

Shale Gas Prospectivity Potential Acola

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.

Multicriteria analysis is one of the most important fields of decision science. This book gives an outline of the formulation of an appropriate model and presents a comprehensive summary of the most popular methods for solving multicriteria decision problems. In addition to the classical approach the book introduces fuzzy and stochastic methodology, models with uncertainty, social choice and conflict resolution. All methods are illustrated with easy to follow simple examples. At the end of each chapter detailed case studies are given in water and environment management including inter-basin water transfer, urban water management, water allocation, groundwater quality management, forest treatment, ranking water resources projects, reservoir planning, water distribution network design and long-term watershed management. The new methodology and the wide variety of case studies are not easily accessible elsewhere.

Fractured bedrock aquifers have traditionally been regarded as low-productivity aquifers, with only limited relevance to regional groundwater resources. It is now being increasingly recognised that these complex bedrock aquifers can play an important role in catchment management and subsurface energy systems. At shallow to intermediate depth, fractured bedrock aquifers help to sustain surface

water baseflows and groundwater dependent ecosystems, provide local groundwater supplies and impact on contaminant transfers on a catchment scale. At greater depths, understanding the properties and groundwater flow regimes of these complex aquifers can be crucial for the successful installation of subsurface energy and storage systems, such as deep geothermal or Aquifer Thermal Energy Storage systems and natural gas or CO₂ storage facilities as well as the exploration of natural resources such as conventional/unconventional oil and gas. In many scenarios, a robust understanding of fractured bedrock aquifers is required to assess the nature and extent of connectivity between such engineered subsurface systems at depth and overlying receptors in the shallow subsurface.

Environment Abstracts

Balanced Urban Development: Options and Strategies for Liveable Cities

Congressional Record

Proceedings and Debates of the ... Congress

Economic Geology

Environmental Tracers

The global energy transition from carbon-intensive to renewable fuels has increasingly demanded a better understanding of the causes and consequences of the rapid development of unconventional oil and gas. Focusing on key countries including the United States, Canada, China, Argentina, the United Kingdom and Australia, this book consists of case studies and in-depth analyses that weigh up the risks and rewards at regional, national and global scales. Explaining how and why unconventional fuels are transforming the global energy landscape, the strengths, weaknesses, opportunities and threats are explored through a political, economic and governance-based perspective. Emphasis is placed on how to regulate the industry, encompassing local issues, stakeholder engagement and the social licence to operate. The new baseline studies and standards introduced in this book provide a timely insight into the trade-offs across the social, economic and environmental domains, making this ideal for researchers and policymakers in energy fields, and for graduate students. This report attempts to demystify the sphere of commodities markets worldwide by providing an in-depth examination of the major commodity groups, focusing on product characteristics, supply chains, pricing, liquidity, financial intermediation, industry players and the interplay between derivatives markets and the underlying physical goods. In so doing, the report contributes to the international debate with important information about the diverse market structures across commodities, including supply and demand elasticities, concentration of ownership, infrastructure organisation and layers of financial participation. While describing the endogenous factors, it also examines the increasing role of exogenous factors now impacting commodities. Finally, it assesses the drivers of the growth of derivatives markets and their impact on price formation. Man's intensifying use of the Earth's habitat has led to an urgent need for

scientifically advanced 'geo-prediction systems' that accurately locate subsurface resources and forecast the timing and magnitude of earthquakes, volcanic eruptions and land subsidence. As advances in the earth sciences lead to process-oriented ways of modeling the complex processes in the solid Earth, the papers in this volume provide a survey of some recent developments at the leading edge of this highly technical discipline. The chapters cover current research in predicting the future behavior of geologic systems as well as the mapping of geologic patterns that exist now in the subsurface as frozen evidence of the past. Both techniques are highly relevant to humanity's need for resources such as water, and will also help us control environmental degradation. The book also discusses advances made in seismological methods to obtain information on the 3D structure of the mantle and the lithosphere, and in the quantitative understanding of lithospheric scale processes. It covers recent breakthroughs in 3D seismic imaging that have enhanced the spatial resolution of these structural processes, and the move towards 4D imaging that measures these processes over time. The new frontier in modern Earth sciences described in this book has major implications for oceanographic and atmospheric sciences and our understanding of climate variability. It brings readers right up to date with the research in this vital field.

The Mines Magazine

Australia-China Joint Economic Report

Twentieth-Century Building Materials

Multicriteria Analysis

Petroleum Abstracts

Introduction to Mineral Exploration

This new, up dated edition of Introduction to Mineral Exploration provides a comprehensive overview of all aspects of mineral exploration. Covers not only the nature of mineral exploration but also considers other factors essential to successful exploration, from target evaluation to feasibility for extraction and production. Includes six detailed case studies, selected for the range of different problems and considerations they present to the mineral explorationist. Features new chapters handling mineral exploration data and a new case study on the exploration for diamonds. Essential reading for upper level undergraduates studying ore geology, mineral exploration, mining geology, coal exploration, and industrial minerals, as well as professional geologists. Artwork from the book is available to instructors online at www.blackwellpublishing.com/moon.

