# Sustainable Harnessing and Advancement of Nuclear energy for Transforming India (SHANTI) Bill, 2025

***Prelims:*** *Current events of national and international relations | Economy*

## Why in news?

*The Minister of State for Science and Technology introduced the SHANTI Bill, 2025, in Parliament, marking a major step towards updating India's legal framework governing nuclear energy.*

- **Aim –** To open ***India's nuclear sector to private players,*** streamlining laws, and positioning nuclear energy as a cornerstone of clean, reliable power for industrial growth.
- **Replacing laws** — It replaces outdated laws, such as the Atomic Energy Act of 1954 and the Civil Liability for Nuclear Damage (CLND) Act of 2010.

## Key Provisions of the bill

- **Private Sector Participation –** For the ***1st time***, private companies will be allowed to ***invest up to 49% in nuclear projects***.
- They can also participate in core activities such as exploration of atomic minerals, fuel fabrication, equipment manufacturing, and potentially even aspects of plant operations.
- **Unified Legal & Regulatory Framework -** It consolidates multiple existing laws into a single legislative regime, simplifying licensing, compliance, safety, and operational rules to enhance clarity and investor confidence.
- It grants ***statutory status*** to the Atomic Energy Regulatory Board (AERB).
- **Market Reform –** It ends Nuclear Power Corporation of India Limited (NPCIL)'s monopoly over nuclear plant operations by opening the sector to private and foreign players.
- **Liability Reforms –** The amendments to the ***Civil Liability for Nuclear Damage (CLND) Act*** will clarify operator and supplier responsibilities.
- It introduced insurance-backed caps and provided government backstops-critical to attracting private and foreign investment.
- **Penalty cap –** It shields operators by capping their liability according to the size of the plants they run, and sets a ***maximum penalty of Rs 1 crore***, even in cases of a "serious violation."
- **Removal of Supplier liability –** It restricts the instances under which nuclear plant operators are allowed to seek compensation from equipment suppliers in case of an accident.

- **Compensation framework –** It penalises operators in case of a nuclear accident, requiring them to compensate on the ***basis of the plant size, not actual damage***.
    - Installation above 3,600 MW - Operators pay up to Rs. 3,000 crore;
    - Between 1,500 MW and 3.600 MW up to Rs 1,500 crore; and
    - Lower down (150 MW) to Rs 100 crore.
- **Safety & Preparedness –** It strengthens mechanisms for safety, security, safeguards, quality assurance, and emergency preparedness.
- **Operator's right to claim from suppliers** (recourse) – Allowed only if -
    - There is an explicit agreement with the supplier.
    - The accident is proven to have been caused by the supplier or faulty equipment.
    - The accident was due to deliberate intent to cause nuclear damage.
- **India's Target –** India has set an ambitious target of 100 gigawatts (GW) of nuclear power capacity by 2047, nearly ***11 times increase*** from current levels.
- **Current status (2025) –** India operates 25 reactors with a combined installed capacity of 8,880 megawatts, and 17 more reactors are under various stages of construction.

*India is already a nuclear weapons state having acquired atomic bombs in 1998.*

**References**


1. The Hindu | SHANTI Bill spurs private sector to make, run nuclear plants
2. NDTV | SHANTI Bill, 2025, was tabled in Parliament



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