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

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