

Is it a Nuclear Hedge? Why South Korea Should Reassure About Its Non-Weapons Nuclear Intentions

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IS IT A NUCLEAR HEDGE? WHY SOUTH KOREA SHOULD REASSURE ABOUT ITS NON-WEAPONS NUCLEAR INTENTIONS

Matthew Sharp, Celia McDowall, and Toby Dalton

South Korea has launched a highly ambitious effort to advance its nuclear technologies. Together with the United States, South Korea [announced](#) that it will pursue civilian uranium enrichment, after decades of abstaining from this sensitive technology. An enrichment programme would help fuel its nuclear power plants and bolster its efforts to export them overseas. More ambitiously, also with the United States as a partner, Seoul has decided to [procure](#) conventionally-armed, nuclear-powered submarines (SSNs) to strengthen its sea defences. Both initiatives were formally outlined in the [US-ROK Joint Fact Sheet](#), released on November 13, 2025, following an October presidential summit. These commercial, industrial, and military nuclear projects are highly consequential and will shape South Korea's role in the region and internationally for decades to come.

Individually, pursuit of each technology would attract attention and raise concerns among neighbours and partners. In combination, and in the context of a [well-documented](#) South Korean public interest in possessing nuclear weapons, these technologies could suggest an ulterior motive: building nuclear weapons “latency” (commonly known in the academic literature as [nuclear hedging](#)). Indeed, some former officials, military officers, and academics from South Korea [argue](#) that nuclear weapons latency should be the chief aim of Seoul's nuclear policy. Such advocates contend that nuclear latency would produce political and deterrent effects that would bolster South Korea's security. Yet to have such deterrent power, a nuclear hedge must be premised on an implied threat to “go nuclear” and an implication that restraint from doing so is conditional.

However, calls for nuclear weapons latency are in direct tension with the non-weapons objectives set out for these technologies by the Lee Jae Myung administration. For South Korea, the conditional nature of nuclear hedging would be in clear contradiction with its record as a strong champion of non-proliferation and its international obligations as a party to the Nuclear Non-Proliferation Treaty (NPT). In fact, success in its commercial (in the case of enrichment) and defensive (in the case of the submarines) objectives depends materially on the support and cooperation of a diverse set of international stakeholders; generating that trust is not possible while at the same time posturing these activities as a nuclear weapons hedge. If South Korea chooses the path of hedging, it is unlikely to win long-term support for its efforts from Washington and may face more direct opposition from others. However, if it chooses the path of non-proliferation, it will have to convince allies and adversaries alike that its commercial and defensive nuclear projects are not just hedging in disguise. Seoul will need to provide effective reassurances – measures like those elaborated below – to key

audiences that will credibly demonstrate its continued commitment to nuclear weapons abstinence.

DIMENSIONS OF SOUTH KOREA'S NUCLEAR ASPIRATIONS

South Korea's substantial nuclear programme now has three dimensions to it. The first is civilian: South Korea is a [global leader](#) in the domestic use of nuclear power and is [growing in prominence](#) as an exporter to others. In support of this robust nuclear industry, South Korea now seeks to develop or acquire a uranium enrichment capability to manufacture nuclear fuel. It also wishes to proceed with a long-debated reprocessing programme to reduce the volume of used nuclear fuel and potentially recycle some of the component materials. Per the 2015 US-ROK nuclear cooperation agreement, South Korea needs written consent from the United States to proceed with either technology. Washington stated its intention to provide such consent in the November 2025 announcement, [affirming](#) that it “supports the process that will lead to the ROK's civil uranium enrichment and spent fuel reprocessing for peaceful uses.”

Alongside this commercial nuclear aspect is a newer military dimension. The joint announcement that South Korea and the United States would pursue nuclear-propelled, conventionally-armed submarines for South Korea initiates a strategically important yet complicated project. Many [unanswered questions](#) remain about the strategic logic and [military rationale for SSNs](#), as well as how the programme might be implemented, including the extent to which the United States would be involved in the submarine build and fuel provision, or whether South Korea would enrich the fuel on its own. In any case, South Korea appears likely to need close US support to deliver the project.

