

## Activated Carbon A Global Market Overview

Solving the world's water problems is proving to be one of the greatest investment opportunities of our time. Already, world water supplies are inadequate to meet demand, and the problem is going to get much worse in the years ahead. The World Bank estimates that 1.1 billion people lack access to safe drinking water and about 50 percent of the world's hospital beds are populated by people who have contracted water-borne diseases. If present consumption rates continue, in 25 years the world will be using 90 percent of all available freshwater. To address the problem, trillions of dollars will need to be invested in water infrastructure projects. And while the problems are most acute in developing and rapidly growing economies, there are huge water infrastructure needs in industrialized countries, as well. In the U.S. alone, it's estimated that more than \$1 trillion will be needed for water and wastewater infrastructure projects. In Planet Water, water investment expert Steven Hoffmann explains the dynamics driving the water crisis and identifies investment opportunities in various sectors of the water industry. Hoffman provides investors with the knowledge and insights they need to make informed investments in water utilities, as well as companies providing water treatment services; infrastructure services; water monitoring and analytics; and desalination services. He also discusses mutual funds and ETFs that specialize in water stocks. Investing in the water industry is certainly no pie-in-the-sky idea. Over the past five years, many water stocks have exploded in value and water stocks as a whole have outperformed the S&P 500 by a substantial amount. In Planet Water, Hoffmann provides investors with everything they need to profit from this fast-growing industry in the years ahead. This essential handbook and ready reference offers a detailed overview of the existing and currently researched technologies available for the control of mercury in coal-derived gas streams and that are viable for meeting the strict standards set by environmental protection agencies. Written by an internationally acclaimed author team from government agencies, academia and industry, it details US, EU, Asia-Pacific and other international perspectives, regulations and guidelines.

Plunkett's Almanac of Middle Market Companies 2008 is designed to be time-saving business development tool for professionals, marketers, sales directors, consultants and strategists seeking to understand and reach middle market American companies. It will also be of great use to placement, recruiting and human resources professionals, as well as professionals working in economic development, lending and media. It covers competitive intelligence, market research and business analysis--everything you need to identify and develop strategies for middle market corporations. Coverage includes all major business sectors, from InfoTech to health care to telecommunications and much more. (We have intentionally omitted retail companies and banks.) These profiles and details on over 500 middle market firms are pulled from our extensive company and industry databases. We also include a business glossary and a listing of business contacts, such as industry associations and government agencies. Next, we profile hundreds of leading middle market companies. Our company profiles include complete business descriptions and up to 27 executives by name and title. Purchasers of either the book or PDF version can receive a free copy of the company profiles database on CD-ROM, enabling key word search and export of key information, addresses, phone numbers and executive names

with titles for every company profiled.

High surface area, a microporous structure, and a high degree of surface reactivity make activated carbons versatile adsorbents, particularly effective in the adsorption of organic and inorganic pollutants from aqueous solutions. Activated Carbon Adsorption introduces the parameters and mechanisms involved in the activated carbon adsorption

