



KAMARAJ IAS ACADEMY
Only IAS Academy by Grandson of "Per. unthalaivar Kamarajar"

World Nuclear Outlook Report

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In News: The World Nuclear Association (WNA) has released the **World Nuclear Outlook Report**, projecting a major expansion of global nuclear power capacity as countries pursue decarbonisation and energy security.

Key Findings of the Report

1. Expansion of Global Nuclear Capacity

- Global nuclear power capacity is projected to rise to **1,446 gigawatt electric (GWe) by 2050**.
- This exceeds the **1,200 GWe target** set under the **Declaration to Triple Nuclear Energy**.

2. Declaration to Triple Nuclear Energy

- Launched during **COP28 (Dubai, 2023)**.
- Aims to **triple global nuclear power capacity by 2050** as part of climate mitigation strategies.

3. Concentration of Capacity

- Five countries are expected to dominate global nuclear capacity by 2050:

oChina, France, India, Russia, United States

- Together, they could account for **~980 GWe**, highlighting continued technological and financial concentration.

Policy Recommendations by the Report

1. Role in Decarbonisation

- Nuclear energy should be integrated into **long-term decarbonisation pathways** due to:
- Low lifecycle greenhouse gas emissions,
- Reliable baseload power generation.

2. Energy Security

- Nuclear power reduces dependence on **fossil fuel imports** and volatile global energy markets.

3. Electricity Market Reforms

- Calls for **reforming electricity markets** to ensure:
- Equitable treatment of nuclear energy,
- Recognition of its long-term stability and system-level benefits compared to intermittent renewables.

Significance for India

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1. India is identified as one of the **five key contributors** to future global nuclear capacity.
2. Supports India's commitments under:
 - **Net Zero by 2070,**
 - Clean energy transition,
 - Long-term energy security.
1. Reinforces the importance of expanding **indigenous nuclear technology** and international cooperation.