For over 130 years, Imperial Oil dominated Canada's oil industry. Their 1947 discovery of crude oil in Leduc, Alberta transformed the industry and the country. But from 1899 onwards, two-thirds of the company was owned by an American giant, making Imperial Oil one of the largest foreign-controlled multinationals in Canada. Imperial Standard is the first full-scale history of Imperial Oil. It illuminates Imperial's longstanding connections to Standard Oil of New Jersey, also known as Mobil. Although this relationship was often beneficial to Imperial, allowing them access to technology and capital, it also came at a cost, causing Imperial to be assailed as the embodiment of foreign control of Canada's natural resources. Graham D. Taylor draws on an extensive collection of primary sources to explore the complex relationship between the two companies. This groundbreaking history provides unprecedented insight into one of Canada's most influential oil companies as it has grown and evolved with the industry itself.

As the importance and dependence of specific mineral commodities increase, so does concern about their supply. The United States is currently 100 percent reliant on foreign sources for 20 min

commodities and imports the majority of its supply of more than 50 mineral commodities. Mineral commodities that have important uses and face potential supply disruption are critical to American economic and national security. However, a mineral commodity's importance and the nature of its supply chain can change with time; a mineral commodity that may not have been considered critical 25 years ago may be critical today, and one considered critical today may not be so in the future. The U.S. Geological Survey has produced this volume to describe a select group of mineral commodities currently critical to our economy and security. For each mineral commodity covered, the authors provide a comprehensive look at (1) the commodity's use; (2) the geology and global distribution of the mineral deposit types that account for the present and possible future supply of the commodity; (3) the current status of production, reserves, and resources in the United States and globally; and (4) environmental considerations related to the commodity's production from different types of mineral deposits. The volume describes U.S. critical mineral resources in a global context, for no country can be self-sufficient for all its mineral commodity needs, and the United States will always rely on international mineral commodity supply chains. This volume provides the scientific understanding of critical mineral resources required for informed decisionmaking by those responsible for ensuring that the United States has a secure and sustainable supply of mineral commodities.

Regulating Water Security in Unconventional Oil and Gas

Site Selection

UNESCO science report

Securing Australia's Future

The Canning Basin, W.A.

The Shale Dilemma

The Australia–China Joint Economic Report is the first major independent joint study of the bilateral relationship and has the blessing of both national governments. The Report is an academic policy study by leading researchers in both Australia and China. It draws policy conclusions to guide the development of bilateral economic relations that include an Australia–China Comprehensive Strategic Partnership for Change, an Australia–China Commission, and an Australia–China Basic Treaty of Cooperation.

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.

This comprehensive textbook covers all major topics related to the utilization of mineral resources for human activities. It begins with general concepts like definitions of mineral resources, mineral resources and humans, recycling mineral resources, distribution of minerals resources across Earth, and international standards in mining, among others. Then it turns to a classification of mineral resources, covering the main types from a geological standpoint. The exploration of mineral resources is also treated, including geophysical methods of exploration, borehole geophysical logging, geochemical methods, drilling methods, and mineral deposit models in exploration. Further, the book addresses the evaluation of mineral resources, from sampling techniques to the economic evaluation of mining projects (i.e. types and density of sampling, mean grade definition and calculation, Sichel's estimator, evaluation methods – classical and geostatistical, economic evaluation – NPV, IRR, and PP, estimation of risk, and software for evaluating mineral resources). It subsequently describes key mineral resource exploitation methods (open pit and underground mining) and the mineral processing required to obtain saleable products (crushing, grinding, sizing, ore separation, and concentrate dewatering, also with some text devoted to tailings dams). Lastly, the book discusses the environmental impact of mining, covering all the aspects of this very important topic, from the description of diverse impacts to the environmental impact assessment (EIA), which is essential in modern mining projects.

Mineral Resources

U.S. Geological Survey Professional Paper

towards 2030

Price Formation in Commodities Markets

Critical Mineral Resources of the United States

This CFR-sponsored Independent Task Force report, North America: Time for a New Focus, asserts that elevating and prioritizing the U.S.-Canada-Mexico relationship offers the best opportunity for strengthening the United States and its place in the world.