Biomass use is growing globally. Biomass is biological material derived from living, or recently living organisms. It most often refers to plants or plant-based materials which are specifically called lignocellulosic biomass. Biomass (organic matter that can be converted into energy) may include food crops, crops for energy, crop residues, wood waste and byproducts, and animal manure. It is one of the most plentiful and well-utilized sources of renewable energy in the world. Broadly speaking, it is organic material produced by the photosynthesis of light. The chemical materials (organic compounds of carbons) are stored and can then be used to generate energy. The most common biomass used for energy is wood from trees. Wood has been used by humans for producing energy for heating and cooking for a very long time. As an energy source, biomass can either be used directly via combustion to produce heat, or indirectly after converting it to various forms of biofuel. Conversion of biomass to biofuel can be achieved by different methods which are broadly classified into: thermal, chemical, and biochemical methods. Biomass gasification is the conversion of solid fuels like wood and agricultural residues into a combustible gas mixture. The gasification system basically consists of a gasifier unit, a purification system and energy converters- burner or engine. This book offers comprehensive coverage of the design and analysis of biomass gasification, the key technology enabling the production of biofuels from all viable sources like sugar beet and sweet sorghum. It aims at creating an understanding of the nature of biomass resources for energy and fuels, the variety of processes that are available for conversion of the wastes into energy or fuels. The book discusses the overview of the Biomass Energy along with their Properties, Composition, Benefits, Characteristics and Manufacturing Process of Biomass based products. Also it contains suppliers contact details of plant & machinery with their photographs. The content includes biomass renewable energy, prospective renewable resources for bio-based processes, biochemical from biomass, biomass based chemicals, biofuel production from biomass crops, biomass gasification, reuse of bio-genic iron oxides and woody biomass fly ash in cement based materials and agricultural areas, biofuel briquettes from biomass, biomass based activated carbon, environmental aspects. It will be a standard reference book for Professionals, Decision-makers, Engineers, those studying and researching in this important area and others interested in the field of biomass based products. Professionals in academia and industry will appreciate this comprehensive and practical reference book, due to its multidisciplinary nature.

Activated Carbon Fiber and Textiles provides systematic coverage of the fundamentals, properties, and current and emerging applications of carbon fiber textiles in a single volume, providing industry professionals and academics working in the field with a broader understanding of these materials. Part I discusses carbon fiber principles and production, including precursors and pyrolysis, carbon fiber spinning, and carbonization and activation. Part II provides more detailed analysis of the key properties of carbon fiber textiles, including their thermal, acoustic, electrical, adsorption, and mechanical behaviors. The final section covers

applications of carbon fiber such as filtration, energy protection, and energy and gas storage. Features input from an editor who is an expert in his field: Professor Jonathan Chen has a wealth of experience in the area of activated carbon fiber materials Provides systematic and comprehensive coverage of the key aspects of activated carbon fiber textiles, from their principles, processing, and properties to their industrial applications Offers up-to-date coverage of new technology for the fiber and textiles industries Covers applications such as filtration, energy protection, and energy and gas storage

Modern Manufacturing Processes draws on the latest international research on traditional and non-traditional practices, to provide valuable advice on the digitization and automation of the manufacturing industry. In addition to providing technical details for the correct implementation of the latest tools and practices, the impacts on productivity and design quality are also examined. The thorough classification of manufacturing processes will help readers to decide which technology is most effective for their requirements, and comparisons between modern and traditional methods will clarify the case for upgrading. This comprehensive assessment of technologies will include additive manufacturing, and industry 4.0, as well as hybrid methods where exceptional results have been gained through the use of traditional technology. This collection of work by academics at the cutting edge of manufacturing research will help readers from a range of backgrounds to understand and apply these new technologies. Explains how the correct implementation of modern manufacturing processes can help a factory gain the characteristics of an industry 4.0 business Explores what the main technical and business drivers for new manufacturing processes are today Provides detailed classifications and comparisons of traditional, non-traditional, and hybrid manufacturing processes

Smart Packaging Technologies for Fast Moving Consumer Goods approaches the subject of smart packaging from an innovative, thematic perspective: Part 1 looks at smart packaging technologies for food quality and safety Part 2 addresses smart packaging issues for the supply chain Part 3 focuses on smart packaging for brand protection and enhancement Part 4 centres on smart packaging for user convenience. Each chapter starts with a definition of the technology, and proceeds with an analysis of its workings and components before concluding with snapshots of potential applications of the technology. The Editors, brought together from academia and industry, provide readers with a cohesive account of the smart packaging phenomenon. Chapter authors are a mixture of industry professionals and academic researchers from the UK, USA, EU and Australasia.

