

Nuclear Energy Act: Transforming India's Nuclear Energy Landscape

INTRODUCTION

India's ambitious [decarbonization goals](#) have led it to explore multiple forms of feasible [clean energy](#). Until now, the country has mainly relied on [solar and wind power](#) to increase the share of renewables in its [energy mix](#). Of late, however, the Government of India ("Government") has shown growing interest to harness other alternative energy sources, including [green hydrogen](#) and [nuclear power](#).

In the 2025 Union Budget, the Government announced support for the generation and enhancement of nuclear power through the establishment of the [Nuclear Energy Mission for Viksit Bharat](#), which aims to increase domestic nuclear capabilities and promote private sector participation in the nuclear industry (*for an overview of the erstwhile/ existing legal framework and its limitations, see our note [here](#)*). Major Indian conglomerates have already expressed interest to engage in civil nuclear energy generation (see [here](#) and [here](#)).

In this background, the [Sustainable Harnessing and Advancement of Nuclear Energy for Transforming India Act, 2025](#) (the "**Nuclear Energy Act**" or the "**Act**") was recently passed by both Houses of Parliament, assented to by the President of India, and then published in the Official Gazette on December 21, 2025.

The Act will take effect on such date as the Government may appoint by notification in the Gazette, and different dates may be appointed for different provisions of the Act. Once notified, the Nuclear Energy Act, among other things, will enable private sector participation in India's nuclear energy sector.

BROAD OVERVIEW OF THE NUCLEAR ENERGY ACT

The Nuclear Energy Act is designed to modernize and expand India's nuclear sector. It facilitates private sector participation alongside public institutions and is intended to accelerate innovation in nuclear power and advanced technologies such as Artificial

Intelligence (“AI”), industrial automation, and space exploration. Further, it establishes a regulatory structure through the Atomic Energy Regulatory Board (“AERB”), which will serve as the primary oversight body under the new regime, requiring mandatory safety authorizations for all radiation-related activities and ensure high standards for radiation safety, security, and environmental protection.

Importantly, the Act defines civil liability for nuclear damage, outlining compensation mechanisms and operator responsibilities in the event of an incident. It also provides for the creation of specialized forums, such as the Claims Commissioner and the Nuclear Damages Claims Commission, for adjudicating claims related to nuclear damage. Moreover, the Act seeks to leverage India’s thorium reserves and closed fuel cycle policy to achieve long-term energy independence and sustainable development.

In general, the Nuclear Energy Act represents a pivotal legislative overhaul, expanding private sector participation by allowing non-Government companies or joint ventures (“JVs”) to apply for licenses to build, own, and operate nuclear facilities, thereby moving beyond traditional Government-owned models for such facilities. This transition facilitates new opportunities in power generation, healthcare, food, water, agriculture, as well as industrial and environmental applications.

To manage risk, the new law prescribes operator liability limits based on thermal power capacity of the nuclear reactor involved – ranging from INR 1 billion to INR 30 billion – while the Government will assume liability for damages exceeding such amounts up to the INR equivalent of 300 million Special Drawing Rights (“SDRs”). An Atomic Energy Redressal Advisory Council will be established to examine applications for review submitted by persons aggrieved by an order/ decision of the Government or AERB, including in respect of fixing tariffs, with the possibility of appeals before the Appellate Tribunal for Electricity (APTEL).

Investors may need to navigate certain remaining concerns: e.g., strategic activities such as fuel enrichment and spent fuel management remain strictly reserved for the Government. Further, the Act grants the Government exclusive acquisition rights over abandoned plants and imposes rigorous penalties for disclosures of restricted information. In addition, inventions deemed sensitive or related to reserved activities are not patentable, necessitating careful evaluation of intellectual property (“IP”) strategies.

IMPLEMENTATION OF THE NUCLEAR ENERGY ACT AND GRANDFATHERING PROVISIONS

Once implemented, the Nuclear Energy Act will repeal the [Atomic Energy Act, 1962](#) (“Atomic Energy Act”) and the [Civil Liability for Nuclear Damage Act, 2010](#) (“CLNDA,” and together with the Atomic Energy Act, the “Existing Framework”).

