

## 2013 Mitchell Emission Control Application Guide

This handbook provides a wide-ranging, coherent, and systematic analysis of maritime management, policy, and strategy development. It undertakes a comprehensive examination of the fields of management and policy-making in shipping by bringing together chapters on key topics of seminal scientific and practical importance. Within 21 original chapters, authoritative experts describe and analyze concepts at the cutting edge of knowledge in shipping. Themes include maritime management and policy, ship finance, port and maritime economics, and maritime logistics. A study examines the determinants of ship management fees. Aspects of corporate governance in the shipping industry are reviewed and there is a critical review of the ship investment literature. Other topics featured include the organization and management of tanker and dry bulk shipping companies, environmental management in shipping with reference to energy-efficient ship operation, a study of the BIMCO Shipping KPI standard, utilizing the Bunker Adjustment Factor as a strategic decision-making instrument, and slow steaming in the maritime industry. All chapters are written to provide implications for further advancement in professional practice and research. The Routledge Handbook of Maritime Management will be of great interest to relevant students, researchers, academics, and professionals alike. It provides abundant opportunities to guide further research in the areas covered but will also initiate and inspire effective maritime management.

Advances in Cancer Research provides invaluable information on the exciting and fast-moving field of cancer research. Here, once again, outstanding and original reviews are presented on a variety of topics. This volume, number 124, covers emerging applications of molecular imaging to oncology, including molecular-genetic imaging, imaging the tumor microenvironment, tracking cells and vaccines in vivo, and more. Provides information on cancer research Outstanding and original reviews Suitable for researchers and students

More than 40 years after the United States launched bold efforts to curb pollution and waste, American environmental management has stalled. Drawing extensively on recent environmental science, engineering, regulatory agency data and trade information,

Evaluating the role of logistics and supply chain management skills or applications is necessary for the success of any organization or business. As market competition becomes more aggressive, it is crucial to evaluate ways in which a business can maintain a strategic edge over competitors. Contemporary Approaches and Strategies for Applied Logistics is a critical scholarly resource that examines applied research and development in logistics and supply chain management. Featuring coverage on a broad range of topics, such as computational logistics, inventory management, and partnership formation, this book is geared towards academicians, researchers, and practitioners seeking current research on enabling an efficient and sustainable economy.

This Handbook offers a comprehensive overview of the latest research from leading scholars on the international political economy of energy and resources. Highlighting the important conceptual and empirical themes, the chapters study all levels of governance, from global to local, and explore the wide range of issues emerging in a changing political and economic environment.

The author looks at the prospects for a transition from natural gas to low carbon gas, which could take several decades, and at how this will depend on the evolution of the fossil fuel industry. She investigates the technologies and energy systems for making the best use of renewable gas resources.

Deforestation. Desertification. Species extinction. Global warming. Growing threats to food and water. The driving issues of our times are the result of one huge problem: Us. As the population continues to grow, our problems will increase. And this means that every way we look at it, a planet of ten billion people is likely to be a nightmare. Stephen Emmott, a scientist whose lab is at the forefront of research into complex natural systems, sounds the alarm. TEN BILLION is a snapshot of our planet, and our species, approaching a crisis, and a stark analysis of where this leaves us. TEN BILLION is not another climate book. TEN BILLION is a book about us.

Viewing transportation through the lens of current social, economic, and policy aspects, this four-volume reference work explores the topic of transportation across multiple disciplines within the social sciences and related areas, including geography, public policy, business, and economics. The book's articles, all written by experts in the field, seek to answer such questions as: What has been the legacy, not just economically but politically and socially as well, of President Eisenhower's modern interstate highway system in America? With that system and the infrastructure that supports it now in a state of decline and decay, what's the best path for the future at a time of enormous fiscal constraints? Should California politicians plunge ahead with plans for a high-speed rail that every expert says—despite the allure—will go largely unused and will never pay back the massive investment while at this very moment potholes go unfilled all across the state? What path is best for emerging countries to keep pace with dramatic economic growth for their part? What are the social and financial costs of gridlock in our cities? Features: Approximately 675 signed articles authored by prominent scholars are arranged in A-to-Z fashion and conclude with Further Readings and cross references. A Chronology helps readers put individual events into historical context; a Reader's Guide organizes entries by broad topical or thematic areas; a detailed index helps users quickly locate entries of most immediate interest; and a Resource Guide provides a list of journals, books, and associations and their websites. While articles were written to avoid jargon as much as possible, a Glossary provides quick definitions of technical terms. To ensure full, well-rounded coverage of the field, the General Editor with expertise in urban planning, public policy, and the environment worked alongside a Consulting Editor with a background in Civil Engineering. The index, Reader's Guide, and cross references combine for thorough search-and-browse capabilities in the electronic edition. Available in both print and electronic formats, Encyclopedia of Transportation is an ideal reference for libraries and those who want to explore the issues that surround transportation in the United States and around the world.

