

INDIA'S STEPS TOWARDS CARBON NEUTRALITY

Prof. Sandeep Kumar,

Prof. & Head Department of Economics,
D.D.U. Gorakhpur University,
Gorakhpur

Dr. Saumya Modi,

Gorakhpur.

ABSTRACT

India's commitment to achieving carbon neutrality by 2070 is a significant and complex undertaking, reflecting both its developmental aspirations and environmental responsibilities. India's path to carbon neutrality is characterized by a multifaceted approach that integrates governmental policy support, corporate responsibility, technological innovation, and international cooperation. Achieving these goals will require sustained effort across all sectors of the economy while ensuring that developmental needs are met alongside environmental responsibilities.

India has pledged to meet its Nationally Determined Contribution (NDC) targets by 2030. Additionally, it aims to attain net-zero emissions by 2070, following the guidelines set forth by the United Nations Framework Convention on Climate Change (UNFCCC). In order to achieve these goals, India is actively exploring decarbonization strategies and employing emission reduction tools and mechanisms for greenhouse gas (GHG) emitting sectors in the country. Here are some key initiatives:

RENEWABLE ENERGY EXPANSION

India is rapidly expanding renewable energy, with a goal of 500 GW of non-fossil fuel capacity by 2030.

- **Solar Energy Development:** The National Solar Mission aims for 280 GW of solar capacity by 2030
- **Wind Energy Growth:** Expansion of onshore and offshore wind projects, with a target of 140 GW by 2030.
- **Green Hydrogen Mission:** Aims to produce 5 million metric tons of green hydrogen annually by 2030.

ENERGY EFFICIENCY MEASURES-

- **Perform Achieve and Trade (PAT) Scheme:** Encourage industries to reduce energy consumption.

- **Standards & Labeling Program:** Promotes energy-efficient appliances.
- **Faster Adoption of Electric Vehicles (EVs):** The FAME-II scheme supports EV infrastructure.

AFFORESTATION AND CARBON SEQUESTRATION

- **National Afforestation Program:** Focuses on reforestation efforts.
- **Green India Mission:** Aims to increase forest and tree cover to sequester carbon.

TRANSITION FROM FOSSIL FUELS

- **Coal Gasification and Cleaner Technologies:** Plans to gasify 100 million tons of coal by 2030.

- **Phasing Down of Coal Usage:** Increasing investment in alternative energy sources.

SUSTAINABLE URBAN DEVELOPMENT

- **Smart Cities Mission:** Focuses on sustainable infrastructure and transportation.
- **Swachh Bharat Abhiyaan:** Promotes waste management and clean energy.

INTERNATIONAL CLIMATE COMMITMENTS

- **Paris Agreement:** India pledged to reduce its emissions intensity by 45% by 2030 from 2005 levels.
- **International Solar Alliance:** Aims to mobilize global efforts in solar energy.
- **Lifestyle for Environment (LiFE)** promotes sustainable consumer behavior.

CHALLENGES AND WAY FORWARD

India is making significant progress towards carbon neutrality through policy initiatives, technological

advancements and global collaborations. However, sustained efforts in innovation, investment and governance will be key to meeting the 2070 target.

India has set itself a target to achieve net zero by 2070. But the world's third largest emitter of greenhouse gases faces many challenges, including a heavy dependency on coal and a lack of funding. To achieve its 2070 target, India needs an investment of \$10.1 trillion and if the deadline is advanced to 2050, the amount rises to \$13.5 trillion. But nothing is impossible, rapid electrification for development and focusing on green electrification will make India achieve the emissions target faster.

India's coal-dependent sectors must increasingly prioritise non-fossil energy sources. New mobility solutions, enhanced public transport, and industrial green hydrogen must also be fast-tracked.

REFERENCES

- ❖ <http://pib.gov.in>
- ❖ <https://www.usgbc.org>
- ❖ <https://www.tandfonline.com>
- ❖ <https://www.deccanherald.com>