates in our personal energy use, to the end, where societies employ regulations or taxes or subsidies to slow the emissions of gases responsible for climate change. Nordhaus offers a new analysis of why earlier policies, such as the Kyoto Protocol, failed to slow carbon dioxide emissions, how new approaches can succeed, and which policy tools will most effectively reduce emissions. In short, he clarifies a defining problem of our times and lays out the next critical steps for slowing the trajectory of global warming.

The search for cheap, plentiful and reliable energy has become one of the holy grails of modern industrial society. Since the Western technologically-advanced nations own supplies began to deplete from the 1970s those economies became increasingly dependent on foreign oil, especially from volatile (and potentially hostile) areas in the Middle East, and gas from the world's major producer - Russia. The discovery of large deposits of shale oil and gas in North America and across other parts of the world has been a major game changer as it puts the control of energy back in the hands of the US and its European partners. These countries had been trying to develop alternative, renewable resources for many years without any real major breakthrough and these sources still only offer a very small percentage of the total (and growing) energy requirements. Shale gas and oil offers abundant supply within the geographical areas of US and Europe and self-sufficiency for, potentially, another century. But the method of extracting these resources – fracking – has become an area of major controversy, sparking one of the great political and economic debates of modern times. Shale gas and oil promises massive benefits to the US and other economies; but are the health and environmental risks just too great?

Examines the basics of hydraulic fracturing and introduces economic and political benefits of fracking and the possible dangers associated with it.

Veteran investigative reporter Jack Stafford leaves California to take a job with a newspaper in Upstate New York, where he discovers a citizen rebellion modeling itself after Edward Abbey's *The Monkey Wrench Gang*. In *The Fracking War*, activists use sabotage to defend against what they perceive as industrial terrorism, perpetrated by multinational corporations' environmentally damaging practice of hydrofracking for natural gas and oil. Set in the pristine Finger Lakes wine country of New York and neighboring Pennsylvania, Stafford and the newspaper staff witness the tragic impacts of hydrofracking--the health risks, water and air pollution, and a rapid increase in crime. The fictional events of *The Fracking War* were pulled from newspaper headlines offering a glimpse into an escalating conflict between citizens who want to protect their communities and the out-of-control expansion of the natural gas industry's controversial method of extracting natural gas.

Bestselling author Bethany McLean reveals the true story of fracking's impact -- on Wall Street, the economy and geopolitics. The technology of fracking in shale rock -- particularly in the Permian Basin in Texas -- has transformed America into the world's top producer of both oil and natural gas. The U.S. is expected to be "energy independent" and a "net exporter" in less than a decade, a move that will upend global politics, destabilize Saudi Arabia, crush Russia's chokehold over Europe, and finally bolster American power again. Or Will it? Investigative journalist and bestselling author Bethany McLean digs deep into the cycles of boom and bust that has plagued the American oil industry for the past decade, from the financial wizardry and mysterious death of fracking pioneer Aubrey McClendon, to the speculators who are betting on America's ascendance and the collapse of OPEC in the great game of geopolitics. McLean finds that fracking is a business built on attracting ever-more gigantic amounts of capital investment, while promises

of huge returns have often not borne out. Overeagerness in partaking in a boom can lead to all types of problems and just as she did with the Enron story, in Saudi America McLean points out the reality and the risks of the inflated promises of the fracking boom.

The End of Country

Intergovernmental Politics of the Oil and Gas Renaissance, Second Edition

Unsettled

Merchants of Doubt

How America's Shale Gas Boom Is Threatening Our Families, Pets, and Food

How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming

Is Fracking the Next Financial Crisis? A Development Lens for Understanding Systemic Risk and Governance

Discusses the reckless annihilation of fish and birds by the use of pesticides and warns of the possible genetic effects on humans.

"Unsettled is a remarkable book—probably the best book on climate change for the intelligent layperson—that achieves the feat of conveying complex information clearly and in depth." —Claremont Review of Books "Surging sea levels are inundating the coasts." "Hurricanes and tornadoes are becoming fiercer and more frequent." "Climate change will be an economic disaster." You've heard all this presented as fact. But according to science, all of these statements are profoundly misleading. When it comes to climate change, the media, politicians, and other prominent voices have declared that "the science is settled." In reality, the long game of telephone from research to reports to the popular media is corrupted by misunderstanding and misinformation. Core questions—about the way the climate is responding to our influence, and what the impacts will be—remain largely unanswered. The climate is changing, but the why and how aren't as clear as you've probably been led to believe. Now, one of America's most distinguished scientists is clearing away the fog to explain what science really says (and doesn't say) about our changing climate. In *Unsettled: What Climate Science Tells Us, What It Doesn't, and Why It Matters*, Steven Koonin draws upon his decades of experience—including as a top science advisor to the Obama administration—to provide up-to-date insights and expert perspective free from political agendas. Fascinating, clear-headed, and full of surprises, this book gives readers the tools to both understand the climate issue and be savvier consumers of science media in general. Koonin takes readers behind the headlines to the more nuanced science itself, showing us where it comes from and guiding us through the implications of the evidence. He dispels popular myths and unveils little-known truths: despite a dramatic rise in greenhouse gas emissions, global temperatures actually decreased from 1940 to 1970. What's more, the models we use to predict the future aren't able to accurately describe the climate of the past, suggesting they are deeply flawed. Koonin also tackles society's response to a changing climate, using data-driven analysis to explain why many proposed "solutions" would be ineffective, and discussing how alternatives like adaptation and, if necessary, geoengineering will ensure humanity continues to prosper. *Unsettled* is a reality check buoyed by hope, offering the truth about climate science that you aren't getting elsewhere—what we know, what we don't, and what it all means for our future.