This book focuses on the water–energy–climate nexus, which can be used to improve energy security and quality of life for millions of people in developing countries. It enhances the reader's understanding of the link between energy and climate, through the development of new approaches to and methods for energy generation, energy use, and climate change adaptation and resilience. By presenting case studies and research reports, the book addresses the relevant issues needed in order to analyze and successfully implement technologies in the water–energy–climate nexus. It focuses on the contributions of higher education institutions in terms of capacity-building for energy efficiency, energy access and energy security, as they relate to climate change mitigation. The book combines results from the authors' own research with detailed analyses, and the research presented lays the foundation for innovative new concepts and ideas, which the authors subsequently discuss. The book will appeal to all those interested in the links between energy issues, sustainability and climate change, as it focuses on the exchange between science and technology experts, as well as decision makers. It also supports students studying renewable energies and energy security, while serving as a valuable reference source for researchers, professionals, practitioners and scientists.

Over the past five decades, the European Union (EU) has developed into the most legally and politically authoritative regional organization in the world, wielding significant influence across a wide range of issue areas. European Union and Environmental Governance focuses on the growing global role of EU environmental and sustainable development policies. Written in a concise

and accessible manner, this book introduces and examines the major European and global environmental issues, debates, and policies and provides a critical, evidence-based evaluation of the achievements and shortcomings to date in EU environmental and sustainability governance. Providing both an historical overview and a discussion of the major future legal, political and economic challenges to the realization of EU goals related to better environmental governance, the authors offer a comprehensive introduction to this key issue. This book will be useful reading for students of global environmental politics, comparative environmental politics and policy, international organizations, European politics, and environmental studies.

This book will not serve as the "encyclopedia of cover crop management," but it's close. The benefits of a wide range of individual cover crops and blends/mixes for specific agronomic crop rotations and geographic locations are included. Descriptions, photographs, and illustrations show how cover crops look in the field, including plant height, leaf architecture, and rooting patterns. Long term benefits are described for soil health, soil structure, water quality, nutrient contributions, soil biodiversity, air quality and climate change. In addition to the "whys" of cover crop use, the book includes details on the "hows:" how to choose cover crops for specific applications and locations; how (and when) to plant; how to manage and maintain the cover for maximum benefit; and how and when to terminate. Planting options include: drilling/planting between rows of an agronomic crop at planting time, or when the crop is short (i.e. corn in early June); "aerial" seeding with an airplane or high-clearance machine shortly before the crop reaches maturity; and drilling/planting immediately after harvest of the agronomic crop. Selected cover crops (blends) can help with pest and disease management. Cover crops are an economic input with an expected return on investment, similar to pesticides and fertilizer. As part of a continuous no-till system, cover crops provide long-term biological, chemical and structural benefits. The resulting increase in soil organic matter means the agronomic crop yields benefit from better water infiltration and water holding capacity, greater availability of nitrogen and other nutrients, deeper rooting, and increased soil microbial activity in the root zone.

This book is intended for academics and engineers who are working in universities, research institutes, utility and industry sectors wishing to enhance their idea and get new information about the energy efficiency developments in smart grid. The readers will gain special experience with deep information and new idea about the energy efficiency topics. This book includes lots of problems and solutions that can easily be understood and integrated into larger projects and researches. The book enables some studies about monitoring, management and measures related to smart grid components, Energy Efficiency Improvements in smart grid components and new intelligent Control strategies for Distributed energy resources, boosting PV systems, electrical vehicles, etc. It included optimization concepts for power system, promoting value propositions; protection in power system, etc. The book also has some recent developments in solar cell technologies, LEDs and non thermal plasma technology. As I enjoyed preparing this book I am sure that it will be very valuable for large sector of readers.

