

Chapter 16

The Costs and Concerns of Energy Transition: Energy Transition Should Be Just and Inclusive

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ABSTRACT

The global transition from fossil fuels to clean energy is driven by the need to reduce carbon emissions and combat climate change. However, this transition has its own set of costs, benefits, and concerns. The top-down approach to the transition often fails to consider the social, economic, and environmental costs associated with it, leading to conflicts among stakeholders and social groups. The transition to net-zero emissions will increase job opportunities, but it also poses a risk of job loss and displacement, particularly in industries reliant on coal. The chapter explores the challenges and opportunities of the energy transition, in the Indian context, and the unequal distribution of resources among different regions and social groups. It adopts a three-pronged approach: an extensive literature review, a detailed case study, and stakeholder consultations. The chapter aims to offer actionable insights for policymakers, industry stakeholders, and communities to navigate the challenges, concerns, and opportunities of the ongoing energy transition towards a cleaner future.

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1. INTRODUCTION

The COVID-19 pandemic has intensified the disruption to the economic recovery. It has also led to widespread concerns about the affordability of energy primarily sourced from fossil fuels. It also pointed out the significant monetary burden of a centralized energy system. Intergovernmental Panel on Climate Change (IPCC) has stated that the effects of man-made climate changes are becoming increasingly evident. IPCC also points out that 3.3 billion to 3.6 people living in the region are vulnerable to Climate Change's impacts. The ongoing war in Ukraine further exacerbates the already soaring oil and gas prices. (Anisie et al, 2022)

To make the energy transition successful, India has set ambitious goals to achieve net-zero emissions by 2070 and to generate at least 50% of its electricity from non-fossil fuel sources by 2030. The country plans to harness its ample solar and wind resources. (Poudel, 2021).

Accelerating the transition to non-fossil fuel-based energy is essential. It will ensure long-term energy security, maintain price stability, and enhance national resilience. Currently, approximately 80% of the global population lives in countries that are net energy importers. By harnessing the abundant potential of renewable energy, this dependence on energy imports can be significantly reduced. An energy transition that includes phasing out coal and oil and switching to cleaner sources of energy would diminish countries' reliance on imported energy, provide a more diversified and stable energy supply, and shield economies from the volatility of fossil fuel prices. Moreover, transitioning to renewable energy sources would stimulate job creation, alleviate poverty, and support the development of an inclusive, climate-resilient global economy. (Anisie et al, 2022)

However, the transition to a low-carbon economy has various implications and concerns. Impact on labor markets is one of them. Workers in the fossil fuel sector may face job losses, while new opportunities may arise in the renewable energy sector. Geopolitical challenges, such as China's dominance in rare-earth materials critical to the manufacture of high-tech products like electric vehicles and solar panels, also pose barriers to the clean energy transition. (WEF, 2024) A study by the International Renewable Energy Agency predicts that the transition to renewable energies has the potential to create a substantial number of jobs in the renewable energy sector, with employment expected to rise to 42 million by 2050, representing a significant growth rate of 64%. However, the report also highlights the potential for job losses in the fossil fuel industries, which could offset some positive effects. Therefore, implementing a just policy framework for the energy transition is essential to ensuring a fair distribution of its benefits across society. (Carsals et al, 2020)

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