

Atoms4NetZero

Prelims: Current events of national and international importance | Environment

Why in News?

Atoms4NetZero was officially launched recently as a global initiative to support Member States in using nuclear energy for their net zero transition.

- **Aim** - To support Member States in integrating nuclear energy into national energy mixes for achieving net zero goals.
- **Launched by** - [International Atomic Energy Agency \(IAEA\)](#).
- **Launched in** - January 2025 at COP27.

27th Conference of the Parties to the United Nations Framework Convention on Climate Change, was held from 6 to 20 November 2022 in Sharm El-Sheikh, Egypt.

- **Members** - IAEA Member States (developed + developing), industry partners, financial institutions, international organisations.
- **Focus** -
 - Decarbonising electricity production.
 - Addressing difficult sectors (industry, transport).
 - Strengthening energy security.
- **Methodology** - Uses IAEA analytical tools, such as
 - The MESSAGE (Model for Energy Supply Strategy Alternatives and their General Environmental Impacts) and
 - FRAMES (FRAmework for Modelling of Energy Systems) models, to develop clean energy scenarios.
- **Key Workstreams** -
 - **Energy Scenario Modelling** - Assess nuclear technologies (including *Small Modular Reactors*) for sustainable net zero systems.
 - **Expert Missions** - Support long-term energy strategies and updates of *Nationally Determined Contributions (NDCs)*.

- **Capacity Building** - Workshops, seminars, training for policymakers and regulators.
- **Stakeholder Engagement** - Industry, regulators, policymakers for advanced reactor development.
- **Outreach** - Communication and advocacy on nuclear energy's role in net zero.
- **Beneficiaries** -
 - **Member States** - Both nuclear operating and embarking countries; special emphasis on developing nations.
 - **Industry Partners** - To accelerate technology solutions for decarbonisation.
 - **Financial Institutions** - Supporting nuclear energy as part of sustainable investments.
 - **International Organisations** - Collaborating in clean energy transition.
- **Global Significance** -
 - Nuclear power currently provides 10% of world electricity and 25% of low-carbon electricity.
 - Recognised as a *reliable backbone* for clean, affordable, resilient, and secure energy transitions.
 - Helps countries meet climate goals while ensuring economic impact and job creation.

Reference

[IAEA | Atoms4netzero](#)

