Anshuman Gupta · Narendra N. Dalei Editors

Energy, Environment and Globalization

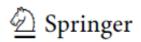
Recent Trends, Opportunities and Challenges in India



Anshuman Gupta · Narendra N. Dalei Editors

Energy, Environment and Globalization

Recent Trends, Opportunities and Challenges in India



Contents

1	Energy, Environment and Globalization: An Interface	1
Par	t I Energy: Recent Trends, Opportunities and Challenges	
2	India's Crude Oil Consumption: Empirical Estimations and Future Projections	17
3	Clean Thermal Power Generation: A Win-Win Situation Sahba Fatima	35
4	Urbanization in India in the Globalized Era: Revisiting the Energy Aspect and Policy Issues	59
5	Indian Gas Market—Roadmap for Creation of an Efficient Gas Market	95
6	100% Rural Electrification in India: Myth or Reality?	117
7	Empirical Relation Between Energy Use and Human Development: Evidence from BRICS Nations	127
Par	t II Environment: Recent Trends, Opportunities and Challenges	
8	Empirical Nexus Between Global Temperature, Local Weather and Agriculture: Evidence from the Indian State of Odisha Narendra N. Dalei, Anshuman Gupta and Neeraj Anand	143

Chapter 7 Empirical Relation Between Energy Use and Human Development: Evidence from BRICS Nations



Hiranmoy Roy and Narendra N. Dalei

7.1 Introduction

There is a paradigm shift in the measurement of economic development, which earlier represented by GDP is now better represented by Human Development Index (HDI), since GDP does not include the quality of life aspect in it.

The search for an alternative to GDP as a measure of economic development was first propounded by UNDP in its first Human Development Report published in 1990, which including directly the quality of life aspect and based on arithmetic mean approach, which was subsequently revised by using the geometric mean approach in the year 2010 (UNDP 2010). While GDP represents only one aspect, i.e., income, HDI is a representative of all aspects that include not only income (economic) but also social, cultural and political aspect.

Energy use has a significant role in predicting human development (Sweidan and Alwaked 2016). Empirical evidence shows that greater energy use is impacting HDI positively. Given the energy consumption level, HDI is an increasing function of time whereas energy consumption needs to be declined to achieve a target level of HDI (Steinberger and Roberts 2009). Conducting a study on 120 countries, Martínez and Ebenhack (2008) observed that there is a strong association between energy and HDI in poor countries whereas HDI is an increasing function of energy consumption in industrially developed countries. Socioeconomic, cultural, environmental and political aspect of HDI enhances human development due to the fact that these are all being impacted positively by clean and reliable energy (UNDP 2007). However, a global consensus with respect to sustainable energy that can help in mitigating

H. Roy (⊠) · N. N. Dalei

Department of Economics and IB, School of Business, University of Petroleum and Energy Studies, Dehradun 248007, India

e-mail: hiranmoy@ddn.upes.ac.in

N. N. Dalei

e-mail: ndalei@ddn.upes.ac.in; nndalei@gmail.com

© Springer Nature Singapore Pte Ltd. 2020

A. Gupta and N. N. Dalei (eds.), Energy, Environment and Globalization, https://doi.org/10.1007/978-981-13-9310-5_7

127