

The focus of Environmental Information, Awareness, Capacity Building & Livelihood Programme (EIACP) scheme is to disseminate environmental information to decision makers, policy planners, scientists and researchers across the world.

CERC-EIACP, Programme Centre - Resource Partner to MoEF&CC works on the thematic mandate of 'Environment Literacy - Eco-labelling & Eco-friendly Products'. This bi-monthly e-bulletin features latest of Environment, developments and innovations.

Green Issue

The Journey towards Renewable Energy in India

In the global effort to combat climate change, India committed to achieve net zero carbon emissions by 2070 and to meet 50% of its electricity needs from renewable sources by 2030 at the 26th session of the Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change (UNFCCC) held in Glasgow, United Kingdom.

India's power generation mix is rapidly shifting towards a more significant share of renewable energy. Today, **India is the world's third largest producer of renewable energy**, with 40% of its installed electricity capacity coming from non-fossil fuel sources. India is a power surplus nation with a total installed electricity capacity of over four lakh MW.

As of October 2022, India's installed renewable energy capacity (including hydro) stood at 165.94 GW, representing 40.6% of the overall installed power capacity. The country is targeting about 450 Gigawatt (GW) of installed renewable energy capacity by 2030 – about 280 GW (over 60%) is expected from solar. The non-hydro renewable energy capacity addition stood at 4.2 GW for the first three months of FY23 against 2.6 GW for the first three months of FY22.

Solar power installed capacity has increased by more than 18 times, from 2.63 GW in March 2014 to 49.3 GW at the end of 2021. In 2022, till November, India has added 12 GW of solar power capacity. Power generation from renewable energy sources (not including hydro) stood at 16.18 billion units (BU) in September 2022, up from 14.49 BU in September 2021. With a potential capacity of 363 GW and with policies focused on the renewable energy sector, Northern India is expected to become the hub for renewable energy in India.

India's target is to produce five million Tonnes of Green Hydrogen by 2030. Green Hydrogen target for India's electrolyzer manufacturing capacity is projected to reach 8 GW per year by 2025

- 59 Solar Parks of Aggregate Capacity 40 GW have been approved in India.
- Solar Parks in Pavagada (2 GW), Kurnool (1 GW) and Bhadla-II (648 MW) included in top 5 operational solar parks of 7 GW capacity in the country.
- The world's largest renewable energy park of 30 GW capacity solar-wind hybrid project is under installation in Gujarat.
- India offers a great opportunity for investments in RE sector; \$196.98 Bn worth of projects underway in India.
- Wind Energy has an offshore target of 30 GW by 2030 with 3 potential sites identified

This includes 64.38 GW Solar Power, 51.79 GW Hydro Power, 42.02 GW Wind Power and 10.77 GW Bio Power.

India's determined renewables energy targets are transforming its power sector. Mounting population and widespread electrification is driving the demand for energy. Clean energy will reduce pollution levels that come with fossil fuels and would help in combating climate change.

Source: <https://pib.gov.in/FeaturesDeatils.aspx?NoteId=151141&ModuleId%20=%202>,
<https://www.investindia.gov.in/sector/renewable-energy>
<https://pib.gov.in/PressReleaseframePage.aspx?PRID=1847812>,
<https://www.ibef.org/industry/renewable-energy>
<https://pib.gov.in/PressReleasePage.aspx?PRID=1913789>

National Green Hydrogen Mission

The National Green Hydrogen Mission was approved by the Union Cabinet on 4 January 2022, with an intend to make India the Global Hub for production, usage and export of Green Hydrogen and its derivatives. This will contribute to India's aim to become Aatmanirbhar (self-reliant) through clean energy and serve as an inspiration for the global Clean Energy Transition. The Mission will lead to significant decarbonisation of the economy, reduced dependence on fossil fuel imports, and enable India to assume technology and market leadership in Green Hydrogen.

To achieve the above objectives, the Mission will build capabilities to produce at least 5 Million Metric Tonne (MMT) of Green Hydrogen per annum by 2030, with potential to reach 10 MMT per annum with growth of export markets. The Mission will support replacement of fossil fuels and fossil fuel based feedstocks with renewable fuels and feedstocks based on Green Hydrogen. This will include replacement of Hydrogen produced from fossil fuel sources with Green Hydrogen in ammonia production and petroleum refining, blending Green Hydrogen in City Gas Distribution systems, production of steel with Green Hydrogen, and use of Green Hydrogen-derived synthetic fuels (including Green Ammonia, Green Methanol, etc.) to replace fossil fuels in various sectors including mobility, shipping, and aviation. The Mission also aims to make India a leader in technology and manufacturing of electrolyzers and other enabling technologies for Green Hydrogen.

Source: https://mnre.gov.in/img/documents/uploads/file_f-1673581748609.pdf

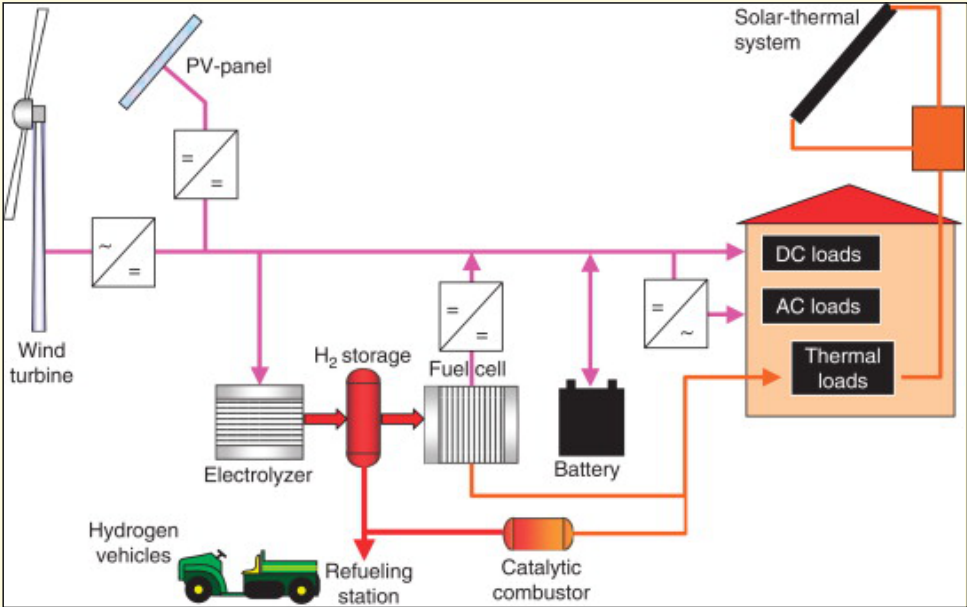


Image Source : <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/renewable-energy-source>

Eco-Tips

Clean energy, clean future
 A transition to clean energy is a transition to green future

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