Understanding, quantifying, and tracking atmospheric methane and emissions is essential for addressing concerns and informing decisions that affect the climate, economy, and human health and safety. Atmospheric methane is a potent greenhouse gas (GHG) that contributes to global warming. While carbon dioxide is by far the dominant cause of the rise in global average temperatures, methane also plays a significant role because it absorbs more energy per unit mass than carbon dioxide does, giving it a disproportionately large effect on global radiative forcing. In addition to contributing to climate change, methane also affects human health as a precursor to ozone pollution in the lower atmosphere. Improving Characterization of Anthropogenic Methane Emissions in the United States summarizes the current state of understanding of methane emissions sources and the measurement approaches and evaluates opportunities for methodological and inventory development improvements. This report will inform future research agendas of various U.S. agencies, including NOAA, the EPA, the DOE, NASA, the U.S. Department of Agriculture (USDA), and the National Science Foundation (NSF).

This book uses cutting-edge methods, such as big data mining methods on social media, generalized difference in difference, inoperational input-output models, improved data envelopment analysis, improved computable general equilibrium and others to calculate the economic impacts of climate and environmental disasters on China. This book provides the ideas, methods and cases of the redistribution of air pollution emissions in China through evaluating the benefits of meteorological disaster services and meteorological financial insurance. Using big data resources and data mining methods, as well as econometric models, etc., this book provides a comprehensive assessment of the economic impact of disasters in China and studies China's counterpart aid policy and international aid policy for disasters. This book is an academic monograph devoted to the China case study. The intended readership includes academics, government officials, graduate students and people concerned about China.

Nitrogen Assessment: Pakistan as a Case-Study provides a detailed overview of issues and challenges related to nitrogen use and overuse, thus serving as a reference for researchers in Pakistan and providing important insights for other geographic regions. Excess and inefficient nitrogen use in crops and livestock sectors is polluting our rivers, seas, atmosphere, and ecosystems, contributing to climate change, hampering biodiversity, and contributing to stratospheric ozone depletion. This book covers the importance of nitrogen in relation to food security, human health, and economic stability in South Asia. It also discusses nitrogen status, sources, sinks, and drivers of nitrogen use in Pakistan, focusing on current nitrogen measures and policies. Nitrogen pollution is one of the biggest challenges of 21st Century, and the international scientific community is beginning to recognize the significance of nitrogen pollution and to explore how to combat it. The editors' institution, University of Agriculture, Faisalabad, partners with South Asia Nitrogen Hub, which includes about 30 organizations from South Asia and UK working on nitrogen assessment, budgeting, awareness, and policy guidance, as well as possible measures to reduce nitrogen pollution. Nitrogen Assessment: Pakistan as a Case-Study provides an important guide to this work and is written in a way that is accessible to an audience with a wide range of experience from advanced students to seasoned researchers. Presents an excellent compilation of research-based findings in the first comprehensive assessment of nitrogen use in Pakistan Offers a detailed and comprehensive compilation of data and content from a variety of sources Analyzes important translational insights for other geographic regions seeking to maximize nutrient use efficiency

This book presents the latest results of quantum properties of light in the nanostructured environment supporting surface plasmons, including waveguide quantum electrodynamics, quantum emitters, strong-coupling phenomena and lasing in plasmonic structures. Different approaches are described for controlling the emission and propagation of light with extreme light confinement and field enhancement provided by surface plasmons. Recent progress is reviewed in both experimental and theoretical investigations within quantum plasmonics, elucidating the fundamental physical phenomena involved and discussing the realization of quantum-controlled devices, including single-photon sources, transistors and ultra-compact circuitry at the

nanoscale.

This study investigates the complex link between natural disasters, individual behaviour – in the form of an individual’s risk-taking propensity and level of trust – and the demand for microinsurance. Developing countries are particularly vulnerable to the impacts of natural hazards and climate change as they affect their development processes and set back poverty reduction efforts. Using a unique data set for rural Cambodia based on a survey, experimental games and a discrete choice experiment, the study highlights the importance of perceptions, expectations and psychological factors in decision-making processes with substantial consequences for long-term economic perspectives and poverty alleviation.