The Nuclear Energy Act contains provisions for the grandfathering of actions (including licenses or permissions) granted under the Atomic Energy Act and recognizes the continuation of the AERB and the Atomic Energy Commission. Further, the Act clarifies that any rules or notifications made under the Existing Framework will continue to be in force until superseded, to the extent that they are not inconsistent with the provisions of the Act.

EXISTING NUCLEAR ENERGY LANDSCAPE

Under the Atomic Energy Act, only the Government has the power to produce, develop, use, and dispose of atomic energy, either by itself or through any corporation/ authority established by the Government or a Government company (*i.e.*, a company in which at least 51% of the paid-up share capital is held by the Government, or the whole of such share capital is held by one or more of such companies where the Government can (re)constitute their boards). Accordingly, under the Existing Framework, India's nuclear energy sector is not open for private sector investment (including any foreign investment – see India's [Consolidated FDI Policy](#), which lists “atomic energy” as a sector not open for private sector investments).

However, a [press release dated September 16, 2020](#) issued by the Department of Atomic Energy clarifies that “there is no restriction on FDI in the nuclear industry for manufacturing of equipment and providing other supplies for nuclear power plants and related other facilities.” *For an overview of the current Indian legal framework for private/ foreign investment in nuclear energy, see our note [here](#).*

While the Atomic Energy Act regulates the establishment and operations of nuclear energy plants in India, the CLNDA deals with liabilities of entities in the event of a nuclear incident and provides redressal mechanisms for victims of a nuclear incident. Under the CLNDA, operators have a right to recourse from foreign suppliers (including persons involved in the manufacture and design of system and equipment and quality assurance services) in case of such incidents. As discussed in our previous [note](#), liability-related concerns under the Existing Framework significantly limited private involvement in India's nuclear energy sector.

NUCLEAR ENERGY ACT: ANALYSIS

The Nuclear Energy Act aims to provide for license-based authorizations to entities (including private players) for the production and use of nuclear energy.

A. Expanded scope of private sector participation

The Nuclear Energy Act marks a shift away from India's closed nuclear sector under the Atomic Energy Act (which restricted the scope of private sector participation in nuclear power generation). The Act permits any company incorporated in India, a JV among Government institutions/ companies and Indian non-Government companies,

as well as any other person expressly permitted by the Government, to obtain a license for setting up a nuclear facility in India (such licensed entity being an “operator” under the Act). While the Act defines a nuclear facility to include any premises involved in the processing, production, storage, usage, handling, or disposal of nuclear power, it excludes premises engaged in mining and processing of ores and handling of waste arising from such activities.

Certain activities continue to remain exclusively within the domain of the Government, such as those relating to (i) the enrichment or isotopic separation of any radioactive or ‘prescribed substance’ (*i.e.*, any source, fissile, or Government-notified material which may be used for the production or use of nuclear energy, ionizing radiation, or connected/ incidental matters); (ii) management of spent fuel (*i.e.*, nuclear fuel permanently removed from a reactor core); (iii) production of heavy water and its upgradation by isotopic separation; and (iv) any other facilities/ activities notified by the Government. Mines containing uranium and thorium may only be operated or decommissioned by the Government, a Government company, or a Government-controlled corporation, after obtaining a license and safety authorization.

B. Licensing and compliance obligations

Under the Act, an eligible entity will need to obtain a license from the Government to: (i) build, own, operate, or decommission a nuclear power plant or reactor; (ii) fabricate nuclear fuel; (iii) transport or store nuclear/ spent fuel; (iv) import, export, acquire, or possess/ use any nuclear fuel or prescribed substance/ equipment; (v) import or export any technology/ software related to the development, production, or use of such substance/ equipment; and (vi) any other activities/ facilities notified by the Government. Further, any facility or activity which might expose an individual to radiation will require a safety authorization from the AERB.

