

Green Economy and Sustainable Economic Development: A Strategic Framework for Low-Carbon Growth

Dr. P. D. Jadhav

Professor, Faculty of Commerce & Management, G. S. Gawande College, Umarkhed

Dr. K. S. Navsagare

Head of Faculty of Commerce & Management, G. S. Gawande College, Umarkhed

Abstract

The imperative to decouple economic growth from environmental degradation has repositioned the 'Green Economy' concept as a central framework for modern economic policy. This paper explores the structural mechanisms through which green economic transition fosters sustainable economic development. By examining renewable energy integration, circular economy models, and strategic resource allocation, the study highlights how low-carbon policies stimulate macroeconomic growth, drive innovation, and foster social equity. The findings demonstrate that transitioning toward a green economy mitigates climate risks while establishing resilient pathways for long-term productivity and employment generation.

Keywords : *Green Economy, Sustainable Economic Development, Circular Economy, Renewable Energy, Decarbonization, Resource Efficiency.*

Introduction

For decades, global economic expansion relied heavily on resource-intensive, linear production models ("take-make-dispose"), resulting in severe ecological imbalances, global warming, and biodiversity loss (Rockström et al., 2009). The United Nations Environment Programme defines a green economy as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities (UNEP, 2011).

Achieving sustainable economic development requires reconciling GDP growth with ecological boundaries. This paper examines the strategic pathways necessary to integrate green initiatives into mainstream macroeconomic policy frameworks.

Literature Review

The theoretical foundation of the green economy is deeply rooted in Ecological Economics. Costanza et al. (1997) emphasized the structural necessity of accounting for ecosystem services within national economic accounting frameworks.

Furthermore, empirical evidence demonstrates that investment in clean energy generates higher employment multipliers compared to legacy fossil fuel sectors (Heintz, Pollin, & Garrett-Peltier, 2009). Studies by Pearce, Markandya, and Barbier (1989) established that economic development cannot be sustained over the long term without protecting natural capital, advocating for policy interventions that internalize environmental externalities.

Research Objectives

1. To evaluate the impact of green economic practices on long-term GDP sustainability and macroeconomic stability.
2. To examine the role of circular economic principles and renewable energy transition in resource productivity.
3. To identify policy instruments necessary for scaling sustainable infrastructure and green employment.

Research Methodology

This paper adopts an analytical and qualitative research approach utilizing secondary data gathered from international economic databases (OECD, World Bank, UNEP), peer-reviewed journals, and global environmental governance reports. A comparative framework is applied to evaluate transition mechanisms across developing and developed economic models.

Strategic Pillars of the Green Economy

A. Renewable Energy Transition

Replacing fossil fuels with renewable energy sources (solar, wind, hydrogen) reduces carbon intensity while insulating national economies from volatile fossil fuel markets (IEA, 2021).

B. Circular Economy Infrastructure

Copyright: © by the Author(s)
This is an open access article distributed under the terms of the Creative Commons Attribution License and permitted unrestricted use, distribution, and reproduction in any medium.

Transitioning from linear resource consumption to a closed-loop circular system minimizes raw material extraction and waste output, reducing production costs and generating new industrial value chains (Geissdoerfer et al., 2017).

C. Green Employment & Social Inclusion

The structural shift toward sustainability drives net job creation in clean technology, energy efficiency retrofit programs, sustainable agriculture, and ecological restoration (ILO, 2018).

Key Challenges & Policy Recommendations:

A. Financing the Transition

Transitioning requires substantial upfront capital. Governments must mobilize private investment through *Green Bonds* blended finance instruments, and public-private partnerships (OECD, 2020).

B. Carbon Pricing and Regulatory Frameworks

Implementing carbon pricing mechanisms (such as carbon taxes or cap-and-trade systems) effectively internalizes pollution costs and incentivizes corporate decarbonization.

C. Just Transition Mechanisms

Policies must incorporate workforce reskilling programs to support workers displaced from traditional carbon-intensive industries, ensuring equitable socio-economic outcomes.

Conclusion

The transition toward a green economy is not a trade-off against economic growth, but a necessary prerequisite for sustainable development. Strategic investments in low-carbon infrastructure, combined with robust policy and market incentives, allow nations to achieve environmental resilience, economic prosperity, and enhanced social welfare .

References

1. Costanza, R., d'Arge, R., de Groot, R., Farber, S., Grasso, M., Hannon, B., ... & van den Belt, M. (1997). The value of the world's ecosystem services and natural capital. **Nature**, 387(6630), 253-260.
2. Geissdoerfer, M., Savaget, P., Bocken, N. M., & Hultink, E. J. (2017). The Circular Economy – A new sustainability paradigm?. **Journal of Cleaner Production**, 143, 757-768.
3. Heintz, J., Pollin, R., & Garrett-Peltier, H. (2009). **How Infrastructure Investments Support the U.S. Economy: Employment, Productivity and Growth**. Political Economy Research Institute (PERI).
4. IEA. (2021). **Net Zero by 2050: A Roadmap for the Global Energy Sector**. International Energy Agency, Paris.
5. ILO. (2018). **World Employment and Social Outlook 2018: Greening with jobs**. International Labour Organization, Geneva.
6. OECD. (2020). **Developing Sustainable Finance Definitions and Taxonomies**. OECD Publishing, Paris.
7. Pearce, D., Markandya, A., & Barbier, E. (1989). **Blueprint for a Green Economy**. Earthscan, London.
8. Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, III, F. S., Lambin, E. F., ... & Foley, J. A. (2009). A safe operating space for humanity. **Nature**, 461(7263), 472-475.
9. UNEP. (2011). **Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication**. United Nations Environment Programme, Nairobi.