The third dimension of South Korea's nuclear programme, albeit not a matter of government policy so much as public aspiration, is about nuclear deterrence. Enrichment and reprocessing comprise the two primary pathways to acquire the fissile materials needed to fuel nuclear weapons. Nuclear-powered submarines have heretofore only been operated by states with nuclear weapons as part of their nuclear deterrence postures. Thus, adding these commercial and defensive elements to South Korea's already formidable nuclear technology mastery would significantly enhance the political, technical, and economic feasibility – real or perceived – of a hypothetical future nuclear weapons programme. All that would be lacking is a political decision to pursue one.

South Korea's desired military and commercial nuclear efforts will require close partnership with friends and will be watched closely by its neighbours (and adversaries). Both will be alert to any indication that these capabilities are being pursued for nuclear weapons purposes, especially given the view held by some in South Korea that proximity to a nuclear breakout capability is a core benefit of these projects. Key foreign audiences will require reassurance that this is not the case.

The South Korean government appears to recognise the importance of these reassurance steps. On 28 July 2026, South Korea's Ministry of National Defense [announced](#) that it would work to “establish the legal and institutional foundation needed to ensure the stable implementation of the nuclear-powered submarine program,” including through a [draft law](#) prohibiting diversion of nuclear submarine fuel for nuclear weapons purposes. That the defence ministry perceived the need to create a legal barrier between the SSN project and prospective nuclear weapons speaks to the broad reassurance challenge the country faces as it pursues new, sensitive nuclear technologies. The government appears to also recognise that new approaches to reassurance will be needed to augment existing legal and policy measures. Beyond the submarine programme, it would be useful for South Korea to consider other reassurances that would serve to address potential concerns that otherwise could undermine the achievement of Seoul's industrial, energy, and conventional military objectives.

WHY ARE REASSURANCES NEEDED?

Assurances that global access to nuclear energy will not facilitate the spread of nuclear weapons have long been a cornerstone of the nuclear non-proliferation regime. Both the NPT and the Nuclear Suppliers Group require non-nuclear weapon states to have a safeguards agreement in place with the International Atomic Energy Agency (IAEA) before nuclear materials, technologies, or knowledge can be transferred to them. South Korea has long been a strong advocate for and implementer of this norm, adopting the IAEA's Additional Protocol and receiving the IAEA's “Broader Conclusion” that all its nuclear activities and materials are confined to peaceful uses.

Particularly sensitive nuclear activities such as enrichment, reprocessing, and naval nuclear propulsion have been viewed as more dangerous in terms of their potential to open nuclear weapons pathways. Historically, with a few notable exceptions, these capabilities have mostly been reserved to nuclear-armed states. Where exceptions on enrichment and reprocessing have occurred, states recognised that traditional IAEA safeguards do not provide adequate assurance on non-weapons intentions; these states all adopted supplementary measures to bridge this gap. For instance, the United Kingdom, the Netherlands, and Germany operate uranium enrichment facilities within a multinational fuel cycle consortium that is monitored by a broader European safeguards institution. Brazil and Argentina pursued mutual accountability for their sensitive technologies through a complementary regional verification arrangement. Japan invites broad verification and transparency around its nuclear policies, activities, and facilities, including highly intrusive safeguards at its reprocessing facility. And Australia is [negotiating](#) a special agreement with the IAEA to safeguard the highly enriched uranium that will power its nuclear submarines.

