

Book Review

Powerless: India's Energy Shortage and Its Impact

Edited by Sam Truman. 2014. New Delhi: SAGE Publications

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In this book, the author provides a comprehensive analysis of India's current energy shortage, its reasons and concerns, visible in events such as the great grid failure of 2012. In doing so, the author makes clear that India's thirst for energy is growing fast and its domestic production is unlikely to keep pace with the growth in demand. In the short term, though, India will have to increase its imports and suffer through unending power shortages. According to him, the lack of domestic resources, relative to India's population and poor governance are the key factors responsible for the continued problem.

The book is divided into ten chapters. Chapter One sets the tone of the book and provides a brief summary. All important issues are set forth and the author makes some striking points. Chapter Two examines the country's overall current energy demand and how it is likely to grow in the near future. It individually discusses: how much coal, oil, gas, uranium, and power the country uses for different purposes; the drivers of growth; and expected future demand.

After examining the current demand scenario, the author moves on to view the supply of energy resources in Chapter Three, providing detailed trends of current production of these individual fuels and discussing key challenges faced by India, in expanding the domestic production to meet its growing demand. While discussing the problems slowing coal production and referring to the contentious issue of land acquisition, the author quotes Kalamachhuin village committee President, Purna Chandra Pradhan from Times News Network (2011):

"We have lost all our agricultural and homestead land for the Balarama and Hingula coal mines, but we are yet to be properly rehabilitated and resettled.

We would continue our agitation till our demands are met." A Mahanadi official retorted: "We have provided compensation to the affected villagers in lieu of their land and houses. We can give them jobs only after the villagers dismantle their houses and vacate the village".

The challenges are dissimilar in the case of oil and gas, revolving around lack of resources and failures to explore and exploit the comparatively insufficient resources possessed by the country.

Chapters Four, Five, and Six look at the size of the current gap between demand and supply of each of these fuels filled by imports, the key constraints in obtaining such imports for India, and how these shortages affect the economy, the Central government's budget, the general business environment, profits of farmers, and food security. Sam Truman quotes from The World Bank report (2012) which states that, "India's energy shortfall ...works to keep the poor entrenched in poverty. Power shortages and disruptions prevent farmers from improving their agricultural incomes, deprive children of opportunities to study, and adversely affect the health of families in India's tropical climate".

According to the author, utilizing imports to address the gaps in demand–supply is an imperfect solution, since it is limited by physical and financial constraints and imposes substantial energy–security cost. Discussing his interview with the former Coal India Chairman, N C Jha, Sam Truman states that 50 per cent of coal is transported by Indian Railways and it does not possess wagons to transport the coal. Since currently the capacity of railways to derive coal from ports to power plants is overstretched, it leads to obstacles. Due to the high dependence on a few energy exporting countries, India is significantly vulnerable to policies

that restrict supply or price, particularly in the case of oil, wherein India is majorly—75 per cent—dependent on imports. With regard to the import of pipeline gas, India is currently facing political obstacles and the LNG terminal capacity is limited.

Chapters Six and Seven study future predictions of demand, supply, shortages, and the prospects for increasing production and imports of fuels and power. The author sounds cynical about the possibilities of increasing the production in the near future (next five to 10 years) due to current obstacles, such as land acquisition, which are expected to be hindrances in the future as well. India's needs are growing faster than its domestic supplies, so its shortages are also growing proportionately. In the future, its demand and imports will depend on a number of factors such as technological progress and growth in its income. To meet its future needs, India will have to increase its energy imports, diversify away from Middle Eastern oil supplies, and expand the number of fuels, currently in use, to address energy security issues.

Chapter Eight studies the impact of India's growing energy use on the environment and how efforts to alleviate these are likely to change the energy fuel mix. It states the impact of climate change on economic sectors and health, based on some of the existing studies. The author states that, "A brown cloud of pollution hangs over India, visible from space. All air pollution, much of it energy related, accumulates in Indian's lungs, and has clear health and economic impacts." As the energy sector is solely responsible for more than 50 per cent of greenhouse gas (GHG) emissions in India, the government is expending a great deal of effort on efficiency and renewables.

Chapter Ten, 'The Path Ahead: Hard Choices', elaborates on the hard choices India will have to make in the future about its energy economy that is short of natural resources and is developing rapidly along an energy intensive development path. In contrast to the widespread claims of the potential of renewables and efficiency programmes for sustainable development, the author does not see these prescriptions to be a major course changer in the case of India. He argues that to meet its growing energy demand, India will need to make sacrifices. For example, moving forward aggressively on land acquisition for new coal mines, dams, and power plants can mean destitution, and hardships for the inhabitants of that land.

A non-technical book for the general reader, it is written in a crisp style and includes anecdotal evidence

such as individual interviews, narratives, and a large number of references and quotations from newspapers and government documents. It describes the complex link between government policy, market forces, economy, community, and the environment in relation to energy. Although this style makes for an interesting read, there is an academic limitation insofar as there is no reference to existing literature on India's energy security. For the benefit of the interested reader, some of the relevant and recent studies have been listed at the end of this book review as a suggested reading list.

Extremely useful, the book provides a detailed introduction and in-depth information about the various energy debates that exist in India. Despite a bit of repetition (demand scenario, supply scenario, shortages, for instance), it is also quite comprehensive in its coverage. The book is based on the premise that a better understanding of the key determinants of thefts and losses in electricity distribution, scope for conservation, comparison, and review of methods, adopted for energy conservation by other countries, is vital for policymakers while designing policies. The author admits that the scope of the book is descriptive and it does not explicitly prescribe solutions to the energy issues in the country. The book provides a short-term perspective on India's energy needs and supplies, locates the gaps, and studies how these gaps affect the economy. There is a need for a subsequent analysis of these issues to review the right choice, in order to approach critical solutions to the questions being raised for the future of India's energy debates.

Suggested Reading list

Bellarmino G T and Arokiaswamy N S S. 1996.

Energy management techniques to meet power shortage problems in India. *Energy Conversion and Management* 37(3): 319–328.

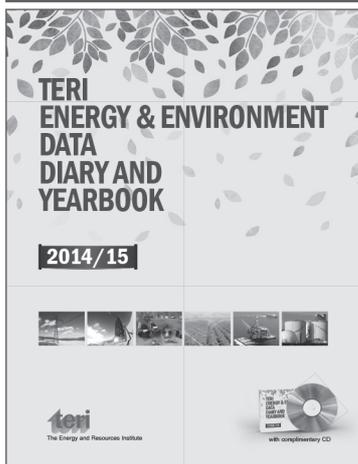
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An overview of Indian Energy Sector



TERI Energy & Environment Data Diary and Yearbook (TEDDY) 2014/15

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Pages: 410 • Binding: Hardback
Size: 220 × 280 mm • Price: ₹1995.00

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Topics covered:

- **Indian Energy sector:** An overview • Commercial energy balance tables and conversion factors
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- **Energy demand:** Agriculture, industry, transport, and household energy
- **Local and global environment:** Environment, Climate change
- **Energy and Environment goals:** Sustainable Development Energy and Sustainable Energy

For sample chapters and Sankey diagram, please visit: www.teriin.org/projects/teddy

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