Postgraduate Diploma In Renewable Energy And The Environment

Solar Energy Forecasting and Resource Assessment is a vital text for solar energy professionals, addressing a critical gap in the core literature of the field. As major barriers to solar energy implementation, such as materials cost and low conversion efficiency, continue to fall, issues of intermittency and reliability have come to the fore. Scrutiny from solar project developers and their financiers on the accuracy of long-term resource projections and grid operators' concerns about variable short-term power generation have made the field of solar forecasting and resource assessment pivotally important. This volume provides an authoritative voice on the topic, incorporating contributions from an internationally recognized group of top authors from both industry and academia, focused on providing information from underlying scientific fundamentals to practical applications and emphasizing the latest technological developments driving this discipline forward. The only reference dedicated to forecasting and assessing solar resources enables a complete understanding of the state of the art from the world's most renowned experts. Demonstrates how to derive reliable data on solar resource availability and variability at specific locations to support accurate prediction of solar plant performance and attendant financial analysis. Provides cutting-edge information on recent advances in solar forecasting through monitoring, satellite and ground remote sensing, and numerical weather prediction.

Energy supply is a key factor in economic and social development, but lack of modern energy in rural areas limits efforts to alleviate poverty and improve living standards. This book identifies the options for providing modern and improved renewables-based energy to low-income rural areas, with special emphasis on the productive uses. In the five countries represented - Botswana, Eritrea, Ethiopia, Zambia and Zimbabwe - the contributors focus on the advantages of a decentralized approach to energy delivery, the role of income-generating activities in attracting modern energy services to rural areas, and the barriers as well as opportunities that exist in the promotion of renewable energy technologies. The African Energy Policy Research Network (Afrepren) has built up an enviable reputation as the Continent‘s foremost platform for the development African energy professionals producing policy relevant work. This latest volume in their series of publications is a further contribution to addressing the practical energy needs of Sub-Saharan Africa.

This book provides an insight into how a country contributes to the GHG emissions reductions required to keep global warming within the limits set by the Paris Agreement arrived at COP21 in 2015. It shows what actions are needed for the implementation plan that Fiji will use to satisfy its quota (i.e. its Nationally Determined Contribution or NDC) of the total GHG emissions reductions. It is a primary resource material for those who wish to obtain an understanding of the science behind climate change mitigation. It reveals the behind-the-scenes action that takes place to convert the rhetoric of climate change into the action on the ground that actually reduces the GHG emissions and global warming. The book also presents a critique of methods adopted by nations in meeting their NDCs to emissions reductions as agreed at the Paris Agreement, and suggests improvements.

Last year, the Dubai International Conference in Higher Education considered the global challenge of sustaining success in higher education. This year, we posed the question: 'How do universities combine rigour with relevance?' Once again we have invited all those involved in the higher education community to come together to share insights related to the provision of education that is rigorous and at the same time relevant. The three key premises of the conference are these: 1. Higher education institutions must demonstrate their relevance to the needs of the workforce in a landscape of constant and rapid economic and social change. 2. They must maintain the rigorous academic standards that are the hallmark of a quality institution. 3. With the accelerating power and reach of the web, universities must meet unprecedented challenges as technological innovation disrupts their traditional business model. Unless individual universities prove that they are capable of adapting successfully in the face of these three pressures, their futures may be uncertain.

This report provides an analysis of both the current and forecasted energy supply and demand balances that will accompany ASEAN's growth in the next two decades, and the various implications that will arise due to the supply-demand shift. Contemporary energy issues, such as renewable energy, nuclear energy and climate change, will be evaluated. Policy recommendations to counter national and regional energy challenges will also be discussed.

Why is societal transition not simply a matter of change management or normal policy design? South Africa is living proof of the ability of a society to reinvent and reinstall itself. With the advent of new societal challenges, came the need for real societal innovation, especially in sectors where it was never deemed necessary or possible before. This book asks: What type of governance is helpful for developing new societal institutions and systems that can overcome systemic crises in emerging economies and fragile communities? What emerges is a compilation of chapters that introduce different parts of a solution which can be used in developing both a growing body of practices of ?governed? societal transitions and the associated transition of governance. The Governance of Transitions ? The Transitions of Governance, in part, aims to provide building blocks which government and society could use to develop strategies for creating sustainable outcomes. It considers what kind of leadership, organisation or methods for accountability enable new types of governance and what the most important barriers are.