An eligible entity may file an application to obtain a license along with required documents, information, and fees as notified by the Government. Such license will be granted to entities which comply with necessary standards of financial, technical, management, and other capabilities related to the operations of the facility. Licenses may not be granted if the Government considers certain entities to be inimical to defense, national security, or the health and safety of the public. Similar to other security-sensitive sectors, we expect that the Government will require eligible entities to meet significant net worth requirements and investigate the *bona fides* of directors and key managerial personnel prior to awarding licenses. Further, restrictions on change in shareholding or control may be subsequently introduced through rules/ regulations framed under the Act, including by requiring prior Government/ AERB consent.

The Nuclear Energy Act also enables the grant of a composite license/ safety authorization to an entity desirous of undertaking two or more activities in respect of a

facility. The license and safety authorization granted under the Act will be valid for a specified duration and may be renewed, extended, suspended, or cancelled, as required. For license refusals, the Government will provide its reasons in writing. Further, any transfer of a license or security clearance can be undertaken with prior Government/ AERB permission, as applicable. We anticipate that the license and safety authorization may carry additional conditions which may impact deal contours in this sector.

Nuclear facilities operating in India will need to maintain detailed accounts (as notified by the Government) of any source and fissile material produced or imported to India, including for the purpose of enabling the Government to maintain surveillance and control over such material. Further, spent fuel and heavy water will need to be safely stored for a cooling period of such duration as may be specified by the AERB. Entities which obtain a license will be required to furnish periodic returns and maintain sufficient financial security to ensure the safe disposal of radioactive substances and decommissioning of a mine or facility, as well as the settlement of compensation claims arising from any injury, loss, or damage caused by radiation or radioactive contamination (other than nuclear damage as defined under the Act).

No license or Government approval is required for undertaking research, development, design, and innovation related to nuclear energy and radiation for peaceful use, except for activities which are exclusively to be undertaken by the Government, or activities having national security implications. Entities undertaking such activities will be required to take adequate security and safety measures in relation to the public and the environment.

C. Scope of liability

Broadly, the Nuclear Energy Act tracks the CLNDA with respect to operators' scope of liability. However, it differs in respect of the quantum of penalties involved, and limits suppliers' scope of liability. In line with the CLNDA, the operator will not be liable for nuclear damage caused by a grave natural disaster 'of an exceptional character' or an armed conflict, hostility, civil war, insurrection, or terrorism, and the compensation payable in such instances will be the Government's liability.

With respect to supplier liability, an operator – after paying compensation in accordance with the provisions of the Act – will have a right to recourse from the supplier concerned only if such right is expressly provided for in writing within the underlying contract, or if the nuclear incident has occurred as result of an act or omission of an individual with the intention to cause nuclear damage. Unlike in the CLNDA, the operator cannot seek recourse under law for a nuclear incident that occurs as a consequence of an act of the supplier or its employee, which includes supply of equipment or material with patent or latent defects or sub-standard services.

The liability limits of an operator in respect of each nuclear incident for different categories of installations have been specified under the Act, where the quantum of liability is linked to the nuclear reactor's thermal power, as follows: (a) above 3600 MW: INR 30 billion; (b) above 1500 MW and up to 3600 MW: INR 15 billion; (c) above 750 MW and up to 1500 MW: INR 7.5 billion; and (d) above 150 MW and up to 750 MW: INR 3 billion. Further, for reactors having thermal power of up to 150 MW, and for fuel cycle facilities other than spent fuel reprocessing plants and transportation of nuclear materials, the liability of the operator will be limited to INR 1 billion. Depending on the evolution of applicable technology and other factors, the Act empowers the Government to revisit such liability caps.

The Government will assume liability for damages exceeding such liability caps up to the INR equivalent of 300 million SDRs. The maximum amount of liability in respect of an individual nuclear incident will be the INR equivalent of 300 million SDRs or such higher amount as notified by the Government. In the event that the compensation awarded exceeds this limit, the Government may take additional measures to cover the extra amount, including seeking funds under the [Convention on Supplementary Compensation for Nuclear Damage](#).

