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Title of the PhD Thesis: Quest for Energy Security: A Study of Energy Policy of India and China (2001-12)

Findings

Energy security is vital for all kinds of security at every level - from individual to society to national to international level. However, the idea of energy security came into prominence only during the First World War, and has been evolving ever since. Though there is no consensus on the definition of energy security across time and institutions, the International Energy Agency (IEA) defines energy security as “the uninterrupted availability of energy sources at an affordable prices.”

Objectives of this research are to map energy and policy landscape of both India and China. However, understanding the sources of energy supply and demand, and global energy and policy landscape are important to understand the context. Energy transition is found to be of urgent for both fast depletion of fossil fuels and climate change mitigation. Global energy consumption is highly concentrated in few countries, as top five energy economies consume more than half of total global energy consumption.

During the period from 2001 to 2012, India became 3rd largest energy consumer, 5th largest energy producer, 4th largest energy importer, and 3rd largest CO2 emitter, while China reached on top on all these four indicators. Meanwhile, both India and China lost their energy self-sufficiency from 80 percent to 68 percent and from 101 percent to 85 percent respectively.

Share of fossil fuels in India and China’s energy basket remained high, and yet witnessed growth with growing dependence on fossil fuel imports. Meanwhile, depletion of fossil fuel reserves continued in both countries.

Energy policy of India and China evolved differently with their respective economy. China's phenomenal economic growth began after the reforms and opening up started in December 1978, while India witnessed high economic growth after the economic liberalisation in July 1991.

Both India and China placed sufficient emphasis on energy conservation and efficiency to reduce their energy intensity. While India passed energy conservation Act in September 2001, China adopted the Energy Conservation Law a few years earlier in November 1997. However, energy intensity of both India and China remained quite high compared to developed countries like Japan and Germany.

India's energy policy making institutions, by 2012, were dispersed across four ministries and one department - Ministry of Power, Ministry of Coal, Ministry of Petroleum and Natural Gas, Ministry of New and Renewable Energy, and the Department of Atomic Energy under the Prime Minister's Office. All these are coordinated and led by the Planning Commission [renamed as NITI Aayog on 1st January, 2015].

China's energy policy making institutions evolved through a number of state-centric and market-centric experiments since reform and opening up in December 1978. After joining the WTO in October 2001, China finally settled with further market reform. In a major overhaul in 2003, the National Development and Reform Commission (NDRC) was established under the State Council to look after China's economic and social development policies, that included energy policies.

In March 2008, at the 11th National People's Congress, two new energy institutions were approved - the National Energy Commission (NEC) and the National Energy Administration (NEA). NEA was established under the NDRC with broader mandate and to handle NEC's day-to-day affairs.

There are two hypotheses in this study to verify - 1. Import share of fossil fuels in India and China's energy basket are growing, and 2. Renewable share of India and China's total primary energy supply are growing in line with their environmental commitments. First hypothesis is found valid as per the data analyses for both India and China, while second one is not valid for both India and China.