Advanced Low-Cost Separation Techniques in Interface Science, Volume 30 helps scientists and researchers in academia and industry gain expert knowledge on how to use separation techniques at minimal cost and energy usage. It handles a broad range of highly relevant topics, including modern flotation techniques, low-cost materials in liquid-and gas-phase adsorption, new trends in molecular imprinting, graphenes in separation, nanobubbles and biopolymers in interface science, the reuse of biomaterials, green techniques for wastewaters, and modeling in environmental interfaces. The book shows that these techniques can be both attractive for both research and industrial purposes. It is intended for chemical engineers working in wastewater treatment industries, membrane industries, pharmaceutical industries, textile or tanneries industries, hybrid-topic industries and energy industries. Focuses on cost and energy saving separation techniques in interface science Discusses multiple techniques, including flotation, adsorption, materials synthesis, and more Combines, in a single source, separation techniques, advanced methodologies, and the low-cost potential of the techniques Describes techniques that are attractive for

both research and industrial purposes

Meta-Nanotubes are a new generation of carbon nanotubes (CNTs) which result from the chemical transformation of regular CNTs and their subsequent combination with foreign materials (atoms, molecules, chemical groups, nanocrystals) by various ways such as functionalisation, doping, filling, and substitution. These new nanomaterials exhibit enhanced or new properties, such as reactivity, solubility, and magnetism, which pristine CNTs do not possess. Their many applications include electronic and optoelectronic devices, chemical and biosensors, solar cells, drug delivery, and reinforced glasses and ceramics. Carbon Meta-Nanotubes: Synthesis, Properties and Applications discusses these third generation carbon nanotubes and the unique characteristics they possess. Beginning with a general overview of the subject, this book covers the five main categories of meta-nanotubes, namely: Doped Carbon Nanotubes Functionalised Carbon Nanotubes Decorated or Coated Carbon Nanotubes Filled Carbon Nanotubes Heterogeneous Nanotubes Providing unparalleled coverage of these third generation or meta-nanotubes, and possibilities for future development, this book is essential for anyone working on carbon nanotubes.

The comprehensive guide to working more effectively within the multi-commodity market. The Handbook of Multi-Commodity Markets and Products is the definitive desktop reference for traders, structurers, and risk managers who wish to broaden their knowledge base. This non-technical yet sophisticated manual covers everything the professional needs to become acquainted with the structure, function, rules, and practices across a wide spectrum of commodity markets. Contributions from a global team of renowned industry experts provide real-world examples for each market, along with tools for analyzing, pricing, and risk managing deals. The discussion focuses on convergence, including arbitrage valuation, econometric modeling, market structure analysis, contract engineering, and risk, while simulated scenarios help readers understand the practical application of the methods and models presented. Gradual deregulation and the resulting increase in diversity and activity have driven the evolution of the traditionally segmented market toward integration, raising important questions about opportunity identification and analysis in multi-commodity deals. This book helps professionals navigate the shift, providing in-depth information and practical advice. Structure and manage both simple and sophisticated multi-commodity deals Exploit pay-off profiles and trading strategies with a diversified set of commodity prices Develop more accurate forecasting models by considering additional metrics Price energy products and other commodities in segmented markets with an eye toward specific structural features As one of the only markets strong enough to boom during the credit crunch, the commodities markets are growing rapidly. Combined with increasing convergence, this transition presents potentially valuable opportunities for the development of a robust multi-commodity portfolio. For the professional seeking deeper understanding and a more effective strategy, the Handbook of Multi-Commodity Markets and Products offers complete information and expert guidance.

This book presents detailed information on the production and properties of carbon fibers derived from lignin precursors. Focusing on future directions in the carbon fiber industry, it also introduces a novel process for obtaining high-purity lignin, a key aspect in the manufacture of high-quality carbon fiber. Carbon fiber is currently the most preferred lightweight manufacturing material and is rapidly becoming the material of choice for manufacturers around the world. Although more than 80% of commercial carbon fiber is estimated to use PAN (polyacrylonitrile) as a precursor, carbon fiber manufactured from PAN is expensive and therefore its application is limited to high-performance structural materials. Lignin is the second most abundant biopolymer in nature after cellulose and offers a carbon-rich, renewable resource. As a byproduct of the pulp and paper industry and the production of cellulosic ethanol, lignin is also available at low cost, making it an economically attractive alternative to PAN for the production of carbon fibers, as highlighted in this book. The information presented will be of

interest to all those involved in the investigation of carbon fiber materials, carbon fiber manufacturers and carbon fiber users.

