

FUTURE OF RENEWABLES AND ITS EXISTENCE WITH SOCIO-ECONOMIC AND ENVIRONMENTAL VARIABLES

Deepak Singh

Centre for Studies in Science Policy,

Jawahar Lal Nehru University,

New Delhi, INDIA-110067

EMAIL:- deepaksinghconvent@gmail.com

ABSTRACT

Introduction

The present research is an attempt to explore pathways to low carbon economy leading to economic growth and employment generation in the transport sector. There are, however, promises and challenges for policy innovation and conflicts and paradoxes to be resolved for meeting overall goals of energy security, social equity and climate change solutions. India is endowed with a great potential to meet these challenges as according to an estimate India has a market value of £191 billion in low-carbon and environmental goods & services (LCEGS). With a 6 percent share of the £3,046-billion global market, the country is tied with Japan at the third position. Another country which is closer is Germany with 4 percent share at the fourth position. Hence, it probes whether policies that target energy efficiency could ameliorate or exacerbate the energy conservation and greenhouse gas reduction efforts. Are these policies adequate to integrate economic and environmental objectives? Are commonly accepted eco-friendly renewable technologies free from any adverse environmental and economic consequences threatening food and water security? In the preceding context, an attempt will be made to map out the Indian energy innovation system using a combination of analytical frameworks of national, sectoral and international system of innovation. This will analyse the role of and interactions between different actors (Energy technology innovators, investors & venture capital, public research infrastructure), institutions (energy technology innovation policies, laws, and regulation), learning process (research collaboration, FDI & OFDI). It is contended that given the complex energy situation, the instruments will have to be drawn from a broader policy menu and not only from regulatory and promotional mechanisms. Moreover, as the Indian definition of energy

security emphasises accessibility of energy to all, the R&D programmes will require to be geared not only towards alternative fuel technologies and replacement of hydrocarbons but also cost reduction. An assessment and futures analysis of emerging and converging technologies such as bio, nano and IT will have to be carried out for production, distribution and storage of energy for its integration in the overall energy policy strategy.

Methodology

A comparison will be made between the active policy learning mechanism of India and key OECD players. The role of global knowledge network will be analysed and its impact policy innovation. A scientometric analysis of publications and patents will be conducted to analyse collaboration pattern and identify emerging areas of transport technologies and alternative fuels. A combination of analytical frameworks of national, sectoral and international system of innovation will be used to analyse the role of and interactions between different actors (Energy technology innovators, investors & venture capital, public research infrastructure), institutions (energy technology innovation policies, laws, and regulation), learning process (research collaboration, FDI & OFDI).

Keywords:

Low carbon economy, climate change solutions, eco-friendly renewable technologies, regulatory and promotional mechanisms, storage of energy, scientometric analysis, FDI (Foreign Direct Investment)