Modern optimization approaches have attracted many research scientists, decision makers and practicing researchers in recent years as powerful intelligent computational techniques for solving several complex real-world problems. The Handbook of Research on Modern Optimization Algorithms and Applications in Engineering and Economics highlights the latest research innovations and applications of algorithms designed for optimization applications within the fields of engineering, IT, and economics. Focusing on a variety of methods and systems as well as practical examples, this book is a significant resource for graduate-level students, decision makers, and researchers in both public and private sectors who are seeking research-based methods for modeling uncertain real-world problems. .

Features information on studying at Postgraduate level in the UK, what is involved, what opportunities there are, lists details £75 million of funding available to Postgraduate students.

The future of clean energy is no longer about science and technology; it's all about access to finance. The fossil fuel industry has been subsidized for decades with tax breaks and government backing, while renewables have struggled to compete. But now clean energy is the safe bet for investors, as is argued in Renewable Energy Finance: Powering the Future, edited by Dr Charles Donovan, Principal Teaching Fellow at Imperial College Business School. With a Foreword writer Lord Brown and contributions from some of the world's leading experts in energy finance, this timely book documents how investors are spending over US$250 billion each year on new renewable energy projects and positioning themselves in a global investment market that will continue to expand at double-digit growth rates until 2020. It documents first-hand experiences of the challenges of balancing risk and return amid volatile market conditions and rapid shifts in government policy. Renewable Energy Finance provides an insider's perspective on renewable energy transactions, and insight into how countries like the US, India and China are responding to the global energy challenge. Drawing together contributions from senior executives and leading

academics, Renewable Energy Finance serves an audience of readers craving intelligent, practical perspectives on the future of clean energy investment. Contents:Section I:Introduction to Renewable Energy Finance (Charles Donovan)The Clean Energy Imperative (Jim Skea)How Much Renewable Energy Will the Global Economy Need? (Guy Turner)Investor-Specific Cost of Capital and Renewable Energy Investment Decisions (Thorsten Helms, Sarah Salm & Rolf Wüstenhagen)Section II:Markets, Governments and Renewable Electricity (Richard Green)The Impact of Government Policies on Renewable Energy Investment (Gireesh Shrimali)Mobilizing Private Sector Capital in Developing Countries (Alexandre Chavarot & Matthew Konieczny)Renewable Energy Finance in China (Philip Andrews-Speed & Sufang Zhang)Measuring the Carbon Delta of Investment Performance (Celine McInerney & Derek Bunn)Section III:The Growing Role for Private Equity (Brian Potskowski & Chris Hunt)Project Finance and the Supply of Credit from Commercial Banks (Alejandro Ciruelos Alonso)The Untapped Potential of Institutional Investors (David Nelson)The Spectacular Growth of Solar PV Leasing (Bruce Usher & Albert Gore)Crowdfunding: Ready for the Big Leagues? (Karl Harder & Sam Friggens) Readership: Advance economics undergraduates and postgraduates undertaking modules in Environmental and Energy economics. Finance students undertaking Energy Finance modules. Researchers and interested financial professionals looking for a reference volume on clean energy investing. Keywords:Renewable Energy;Clean Energy Finance;Solar Energy Financing

Rational Exuberance for Renewable Energy is a beyond-the-hype account of the underlying issues that encourage or plague widespread dissemination of renewable energy (RE) technologies. Renewable energy operates in the real world, and it cannot be assumed that the conventional theories and incentive structures of economics and business do not apply. The author argues that grants and subsidies could be provided to support research, development and technology improvement efforts, but should not be employed as an instrument of state policy to intervene in specific markets. It is important to recognize that although investors often demonstrate an appetite for market risk, they find technology risks and policy uncertainty much less appealing. Rational Exuberance for Renewable Energy blends classical economic theory with the everyday realities of the RE industry to identify incentive structures contributing to the success – or otherwise – of project implementation involving renewable sources and appropriate technologies. The book is a compilation of articles that analyze individual RE technologies, and offer multiple perspectives of the RE industry and markets. Rational Exuberance for Renewable Energy is intended for policy makers, advanced students of energy economics and sustainable development, and for potential mainstream investors.

