

## AIR Spotlight- Green India Measures

AIR Spotlight is an insightful program featured daily on the All India Radio Newsonair. In this program, many eminent panellists discuss issues of importance which can be quite helpful in [IAS exam](#) preparation. In this article, a discussion on Green India Measures to protect the environment is featured.

### Participants:

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2. **Sanjay Jha**, Journalist

### Context

According to the **International Energy Agency (IEA)**, India was the fastest-growing energy consumer in the market till 2014, in this context the role of Green Energy becomes very important.

India has recognised **poverty eradication** along with **green energy growth** as central to the **sustainable development** narrative.

India is taking up measures to shift to green and renewable energy in the development of major projects like airports, railways, and smart cities to minimize carbon emissions.

### Green Energy in India

- India has achieved a major milestone in total non-fossil-based installed energy capacity of **157.32 GW** which is **40%** of the total installed electricity capacity.
- The country has set an ambitious target to achieve a capacity of **175 GW** worth of renewable energy by the end of 2022, which expands to **450 GW** by 2030.
- India's installed renewable energy capacity has increased by over two and a half times and stands at more than 141GW, which is about 37% of the country's total capacity.
- During the same period, the installed **solar energy capacity** has increased by over 15 times and stands at **41.09 GW**.
- The installed Renewable energy capacity has increased from 76.37 GW in March 2014 to **150.54 GW** in November 2021, i.e. an increase of around 97%.
- India is ranked **3rd** in the **Renewable Energy Country Attractive Index** in 2021.
- India is ranked 4th in the world in terms of Solar Installed Capacity.

### India's Commitment at COP 21 (Paris Agreement)

- India had pledged to reduce emissions intensity per unit GDP by **33-35%** of 2005 levels.
- Aimed to reach **40%** of installed capacity from non-fossil fuels.
- Targeted **175 GW** of renewable energy generation by 2022.
- Planned to enlarge forest cover to absorb 2.5 Billion tonnes worth of carbon dioxide.

India is largely on track to meet and even exceed its Paris Agreement targets.

### India's New Climate Action Goals at COP 26 (Glasgow)

- India will achieve a net-zero **emissions** target by **2070**.
- By **2030**, India will ensure **50%** of its energy will be sourced from renewable sources.
- India plans to generate **500 GW** of renewable energy by **2030**.
- India also committed to reducing its carbon emissions until 2030 by a billion tonnes.
- By **2030**, India will reduce the carbon intensity of its economy to less than **40%** of its GDP.

### Green Energy Initiatives in India

- **National Hydrogen Energy Mission**

- The National Hydrogen Energy Mission was announced in the Union Budget 2021.
- The budget allocates **Rs.1500 crore** for renewable energy development including hydrogen.
- Hydrogen is the most abundant element on earth and this mission will capitalize on this. It is also a cleaner fuel.

- **National Solar Energy Mission**

- As per its ambition to provide electricity for all, the target was revised for establishing grid-connected solar power from **20 GW** to **100 GW** under the National Solar Mission (NSM).
- 100 GW is divided into two major segments – **60 GW** of grid-connected ground-mounted large solar power plants, typically above 1 MW capacity, and **40 GW** of rooftop solar power plants for the generation of electricity.

- **National Clean Air Programme (NCAP)**

- NCAP was launched by the Union Ministry of Environment, Forests, and Climate Change in 2019.
- The program is a pollution control initiative with a major goal of reducing the concentration of coarse and fine particulate matter in the atmosphere by at least **20%** by the year **2024**.
- The program aims:
  - To expand the national air quality monitoring network.
  - To build capacity for air pollution management.
  - To raise public awareness about the hazards of air pollution.

- **Namami Gange Yojana**

- The program was implemented by the **National Mission for Clean Ganga** along with its **State Programme Management Groups (SPMGs)**.
- This program was established as a conservation mission with a budget of **Rs. 20,000 crore**.
- Namami Gange aims at reducing the pollution of the river Ganga along with the conservation and rejuvenation of the river banks.

