



Mains Marathon

Day 51: Discuss the initiatives taken by India to achieve net zero emission by 2070 and challenge faced by India. (250 Words)

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Approach / Explanation / Answer

- Introduce briefly by stating India's commitment for Net zero emission.
- Discuss the various green initiatives taken by India.
- Analyse its challenges and solution.
- Conclude suitably.

Answer:

India at UNFCCC CoP-26 announced its enhanced climate commitments — the “Panchamrit”, including a commitment to reach net-zero carbon emission by 2070. India's announcement of its net-zero goal is a major step considering the fact that it is not one of the major contributors to global warming. Its historical cumulative emissions are a mere 4.37% of the world's total.

Now, to achieve its targets of 2070, India particularly needs to focus on a smoother renewable energy transition, greater adoption of electric vehicles and greater participation from the public as well as the private sector.

India's Contribution Towards Net Zero;

- **India's Renewable Energy Targets:** India's renewable energy targets have steadily become more ambitious, from the 175 GW by 2022 declared at Paris, to 450 GW by 2030 at the UN Climate Summit, and now 500 GW by 2030, announced at COP26. India has also announced the target of 50% installed power generation capacity from non-fossil energy sources by 2030, raising the existing target of 40%, which has already been almost achieved. India has also announced a **Hydrogen Energy Mission** for grey and green hydrogen. In energy efficiency, the market-based scheme of Perform, Achieve and Trade (PAT) has avoided 92 million tonnes of CO₂ equivalent emissions during its first and second cycles.
- **Reforms in Transport Sector:** India is accelerating its e-mobility transition with the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles Scheme. India leapfrogged from Bharat Stage-IV (BS-IV) to Bharat Stage-VI (BS-VI) emission norms by April 1, 2020. The Indian Railways is also targeting the full electrification of all broad-gauge routes by 2023.
- **India's Support to EVs:** India is among a handful of countries that support the global EV30@30 campaign, which aims for at least 30% new vehicle sales to be electric by 2030. India's advocacy

of five elements for climate change — “Panchamrit” — at the COP26 in Glasgow is a commitment to the same.

- **India has taken various measures to develop and promote the EV ecosystem:** The remodeled Faster Adoption and Manufacturing of Electric Vehicles (FAME II) scheme Production-Linked Incentive (PLI) scheme for Advanced Chemistry Cell (ACC) for the supplier side The recently launched PLI scheme for Auto and Automotive Components for manufacturers of electric vehicles.
- **Role of Government Schemes:** The Pradhan Mantri Ujjwala Yojana has helped 88 million households to shift from coal-based cooking fuels to LPG connections. More than 367 million LED bulbs have been distributed under the UJALA scheme, leading to a reduction of 38.6 million tonnes of CO₂ per year.
- **Role of Industries in Low-Carbon Transition:** The public and private sectors in India are already playing a key role in meeting the climate challenge. For instance, the Indian cement industry has taken pioneering measures and achieved one of the biggest sectoral low carbon milestones worldwide. There is greater synergy of India’s climate policy with the actions and commitments of its private sector.

Associated Challenges

- **Issues in Smooth Transition to Renewables:** Identification of land with Renewable Energy potential and the time-consuming procedures of land clearance. Integrating a larger share of renewables with the grid is another roadblock. Challenges are also expected in enabling penetration of renewables in the so called hard to decarbonize sectors.
- **Challenges for Coal-Powered Companies:** A transition from coal to non-fossil fuel-based power generation/transportation is relatively easier for the companies operating in the services sector. However, the low-carbon transition challenge is bigger for companies that are largely coal-powered and contribute more than half of our country’s emissions.
- **Lack of Technology and Skilled Labour for EV Manufacturing:** India is technologically deficient in the production of electronics that form the backbone of the EV industry, such as batteries, semiconductors, controllers, etc.
- **Consumer Related Issues for Shifting to EVs:** In 2018, India was reported to have only 650 charging stations, which is quite less than the neighboring counterparts who already had over 5 million charging stations. The lack of charging stations and high cost makes it unsuitable for the consumers to cover long range.

Way Forward

- **An Energy Mix of Renewables:** It would be wise to go for a diversified energy mix of solar, wind and hydrogen-based energy. India should work on areas like investment in infrastructure, capacity building and better grid integration in the near and immediate future.
- **Encouraging Private Sector Engagement:** Service companies can easily reduce their emissions by expanding the use of renewable energy, and working with supply chain partners. They can become carbon neutral by sourcing 50% of their electricity from renewable sources.
- **Electric Vehicle as Way Forward:** EVs will contribute to improving the overall energy security situation as the country imports over 80% of its overall crude oil requirements, amounting to approximately \$100 billion.
- **Increasing R&D in EVs:** The Indian market needs encouragement for indigenous technologies that are suited for India from both strategic and economic standpoint. India can pursue countries like the UK to synergise EV development.

There is a need to act decisively to reach a global net-zero, restricting future cumulative emissions to the remaining carbon budget, if the rise in temperature is to remain within the limits of the Paris Agreement.