This book discusses clean coal technology (CCT), the latest generation of coal technology that controls pollutants and performs with improved generating efficiency. CCT involves processes that effectively control emissions and result in highly efficient combustion without significantly contributing to global warming. Basic principles, operational a

This book deals with novel advanced engine combustion technologies having potential of high fuel conversion efficiency along with ultralow NOx and particulate matter (PM) emissions. It offers insight into advanced combustion modes for efficient utilization of gasoline like fuels. Fundamentals of various advanced low temperature combustion (LTC) systems such as HCCI, PCCI, PPC and RCCI engines and their fuel quality requirements are also discussed. Detailed performance, combustion and emissions characteristics of futuristic engine technologies such as PPC and RCCI employing conventional as well as alternative fuels are analyzed and discussed. Special emphasis is placed on soot particle number emission characterization, high load limiting constraints, and fuel effects on combustion characteristics in LTC engines. For closed loop combustion control of LTC engines, sensors, actuators and control strategies are also discussed. The book should prove useful to a broad audience, including graduate students, researchers, and professionals Offers novel technologies for improved and efficient utilization of gasoline like fuels; Deals with most advanced and futuristic engine combustion modes such as PPC and RCCI; Comprehensible presentation of the performance, combustion and emissions characteristics of low temperature combustion (LTC) engines; Deals with closed loop combustion control of advanced LTC engines; State-of-the-art technology book that concisely summarizes the recent advancements in LTC technology. .

Encyclopedia of the Anthropocene presents a currency-based, global synthesis cataloguing the impact of humanity’s global ecological footprint. Covering a multitude of aspects related to Climate Change, Biodiversity, Contaminants, Geological, Energy and Ethics, leading scientists provide foundational essays that enable researchers to define and scrutinize information, ideas, relationships, meanings and ideas within the Anthropocene concept. Questions widely debated among scientists, humanists, conservationists, politicians and others are included, providing discussion on when the Anthropocene began, what to call it, whether it should be considered an official geological epoch, whether it can be contained in time, and how it will affect future generations. Although the idea that humanity has driven the planet into a new geological epoch has been around since the dawn of the 20th century, the term ‘Anthropocene’ was only first used by ecologist Eugene Stoermer in the 1980s, and hence popularized in its current meaning by atmospheric chemist Paul Crutzen in 2000. Presents comprehensive and systematic coverage of topics related to the Anthropocene, with a focus on the Geosciences and Environmental science Includes point-counterpoint articles debating key aspects of the Anthropocene, giving users an even-handed navigation of this complex area Provides historic, seminal papers and essays from leading scientists and philosophers who demonstrate changes in the Anthropocene concept over time

A solution to the problem of climate change requires close international cooperation and difficult reforms involving all states. Law has a clear role to play in that solution. What is not so clear is the role that law has played to date as a constraining factor on state conduct. International Climate Change Law and State Compliance is an unprecedented treatment of the nature of climate change law and the compliance of states with that law. The book argues that the international climate change regime, in the twenty or so years it has been in existence, has developed certain normative rules of law, binding on states. State conduct under these rules is characterized by generally high compliance in areas where equity is not a major concern. There is, by contrast, low compliance in matters requiring a burden-sharing agreement among states to reduce global greenhouse gas emissions to a ‘safe’ level. The book argues that the substantive climate law presently in place must be further developed, through normative rules that bind states individually to top-down mitigation commitments. While a solution to the problem of climate change must take this form, the law’s development in this direction is likely to be hesitant and slow. The book is aimed at scholars and graduate students in environmental law, international law, and international relations.

In the context of Australia’s developing carbon economy, fire management helps to abate emissions of greenhouse gases and is an important means of generating carbon credits. The vast high-rainfall savannas of northern Australia are one of the world’s most flammable landscapes. Management of fires in this region has the potential to assist with meeting emissions reduction targets, as well as conserving biodiversity and providing employment for Indigenous people in remote parts of Australia’s north. This comprehensive volume brings together recent research from northern Australian savannas to provide an internationally relevant case study for applying greenhouse gas accounting methodologies to the practice of fire management. It provides scientific arguments for enlarging the area of fire-prone land managed for emissions abatement. The book also charts the progress towards development of a savanna fire bio-sequestration methodology. The future of integrated approaches to emissions abatement and bio-sequestration is also discussed.