The future will bring change for Australia. But whether that change is for the better or worse largely depends on the decisions we make today as individuals and as a nation. Recognising rapid changes in the global economy, environment and policy, the Australian Government engaged the Australian Council of Learned Academies (ACOLA) to undertake detailed interdisciplinary research to help guide Australian thinking and policy decisions. Dozens of Australia's finest minds assessed the opportunities available to the nation globally and domestically, charting a course for the future. The resulting findings can prepare Australia to address the challenges ahead and make the most of the opportunities. Securing Australia's Future synthesises the major themes that emerge from ACOLA's reports. Each chapter includes key findings designed to optimise Australia's prosperity and place in the region. The future is a long game but its base must be built now. This book provides a vision for the nation, for its politicians, public servants and industry leaders – a sound footing for securing Australia's future. It is a vital resource for Members of Federal and State parliaments, senior public servants, industry leaders, universities and the interested public.

This book is a printed edition of the Special Issue "Environmental Tracers" that was published in Water

Mineral and Water Resources of Oregon

Mining Royalties

The APEA Journal

Environmental Impacts of Shale Gas Extraction in Canada

Mineral Occurrences and Exploration Potential of the East Pilbara

North America

This database encompasses all aspects of the impact of people and technology on the environment and the effectiveness of remedial policies and technologies, featuring more than 950 journals published in the U.S. and abroad. The database also covers conference papers and proceedings, special reports from international agencies, non-governmental organizations, universities, associations and private corporations. Other materials selectively indexed include significant monographs, government studies and newsletters.

Humanity's ever-increasing hunger for mineral raw materials, caused by a growing global population and ever increasing standards of living, has resulted in economic geology becoming a

subject of urgent importance. This book provides a broad panorama of mineral deposits, covering their origin and geological characteristics, the principles of the search for ores and minerals, and the investigation of newly found deposits. Practical and environmental issues that arise during the life cycle of a mine and after its closure are addressed, with an emphasis on sustainable and "green" mining. The central scientific theme of the book is to place the extraordinary variability of mineral deposits in the frame of fundamental geological processes. The book is written for earth science students and practicing geologists worldwide. Professionals in administration, resource development, mining, mine reclamation, metallurgy, and mineral economics will also find the text valuable. Economic Geology is a fully revised translation of the the fifth edition of the German language text Mineralische und Energie-Rohstoffe. Additional resources for this book can be found at: www.wiley.com/go/pohl/geology. The author's website can be found at: <http://www.walter-pohl.com>.

Includes list of the Alumni.

History and Conservation

Business and Geopolitical Implications of the Fracking Revolution

Preliminary Report on the McKittrick-Sunset Oil Region, Kern and San Luis Obispo Counties, California

From Exploration to Sustainability Assessment

A Global Study of Their Impact on Investors, Government, and Civil Society

Groundwater in Fractured Bedrock Environments: Managing Catchment and Subsurface Resources

Over the concluding decades of the twentieth century, the historic preservation community increasingly turned its attention to modern buildings, including bungalows from the 1930s, gas stations and diners from the 1940s, and office buildings and architectural homes from the 1950s. Conservation efforts, however, were often hampered by a lack of technical information about the products used in these structures, and to fill this gap Twentieth-Century Building Materials was developed by the U.S. Department of the Interior's National Park Service and first published in 1995. Now, this invaluable guide is being reissued—with a new preface by the book's original editor. With more than 250 illustrations, including a full-color photographic essay, the volume remains an indispensable reference on the history and conservation of modern building materials. Thirty-seven essays written by leading experts offer insights into the history, manufacturing processes, and uses of a wide range of materials, including glass block, aluminum, plywood, linoleum, and gypsum board. Readers will also learn about how these materials perform over time and discover valuable conservation and repair techniques. Bibliographies and sources for further research complete the volume. The book is intended for a wide range of conservation professionals including architects, engineers, conservators, and material scientists engaged in the conservation of modern buildings, as

well as scholars in related disciplines.

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.

This book provides a unique synthesis of concepts and tools to examine natural resource, socio-economic, legal, policy and institutional issues that are important for managing urban growth into the future. The book will particularly help the reader to understand the current issues and challenges and develop strategies and practices to cope with future pressures of urbanisation and peri-urban land, water and energy use challenges. In particular, the book will help the reader to discover underlying principles for the planning of future cities and peri-urban regions in relation to: (i) Balanced urban development policies and institutions for future cities; (ii) Understanding the effects of land use change, population increase, and water demand on the liveability of cities; (iii) Long-term planning needs and transdisciplinary approaches to ensure the secured future for generations ahead; and (iv) Strategies to adapt the cities and land, water and energy uses for viable and liveable cities. There are growing concerns about water, food security and sustainability with increased urbanisation worldwide. For cities to be liveable and sustainable into the future there is a need to maintain the natural resource base and the ecosystem services in the peri-urban areas surrounding cities. This need is increasing under the looming spectre of global warming and climate change. This book will be of interest to policy makers, urban planners, researchers, post-graduate students in urban planning, environmental and water resources management, and managers in municipal councils.

