



Turning down the heat: Addressing the growing salience of nuclear weapons

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This paper reflects discussions among members of the ELN's project **Protecting the Non-Proliferation Treaty**. The project seeks to preserve the multilateral nuclear non-proliferation regime and prevent further erosion of the nuclear taboo and the Nuclear Non-proliferation Treaty (NPT). Bringing together an intergenerational, pan-regional Network of experts, it works to identify pathways to success in the eleventh review cycle, taking a holistic approach to the NPT and its three pillars.

For more information on the project please go to <u>www.europeanleadershipnetwork.org/protecting-the-non-proliferation-treaty</u>.

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Executive summary

- All five nuclear-weapon states (NWS) under the Non-Proliferation Treaty (NPT) are increasing the role and significance, i.e. the salience, of nuclear weapons in their military and security policies by lowering the threshold for nuclear use in military doctrines, increasing nuclear build-ups, modernising and the upgrading arsenals, and mission creep.
- These developments are at odds with the commitments accepted under the NPT to "further diminish the role and significance of nuclear weapons in all military and security concepts, doctrines and policies".¹
- The challenge is to reverse this trend before tensions come to the boil. This requires both reaffirming NPT commitments and ensuring that security policies prioritise de-escalation rather than using nuclear threats as a political tool. Recognising that this as a critical step toward nuclear disarmament and risk reduction is imperative, and the 2025 NPT Preparatory Committee and 2026 Review Conference will be central to this process.
- All NWS should commit to immediate action to prevent the danger of an overheating system where all NWS keep lowering the threshold of nuclear use and nuclear threats become normalised
- The P5 should restore a climate of nuclear restraint and engage in dialogues on nuclear doctrines among themselves and with non-nuclear weapon states (NNWS) to rebuild trust and reduce the risk of misunderstandings
- Within the NPT, NWS and NNWS should engage in dialogues on security and threat perceptions, the inadmissibility of nuclear threats, and negative security assurances with the aim of strengthening transparency and accountability and creating instutionalised forms of engagement.

All NWS should commit to immediate action to prevent the danger of an overheating system

1. Introduction

A global heat wave is sweeping through the international nuclear landscape, raising concerns about the continued and even increasing role and significance, i.e. salience, of nuclear weapons in nuclear-weapon states' military and security policies. All five nuclear weapons states (NWS) under the Nuclear Non-Proliferation Treaty (NPT) are increasingly assigning broader roles to nuclear weapons in their doctrines. This trend manifests in different ways, including changes in nuclear postures and doctrines to include wider scenarios for nuclear use, the use of nuclear threats for backing a conventional war, as Russia has done in the context of its war in Ukraine, or the modernisation or expansion of existing nuclear arsenals, as seen in China's rapid nuclear build-up. This global shift has been driven by an increasingly volatile security context, marked by deteriorating great power relations and heightened geopolitical tensions, and has intensified particularly in the context of Russia's invasion of Ukraine.

As nuclear weapons become more deeply entrenched in the security policies of NWS, the risk of nuclear use is making the global security landscape increasingly fragile. This is turning up the thermostat in an already overheated room. Instead of cooling tensions, states are increasing their reliance on nuclear deterrence, pushing the temperature toward a dangerous boiling point. Every doctrinal shift that makes the use of nuclear weapons more likely, every expanded role for nuclear deterrence or threat of nuclear use is increasing the temperature. This is not happening dramatically in one sweep move, but gradually, making it harder to notice the danger until it becomes critical. Further overheating could lead to exhaustion, panic, and hasty decisions. Left unchecked, increased nuclear salience could push global security toward a boiling point, where miscalculation, crisis instability, and even nuclear escalation become more likely.

Many NPT state parties have expressed concerns about the growing salience of nuclear weapons in recent years, warning that these developments undermine long-standing NPT commitments. Since the 2000 NPT Review Conference, member states have called upon the NWS to "diminish the role and significance of nuclear weapons in all military and security concepts, doctrines and policies".² The Draft Outcome Document of the 2022 NPT Review Conference reflected "the concern of non-nuclear weapon States at the quantitative expansion and qualitative improvement of nuclear weapons, the development of advanced new types of nuclear weapons, and the continued role of nuclear weapons in security policies, as well as at the level of transparency surrounding these activities".3 A failure by the NWS to live up to NPT commitments erodes the credibility of the treaty itself. It also undermines efforts to reduce nuclear risks and to pursue nuclear disarmament, while increasing polarisation within the NPT.

The key to preventing nuclear escalation and bringing disarmament efforts back on track is therefore for the NWS to adjust the thermostat downward. Reducing the role and significance of nuclear weapons in security policies is essential to preventing further instability and lowering the probability of nuclear war. This NPT Review Cycle and the 2026 Review Conference provide vital opportunities for all NPT member states to address the increasing salience of nuclear weapons as a matter of priority. NPT member states should move forward with practical measures that address the growing role and significance of nuclear weapons and thus the growing nuclear risks.