Clean Coal Engineering Technology, Second Edition provides significant information on the major power generation technologies that aim to utilize coal more efficiently, and with less environmental impact. With increased coal combustion comes heightened concerns about coal’s impacts on human health and climate change, so the book addresses the reduction of both carbon footprints and emissions of pollutants, such as particulate matter, nitrogen oxides, and mercury. Part 1 provides an essential grounding in the history of coal use alongside coal chemical and physical characteristics, worldwide distribution, and health and environmental impacts. Part 2 introduces the fundamentals of the major coal utilization technologies and examines the anatomy of a coal-fired power plant before going on to provide an overview of clean coal technologies for advanced power generation. Next, users will find a group of chapters on emissions and carbon management that have been extensively enlarged and updated for the second edition, thus reflecting the ever-increasing importance of this area. The final section of the book focuses on clean coal technology programs around the world and the future role of coal in the energy mix. This fully revised and selectively expanded new edition is a valuable resource

for professionals, including environmental, chemical, and mechanical engineers who seek an authoritative and thorough one-volume overview of the latest advances in cleaner power production from coal. Provides a thorough, yet readable, one-volume guide to advanced power generation technologies for cleaner electricity production from coal Retains the essential background information on coal characteristics and the fundamentals of coal-fired power generation Presents extensively expanded and updated coverage on technologies for the reduction of pollutants, including particulate matter, sulfur oxides, and mercury Emphasizes carbon capture methods, storage, and emerging technologies for the reduction of carbon footprints, alongside a discussion of coal's future in the energy mix

The climate of our planet is changing at a rate unprecedented in recent human history. The energy absorbed from the sun exceeds what is returned to space. The planet as a whole is gaining energy. The heat content of the ocean is increasing; the surface and atmosphere are warming; mid-latitude glaciers are melting; sea level is rising. The Arctic Ocean is losing its ice cover. None of these assertions are based on theory but on hard scientific fact. Given the science-heavy nature of climate change, debates and discussions have not played as big a role in the public sphere as they should, and instead are relegated to often misinformed political discussions and inaccessible scientific conferences. Michael B. McElroy, an eminent Harvard scholar of environmental studies, combines both his research chops and pedagogical expertise to present a book that will appeal to the lay reader but still be grounded in scientific fact. In *Energy and Climate: Vision for the Future*, McElroy provides a broad and comprehensive introduction to the issue of energy and climate change intended to be accessible for the general reader. The book includes chapters on energy basics, a discussion of the contemporary energy systems of the US and China, and two chapters that engage the debate regarding climate change. The perspective is global but with a specific focus on the US and China recognizing the critical role these countries must play in addressing the challenge of global climate change. The book concludes with a discussion of initiatives now underway to at least reduce the rate of increase of greenhouse gas emissions, together with a vision for a low carbon energy future that could in principle minimize the long-term impact of energy systems on global climate.

A detailed overview of Saturn's formation, evolution and structure written by eminent planetary scientists involved in the Cassini Orbiter mission.

The development of eco-industrial parks and associated 'ecological industry' concepts offer progressive integrated approaches to resolve pollution problems from effluents and wastes of all kinds. Most industry however is now located in business parks and industrial estates, with relatively few industries having direct discharges of process effluents to the water environment. But that does not mean no pollution. Many of these estates are very large, with many companies of all kinds spread over extensive areas. All have surface water drainage and stormwater runoff is often contaminated by many diffuse sources. *Wealth Creation without Pollution* is the culmination of several years of deliberations by academics and regulators, engaging with industrial and commercial sectors to characterise and quantify environmental problems and identify best practice solutions. Equally important have been efforts to explore sufficiently flexible regulatory regimes that offer effective means to prevent pollution and achieve good working environments in which industry and commerce can flourish. This book explores how modern industries are striving towards more sustainable practices, with case studies of impacts and of greener industry practices, as well as philosophical and policy papers. The role of regulators, planners and government in fostering a greener industrial base is also examined. *Wealth Creation without Pollution* is a valuable text book for environmental science and engineering students, and a useful resource for industrial architects, developers and practitioners.