Anil K. Gupta, Vijay Govindarajan, and Haiyan Wang are among the most distinguished experts in the field of globalization. In *The Quest for Global Dominance* they present the lessons from their twenty-year study of over two hundred corporations. They argue that, in order for a company to create and maintain its position as a globally dominant player, executives must ensure that their company leads its industry in the following four essential tasks: Identifying market opportunities worldwide and pursuing them by establishing the necessary presence in all key markets  
Converting global presence into global competitive advantage by identifying and developing the opportunities for value creation that global presence offers  
Cultivating a global mindset by viewing cultural and geographic diversity as an opportunity, not just a challenge  
Leveraging the rise of emerging markets especially China and India to transform the company's growth prospects, global cost structure, and pace of innovation

"Water, Nature and People" is a quarterly magazine published by K-water with stories of smart water management technologies and so on.

*Micropollutants and Challenges: Emerging in the Aquatic Environments and Treatment Processes* systematically summarizes the characteristics, micropollutants types, production resources, occurrence in aqueous environments, health effects, methods of detection and treatments. Throughout each chapter, the following topics will be presented: (i) The quality and quantity evaluation of aquatic micropollutants, (ii) The need for innovative and affordable wastewater treatment technologies, and (iii) Combinations of different conventional and advanced technologies, including the biological and plant-based strategies that seem most promising. Presents information on the micropollutants that threaten all living organisms, showing the importance and relevance of this topic  
Assesses the effects of micropollutants on surface and groundwater  
Provides solutions for the removal of micropollutants in conventional and advanced treatment processes and compares the efficiency of different processes

This new edition of the *Handbook of Surface and Colloid Chemistry* informs you of significant recent developments in the field. It highlights new applications and provides revised insight on surface and colloid chemistry's growing role in industrial innovations. The contributors to each chapter are internationally recognized experts. Several chapter

The traditional pulp and paper producers are facing new competitors in tropical and subtropical regions who use the latest and largest installed technologies, and also have wood and labor cost advantages. Due to the increasing global competition, the forest products prices will continue to decrease. To remain viable, the traditional producers need to increase revenue by producing bioenergy and biomaterials in addition to wood, pulp, and paper products. In this so-called *Integrated Products Biorefinery*, all product lines are highly integrated and energy efficient. *Integrated Products Biorefineries* present the forest products industry with a unique opportunity to increase revenues and improve environmental sustainability. *Integrated Products Biorefinery* technologies will allow industry to manufacture high-value chemicals, fuels, and/or electric power while continuing to produce traditional wood, pulp, and paper products. The industry already controls much of the raw material and infrastructure necessary to create *Integrated Products Biorefineries*, and *Agenda 2020* partnerships are speeding development of the key enabling technologies. Once fully developed and commercialized, these technologies will produce enormous energy and environmental benefits for the

industry and the nation. Biorefinery in the Pulp and Paper Industry presents the biorefining concept, the opportunities for the pulp and paper industry, and describes and discusses emerging biorefinery process options. This book also highlights the environmental impact and the complex and ambiguous decision-making challenges that mills will face when considering implementing the biorefinery. Provides up-to-date and authoritative information, citing pertinent research, on this timely and important topic Covers in great depth the biorefining concept, opportunities for the pulp and paper industry, and emerging biorefinery process options Highlights the environmental impact and the complex and ambiguous decision-making challenges that mills will face when considering implementing the biorefinery IPCC Report on sources, capture, transport, and storage of CO<sub>2</sub>, for researchers, policy-makers and engineers. The book provides the most up-to-date information available on various biotechnological processes useful in the pulp and paper industry. The first edition was published in 2011, covering a specific biotechnological process or technique, discussing the advantages, limitations, and prospects of the most important and popular processes used in the industry. Many new developments have taken place in the last five years, warranting a second edition on this topic. The new edition contains about 35% new material covering topics in Laccase application in fibreboard; biotechnology in forestry; pectinases in papermaking; stickies control with pectinase; products from hemicelluloses; value added products from biorefinery lignin; use of enzymes in mechanical pulping.