In this era of globalization, entrepreneurship and its implications on international trade and supply chain management are becoming more critical. In today’s change-oriented and complex business environment, both entrepreneurs and managers need to keep up with the latest developments around them. With the help of globalization, it is getting more attractive for entrepreneurs to generate innovative ideas to run business both nationally and internationally. Competitive advantages and the key for sustainable growth for globally founded institutions lies behind effective supply chain management originating from a single idea about establishing a company and the process to the end goal of reaching consumers. This focus on entrepreneurship, business, and supply chain comes at a time when rapid technological advances are continually being made. The Handbook of Research on Recent Perspectives on Management, International Trade, and Logistics reveals the latest data based on research on the issues of entrepreneurship, innovation, contemporary management techniques, and global supply chain management. Chapters include topics such as the effective management of the supply chain, supply chain modeling, e-business solutions, digitalizing the supply chain process, e-business applications, and more. This book is ideal for managers, executives, supply chain specialists, entrepreneurs, business professionals, researchers, academicians, and students interested in the latest findings in international trade, management, logistics, and business.

Many can now conclude that utilizing educational technologies can be considered the primary tools to inspire students to learn. Combining these technologies with the best teaching and learning practices can engage in creativity and imagination in the engineering field. Using Technology Tools to Innovate Assessment, Reporting, and Teaching Practices in Engineering Education highlights the lack of understanding of teaching and learning with technology in higher education engineering programs while emphasizing the important use of this technology. This book aims to be essential for professors, graduate, and undergraduate students in the engineering programs interested learning the appropriate use of technological tools.

The Implication of Adequate Motivation on Workers’ Productivity in an Organization by Engr. Eur Ing. Dr. Robinson Ehiorobo The Implication of Adequate Motivation on Workers’ Productivity in an Organization is the result of the author’s thirty years of experience of managing staff in all levels of application in engineering and management. The book examines the implication of staff productivity in an organization, especially in the Nigerian workplace, and the issues involved in the designing and promoting of such programs. The result has provided a conceptual framework upon which motivational programs in the Nigerian workplace are based, as well as the type of activities and skills that are involved. The rationale is on such programs that will help employees deal with personal problems that might affect their productivity. The book covers the fundamentals rudiment of the employee motivational process and the appropriate steps needed to successfully implement the findings. This book also addresses the values and culture of the Nigerianazation norms that may affect the success of implementation of the solution suggested in this book.

Renewable Energy, Technology and the EnvironmentNewnes

Renewables are a game changer for interstate energy relations. Their abundance and intermittency, possibilities for decentral generation and use of rare earth materials, and generally electric nature of transportation make them very different from fossil fuels. What do these geographic and technical characteristics of renewable energy systems imply for infrastructure topology and operations, business models, and energy markets? What are the consequences for the strategic realities and policy considerations of producer, consumer, and transit countries and energy-related patterns of cooperation and conflict between them? Who are the winners and losers? The Geopolitics of Renewables is the first in-depth exploration of the implications for interstate energy relations of a transition towards renewable energy. Fifteen international scholars combine insights from several disciplines - international relations, geopolitics, energy security, renewable energy technology, economics, sustainability transitions, and energy policy - to establish a comprehensive overview and understanding of the emerging energy game. Focus is on contemporary developments and how they may shape the coming decades on three levels of analysis: · The emerging global energy game; winners and losers · Regional and bilateral energy relations of established and rising powers · Infrastructure developments and governance responses The book is recommended for academics and policy makers. It offers a novel analytical framework that moves from geography and technology to economics and politics to investigate the geopolitical implications of renewable energy and provides practical illustrations and policy recommendations related to specific countries and regions such as the US, EU, China, India, OPEC, and Russia