- **Green Skill Development Programme**

- An initiative for skill development in the environment and forest sector has been taken up by the MoEFCC to enable India's youth to get gainful employment and/or self-employment, utilizing the vast network and expertise of ENVIS Hubs/RPs.
- India would need around **10.4 crores** of new workforces by the year 2022, in various sectors and hence skill development is essential to meet the demand.
- The green skilled workforce having technical knowledge and commitment to sustainable development will help in the attainment of SDGs, INDCs, and National Biodiversity Targets.
- **Nagar Van Scheme**
  - The scheme, launched by MoEFCC, emphasizes the importance of urban forestry.
  - Under the scheme, around **200 urban forests** are to be developed all over the country in the next five years.
- **Hydrocarbon Exploration and Licensing Policy (HELP)**
  - It is a new contractual and fiscal model for awarding hydrocarbon acreages and is aimed at enhancing transparency and reducing administrative discretion.
  - It will award a Uniform licence that will enable the contractor to explore under a single license conventional as well as unconventional oil and gas resources including CBM, shale gas/oil, tight gas, and gas hydrates.
- **Ethanol Blended Petrol (EBP) Programme**
  - The Ethanol Blended Petrol Programme was launched to promote the use of renewable and environmentally friendly fuels and reduce India's import dependence on energy.
  - The government has set a target of **10% ethanol blending by 2022** and **20% blending (E20) by 2030**.
  - The supply of ethanol under the EBP Programme has increased from **38 crore litres** during 2013-14 to **173 crore litres** during 2019-20 resulting in an increase in blend percentage from 1.53% to 5.00% respectively.

### Challenges with Green Energy Initiatives

- High initial costs – renewable energy systems need significant investment, resources, land, and infrastructure.
- Challenges in storage and transportation of energy generated.
- To increase the movement of renewable energy, storage, and battery options are required in huge numbers.
- Energy production is not consistent as it depends on various natural factors like sunlight, wind, etc. Hence it is difficult to generate electricity round the clock.
- Manufacturing, transport, and installation of renewable energy infrastructure create carbon footprints. Hence it is not completely carbon neutral.
- Some environmental experts have expressed doubts over India's stiff climate action targets.
- Achieving net-zero by 2070 would require India to peak emissions by 2040, following which emissions will have to start to reduce. Available studies suggest that for a 2070 net-zero year and peaking year of 2040, India would have to reduce the emissions intensity (emissions per unit GDP)

by 85%. This appears a stiff target as, notably, India has so far only been able to reduce its emission intensity by 24% from the 2005 levels.

- To enable such a steep reduction, the share of non-hydro renewable energy has to increase to 65% from the current 11% and the share of electric cars in passenger sales has to go from current 0.1% to 75% by 2040 while the share of fossil energy in primary energy has to decrease from 73% to 40%. These appear too steep a target given India's financial and technical resources at present.
- This could hurt India's developmental aspirations.

### Way forward

- India should take up a leadership role in the fight against climate change and ensure that the voices of the developing and underdeveloped countries are heard at the Global level.
- Net-zero can be achieved only through a structured program that relies on sharp emissions reduction, innovation and the adoption of cleaner technologies.
- India needs to create a legal framework for climate impact assessment of all activities. Low carbon and green technologies must be adopted to reduce the environmental impact of manmade activities.
- Highly energy-efficient goods that have long durability should be used.
- The governments must incentivize the private sector for green innovation and the adoption of the green economy.
- India's solid waste management will need to modernise to curb methane emissions from unscientific landfills.
- The adoption of electric vehicles and renewed cities promoting walking and cycling will help limit GHG emissions from cities.

### Conclusion

India through its landmark and well visioned initiatives, is emerging as the world's leader in terms of alternative fuel generation not only with the likes of solar energy, wind energy but also with innovative methods like bio energy from bio wastes at landfill sites and sewage plants and wind energy generation from the coastal regions in Tamil Nadu and Gujarat.

In the coming years, India is expected to be a green energy hub that is not only self sufficient but also one of the top exporters in the world.