Despite these reassuring steps, international concerns over states pursuing such nuclear activities remain. Japan's reprocessing programme, for instance, attracts particular

attention amidst broader political shifts in its security policy. At the 2026 NPT Review Conference, the Chinese delegation berated Japan harshly on this basis, despite Japan's consistent efforts to proactively acknowledge and address such concerns by pursuing an elevated standard of safeguards on and transparency around its nuclear policies and programmes. In particular, Japan helped form and fund a multinational forum to strengthen reprocessing safeguards in 1987. This initiative followed agreement by Washington and Tokyo that the size and scale of operations at the Rokkasho Reprocessing Plant – Japan's first large-scale commercial reprocessing plant, currently scheduled to begin operation in 2027 if it does not face [further delays](#) – would far exceed the monitoring capacity of traditional IAEA safeguards. The resulting approach of enhanced safeguards at Rokkasho included IAEA involvement in facility design, near real-time accounting of nuclear materials, and a permanent in-country presence for IAEA inspectors. In 1994, Japan became the first country to publicly declare its national holdings of separated plutonium and continues to do so annually.

The same dynamic attends Australia's programme to acquire nuclear-powered submarines. China again has led harsh international [criticism](#) of the non-proliferation implications of this capability in a variety of fora. Australia and its partners have countered this criticism with intensive transparency through detailed working papers and events on the margins of international conferences to clarify the parameters of their cooperation and their committed approach to non-proliferation. Australia also [formally requested](#) to negotiate a new framework with the IAEA for safeguarding this programme, including additional, voluntary measures so that international inspectors could meet their technical objectives throughout the lifecycle of the submarines.

Japan and Australia's extensive efforts to augment transparency and monitoring beyond existing international requirements for peaceful uses reflect a recognition that reassurance is integral to the achievement of their respective aims. Noting ongoing international "suspicion that Japan intends to develop nuclear weapons," for instance, an [internal report](#) by the Japan Atomic Energy Commission published in 2000 recommends that Japan should "not only strictly maintain the principle of peaceful use, but also make continued efforts to obtain the understanding and trust of the international community." The approaches taken by Australia and Japan are tailored to their specific nuclear activities and will not be directly applicable to South Korea. Nevertheless, they highlight the need for states pursuing advanced nuclear programmes to exceed existing standards to build confidence.

WHO NEEDS REASSURANCE, AND OF WHAT?

There are multiple audiences of relevance as South Korea seeks to strike the right balance between its near- and long-term economic and security needs. Central to these audiences is concern that South Korea could in the future decide to use technology and

materials accrued for non-weapons purposes to “break out” of its non-proliferation commitments and quickly acquire nuclear weapons. Key audiences include:

- **United States:** South Korean industrial and military nuclear efforts both depend on long-term cooperation from the United States, for which non-proliferation requirements are a matter of US law. Failure to incorporate durable assurances to future US administrations and Congressional stakeholders that US-ROK cooperation will not contribute directly or indirectly to a South Korean nuclear weapons programme could jeopardise the ongoing support needed for successful cooperation.
- **International Community:** South Korea’s strong international reputation as a non-proliferation champion contributes both to its reputation as a reliable nuclear power supplier and its security interests with respect to North Korea. Maintaining this reputation as a non-proliferation leader will be important, for example, in navigating IAEA Board of Governors approval of safeguards measures regarding South Korea’s nuclear propulsion efforts and competing internationally in nuclear commerce. Further, if South Korea’s commitment to non-proliferation falls into question, efforts to contain and pressure North Korea’s nuclear weapons possession could be impaired.
- **China:** Beijing has falsely [asserted](#) that the United States plans to implement nuclear weapons sharing in South Korea and will likely view new South Korean nuclear capabilities through this prism. Beijing may also be sensitive to a potential Korean Peninsula arms competition driving more extensive North Korean nuclear weapons development. To avoid Chinese retributive actions such as the [sanctions](#) levied in the wake of the THAAD deployment, it is in Seoul’s security interest to reassure Beijing that South Korean enrichment and naval propulsion programmes do not conceal a nuclear weapons programme or hedging effort somehow tied to US regional nuclear posture.
- **North Korea:** South Korean enrichment and reprocessing capabilities will break Seoul’s long-standing commitment to the [1992 Joint Declaration](#) on the Denuclearization of the Korean Peninsula with North Korea, under which the two governments agreed to “use nuclear energy solely for peaceful purposes” and not to “possess nuclear reprocessing and enrichment facilities.” Of course, North Korea violated the Joint Declaration years ago, yet new South Korean nuclear capabilities inevitably will drive false propaganda and potentially escalatory dynamics with Pyongyang. Assurances pertaining to either nuclear fuel cycle capabilities or SSNs will not stop that propaganda but will be important in undercutting its effectiveness among foreign audiences.