An excellent overview of industrial carbon and graphite materials, especially their manufacture, use and applications in industry. Following a short introduction, the main part of this reference deals with industrial forms, their raw materials, properties and manifold applications. Featuring chapters on carbon and graphite materials in energy application, and as catalysts. It covers all important classes of carbon and graphite, from polygranular materials to fullerenes, and from activated carbon to carbon blacks and nanoforms of carbon. Indispensable for chemists and engineers working in such fields as steel, aluminum, electrochemistry, nanotechnology, catalyst, carbon fibres and lightweight composites. Nowadays, textile units utilize a number of dyes, chemicals, reagents, and solvents to impart the desired quality to fabrics, and generate a substantial quantity of effluents/contaminants, which cause severe environmental problems if disposed of without proper treatment. In view of several surveys carried out through research papers, books, technical articles, and general reports published in high-repute academic societies, Handbook of Textile Effluent Remediation provides a detailed narration of the acceptable methods of treating textile wastewater, such as active ozonation, membrane filtration, and adsorption. The book discusses emerging and suitable treatment systems that are viable, efficient, and economical. In this context, it provides an array of several traditional as well as advanced treatment practices for textile effluents. It covers research-oriented descriptions of textile wastewater treatment that can be adopted

by scientific communities, academicians, and undergraduate and postgraduate students of industrial engineering, materials science and engineering, physics, and chemistry. It offers several interesting methodologies and aspects of current dimensional research through user-friendly content, tables, and figures and provides up-to-date literature on important and useful information for textile effluents, their impact on the environment, and advanced remediation processes. Needless to say, this book is of immense use to global researchers, academicians, and consultants engaged in various streams of wastewater treatment science.

A business development tool for professionals, marketers, sales directors, consultants and strategists seeking to understand and reach middle market American companies. It covers important business sectors, from InfoTech to health care to telecommunications. Profiles of more than 500 leading US middle market companies. Includes business glossary, a listing of business contacts, indexes and database on CD-ROM.

New discoveries of the properties of gold at a nanoscale, and its effective use in modern technologies, have been driving a virtual "gold rush". Depleting natural resources has meant that the recovery of gold continues to grow in importance and relevance. The Recovery of Gold from Secondary Sources analyses the most advanced technology in gold recovery and recycling from spent sources of mobile phones, unwanted electronic equipment and waste materials. State-of-the-art techniques of hydrometallurgical and bio-metallurgical processing, leaching, cementing, adsorbing and separation through bio-sorbents are all described in detail, providing a guide for students and researchers. Discussion of environmentally friendly methods of recovery are presented, in order to provide modern-day alternatives to previous techniques. For those interested in the study of gold recovery this book gives a comprehensive overview of current recovery, making it the ultimate source of information for students, researchers, chemists, metallurgists, environmental scientists and electronic waste recovery experts. Contents: Introduction (S Syed)Leaching of Gold from the Spent/End-of-Life Mobile Phone-PCBs using "Greener Reagents" (Jae-chun Lee and Rajiv R Srivastava)Electroless Displacement Deposition of Gold from Aqueous Source — Recovery from Waste Electrical and Electronic Equipment (WEEE) using Waste Silicon Powder (Kenji Fukuda and Shinji Yae)Adsorption of Gold on Granular Activated Carbons and New Sources of Renewable and Eco-Friendly Activated Carbons (Gerrard Eddy Jai Poinern, Shashi Sharma, and Derek Fawcett)Development of Novel Biosorbents for Gold and Their Application for the Recovery of Gold from Spent Mobile Phones (Katsutoshi Inoue, Manju Gurung, Hidetaka Kawakita, Keisuke Ohto, Durga Parajuli, Bimala Pangeni, and Shafiq Alam)Environmentally Friendly Processes for the Recovery of Gold from Waste Electrical and Electronic Equipment (WEEE): A Review (Isabella Lancellotti, Roberto Giovanardi, Elena Bursi, and Luisa Barbieri)Study on the Influence of Various Factors in the Hydrometallurgical Processing of Waste Electronic Materials for Gold Recovery (I Birloaga and F

