

India's Nuclear Sector Opens for Business: How the SHANTI Act Creates Real Opportunities for Global Companies



SURBHI KAPOOR
Senior Associate



SYED AAMIR HUSSAIN
Business Development Manager

In December 2025, the Indian Parliament passed a law that can change the course of nuclear energy in India. The Sustainable Harnessing and Advancement of Nuclear Energy for Transforming India Act, 2025 (SHANTI Act)¹ is consequential because India is finally saying yes to private sector participation in the nuclear energy sector for the first time since independence. So, this isn't just legislative reform; it's an invitation.

To understand this invitation, we must understand what India is trying to do. India needs round-the-clock power, with no downtime, regardless of whether the sun shines or the wind blows. Renewable energy is getting inexpensive, but solar power cannot be generated at night, and a wind turbine sits idle on days that aren't windy. India largely relies on thermal power, but coal cannot be expanded indefinitely if it wants to meet its climate commitments. Nuclear energy solves this. A nuclear reactor runs around the clock with over 90 per cent reliability², so it can be the foundation that you build everything else on.

India has set an ambitious goal of achieving 100 GW of nuclear capacity by 2047³. Currently, it has 8180 MW⁴. That means nearly triple capacity while simultaneously building on renewable energy and managing the transition away from coal. It's a challenge that cannot be solved by the government alone.

Achieving 100 GW requires approximately Rs 15 lakh crore, while the Budget 2025–26 provides only Rs 20,000 crore, making private investment essential to mobilise long-term capital⁵.

India's technical capability has long been proven and remains a robust foundation for progress. India has been operating nuclear reactors since 1969 and has mastered the full fuel cycle, which is mining, enrichment, reactor design, and waste management. However, the problem has always been money and international confidence, and that's where Section 17(b)⁶ of the Civil Liability for Nuclear Damage Act comes in.

The SHANTI Act, 2025, repeals the Atomic Energy Act, 1962, and the Civil Liability for Nuclear Damage Act, 2010, creating a consolidated legal framework for India's civil nuclear energy sector. When India passed the Civil Liability for Nuclear Damage Act in 2010, after the Bhopal Gas Tragedy of 1984, the lawmakers wanted to ensure that if

¹https://prsindia.org/files/bills_acts/acts_parliament/2025/The_SHANTI_Act_2025.pdf

²<https://visualizingenergy.org/what-are-capacity-factors-and-why-are-they-important/>

³<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2115857®=3&lang=2>

⁴<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2099244®=3&lang=2>

⁵<https://www.drishtias.com/daily-updates/daily-news-analysis/shanti-bill-2025>

⁶Civil Liability for Nuclear Damage Act, available on, <https://www.indiacode.nic.in/bitstream/123456789/2084/5/A2010-38.pdf>

something went wrong at a nuclear plant, victims would be compensated, and suppliers couldn't hide behind corporate shells. Section 17(b) of the Civil Liability for Nuclear Damage Act created a unique problem. It said that if a nuclear accident happened because of defective equipment, even if the vendor didn't deliberately sabotage it, the plant operator could sue the supplier after paying compensation.

This sounds reasonable until you're a large-scale supplier. You'd be exposed to unlimited liability for decades. If your equipment failed in ways you couldn't have predicted, you would still be liable. No insurance company covers that kind of open-ended risk, so companies didn't invest.

The SHANTI Act addresses this concern. It says operators are no longer liable for defects unless the contract explicitly says they are or unless they acted with the intent to cause harm.

The Act has also taken a step further. It introduces graded liability caps, which is a significant step towards inviting investments in the sector. A small modular reactor, the kind India is developing to serve remote industrial sites, having thermal power up to 150 MW, faces a cap of Rs. 100 crore. A large reactor, having thermal power above 3600 MW, would be capped at Rs. 3,000 crore⁷. Anything beyond that, the government covers. This is important because it makes the economics work for private companies. When you know your downside risk, you can price your service and sell power competitively.

The Shanti Act also opens the nuclear sector to private investment for the first time. Even though majority ownership remains with the government, there is enough skin in the game to matter. This is a big deal in India, where nuclear energy has been exclusively under government territory since independence. The government allows for a licensee to set up and operate a nuclear reactor⁸. Even though, under the new SHANTI Act, private companies incorporated outside India are not permitted to operate, Indian companies can tap opportunity. Section 2(9)⁹ of the SHANTI Act defines "company" by reference to Section 2(20) of the Companies Act, 2013¹⁰, and expressly excludes companies incorporated outside India. While foreign companies are not allowed, if a foreign investor wants to invest, they may do so through a company incorporated in India.

There's another change worth noting: the Atomic Energy Regulatory Board, which oversees safety, gets statutory status¹¹. Now it has legal standing to say no to a project, which matters for investor confidence.

The real opportunity is in small modular reactors. India is developing three homegrown designs, including a 200-megawatt model, a 55-megawatt model, and a small 5-megawatt reactor for hydrogen

⁷Pg 43, *Supra* 1.

⁸https://prsindia.org/files/bills_acts/bills_parliament/2025/Summary-SHANTI_Bill_2025.pdf

⁹Pg 3, *Supra* 1

¹⁰<https://www.indiacode.nic.in/bitstream/123456789/2114/5/A2013-18.pdf>

¹¹Pg 45, *Supra* 1.

¹²<https://www.world-nuclear-news.org/articles/maharashtra-and-andhra-pradesh-proposed-for-first-indian-smrs>

production¹². The first is expected to operate within a decade. With the SHANTI Act's liability framework, private companies can now partner with India's state nuclear corporation to build and run these reactors. That's a business model that didn't exist before.

Of course, there are concerns. Critics may argue the liability cap is too low, and this may be a fair debate. But it shouldn't obscure what the Shanti Act does, as it removes a legal barrier. By doing so, it opens a path for private capital, technology transfer, and scaled-up deployment of clean, reliable power.

India needs energy. It has the technology. What it lacked was investor confidence. The Shanti Act is the government's way of saying, we're serious about this. Serious enough to change the rules. Serious enough to share control. Serious enough to build a nuclear future that includes private partners. Whether that future materialises depends on execution and on whether regulators move quickly, companies step up, and the power purchase agreements make economic sense. But the legal roadblock? Cleared.

The Shanti Act signals something straightforward: India is serious about building nuclear capacity, serious enough to restructure ownership, serious enough to alter liability rules to gain investor confidence, and serious enough to share control.

That's an opportunity worth paying attention to.