THE SUBSTANCE AND MEASURES OF SOUTH KOREA’S REASSURANCE

Through additional reassurance measures, South Korea should aim to bolster confidence that it does not seek a nuclear weapon or nuclear weapons option, and that its new

advanced nuclear programmes will not facilitate that outcome. To this end, Seoul would need to clearly communicate and demonstrate that enrichment and reprocessing activities and their products are entirely for peaceful and/or commercial purposes. For effective reassurance, key audiences must feel confident not only that South Korea remains politically committed to the nuclear non-proliferation regime but that it is implementing (and continuously updating) the highest standards of safeguards, security, and technology controls associated with its nuclear activities. This would necessitate concrete measures to prevent materials and facilities associated with South Korean nuclear energy and propulsion programmes from being utilised in any scenario leading to nuclear weapons.

Conveying the right reassurances to the right audiences will require a portfolio of specific steps. These could range from legally binding initiatives (more assuring but harder to achieve) to voluntary steps or transparency measures (easier to implement but less reassuring). A comprehensive reassurance strategy might draw on a mixture of different elements, depending on how South Korea's nuclear ambitions evolve.

Measures that cannot be easily reversed, such as those encoded in national law or a binding, bilateral cooperation agreement, would likely have the strongest reassurance effects. These could include laws to prohibit and criminalise activities enabling the manufacture of a nuclear weapon, for example, or to prohibit the transfer of enriched nuclear material from civilian to military programmes. Mandated, enhanced cooperation with the IAEA could also fall into this category, as could limitations on specific nuclear activities – such as enrichment above a certain threshold, production and use of uranium metal, or stockpiling of separated plutonium. Legal linkages between relevant nuclear activities and continued South Korean implementation of its NPT obligations would be helpful.

Less permanent, but more easily tractable, options would include high-level statements of a policy against pursuing nuclear weapons, acknowledging a need to provide greater transparency to that end, and undertaking public education in support of strengthened non-proliferation practices. Similarly, a national policy that clearly articulates and justifies the commercial and defensive rationales of South Korean nuclear activities could counter arguments that these capabilities are intended for nuclear hedging. Voluntary cooperation with the IAEA to enhance the strength of its verification activities in South Korea and globally could support the same objective. Where possible, anchoring additional transparency in existing agreements with the IAEA, for example by voluntarily declaring additional information for verification or in the context of the special measures for safeguarding the submarine programme, would make such cooperation more enduring and thus more reassuring. South Korea's [commitment to transparency](#) as it initiates negotiations with the IAEA for a safeguards approach on its SSN programme is a first, positive step.

CONCLUSION

South Korea's nuclear ambitions are broad, and could positively impact its economic, diplomatic, and security interests for decades. But they also raise legitimate questions and concerns from audiences alert to signs that Seoul is hedging on a future nuclear weapons capability. Others have walked this tightrope before, establishing the need for a strong package of steps to provide reassurance to multiple audiences. Measures like the ones suggested in this paper could help South Korea to do the same, ensuring that non-proliferation concerns do not undercut the success or even viability of its intended non-weapons nuclear objectives.

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ABOUT APLN

The **Asia-Pacific Leadership Network (APLN)** is a Seoul-based organization and network of political, military, diplomatic leaders, and experts from across the Asia-Pacific region, working to address global security challenges, with a particular focus on reducing and eliminating nuclear weapons risks. The mission of APLN is to inform and stimulate debate, influence action, and propose policy recommendations designed to address regional security threats, with an emphasis on nuclear and other WMD (weapon of mass destruction) threats, and to do everything possible to achieve a world in which nuclear weapons and other WMDs are contained, diminished, and eventually eliminated.



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