Vegliò) Readership: Students, researchers, chemists, metallurgists, environmental scientists and electronic waste recovery experts.

Energy from solar radiation, fixated by self-assembling plant structures, creates biomass that is converted to energy carriers fit for application in today's and tomorrow's energy-generating equipment. The central theme of this book is the development of the current largest renewable energy source for efficient applications in modern and developing society—biomass. The book is presented in an easy-to-understand manner for non-experts, nevertheless revealing the true challenges of this extremely broad area. Through this book, passionate pioneers and (ex-)EU officials tell the interesting history of the use of biomass by mankind in general and how the future of its modern use was shaped by active support of the European Union. The book mainly emphasizes specific technologies, both biological and thermo-chemical, from simple to extremely complex. Recognized experts explain these technologies in a clear way along with their future prospects. Climb on the shoulders of all 35 authors of the book and look into the close and distant future where interaction with other renewable sources will occur, and discover a renewable energy future in which an important role will be played by the oldest one—bioenergy.

This open access book is an encyclopaedic analysis of the current and future energy system of the world's most populous country and second biggest economy. What happens in China impacts the planet. In the past 40 years China has achieved one of the most remarkable economic growth rates in history. Its GDP has risen by a factor of 65, enabling 850,000 people to rise out of poverty. Growth on this scale comes with consequences. China is the world's biggest consumer of primary energy and the world's biggest emitter of CO<sub>2</sub> emissions. Creating a prosperous and harmonious society that delivers economic growth and a high quality of life for all will require radical change in the energy sector, and a rewiring of the economy more widely. In China's Energy Revolution in the Context of the Global Energy Transition, a team of researchers from the Development Research Center of the State Council of China and Shell International examine how China can revolutionise its supply and use of energy. They examine the entire energy system: coal, oil, gas, nuclear, renewables and new energies in production, conversion, distribution and consumption. They compare China with case studies and lessons learned in other countries. They ask which technology, policy and market mechanisms are required to support the change and they explore how international cooperation can smooth the way to an energy revolution in China and across the world. And, they create and compare scenarios on possible pathways to a future energy system that is low-carbon, affordable, secure and reliable. .

Sustainable Technologies for Textile Wastewater Treatments takes on this complex and environmentally crucial issue by providing comprehensive coverage on new technologies and practices. Sections provide technical detail and instruction

on cutting-edge technologies, including innovative industrial uses of nanotechnology and waste biomass. In addition, case studies are provided on different textile wastewater treatment plants, hence showing their full practical context. Specific areas of discussion include zero liquid discharge, nanomaterials, adsorption, and advanced oxidization processes (AOP). Appropriate case studies from textile wastewater treatment plants are included to help illustrate key points. Other sections cover the cost of these methods, before highlighting effective low-cost options. This book will be of use to researchers with an interest in textile sustainability or wastewater treatment, although sustainability managers or lifecycle assessment professionals in the textiles and fashion sector will find the book very impactful to their work. Provides detailed, technical information on wastewater remediation methods, including zero liquid discharge, nanomaterials, adsorption and advanced oxidization processes (AOP) Includes case studies from textile wastewater treatment plants Outlines the cost of these methods and highlights effective, low-cost options