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. With an emphasis on diagnosing and troubleshooting—and featuring numerous tech tips and diagnostic examples throughout—this comprehensive, full-color book covers all aspects of automotive fuel and emissions. Designed specifically to correlate with the NATEF program, and updated throughout to correlate to the latest NATEF and ASE tasks, *Automotive Fuel and Emissions Control Systems, 4/e* combines topics in engine performance (ASE A8 content area) with topics covered in the advanced engine performance (L1) ASE test content area. The result is cost-efficient, easy-to-learn-from resource for students and beginning technicians alike. This book is part of the Pearson Automotive Professional Technician Series, which features full-color, media-integrated solutions for today's students and instructors covering all eight areas of ASE certification, plus additional titles covering common courses. Peer reviewed for technical accuracy, the series and the books in it represent the future of automotive textbooks.

Since 2010, a significant quantity of international climate change finance has begun to reach developing countries. However, the transfer of finance under the international climate change regime – the legal and ethical obligations that underpin it, the constraints on its use, its intended outcomes, and its successes, failures, and future potential – constitutes a poorly understood topic. *Climate Change Finance and International Law* fills this gap in the legal scholarship. The book analyses the legal obligations of developed countries to financially support qualifying developing countries to pursue globally significant mitigation and adaptation outcomes, as well as the obligations of the latter under the international regime of financial support. Through case studies of climate finance mechanisms and a multitude of other sources, this book delivers a rich legal and empirical understanding of the implementation of states' climate finance obligations to date. The book will be of interest to scholars and students of international law and policy, international relations, and the maturing field of climate change law.

Global climate change is one of the greatest challenges of our times and in order to tackle this carbon emissions need to be mitigated. China and India have recently become some of the world's largest greenhouse gas emitters. Transitions to low carbon energy, for reducing emissions that lead to climate change, are therefore an urgent priority for China and India and at a global level. This is the first book focusing on low carbon energy transitions for emerging economies such as China and India, assessing the opportunities and barriers for transitions to renewable and low carbon energy as climate change mitigation options. It uses energy modelling to assess the China's power sector, the economy of Beijing and rural Indian households that do not have access to electricity. The research evaluates the environmental, technical, socio-economic and policy implications of these low carbon transitions, concluding that they are possible in China and India and they can considerably contribute to climate change mitigation. This interdisciplinary book will be of interest to scholars, students, practitioners and policy-makers working in the fields of energy and development, energy policy, energy studies and modelling, climate policy, climate change mitigation, climate change and development, low carbon development, sustainable development, environment and development and environmental management.

*Environmental Systems Science: Theory and Practical Applications* looks at pollution and environmental quality from a systems perspective. Credible human and ecological risk estimation and prediction methods are described, including life cycle assessment, feasibility studies, pollution control decision tools, and approaches to determine adverse outcome pathways, fate and transport, sampling and analysis, and cost-effectiveness. The book brings translational science to environmental quality, applying groundbreaking methodologies like informatics, data mining, and applications of secondary data systems. Multiple human and ecological variables are introduced and integrated to support calculations that aid environmental and public health decision making. The book bridges the perspectives of scientists, engineers, and other professionals working in numerous environmental and public health fields addressing problems like toxic substances, deforestation, climate change, and loss of biological diversity, recommending sustainable solutions to these and other seemingly intractable environmental problems. The causal agents discussed include physical, chemical, and biological agents, such as per- and

polyfluoroalkyl substances (PFAS), SARS-CoV-2 (the COVID-19 virus), and other emerging contaminants. Provides an optimistic and interdisciplinary approach, underpinned by scientific first principles and theory to evaluate pollutant sources and sinks, applying biochemodynamic methods, measurements and models Deconstructs prior initiatives in environmental assessment and management using an interdisciplinary approach to evaluate what has worked and why Lays out a holistic understanding of the real impact of human activities on the current state of pollution, linking the physical sciences and engineering with socioeconomic, cultural perspectives, and environmental justice Takes a life cycle view of human and ecological systems, from the molecular to the planetary scale, integrating theories and tools from various disciplines to assess the current and projected states of environmental quality Explains the elements of risk, reliability and resilience of built and natural systems, including discussions of toxicology, sustainability, and human-pollutant interactions based on spatial, biological, and human activity information, i.e. the exposome

