Jagdish P. N. Giri

DERIVING ECONOMIC MODEL FOR CARBON ACCOUNTING ON ENERGY REGULATIONS & BUSINESS SCORECARD OF ASIAN GAS MARKETS FOR SUSTAINABLE CARBON ECONOMY IN 21ST CENTURY

Aaditya Energy Foundation, Chennai, India, E-mail: girijpn@rediffmail.com

Overview

The sustainable energy portfolios of 21st century incorporating natural gas as the dominant fuel component for next seven decades or more necessitates to derive an economic model for carbon accounting to evolve sustainable energy portfolios within the broader framework of industry structure; demand and supply of carbon energy & its management; emerging market orientations for ecosystem & biodiversity preservation under environmental dimensions; financial incentives, taxation & economic reforms; emission's abatement & its trading on energy scorecard; assessing Carbon Dynamics for Carbon Accounting & Emission Regulations in Semiarid Asian Ecosystems to evolve a new scenario on Long Term Energy Regulations & Business Scorecards of Asian Energy Markets in particular for sustainable carbon economy of 21st century.

The paper introduces economic dimensions of correlations among population growth; resource conservation; energy consumption profiles and its environmental impacts; economic reforms, taxation and regulations by integrating factors such as: (1) global linkages among population, energy use, environmental impacts and ecosystem management; (2) dynamics of energy demand & supply in terms of carbon energy management & carbon accounting that leads to the growth of sustainable energy portfolios; (3) energy market orientations and its linkages to sustainable energy development and soci-economic growth in environmental context; and (4) complexity of population matrices, energy consumption profiles and environment damage relationships. In a particular arena, such determinants will lead to derive an economic model for sustainable Carbon Economy among Asian Energy Markets on –

- Factors that caused enormous growth of population and energy use in the past.
- Extent of economic growth and energy consumptions responsible for the critical environmental & climatic issues of the day.
- Opportunities that are slowing population growth, per capita energy use, or the environmental harm caused by each unit of energy consumed that lead to development of sustainable & renewable energy portfolios on low emission fuel technologies.
- Scope of developing energy scorecard on Carbon Accounting for growth of sustainable energy portfolios at large, among Asian Nations.

Methods

The paper emphatically is aimed at evolving energy scorecard for developing sustainable energy portfolios and long term prospectivity of Asian Gas Market, taking into account of hybrid nature of regulations, economic reforms, market dynamics and carbon crediting and its accounting procedures. A quantitative assessment through econometric analysis of socio-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 within a framework of 21st century carbon economy under Kyoto and Clean Development Mechanisms as well as UNFCCC. Model parameterization based on interactive simulation techniques featuring carbon accounting as the functions of economic reforms in financial terms and energy & environmental regulations under social and environmental dimensions provides a larger scope of developing energy scorecard for sustainable carbon economy among Asian Nations in mid term. Apart from orienting on business scorecard, the methodology used to derive economic modeling, pinpoints the critical issues to be incorporated for long term policy debate and formulations of

energy & natural gas regulations for Asian Energy Markets in a wider context of sustainable development.

Results

The paper emphatically describes the emerging visions on energy - market directions in general and dominating Asian gas market in particular, on a long-term emissions' signature by Establishing Trading-Boundaries, Issuing Permits, Crediting & Accounting Carbon, Designing Gas Market Orientations, and Accounting for GGAP and 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.

Conclusions

Since the early 1990s, the spectra of a new revolution on Information and Community Technology assumes a paradigm shift for developing a sustainable energy, economy & information portfolio to conserve natural resources and preserve ecosystems. The econometric analysis integrated with simulation model demonstrates re-designing of energy regulations & economic reforms on trans-boundary dimensions to develop a more sustainable business scorecard for Asian Gas Market in particular, as the initial designs are restricted to local considerations, mostly. The paper objectively concludes in deriving, the **'Roadmaps & Energy Scorecards'** in an **'Economic Modeling incorporating Regulatory, Financial and Economic Reforms'** for carbon accounting implementing Kyoto and Clean Development Mechanisms to manage climate change and environmental risks for the whole gamut of carbon energy business with integration of emerging natural gas regulations and evolving energy portfolios. Future orientations of energy market will be determined by: availability of fossil fuels, development of hydrogen and renewable energy portfolios, economic growth, regulations and subsidies, global trade alignments on emerging energy, environment and economic orders, as well as on technological advances. The paper further concludes in deriving a socio-economic model of sustainable environmental & natural resource economy, building long-term relationships on stakeholders' concerns leading to development of sustainable Carbon Economy and Asian Energy Market of 21st century.

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