Chinese Markets for Activated Carbon Elsevier Science Limited

The Encyclopedia of Electrochemical Power Sources is a truly interdisciplinary reference for those working with batteries, fuel cells, electrolyzers, supercapacitors, and photo-electrochemical cells. With a focus on the environmental and economic impact of electrochemical power sources, this five-volume work consolidates coverage of the field and serves as an entry point to the literature for professionals and students alike. Covers the main types of power sources, including their operating principles, systems, materials, and applications Serves as a primary source of information for electrochemists, materials scientists, energy technologists, and engineers Incorporates nearly 350 articles, with timely coverage of such topics as environmental and sustainability considerations

Ghana: Doing Business and Investing in ... Guide Volume 1 Strategic, Practical Information, Regulations, Contacts

The book provides information on recent advancements in bioenergy engineering to graduates, post-graduates, research scholars, faculty members, academician, researchers and practitioners studying and working in field of the bioenergy engineering. It is an invaluable information resource on biomass-based biofuels for fundamental and applied research, catering to researchers in the areas of biogas technology, densification techniques, biomass gasification, torrefaction of biomass, biochar production, micro algae production, improved biomass cookstoves, bio-ethanol production and the use of microbial processes in the conversion of biomass into biofuels. It will also be useful to faculties and researchers to understand the present status, advancements and policies in implementation of bioenergy technologies in India. This book will definitely provide a direction to the young researchers in identification of thrust areas of research in the field of bioenergy. The book concludes with research and development endeavours and aspects relating to implementation of advance bioenergy technologies.

This book discusses multiways in the porous materials. It involves materials with a large number of holes, and it highlights the synthesis, structure, and surface properties of porous materials closely related to more applications, such as support, catalyst, energy storage, chemical reactions, and optical applications. It studies the effect of the filling materials, the thermal treatments, and the porous density in the improvement of physical properties, electrical and energy efficiency, and the generation of new materials. Some synthetic process will be discussed with the effect of some parameters on the final characteristics of the prepared porous structures.

As discussed in this text, countries with excess energy resources export these to countries that need them. This is an important function of the global energy markets, where energy sources, products and services are traded among countries and companies. While this is the primary activity in energy markets, it is only part of the entire global energy market scheme. The goal of this text is to analyze all sides of the energy markets in their physical, technological, economic, political, regulatory, environmental, financial, and legal aspects.

The book comprises state-of-the-art scientific reviews on carbon management strategies in response to climate change. It provides in-depth information on topics relating to recent advances in carbon capture technology and its reuse in value added products. It features contributions of leading scientists and technocrats on topics including climate change and carbon sequestration, lowering carbon footprint CO<sub>2</sub> capture, low carbon imperatives in oil industry, CO<sub>2</sub> as refrigerant in cold-chain application, carbonic anhydrase-mediated carbon sequestration and utilization, chemical looping combustion with Indian coal, CO<sub>2</sub> conversion to chemicals, algae based biofuels, and carbon capture patent landscaping analysis. The contents of this book will be helpful for research scholars, post-graduate students, industry, agricultural scientists and policy makers/planners.

Recent years have seen an expansion in speciality uses of activated carbons including medicine, filtration, and the purification of liquids and gaseous media. Much of current research and information surrounding the nature and use of activated carbon is scattered throughout various literature, which has created the need for an up-to-date comprehensive and integrated review reference. In this book, special attention is paid to porosities in all forms of carbon, and to the modern-day materials which use activated carbons - including fibres, clothes, felts and monoliths. In addition, the use of activated carbon in its granular and powder forms to facilitate usage in liquid and gaseous media is explored. Activated Carbon will make essential reading for Material Scientists, Chemists and Engineers in academia and industry. \*

Characterization of porosity \* The surface chemistry of the carbons, \* Methods of activation and mechanisms of adsorption. \* Computer modelling of structure and porosity within carbons. \* Modern instrumental analytical methods