Similar to the CLNDA, prior to the commencement of operations related to a nuclear installation, every operator will need to obtain an insurance policy or other financial security to cover the maximum amount of liability payable in the event of a nuclear incident.

D. Breach

For breaches in respect of (i) the Act's provisions or the rules/ regulations framed thereunder, (ii) the terms of the license or safety authorization framework, (iii) orders/ directions/ notices issued under the Act, or (iv) conditions imposed or prohibitions specified under provisions of the Act, the new law adopts a graded penalty framework. In case of a 'severe' or 'major' breach, a penalty of INR 5-10 million or INR 1-5 million, respectively, may be imposed. For 'minor' or 'moderate' breaches, penalties may range between INR 50,000 to 0.5 million. Similar to liability for nuclear incidents, the Nuclear Energy Act empowers the Government to revisit and amend such penalty provisions.

While determining the penalty, the adjudicating officer will account for certain specified factors with respect to the breach/ violation, such as: (1) its nature, gravity, and duration; (2) its consequences on nuclear or radiation safety; (3) its repetitive nature; (4) whether it resulted in the person concerned to realize a gain or avoid a loss; (5) whether such person took any action to mitigate its effects and consequences, and the timeliness and efficacy of such action; (6) whether the penalty is proportionate and

adequate to deter repeat violations; and (7) the likely impact of imposing such penalty on the person concerned.

E. Other measures

Since the Nuclear Energy Act aims to facilitate IP development related to nuclear power, it facilitates the protection of IP rights associated with inventions in such respect.

As on date, under the present regime, the grant of patents for inventions relating to the production, control, use, or disposal of nuclear energy (or related activities) is not permitted. The Atomic Energy Act requires an inventor of such technology to obtain prior Government permission before (i) making a patent registration application in a foreign country, or (ii) communicating the invention to a person abroad.

With an attempt to liberalize the Existing Framework, the Nuclear Energy Act permits the granting of patents for inventions related to peaceful uses of nuclear energy and radiation, and accordingly amends relevant provisions of the [Patents Act, 1970](#) (“**Patent Act**”). Similarly, if an inventor of such technology intends to file a patent application outside India, they may do so pursuant to Section 39 of the Patent Act.

THE WAY AHEAD

While the Nuclear Energy Act permits private sector participation in India’s nuclear sector, its provisions do not expressly refer to foreign investment. Among persons eligible to apply to the Government for a licence for the purpose of establishing/undertaking a specified facility/ activity, the Act includes ‘any other company’ (i.e., a non-Government company) as well as JVs (among Government entities/ companies and non-Government companies). Further, the Nuclear Energy Act specifies that references to a “company” do not include a company incorporated outside India.

Although FDI in atomic energy remains prohibited in India, recent reports suggest that the Government may permit up to [49% FDI](#) in the sector through a phased liberalization process. In this regard, the next step to further liberalize the regime may involve making appropriate changes to India’s FDI Policy and its relevant rules.

The expanded scope of private sector participation under the Act has been well-received by key industry participants, leading to [discussions](#) and [preparatory activities](#) geared towards developing projects involving small modular reactors. Consistent with international standards, the reduced scope of liability under the Nuclear Energy Act may help the Government attract foreign technologies and capabilities to enhance nuclear power integration in the country. This, in turn, may lead to increased international partnerships and collaborations (see [here](#) and [here](#)).

Enhanced private sector participation is likely to facilitate competitive pricing and rapid sectoral development. While the Act authorizes the Government to fix the tariff for electricity supply from nuclear power plants based on norms and mechanisms notified by it notwithstanding anything contained in the Electricity Act, 2003, [recent reports](#) suggest that the development of nuclear projects might be brought under the ambit of the Government's Ministry of Power ("MoP"), while [rules](#) under the Nuclear Energy Act, which are expected to be issued over the next few months, may provide more clarity on tariff determination issues. The [Draft National Electricity Policy, 2026](#) released by the MoP on January 20, 2026 indicates that a two-part tariff for future nuclear plants may be explored to integrate variable renewable energy.

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