The Earth Charter is a declaration of fundamental ethical principles for building a just, sustainable and peaceful global society, with ecological integrity as a major theme. This book provides a series of analyses of ecological integrity as it relates to the Earth Charter, social movements and international law for human rights. It is shown how the Earth Charter project began as a United Nations initiative, but it was carried forward and completed by a global civil society initiative. The drafting of the Earth Charter involved the most inclusive and participatory process of its time ever associated with the creation of an international declaration. This process is the primary source of its legitimacy as a guiding ethical framework. The Earth Charter was finalized and then launched in 2000 and its legitimacy has been further enhanced by its endorsement by over 6,500 organizations, including many governments and international organizations. In the light of this legitimacy, an increasing number of international lawyers recognize that the Earth Charter is acquiring the status of a soft law document. The book also shows the strong connection between ecological integrity and social justice, particularly in the defence of indigenous people, and includes contributions from both the North and the global South, specifically from Central and South America.

The 14th Australasian Centre on Social and Environmental Accounting Research Conference (A-CSEAR 2015) is being held on 10-11 December 2015 at Macquarie University, Sydney, Australia. The Conference Chair is Dr John Dumay and the Programme Chair is Dr James Hazelton, both from Macquarie University. ACSEAR provides an opportunity for individuals researching and working in the field of social and environmental accounting in both public and private sectors, to come together to exchange ideas and discuss current research in the field. The theme for the conference this year is 'Partnerships', reflecting the belief amongst our community that achieving progress requires partnerships of all types – between academics of different disciplines, between industry and academia, between government and stakeholders, and of course between members and professional bodies. The keynote speakers for the conference are Charles de Villiers from Auckland University of Technology, New Zealand on the topic 'Theorising the interactions among legitimacy accountability and pro-activity in the social sphere'; Helen Tregidga from Auckland University of Technology, New Zealand talking about 'Corporate chameleons greenwashing and counter narratives'; Markus J. Milne from the School of Business and Law at the University of Canterbury, New Zealand on the topic of 'Crass empiricism and the social construction of corporate environmental performance' and Lee D. Parker from the School of Accounting, RMIT University, Melbourne, Australia who will address to issue of 'Accounting for CSR: Revisiting the agenda'. ACSEAR received 60 abstract submissions. After the double-blind peer review process 21 academic research papers, have been accepted for publication in these conference proceedings. These papers represent research from around the world, including Australia, Brazil, China, Fiji, Iran, Italy, Japan, New Zealand, South Africa, UK and the USA.

This book provides up-to-date information on biochar use in management of soil health, agriculture productivity, green-house gases, restoration ecology and environment. Biochar application to nutrient deficient and disturbed soils is a viable option which may promotes advances in food safety and food security to human nutrition and overall fundamental research in the agricultural sciences. The book describes in detail how the recalcitrant biochar is able to persist for long periods of time and work as a shelter for soil microbial colonisation and their biomass/numbers. This book also includes contents related to important role of biochar applications in the restoration of contaminated agricultural soils. The book will be of particular interest to students, teachers and researchers in the disciplines.

Coal-Fired Electricity and Emissions Control: Efficiency and Effectiveness discusses the relationship between efficiency and emissions management, providing methods for reducing emissions in newer and older plants as coal-fired powered plants are facing increasing new emission control standards. The book presents the environmental forces driving technology development for coal-fired electricity generation, then covers other topics, such as cyclone firing, supercritical boilers, fabric filter technology, acid gas control technology and clean coal technologies. The book relates efficiency and environmental considerations, particularly from a technology development perspective. Features time tested methods for achieving optimal emission control through efficiency for environmental protection, including reducing the carbon footprint Covers the regulations governing coal-fired electricity Highlights the development of the coal-fired technologies through regulatory change

