



India's Achievements of Renewable Energy Target

For Prelims: Schemes and programmes for Achieving Renewable Energy Target

For Mains: India's achievements in renewable energy sector, India's renewables energy targets, challenges and initiatives taken to achieve it.

Why in News

India has achieved its target of achieving **40% of its installed electricity capacity from non-fossil energy sources by 2030** in November 2021.

- India had committed to this target at **COP 21** (UNFCCC), as part of its [Nationally Determined Contributions \(NDCs\)](#) (**Paris Agreement**).

Key Points

- Renewable Energy (RE) Capacity of India:**
 - The country's installed Renewable Energy (RE) capacity stands at 150.54 GW (solar: 48.55 GW, wind: 40.03 GW, Small hydro Power: 4.83, Bio-power: 10.62, Large Hydro: 46.51 GW) as on 30th Nov. 2021 while its nuclear energy based installed electricity capacity stands at 6.78 GW.
 - India has the **4th largest wind power capacity in the world.**
 - This brings the **total non-fossil based installed energy capacity** to 157.32 GW which is 40.1% of the total installed electricity capacity of 392.01 GW.
 - At the **COP26** India is committed to achieving **500 GW of installed electricity capacity from non-fossil fuel sources by the year 2030.**
- Challenges in Achieving the Target:**
 - Mobilization of the Necessary Finance:**
 - Gearing up the banking sector for arranging finances for larger deployment goals, exploring low-interest rate, long-term international funding, and developing a suitable mechanism for risk mitigation or sharing by addressing both technical and financial bottlenecks are major challenges.
 - Land Acquisition:**
 - Identification of land with Renewable Energy potential, its conversion (if needed), clearance from land ceiling Act, decision on land lease rent, clearance from revenue department, and other such clearances take time.
 - State governments have to play a major role in acquisition of land for RE projects.
 - Creating Ecosystem:**
 - Creating an innovation and manufacturing eco-system in the country.
 - Other:**
 - Integrating a larger share of renewables with the grid.
 - Enabling supply of firm and dispatchable power from renewables.
 - Enabling penetration of renewables in the so called hard to decarbonize sectors.

Initiatives Taken	
PM-KUSUM	<ul style="list-style-type: none"> It was launched by the Ministry of New and Renewable Energy (MNRE) to support in rural areas and reduce dependence on grid, in grid-connected areas.
Production Linked Incentive (PLI) Scheme	<ul style="list-style-type: none"> Production Linked Incentive Scheme “National Programme on High Efficiency Solar” with an outlay of Rs. 4500 crores to support and promote manufacturing of high efficiency upstage vertical components like cells, wafers, ingots and polysilicon in India and thus boost the Solar PhotoVoltaic (PV) sector.
Solar Parks Scheme	<ul style="list-style-type: none"> To facilitate large scale grid connected solar power projects, a scheme for “Developing 100 Mega Solar Power Projects” is under implementation with a target capacity of 40 GW.
Roof Top Solar programme Phase-II	<ul style="list-style-type: none"> It provides for financial assistance of upto 4 GW of solar roof top capacity to the residential sector. It also provides provision to incentivise the power distribution companies for incremental achievement.
Central Public Sector Undertaking (CPSU) Scheme	<ul style="list-style-type: none"> A scheme for setting up 12 GW Grid- Connected Solar PV Power Projects by Central Public Sector Undertakings with domestic cells and modules is under implementation. Viability Gap Funding scheme
Hydrogen Mission	<ul style="list-style-type: none"> The Prime Minister announced the launch of the National Hydrogen Mission and set up a global hub for Green Hydrogen production and export.
International Solar Alliance	<ul style="list-style-type: none"> The ISA is an intergovernmental treaty-based organisation with a global mandate to reduce the cost of financing and technology. Recently, the United States of America has joined the ISA.
OSOWOG	<ul style="list-style-type: none"> The OSOWOG was jointly released by India and UK at the COP26 Climate Meet in Glasgow.
National Wind-Solar Hybrid Policy	<ul style="list-style-type: none"> The main objective of the National Wind-Solar Hybrid Policy, 2018 is to provide a framework for setting up grid connected wind-solar PV hybrid systems for optimal and efficient utilization of wind and solar infrastructure and land.
National Offshore Wind Energy Policy	<ul style="list-style-type: none"> The National Offshore wind energy policy was notified in October 2015 with an objective to promote wind energy in the Indian Exclusive Economic Zone (EEZ) along the Indian coastline of 14,500 km.
Other Renewables for Power Generation	<ul style="list-style-type: none"> Programme on Energy from Urban, Industrial and Agricultural Wastes/Residues Scheme to support Promotion of Biomass based cogeneration in sugar mills and other industries Biogas Power (Off-Grid) Generation and Thermal application Programme (BPGTP) New National Biogas and Organic Manure Programme (NNBOMP)

Way Forward

- **Identification of Areas:** Renewable resources specially wind cannot be set up everywhere, they require specific location.
 - Identification of these specific locations, integrating them with the main grid and distribution of powers, A combination of these three is what will take India forward.
- **Exploration:** More storage solutions need to be explored.
- **Agriculture Subsidy:** [Agricultural subsidy](#) should be rectified in order to ensure that only the required amount of energy is consumed.
- **Hydrogen Fuel Cell Based Vehicles and Electric Vehicles:** These are the most suitable options when it comes to shifting towards renewable sources of energy, that’s where we need to work upon.

[Source: PIB](#)

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