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2. The trend of increasing salience of nuclear weapons

Though these developments vary in intensity, nature, and pace, they reflect a broader global trend: the growing salience of nuclear weapons. All five NWS under the NPT have expanded the strategic and military role of their nuclear weapons. In recent years, many states have voiced their concerns over the widened scope for nuclear use in Russia's nuclear doctrine and the use of nuclear threats for coercion by Russia.⁴ At the same time, states have criticised the rapid build-up of China's nuclear arsenal. The development and deployment of new types of nuclear weapon or delivery systems in Russia and the US is an additional source of concern.⁵ Changes in the military and security policies of the UK, US, Russia, and France further indicate a growing willingness to consider nuclear responses to a wider range of non-nuclear threats, including those posed by emerging technologies. Though these developments vary in intensity, nature, and pace, they reflect a broader global trend: the growing salience of nuclear weapons.

This trend extends beyond the P5. India, Pakistan, and North Korea have all expanded their nuclear arsenals in the past years. The use of nuclear threats by Russia to support its war against Ukraine have revived debates over the value of nuclear deterrence in protecting national and regional interests. The rapid estrangement between the US and its (NATO) allies since the Trump administration took office again has fuelled discussions in some NATO states about the possibility of a European nuclear force.⁶ In countries like South Korea, Germany, and Poland waning confidence in US extended nuclear deterrence has also spurred political and public debates over potential nuclear armament.⁷ These discussions are accelerating at a pace that leave little space for political considerations about the implications of such steps. Any move toward a European or domestic nuclear capability carries profound consequences, including the erosion of non-proliferation norms and the destabilisation of the NPT regime. Nuclear risk reduction and the fulfilment of legal obligations under the NPT must be a priority in these debates, not an afterthought.

2.1 Lowered thresholds of nuclear use in Russia's nuclear doctrine

In the context of escalating relations with NATO, Russia has changed key formulations in its nuclear doctrine. In 2020, Russia expanded the conditions under which it might use nuclear weapons, allowing a nuclear response not only to nuclear attacks or other weapons of mass destruction, but also in the case of conventional attacks when the 'very existence of the state' is in jeopardy.⁸ The 2024 update to Russia's nuclear doctrine further broadened the range of scenarios that could trigger a nuclear response. Russia now expressly "'reserves the right' to use nuclear weapons not only in response to a nuclear attack, but also to respond to a conventional weapons attack that creates a 'critical threat' to its 'sovereignty and territorial integrity' or to that of Russia's ally, Belarus".⁹ Furthermore, Russia has signalled that any aggression against it by a non-nuclear state, involving or supported by a nuclear-weapons state, would now be considered a joint attack.

These changes are deliberately vague to create uncertainty and fear of nuclear retaliation and bolster Russia's efforts to erode support for Ukraine by using nuclear threats.¹⁰ The ambiguity of Russia's 'red lines' fuels concerns that even Ukrainian strikes on Russian military targets could justify a nuclear response – if Russia asserts that its vital national interests (i.e. its sovereignty and territorial integrity) are attacked. Thus, the doctrinal shifts underline that Russia views its nuclear arsenal not just as a deterrent against nuclear attacks, but also as a coercive tool in conventional conflicts.¹¹

2.2 Mission creep: New roles and functions for nuclear weapons

Beyond Russia, other NWS are expanding the role for nuclear weapons in deterring emerging disruptive technologies (EDT) such as cyber-attacks and hypersonic missiles. In their respective doctrines, the US, UK, and Russia explicitly include attacks with EDTs resulting in catastrophic consequences as threats that might lead to a nuclear response. While France has been less explicit, its approach appears to follow a similar trend.¹² These developments, while more gradual than the recent changes in Russian nuclear doctrine, risk further blurring the lines between nuclear and non-nuclear threats. Such developments also increase risks of escalation.¹³

In its 2018 Nuclear Posture Review (NPR), the US for the first time explicitly referred to emerging technologies as potential threats that could trigger a nuclear response. This reference was also included in the 2022 NPR, which emphasised that "nuclear weapons are required to deter not only nuclear attack, but also a narrow range of other high consequence, strategic-level attacks".¹⁴ However, definitions of what constitutes a "strategic" or "significant" attack remain vague in the NPR, creating ambiguity and increasing the risk of misinterpretation.

