

Energy use and GHG emissions in India

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Abstract

Indian economic growth has accelerated under the introduction of economic liberalization policies that began in the early 1990s and it continues to show an impressive economic growth till date. Together with the country's impressive growth, India has also become a significant consumer of energy resources. In accordance with that primary energy consumption has expanded rapidly. India is facing formidable challenges in meeting its energy requirements and providing adequate energy to users in a sustainable manner. The government of India initiated new strategies for the energy sector in tune with the economic reforms in the mid-nineties to deal with the challenges. Towards this direction, the objective of the current paper is to identify the sources of changes in energy consumption and GHG emission in India using input-output structural decomposition analysis (SDA) during the period 1993-94 to 2003-4.

The result shows that changes in final demand structure and volume of changes in final demand are the key factors responsible for changes in energy requirements and GHG emissions respectively. The paper further developed few simulation exercises to estimate the energy requirements and GHG emissions during the eleventh plan period. A higher energy demand and GHG emission is expected, if the economy grows at 8.5% p.a. The paper finally emphasized the four major policies as mentioned in the recent integrated energy policy by the Government of India ---"institutional reforms and system building", "secure energy supply", "efficient energy consumption" and enhancement of energy security"-----to control energy requirements and to combat GHG emissions.