Wind Energy Conversion System covers the technological progress of wind energy conversion systems, along with potential future trends. It includes recently developed wind energy conversion systems such as multi-converter operation of variable-speed wind generators, lightning protection schemes, voltage flicker mitigation and prediction schemes for advanced control of wind generators. Modeling and control strategies of variable speed wind generators are discussed, together with the frequency converter topologies suitable for grid integration. Wind Energy Conversion System also describes offshore farm technologies including multi-terminal topology and space-based wind observation schemes, as well as both AC and DC based wind farm topologies. The stability and reliability of wind farms are discussed, and grid integration issues are examined in the context of the most recent industry guidelines. Wind power smoothing, one of the big challenges for transmission system operators, is a particular focus. Fault ride through and frequency fluctuation mitigation using energy storage options

are also covered. Efficiency analyses are presented for different types of commercially available wind turbine generator systems, large scale wind generators using superconducting material, and the integration of offshore wind and marine current farms. Each chapter is written by a leader in the wind energy arena, making Wind Energy Conversion System a valuable reference for researchers and students of wind energy.
This book presents an overview of the main research findings and case studies concerning education and skills for inclusive growth, green jobs and the greening of economies. Focusing on India, Indonesia, Sri Lanka and Viet Nam, it discusses government and business sector responses to these issues and how Technical and Vocational Education and Training (TVET) systems and institutions are addressing both the renewal of curricula in the context of green growth dynamics, and patterns of training and skills development to meet demands. In addition, the book examines cross-country issues, concerns and prospects regarding education and skills for inclusive growth and green jobs for the four countries. These include critical themes and issues in the selected industry sectors triggering a demand for green jobs in the region; how industry is responding to those demands; areas impeding the transition from traditional to green practices; the importance of skills development; the role of TVET in addressing industry needs; and reasons for the slow response of TVET to green skills.While other studies conducted in Asia – and internationally - on the same topic have largely relied on secondary sources, this study conducted by the Asian Development Bank and the Education University of Hong Kong (ADB-EdUHK) is unique in that the findings, conclusions and recommendations reported on are based on primary data. As part of the study, TVET providers, business enterprises, policy makers and practitioners were surveyed using questionnaires and face-to-face interviews. In addition, workshops were held in each of the four countries to ascertain the views of key stakeholders in government, nongovernment organisations, members of the international development community, TVET providers and members of the business sector.The book also provides summaries of the case studies undertaken for India, Indonesia, Sri Lanka and Viet Nam.
Academics and practitioners from across Asia and beyond revisit the issues and impact of climate change in Asia. They examine the preconditions for good governance regarding climate change, and the role of state and non-state actors in climate change governance, and explore different political-legal frameworks.
This book provides a review of environmental and energy research with respect to urban building projects. It describes how to overcome related challenges in environmental design of urban buildings. The book discusses the passive and active environmental systems within building concepts.
Contributed papers presented at the Regional Workshop on Renewable Energy Engineering Education held in January 1995 at IIT, Delhi.
As the human population expands and natural resources become depleted, it becomes necessary to explore other sources for energy consumption and usage. Renewable and Alternative Energy: Concepts, Methodologies, Tools, and Applications provides a comprehensive overview of emerging perspectives and innovations for alternative energy sources. Highlighting relevant concepts on energy efficiency, current technologies, and ongoing industry trends, this is an ideal reference source for academics, practitioners, professionals, and upper-level students interested in the latest research on renewable energy.
Project management tools can be used as an alternative to improve and strengthen a company’s position in the market. However, the management of projects has been in constant transformation. Elements such as time, cost, and scope, on which it is based, have been complemented with other trends, such as the project team, change management, knowledge management, good negotiation practices, management of stakeholders, sustainability, etc. In order to improve the competitiveness of their company and increase earned value, managers must remain up to date on these latest transformations and best practices. The Handbook of Research on Project Management Strategies and Tools for Organizational Success is a pivotal reference source that analyzes and disseminates new trends that will allow managers to improve their skills and strengthen the performance of their companies through obtaining better results in the projects undertaken. While highlighting topics such as market growth, risk management, and value creation, this book is ideally designed for project managers, managers, business professionals, entrepreneurs, academicians, researchers, and students seeking current research on improving the competitiveness of companies as well as increasing their earned value.
