

Deriving Economic Model to Identify Emissions Reduction Opportunities at Carbon Energy Business...

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Energy demand and growing pressure to impose limits on carbon emissions out of concern for postulated catastrophic climate change poses a serious problem in deriving lead time in developing a globally sustainable energy and economic system. The estimated carbon emissions potentials ranging from 1000 gigatonnes of carbon from conventional fossil fuels to over 5000 gigatonnes of carbon for the technically recoverable fossil resources in 21st century, as a result of rising expectations for ultimate hydrocarbon recovery, will have major implications on energy and environmental policy approaches in mid century term, striving to limit cumulative anthropogenic carbon emissions in form of CO₂ from 1991 to 2100 at 1000 gigatonnes, in order to stabilize atmospheric carbon concentrations at 550 ppmv. The paper is aimed at deriving an economic model for sustainable carbon economy in 21st century, by identifying emissions reduction opportunities at carbon energy business at large, that may result in formulating energy policy on long term carbon energy management, through aligning the value chain of CDM credits in emissions trading mechanisms.

Emphatically, it will extend Lead Time for conversion of Global Energy System to sustainable and carbon free sources of power and hydrogen. An assessment of carbon dynamics and its accounting under emissions regulations, aims to identify significant determinants contributing to evolve a Global Energy Policy and Economics in 21st century. A quantitative assessment through econometric analysis of economic and environmental determinants of carbon energy business, integrated with web-wide interactive simulation model leads to derive a new set of parameters on carbon matrices to formulate sustainable energy portfolios under Kyoto and Clean Development Mechanisms as well as UNFCCC. The paper emphatically derives eligibility criteria for CDM projects on a long-term emissions signature by Establishing Trading Boundaries, Issuing Permits, Crediting & Carbon Accounting, Designing Energy Market Orientations, and Greenhouse Gas Abatement Programme (GGAP) and furthermore emissions sequestrations for improvements of market conditions, reduction in environmental risks, emergence of policy debate and formulations of energy scorecards and regulations. Energy Industries' determination to develop a long term global greenhouse strategy for environmental sustainability of 21st century gas based carbon economy by incorporating elements of Global Climate Change and views of its stakeholders will have a significant bearing on design of future scorecards of growing energy and gas market on the matrices of emissions trading, through Capacity-Building on low carbon-technology, and creating Carbon-Trust to support developers and investors in low carbon-economy under efficient carbon regulation.

The paper objectively concludes in deriving, Roadmaps on sustainable energy portfolios, under Kyoto and Clean Development Mechanisms to manage climate change and environmental risks for the whole gamut of carbon energy business with integration of emerging regulations. Future orientations of energy market in terms of International Climate Negotiations will be determined by: lead time to optimize recoverable fossil fuels, development of hydrogen and renewable energy economy, policy approaches & regulations, global trade alignments on emerging energy, environment and economic orders, as well as on technological advances. The paper finally concludes in aligning determinants of value chain on long term carbon energy management.