Planktonic Foraminifera and Stratigraphy of the Corsicana Formation (Maestrichtian)
North-central Texas

Mineral Occurrences and Exploration Potential of the West Kimberley
Partnership for Change

Financialisation and Beyond : Report of a CEPS-ECMI Task Force, September 2013
Tracer's Exogram and Oil & Gas Review

American Shale Energy and the Global Economy

This book addresses the need for deeper understanding of regulatory and policy regimes around the world in relation to the use of water for the production of 'unconventional' hydrocarbons, including shale gas, coal bed methane and tight oil, through hydraulic fracturing.

Legal, policy, political and regulatory issues surrounding the use of water for hydraulic fracturing are present at every stage of operations. Operators and regulators must understand the legal, political and hydrological contexts of their surroundings, procure water for use in the fracturing and extraction processes, gain community cooperation or confront social resistance around water, collect flow back and produced water, and dispose of these wastewaters safely. By analysing and comparing different approaches to these issues from around the globe, this volume gleans insights into how policy, best practices and regulation may be developed to advance the interests of all stakeholders. While it is not always possible to easily transfer 'good practice' from one place to another, there is value in examining and understanding the components of different legal and regulatory regimes, as these may assist in the development of better regulatory law and policy for the rapidly growing unconventional energy sector. The book takes an interdisciplinary approach and includes chapters looking at water-energy nexus security in general, along with issue-focused and geographically-focused case studies written by scholars from around the world. Chapter topics, organized in conjunction with the stage of the shale gas production process upon which they touch, include the implications of hydraulic fracturing for agriculture, municipalities, and other stakeholders competing for water supplies; public opinion regarding use of water for hydraulic fracturing; potential conflicts between hydraulic fracturing and water as a human right; prevention of induced seismic activity, and the disposal or recycling of produced water. Several chapters also discuss implications of unconventional energy production for indigenous communities, particularly as regards sustainable water management. This volume will be of interest to scholars and students of energy and water, regulators and policymakers and operators interested in ensuring that they align with emergent best global practice.

There are fewer grounds today than in the past to deplore a North-South divide in research and innovation. This is one of the key findings of the UNESCO Science Report: towards 2030. A large number of countries are now incorporating science, technology and innovation in their national development agenda, in order to make their economies less reliant on raw materials and more rooted in knowledge. Most research and development (R&D) is taking place in high-income countries, but innovation of some kind is now occurring across the full spectrum of income levels according to the first survey of manufacturing companies in 65 countries conducted by the UNESCO Institute for Statistics and summarized in this report. For many lower-income countries, sustainable development has become an integral part of their national development plans for the next 10–20 years. Among higher-income countries, a firm commitment to sustainable development is often coupled with the desire to maintain competitiveness in global markets that are increasingly leaning towards 'green' technologies. The quest for clean energy and greater energy efficiency now figures among the research priorities of

numerous countries. Written by more than 50 experts who are each covering the country or region from which they hail, the UNESCO Science Report: towards 2030 provides more country-level information than ever before. The trends and developments in science, technology and innovation policy and governance between 2009 and mid-2015 described here provide essential baseline information on the concerns and priorities of countries that could orient the implementation and drive the assessment of the 2030 Agenda for Sustainable Development in the years to come.

This report comes at the request of Environment Canada, which asked the Council to assemble a multidisciplinary expert panel to consider the state of knowledge of potential environmental impacts from the exploration, extraction, and development of Canada's shale gas resources. The Council's report presents a comprehensive examination of shale gas development in Canada. It does not, however, determine the safety, nor the economic benefits, of development. It reviews the use of new and conventional technologies in shale gas extraction, and examines several issues of concern including potential impacts on surface water and groundwater, greenhouse gas emissions, cumulative land disturbance, and human health. The report also outlines approaches for monitoring and research, as well as mitigation and management strategies.

A Global Perspective

FutureGen Project

Applications to Water and Environment Management

Economic and Environmental Geology and Prospects for Future Supply

New Frontiers in Integrated Solid Earth Sciences

Induced Seismicity Potential in Energy Technologies

This book contains a wealth of information and analysis relating to mineral royalties. Primary information includes royalty legislation from over forty nations. Analysis is comprehensive and addresses issues of importance to diverse stakeholders including government policymakers, tax administrators, society, local communities and mining companies. Extensive footnotes and citations provide a valuable resource for researchers.

The Shale Dilemma A Global Perspective on Fracking and Shale Development University of Pittsburgh Press

Harnessing Interdisciplinary Research for Innovation and Prosperity

Imperial Standard

Environmental Impact Statement

Risks, Rewards and Regulation of Unconventional Gas

A Global Perspective on Fracking and Shale Development

Energy: a Continuing Bibliography with Indexes