The Handbook of Clean Energy Systems brings together an international team of experts to present a comprehensive overview of the latest research, developments and practical applications throughout all areas of clean energy systems. Consolidating information which is currently scattered across a wide variety of literature sources, the handbook covers a broad range of topics in this interdisciplinary research field including both fossil and renewable energy systems. The development of intelligent energy systems for efficient energy processes and mitigation technologies for the reduction of environmental pollutants is explored in depth, and environmental, social and economic impacts are also addressed. Topics covered include: Volume 1 - Renewable Energy: Biomass resources and biofuel production; Bioenergy Utilization; Solar Energy; Wind Energy; Geothermal Energy; Tidal Energy. Volume 2 - Clean Energy Conversion Technologies: Steam/Vapor Power Generation; Gas Turbines Power Generation; Reciprocating Engines; Fuel Cells; Cogeneration and Polygeneration. Volume 3 - Mitigation Technologies: Carbon Capture; Negative Emissions System; Carbon Transportation; Carbon Storage; Emission Mitigation Technologies; Efficiency Improvements and Waste Management; Waste to Energy. Volume 4 - Intelligent Energy Systems: Future Electricity Markets; Diagnostic and Control of Energy Systems; New Electric Transmission Systems; Smart Grid and Modern Electrical Systems; Energy Efficiency of Municipal Energy Systems; Energy Efficiency of Industrial Energy Systems; Consumer Behaviors; Load Control and Management; Electric Car and Hybrid Car; Energy Efficiency Improvement. Volume 5 - Energy Storage: Thermal Energy Storage; Chemical Storage; Mechanical Storage; Electrochemical Storage; Integrated Storage Systems. Volume 6 - Sustainability of Energy Systems: Sustainability Indicators, Evaluation Criteria, and Reporting; Regulation and Policy; Finance and Investment; Emission Trading; Modeling and Analysis of Energy Systems; Energy vs. Development; Low Carbon Economy; Energy Efficiencies and Emission Reduction. Key features: Comprising over 3,500 pages in 6 volumes, HCES presents a comprehensive overview of the latest research, developments and practical applications throughout all areas of clean energy systems, consolidating a wealth of information which is currently scattered across a wide variety of literature sources. In addition to renewable energy systems, HCES also covers processes for the efficient and clean conversion of traditional fuels such as

coal, oil and gas, energy storage systems, mitigation technologies for the reduction of environmental pollutants, and the development of intelligent energy systems. Environmental, social and economic impacts of energy systems are also addressed in depth. Published in full colour throughout. Fully indexed with cross referencing within and between all six volumes. Edited by leading researchers from academia and industry who are internationally renowned and active in their respective fields. Published in print and online. The online version is a single publication (i.e. no updates), available for one-time purchase or through annual subscription.

The Light Metals series is widely recognized as the definitive source of information on new developments in aluminum production technology. This new volume presents proceedings from 2013's Light Metal Symposia, covering the latest research and technologies on such areas as alumina and bauxite, aluminum reduction technology, electrode technology for aluminum production, cast shop for aluminum production, aluminum processing aluminum alloys, and cost affordable titanium IV. It also includes papers from a keynote presentation session discussing impurities in the aluminum supply chain are also included.

The announcement by China that it will implement a national emissions trading scheme confirms the status of this instrument as the pre-eminent policy choice for mitigating climate change. China will join the dozens of existing and emerging schemes around the world - from the EU to California, South Korea to New Zealand - that use carbon units (otherwise known as emissions permits or carbon credits) to trade in greenhouse gas emissions in a multi-billion dollar global carbon market. However, to date, there has been no consensus about this pre-eminent policy instrument being regulated by international economic law through the World Trade Organization, international investment agreements, and free trade agreements. Munro addresses this issue by evaluating whether carbon units qualify as 'goods', 'services', 'financial services', and 'investments' under international economic law and showing how international economic law applies to emissions trading scheme in diverse and unexpected ways. Further, by engaging in a comparative assessment of schemes around the world, his book illustrates how and why all emissions trading schemes engage in various forms of violations of international economic law which would not, in most instances, be justified by environmental or other exceptions. In doing so, he demonstrates how such schemes can be designed or reformed in ways to ensure their future compliance.

Provides an applied, practical approach to environmental economic theory that is accessible to students who have had minimal exposure to economics as well as those with an advanced understanding. With a strong focus on policy and real-world issues, Callan/Thomas's ENVIRONMENTAL ECONOMICS AND MANAGEMENT: THEORY, POLICY AND APPLICATIONS, Fifth Edition, complements economic theory with timely, real-world applications. Undergraduate or MBA students gain a clear perspective of the relationship between market activity and the environment. This text integrates a strong business perspective into the development of environmental decision making for a unique vantage point often overlooked in more conventional approaches. Students learn to use economic analytical tools, such as market models, benefit-cost analysis, and risk analysis, effectively to assess environmental problems and to evaluate policy solutions. With a proven, modular structure, this edition provides a well-organized presentation with the flexibility to tailor the presentation to your needs. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

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