In the past several years, some energy technologies that inject or extract fluid from the Earth, such as oil and gas development and geothermal energy development, have been found or suspected to cause seismic events, drawing heightened public attention. Although only a very small fraction of injection and extraction activities among the hundreds of thousands of energy development sites in the United States have induced seismicity at levels noticeable to the public, understanding the potential for inducing felt seismic events and for limiting their occurrence and impacts is desirable for state and federal agencies, industry, and the public at large. To better understand, limit, and respond to induced seismic events, work is needed to build robust prediction models, to assess potential hazards, and to help relevant agencies coordinate to address them. *Induced Seismicity Potential in Energy Technologies* identifies gaps in knowledge and research needed to advance the understanding of induced seismicity; identify gaps in induced seismic hazard assessment methodologies and the research to close those gaps; and assess options for steps toward best practices with regard to energy development and induced seismicity potential.

Over roughly the past decade, oil and gas production in the United States has surged dramatically—thanks largely to technological advances such as high-volume hydraulic fracturing, more commonly known as “fracking.” This rapid increase has generated widespread debate, with proponents touting economic and energy-security benefits and opponents highlighting the environmental and social risks of increased oil and gas production. Despite the heated debate, neither side has a monopoly on the facts. In this book, Daniel Raimi gives a balanced and accessible view of oil and gas development, clearly and thoroughly explaining the key issues surrounding the shale revolution. *The Fracking Debate* directly addresses the most common questions and concerns associated with fracking: What is fracking? Does fracking pollute the water supply? Will fracking make the United States energy independent? Does fracking cause earthquakes? How is fracking regulated? Is fracking good for the economy? Coupling a deep understanding of the

scholarly research with lessons from his travels to every major U.S. oil- and gas-producing region, Raimi highlights stories of the people and communities affected by the shale revolution, for better and for worse. The Fracking Debate provides the evidence and context that have so frequently been missing from the national discussion of the future of oil and gas production, offering readers the tools to make sense of this critical issue.

Biological and Environmental Hazards, Risks, and Disasters provides an integrated look at major impacts to the Earth's biosphere. Many of these are caused by diseases, algal blooms, insects, animals, species extinction, deforestation, land degradation, and comet and asteroid strikes that have important implications for humans. This volume, from Elsevier's Hazards and Disasters Series, provides an in-depth view of threats, ranging from microscopic organisms to celestial objects. Perspectives from both natural and social sciences provide an in-depth understanding of potential impacts. Contributions from expert ecologists, environmental, biological, and agricultural scientists, and public health specialists selected by a world-renowned editorial board Presents the latest research on damages, causality, economic impacts, fatality rates, and preparedness and mitigation Contains tables, maps, diagrams, illustrations, and photographs of hazardous processes

Risks, Rewards and Regulation of Unconventional Gas

Hydrofracking

The Fracking Debate

Matrix and Fluids

The Complete Story of the Shale Revolution, the Fight over Fracking, and the Future of Energy

Environmental and Health Issues in Unconventional Oil and Gas Development

Struggling for Air

A guide to environmental and communication issues related to fracking and the best approach to protect communities Environmental Considerations Associated with Hydraulic Fracturing Operations offers a much-needed resource that explores the complex challenges of fracking by providing an understanding of the environmental and communication issues that are inherent with hydraulic fracturing. The book balances the current scientific knowledge with the uncertainty and risks associated with hydraulic fracturing. In addition, the authors offer targeted approaches for helping to keep communities safe. The authors include an overview of the historical development of hydraulic fracturing and the technology currently employed. The book also explores the risk, prevention, and mitigation factors that are associated with fracturing. The authors also include legal cases, regulatory issues, and data on the cost of recovery. The volume presents audit checklists for gathering critical information and documentation to support the reliability of the current environmental conditions related to fracking operations and the impact fracking can have on a community. This vital resource: Contains the technical information and mitigation recommendations for safety and environmental issues related to hydraulic fracturing Offers an historical overview of conventional and unconventional oil and gas drilling Explains the geologic and technical issues associated with fracking of tight sand and shale formulations Presents numerous case studies from the United States EPA and other agencies Discusses issues of co-produced waste water and induced seismicity from the injection of wastewater Written for environmental scientists, geologists, engineers, regulators, city planners, attorneys, foresters, wildlife biologists, and others, Environmental Considerations Associated with Hydraulic Fracturing Operations offers a comprehensive resource to the complex environmental and communication issues related to fracking.

