India’s SHANTI Act: Ambition, Controversy, and the Nuclear Private Sector Gambit

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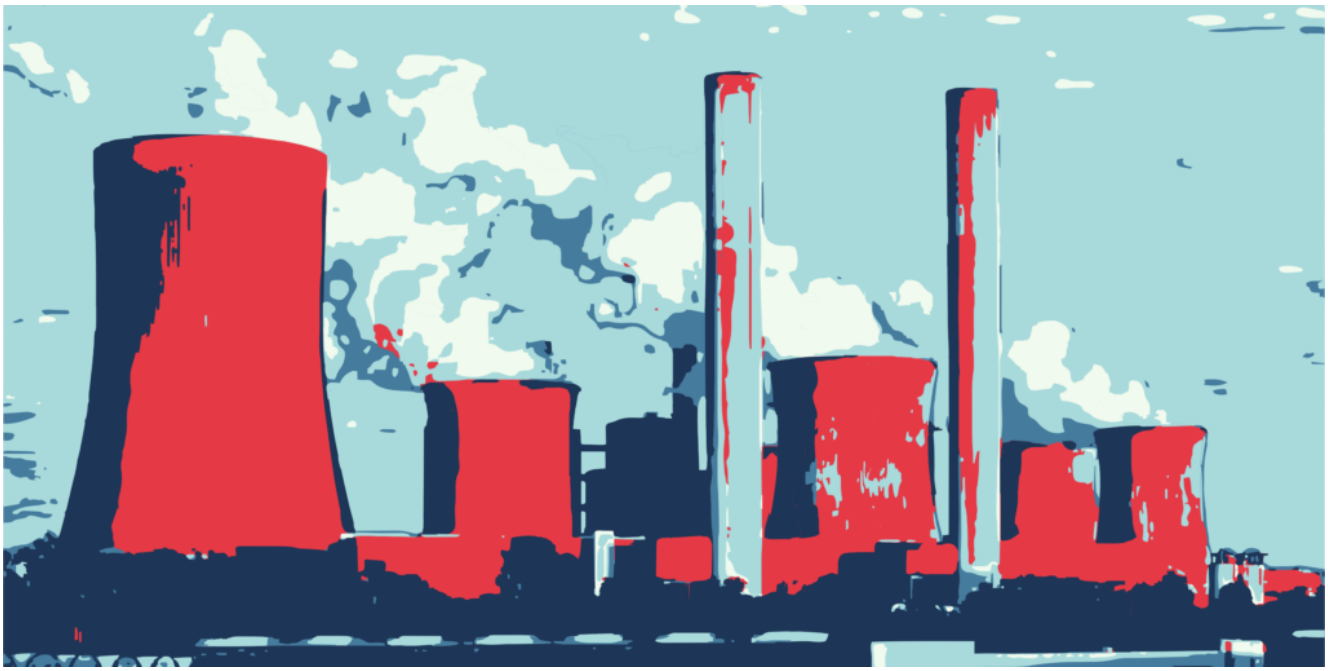

Legislative Overhaul: Dismantling Six Decades of State Monopoly

On December 18, the Parliament cleared the Sustainable Harnessing and Advancement of Nuclear Energy in India (SHANTI) Bill, marking the most consequential overhaul of India’s nuclear governance framework in over six decades. Passed by both the Lok Sabha and the Rajya Sabha amid a walkout by the INDIA bloc MPs, the legislation repeals and subsumes two cornerstone laws—the Atomic Energy Act, 1962, and the Civil Liability for Nuclear Damage Act (CLNDA), 2010—effectively dismantling the state monopoly over nuclear power generation and opening the sector to private and foreign participation.

The immediate parliamentary backdrop was contentious. Members of the INDIA bloc staged a walkout as the Bill was taken up

for passage, protesting both the substance of the legislation and the process by which it was pushed through. Opposition MPs argued that a law of such strategic, environmental, and safety significance warranted deeper legislative scrutiny, particularly given its implications for liability, regulation, and public safety. The government, however, framed the Bill as urgent and overdue—an essential reform to align India's nuclear sector with its energy transition goals, climate commitments, and growing industrial demand.

At its core, the SHANTI Act:

- **Opens the door to private and foreign participation,**
- **Overhauls India's nuclear liability regime, and**
- **It grants AERB statutory status and recasts regulation and innovation under a single, integrated law.**

Early market signals suggest private players are already positioning themselves for entry. Adani, Reliance, Tata, Vedanta, Jindal, and Hindalco had shown interest in the NPCIL RFP released last year, which included 16 proposed sites across six states for 220 MW pressurised heavy water reactors for captive industrial use. Most prominently, the Adani Group is exploring a nuclear energy foray with a potential 1,600 MW SMR project in Uttar Pradesh under a public–private partnership with NPCIL, and BARC designing eight 200 MW reactors. With a suitable riverside site yet to be finalised, the project is expected to take five to six years to execute post-approval.