This open access book focuses on Switzerland-based medium-sized companies with a longstanding export tradition and

a proven dominance in global niche markets. Based upon in-depth documentation and analysis of 36 Swiss companies over their entire history, an expert team of authors presents several parallels in the pathways and success factors which allowed these firms to become dominant and operate from a high-cost location such as Switzerland. The book enhances these insights by providing detailed company profiles documenting the company history, development, and how their relevant global niche positions were reached. Readers will benefit from these profiles as they compile a diverse selection of industries, mainly active within the B2B sector, with mostly mature companies (60 years to older than 100 years since founding) and different types of ownership structures including family firms. 'Masterpieces of Swiss Entrepreneurship' brings unique learning opportunities to owners and leaders of SMEs in Switzerland and elsewhere. Findings are based on detailed bottom-up research of 36 companies -- without any preconceived notions. The book is both conceptual and practical. It fosters understanding for different choices in development pathways and management practices. Matti Alahuhta, Chairman DevCo Partners, ex-CEO Kone, Board member of several global listed companies, Helsinki, Finland Start-up entrepreneurs need proven models from industry which demonstrate the various paths to success.

"Masterpieces of Swiss Entrepreneurship" provides deep insights highlighting these models and the important trade-offs entrepreneurial teams must consider when choosing the path of high growth or of maximum control, as they are often mutually exclusive. Gina Domanig, Managing Partner, Emerald Technology Ventures, Zurich

This two-volume set provides an authoritative overview of the major environmental issues of the 21st century, with a special focus on current challenges, trends, and policy choices. This set provides an up-to-date, comprehensive, and focused resource for understanding the nature and scope of environmental challenges facing the United States and the world in the 21st century, as well as options for meeting those challenges. Volume One covers environmental trends and challenges within the United States, while Volume Two illuminates environmental issues and choices around the world. Issues covered in both volumes include vital topics such as climate change, air and water pollution, natural resource and species protection, and agricultural/industrial impacts on the environment and public health. For all topics, the authors—scholars and experts hailing from a wide range of environmental and policy fields—detail a range of political, social, and economic options for the future and explain why the issue in question is important for society and people as well as the natural world. User-friendly division of volumes into U.S. and international coverage Authoritative and objective analysis from environmental scholars Illuminating sidebars providing case studies about important environmental trends and policies Lists of issue-specific resources for further research

Since the publication of "The coconut palm - A monograph" in 1960, considerable information has been accrued on the crop through work at research institutes, international organisations and development agencies. Although coconut

cultivation is spread over 93 countries, providing employment and creating livelihood opportunities to 64 million families around the globe, smallholder coconut farmers are now facing numerous challenges. The wide gap between the potential and actual yield is a major concern, and as such it is necessary to disseminate knowledge in order to implement research findings. Coconut research in India, one of the leading coconut producing countries, is celebrating its centenary, making this an opportune time to review the research and development advances and the relevant technologies. This detailed, comprehensive book covers all aspects of coconut, from the origins to cultivation, breeding, physiology and value addition, as well as subjects of topical interest like nutrition and health, biotechnology, and climate change and carbon sequestration. Written by leading experts in the fields it emphasises that the livelihood of the small coconut landholders is the ultimate aim of scientists and developmental agencies, and outlines various important strategies to make coconut farming more remunerative globally. It discusses work in all the major coconut growing countries and outlines suggestions for international cooperation. Research work on the crop is comparatively difficult because of its perennial nature, longevity, height, long juvenile phase, large sized nuts, cross pollination and seed propagation. As these special features necessitate greater investment of resources, time and land, it is all the more imperative that research is not duplicated and the information and experience becoming available around the world is shared so that it can be fully utilised. In this context periodic publications, compiling all the available information on coconut assume greater significance. This book is therefore of great value to researchers, students, extension workers, developmental agencies and progressive farmers.

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