Without significant reductions of greenhouse gas emissions, climate change will cause substantial damage to the environment and the economy. The scope of the threat demands a close look at the policies capable of reducing the harm. Confronting the Climate Challenge presents a unique framework for evaluating the impacts of a range of U.S. climate-policy options, both for the economy overall and for particular household groups, industries, and regions. Lawrence Goulder and Marc Hafstead focus on four alternative approaches for reducing carbon dioxide emissions: a revenue-neutral carbon tax, a cap-and-trade program, a clean energy standard, and an increase in the federal gasoline tax. They demonstrate that these policies—if designed correctly—not only can achieve emissions reductions at low cost but also can avoid placing undesirable burdens on low-income household groups or especially vulnerable industries. Goulder and Hafstead apply a multiperiod, economy-wide general equilibrium model that is distinct in its attention to investment dynamics and to interactions between climate policy and the tax system. Exploiting the unique features of the model, they contrast the shorter- and longer-term policy impacts and focus on alternative ways of feeding back—or “recycling”—policy-generated revenues to the private sector. Their work shows how careful policy design, including the judicious use of policy-generated revenues, can achieve desired reductions in carbon dioxide emissions at low cost, avoid uneven impacts across household income groups, and prevent losses of profit in the most vulnerable U.S. industries. The urgency of the climate problem demands comprehensive action, and Confronting the Climate Challenge offers important insights that can help elevate policy discussions and spur needed efforts on the climate front.

Beyond the Fracking Wars provides an accessible and credible reference for lawyers, public officials, planners, and citizens. It avoids a "pro" or "anti" position

and serves as a balanced resource on common issues associated with unconventional oil and gas exploration and development. Whether you are a state and local government lawyer, land owner, public official, planner, oil and gas industry employee, or interested citizen, Beyond the Fracking Wars is a must-have reference for understanding the controversial subject of unconventional oil and gas development and its impact on local governments.

Disruptive digital technologies are poised to reshape world energy markets. A new wave of industrial innovation, driven by the convergence of automation, artificial intelligence, and big data analytics, is remaking energy and transportation systems in ways that could someday end the age of oil. What are the consequences—not only for the environment and for daily life but also for geopolitics and the international order? Amy Myers Jaffe provides an expert look at the promises and challenges of the future of energy, highlighting what the United States needs to do to maintain its global influence in a post-oil era. She surveys new advances coming to market in on-demand travel services, automation, logistics, energy storage, artificial intelligence, and 3-D printing and explores how this rapid pace of innovation is altering international security dynamics in fundamental ways. As the United States vacillates politically about its energy trajectory, China is proactively striving to become the global frontrunner in a full-scale global energy transformation. In order to maintain its leadership role, Jaffe argues, the United States must embrace the digital revolution and foster American achievement. Bringing together analyses of technological innovation, energy policy, and geopolitics, Energy 's Digital Future gives indispensable insight into the path the United States will need to pursue to ensure its lasting economic competitiveness and national security in a new energy age.

One of the greatest unanswered questions after the massive and violent changes that hit the Middle East in 2011, known to some as the "Arab Spring" and to others as the "Islamist Winter," is how the West failed to predict both cataclysmic seasons in world affairs and to meet their challenges. The so-called spring didn't last long, quickly unraveling into a collection of civil wars, civil unrest, and secessions. Phares argues that Washington is too hesitant to take action when necessary, that US policy is highly disoriented on counter terrorism efforts, and that the effects of these errors have already proven costly. In Benghazi, US foreign policy failed to see the explosions coming, didn't meet the challenges of political transformation where and with whom it should, and failed in isolating the Jihadi terrorists worldwide. Too many strategic errors were committed. In this fascinating new book, Phares, the only expert who accurately predicted the Arab Spring, will foretell a major demise in US and Western policies in the Middle East, unless a deep change in strategies and policies are made in Washington and around the world.

Fracking, Freedom, and Community in an American Town

Risk and Return for Regulated Industries

Biological and Environmental Hazards, Risks, and Disasters

Fracking 101

The Outrageous Inside Story of the New Billionaire Wildcatters

The Truth about Fracking and How It's Changing the World

Environmental Considerations Associated with Hydraulic Fracturing Operations

The Fracking Debate The Risks, Benefits, and Uncertainties of the Shale Revolution Columbia University Press

A Novel

Harnessing Innovation for American Resilience and National Security

America's Alternative Energy Revolution

What Everyone Needs to Know

Energy, Climate, and the Clash of Nations

The Power Surge

Power Plants and the "War on Coal"