



Net Zero by 2050: IEA

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Why in News

Recently, the **International Energy Agency's (IEA)** released its **Net Zero Emissions (NZE) Roadmap** - named '**Net Zero by 2050**'.

- It is the **World's first comprehensive energy roadmap** which comes ahead of the **United Nations Conference of the Parties (COP) 26 climate change** convention in Glasgow, Scotland in November 2021.
- '**Net zero emissions**' refers to achieving an overall balance between greenhouse gas emissions produced and greenhouse gas emissions taken out of the atmosphere.

Key Points

- **Need:**

Climate pledges by governments till date even if fully achieved would fall well short of what is required to bring global energy-related **carbon dioxide (CO₂) emissions to net zero by 2050** and give the world an even chance of limiting the global temperature rise to **1.5 °C**.
- **Aim of the Roadmap:**
 - **Examine Impact:**

To examine the impacts of announced **NZE pledges** and what they might mean for the energy sector.
 - **New Energy Pathway:**

To develop a new energy-sector pathway towards achieving **NZE** globally by 2050.
 - **Recommend Governments:**

To set out key policy **recommendations for governments to act upon in the near-term, and a long-term agenda** for change to achieve net-zero goals, including with a view to reaching other **Sustainable Development Goals**.

- **Principles to be Followed:**
 - **Technology Neutrality:**
Technology neutrality, with **adoption driven by costs, technological readiness**, country and market conditions and trade-offs with wider societal goals.
Technology Neutrality is generally described as the **freedom of individuals and organizations to choose the most appropriate and suitable technology** to their needs and requirements for development, acquisition, use or commercialisation, **without dependencies on knowledge involved as information or data.**
 - **Universal Cooperation:**
Universal international cooperation, in which **all countries contribute to net zero**, with an eye to a 'just transition' and where advanced economies lead.
 - **Minimizing Volatility:**
An **orderly transition** that seeks to **minimise stranded assets** where possible, while **ensuring energy security and minimising volatility in energy markets.**
- **Milestones Set by the Roadmap:** More than **400 milestones** to guide the global journey to net zero by 2050 which include:
 - **Fossil Fuels:**
No investment in new fossil fuel supply projects, and no further final investment decisions for new unabated coal plants.
 - **Vehicle sale:**
No sales of new internal combustion engine passenger cars by 2035.
 - **Electricity Generation:**
 - The **global electricity sector should reach net-zero emissions by 2040.**
 - It calls for annual additions of **solar power to reach 630 gigawatts by 2030**, and those of **wind power to reach 390 gigawatts.**
Together, this is **four times the record level set in 2020.**
 - It suggests the following on global electricity generation towards 2050:
 - **714% more renewables.**
 - **104% more nuclear.**
 - **93% less coal** (and all remaining coal with **Carbon Capture and Storage (CCS)**).
 - **85% less natural gas** (with 73% of that with CCS).
- **Significance:**
It is supposed to provide a **pathway to bridge the current gap between rhetoric and reality in reducing GreenHouse Gas (GHG) emissions** from the energy and industry sectors.

- **Criticism:**
 - **Ignorance:**
 - **IEA did not consider historical emitters**, ignoring the principle of ‘climate justice’.
 - **Developed countries benefited from the Industrial Revolution** at the cost of emitting GHGs, leading to **climate change**.
 - Hence, **they have the economies to decarbonise, allowing space for poor and developing countries** to get financing and innovation organised to switch to cleaner energy options.
 - **Regulations Needed:**
 - There is potentially an **over-reliance on behavioral change to consume less energy**.
 - **Regulations will be essential** to positively motivate constructive social change in economies.

International Energy Agency

- IEA is an **autonomous Intergovernmental Organisation** established in 1974 in Paris, France.
- IEA mainly focuses on its energy policies which include **economic development, energy security and environmental protection**. These policies are also known as the 3 E’s of IEA.
- India became an **Associate member of IEA in March 2017** but it was in engagement with IEA long before its association with the organization.
 - Recently, India has **inked a Strategic Partnership Agreement with the IEA** to strengthen cooperation in global energy security, stability and sustainability.
- The **World Energy Outlook Report** is released by the IEA annually.
- Recently, it has released the **India Energy Outlook 2021 Report**.
- **IEA Clean Coal Centre** is dedicated to providing independent information and analysis on how coal can become a cleaner source of energy, compatible with the UN Sustainable Development Goals.

Way Forward

- The world is facing a **formidable task of transforming the energy sector within 30 years in a cost-effective manner**, even as the world economy more than doubles in size and the global population increases by 2 billion people.
- The need for the world to reach NZE by 2050 lies in the **major interim steps** that need to be taken through 2030 — **to engineer cheap and green energy from hydrogen and renewable energy while making them accessible to all**.

Source: DTE