Strategic Imperatives and Political Fault Lines

This is important because it is, in many ways, a reform long in the making. For years, India's nuclear expansion had been constrained by legal and institutional bottlenecks, chief among them a rigid state monopoly, a non-investor-friendly liability regime, and regulatory ambiguity. The Act is a

welcome development to support India's rising energy demands while advancing the dual objectives of the Viksit Bharat vision—achieving 100 GW of nuclear capacity by 2047 and reaching net-zero emissions by 2070. Given the scale of these ambitions, the public sector alone lacks the capital and resources to deliver such expansion efficiently (DIPTEL #111). Formally, the government has framed SHANTI as a modernising, peace-oriented statute—it's very name signalling the "peaceful use of the atom" and part of a broader push to scale up nuclear energy, anchored by the ₹20,000 crore outlay for National Nuclear Energy Mission to support the indigenous R&D of SMRs, with roughly one reactor added each year to meet rising demand.

The Act also arrives amid a shifting geopolitical and commercial context, presenting an opportunity to strengthen India–US ties. Ahead of the current pre-tariff uncertainties, Washington had lifted restrictions on three Indian nuclear-linked entities last year, reviving momentum around the long-stalled 123 civil nuclear agreement. Reflecting this renewed engagement, the US embassy also stated in a post on X following the passage of the bill that the "United States stands ready to undertake joint innovation and R&D in the energy sector." Other major nuclear suppliers—including France, Russia, and Japan—have likewise expressed renewed interest in Indian projects. In response to opposition claims that the SHANTI Bill is a "vendor-driven" measure aimed at pleasing the US, the government maintains that it is not designed to serve any single foreign interest. Nevertheless, the law's passage undeniably removes long-standing legal and liability barriers that had discouraged international participation for nearly two decades.

That said, the political controversy around the Act underscores why nuclear reform in India has always been fraught. Opposition leaders, including Shashi Tharoor and Manish Tewari, have raised pointed concerns about dilution of

liability and regulatory independence. Tharoor's critique of what he cited as the "unclear" billat, that the overall liability cap—pegged to 300 million SDR—remains grossly inadequate in light of disasters such as Fukushima and Chernobyl, resonates beyond partisan lines. Tewari's argument that the Bill fails to sufficiently ring-fence the Atomic Energy Regulatory Board from executive influence cuts to the heart of public trust in nuclear safety. India's experience with major industrial disasters in non-nuclear sectors has already deeply eroded public confidence in regulatory oversight. In such a context, the prospect of a Fukushima-scale event in India—where population density would render the human and environmental toll exponentially greater—only amplifies these concerns.

The timing of the legislation has further fuelled scepticism. The proximity between the Bill's passage and public disclosures of interest by large conglomerates—most notably the Adani Group—has allowed the Opposition to frame the reform as corporate-friendly, if not corporate-driven. This narrative has been reinforced by Tewari questioning, "Is it a coincidence that the Adani Group announces its interest and within a month we have this Bill?" The government has rejected allegations that the law was fast-tracked to accommodate private players as unfounded, but the perception of risk persists. This is only amplified by the BJP's own evolution on nuclear liability since 2009. BJP, the then opposition party, was among the most vocal critics of a low operator liability cap and of provisions it argued failed to impose meaningful liability on suppliers. The apparent shift from that position has now given the opposition additional rhetorical traction. In a sector as sensitive as nuclear energy, optics matter almost as much as policy design.

From Legal Framework to Operational Reality

Crucially, the real test of SHANTI lies in its implementation.

While the Act establishes an overarching legal framework for private participation, its effectiveness will ultimately only depend on the institutional practices that follow. Detailed and transparent implementation of norms that cover licensing timelines, safety benchmarks, emergency preparedness, and waste management protocols will determine whether private participation enhances capacity or merely adds complexity. Regulatory capacity, especially the AERB's functional independence and technical strength, will be central to ensuring that commercial pressures do not dilute safety standards.

There are also unresolved structural challenges. Nuclear projects are capital-intensive, slow to build, and politically vulnerable to land acquisition hurdles, environmental clearances, and local opposition. The Act remains silent on revenue certainty, tariff support, or viability gap funding, mechanisms that investors may seek to offset long gestation periods. Investors may therefore be more likely to seek long-term power purchase agreements or viability gap funding. The dilution of supplier liability, while easing entry for global vendors, could weaken accountability unless contracts and oversight are robustly designed.

The importance of the SHANTI Act, therefore, lies less in what it permits and more in what it enables. It clears the legal underbrush that has long stalled nuclear expansion, aligns nuclear power with India's climate and development goals, and acknowledges the realities of AI-driven and industrial energy hunger. But unless the forthcoming rules, regulations, and institutional safeguards are carefully crafted and credibly enforced, the reform risks becoming a paper transformation.