This book provides high-quality research results and proposes future priorities for more sustainable development and energy security. It covers a broad range of topics on atmospheric changes, climate change impacts, climate change modeling and simulations, energy and environment policies, energy resources and conversion technologies, renewables, emission reduction and abatement, waste management, ecosystems and biodiversity, and sustainable development. Gathering selected papers from the 7th Global Conference on Global Warming (GCGW2018), held in Izmir, Turkey on June 24–28, 2018, it: Offers comprehensive coverage of the development of systems taking into account climate change, renewables, waste management, chemical aspects, energy and environmental issues, along with recent developments and cutting-edge information Highlights recent advances in the area of energy and environment, and the debate on and shaping of future directions and priorities for a better environment, sustainable development and energy security Provides a number of practical applications and case studies Is written in an easy-to-follow style, moving from the basics to advanced systems. Given its scope, the book offers a valuable resource for readers in academia and industry alike, and can be used at the graduate level or as a reference text for professors, researchers and engineers.
Production and Technology of Bio-diesel is based on the work that TERI has been doing in thefield of bio-diesel production from jatropha. This unique publication covers the entire value chaininvolved in the production of bio-diesel, right from the nursery stage involving the saplings tothe production of transesterified oil (bio-diesel) for use in diesel-powered engines. The user willget in one volume valuable information pertaining to the production of bio-diesel, a process thatrequires inputs from various disciplines, like environment, biotechnology, chemical engineering,finance, economics, and automotive engineering.
This directory has become a valued source of information for energy-efficient building designers and specifiers throughout Europe and the details and scope of product, service and supplier listings have again been extensively updated for this edition.
Forty-five per cent of India’s rural population is without electricity and over 85 per cent is dependent on biomass to meet its cooking needs. Projections suggest that if the present trends continue, a large section of India’s rural population will remain without access to modern energy services even in 2030. It also follows that energy access is not only a critical component for reducing rural poverty and drudgery but it is also one of the fundamental conditions for holistic rural development. The book takes a critical look at the present energy policy and addresses ways to improve energy penetration. In doing so it encourages the use of renewable energy as an alternate medium, challenging the traditional power proponents.
Air Conditioning - Energy Consumption and Environmental Quality theme is the component of Encyclopedia of Energy Sciences, Engineering and Technology Resources in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. The book on Air Conditioning - Energy Consumption and Environmental Quality in the Encyclopedia of Energy Sciences, Engineering and Technology Resources considers the following topics on Systems and Equipment for Space Heating, Ventilation Systems, Air conditioning and Refrigeration and Cryogenic Systems. This volume is aimed at the following five major target audiences: University and College Students, Educators, Professional Practitioners, Research Personnel and Policy Analysts, Managers, and Decision Makers and NGOs.
Renewable Energy: Technology and the Environment comprises 106 chapters, with the first focusing on integrated resource

planning. The following chapters delve into such topics as electricity from geothermal energy; wave energy prospects and prototypes; renewable energy policies for the nineties and beyond; and renewable energy technologies in developing countries. These topics are followed by discussions on harnessing the tax system to benefit alternative energy; energy-meteorology; development energy and environment; solar energy education; solar hydrogen; sky brightness during twilight; and solar instrumentation used in meteorology. Other chapters cover self-acting system tracking for pyrheliometers; directly coupled turbine-induction generator systems for low-cost micro-hydro power; and the utilization of genetic algorithm for the optimal design of a pneumatic hydro-power device. The remaining chapters present field experiments of a wave power converter with caisson breakwater; technical potentials of renewable energies; and air pollution modification due to energy supply diversification. This book will be of interest to practitioners in the fields of meteorology and environmental studies.
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