Similarly, the UK's 2021 Integrated Review acknowledged the potential of emerging technologies that could pose threats comparable to nuclear or other weapons of mass destruction. Yet again, the UK did not specify which threats it is referring to or clarify what kind of threats it considers "comparable" to nuclear weapons.¹⁵ Accordingly, severe cyber-attacks on national or critical infrastructure in the UK could, in theory, trigger a nuclear response.¹⁶

Russia is more explicit in its nuclear doctrine when it comes to clarifying which EDTs would warrant nuclear retaliation, identifying specific technologies such as hypersonic weapons, space-based strike capabilities, and unmanned aerial vehicles.¹⁷

2.3 Nuclear build-ups and the risk of nuclear arms race

In recent years, all nuclear-weapons states have pursued significant nuclear modernisation efforts. The US and Russia have been modernising and upgrading their arsenals and delivery systems, including the development or deployment of new conventional intermediate-range weapons.¹⁸ They have also integrated emerging technologies such as hypersonic weapons and advanced missile defence systems into their deterrence postures. Since the US withdrew from the INF Treaty in 2019 – citing Russian violations – both countries have introduced new missile systems or adapted existing ones to this evolving strategic landscape. In November 2024, Russia used a new nuclear-capable hypersonic missile

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China's rapid nuclear expansion, including the reported testing of a Fractional Orbiting Bomb system in 2021, has raised concerns among many states about the future trajectory of its nuclear policy and heightened concerns about new arms racing. The US administration and others have repeatedly expressed doubts about the credibility of China's longstanding No-First-Use (NFU) policy amid the steady expansion of China's nuclear forces. While China maintains that it adheres to minimal deterrence principles, the advancement and consolidation of a full nuclear triad with land-, sea-, and air-based nuclear delivery systems raises questions whether it is shifting toward a more assertive nuclear posture.²³

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3. Implications of the growing salience of nuclear weapons

These shifts are unfolding in an increasingly volatile security landscape, where deteriorating great power relations – intensified by Russia's invasion of Ukraine – have further reinforced the perceived need for nuclear modernisation and expanded roles for nuclear weapons. The P5 have explained doctrinal developments and changes in nuclear postures as reactions to a changed security environment and as attempts to enhance strategic stability. In the 2018 NPR, the Trump administration argued that emerging technologies contribute to an "unprecedented range and mix of threats, including major conventional, chemical, biological, nuclear, space and cyber threats".24 In explaining the rationale for the latest doctrinal shifts, Russia pointed to "the emergence of new sources of military threats and risks for Russia and our allies".25 China's nuclear buildup is long suspected to be a response to perceived new military threats, such as US missile defence and the development of conventional precision weapons, that could undermine Chinese second-strike nuclear deterrent.²⁶ These shifts are unfolding in an increasingly volatile security landscape, where deteriorating great power relations - intensified by Russia's invasion of Ukraine - have further reinforced the perceived need for nuclear modernisation and expanded roles for nuclear weapons.

The growing salience of nuclear weapons is problematic for a number of reasons. Assigning nuclear weapons more important roles in military and security policies could lower the threshold for the use of nuclear weapons, raising the risks of nuclear escalation at a time when great power relations are heavily strained. This is also reflected in the 2022 NPR, in which the Biden administration underlines that "[t]he current and growing salience of nuclear weapons in the strategies and forces of our competitors heightens the risks associated with strategic competition and the stakes of crisis and military confrontation".²⁷ An expansion of scenarios in nuclear doctrines regarding what threats could trigger nuclear responses, and the blurring of lines between nuclear and nonnuclear threats, could further increase risks of misinterpretations and miscalculations. The growing salience of nuclear weapons could also send fatal signals to international non-proliferation efforts, with a detrimental impact on global security.

Finally, these developments further deepen polarisation within the NPT between those who see nuclear weapons as a security asset and those who view them as a liability. While discussions in NATO about how to strengthen nuclear deterrence have increased since Russia's invasion of Ukraine, TPNW states at the 2025 Meeting of State Parties expressed alarm "at international developments, which include increased rhetoric on the proliferation of nuclear weapons, intensifying reliance on nuclear deterrence in security doctrines, and the ongoing possession of nuclear weapons".²⁸ This polarisation of perspectives is likely to continue to deepen unless the increasing role and significance of nuclear weapons in NWS' military and security policies is effectively addressed.

4. How to turn down the heat?

The NPT remains the most important framework for discussions on how to reduce the salience of nuclear weapons. Given its near-universal membership, NPT meetings of states parties can provide a platform to debate the implications of the growing salience of nuclear weapons. Since 2000, NPT member states have repeatedly called on the NWS to diminish the role and significance of nuclear weapons in their security strategies as part of broader disarmament efforts. Subgroups of NPT states parties are also debating and taking actions related to the salience of nuclear weapons, including at meetings of the TPNW, the Conference on Disarmament, the P5, military alliances, groups of likeminded states, and regional groups. Building on these discussions and the decisions and commitments made in 2000 and 2010, NPT states should call for further steps to reduce the significance of nuclear weapons in the military and security policies of nuclear-weapons states.

Table. In Thangaage on the salience	or nuclear wea	pons
Final Document of the 6th NPT Review Conference	2000 •	NWS agree to take steps towards "A diminishing role for nuclear weapons in security policies to minimize the risk that these weapons will ever be used and to facilitate the process of their total elimination".
Final Document of the 8th NPT Review Conference	2010 .	NWS are called upon "(5c) To further diminish the role and significance of nuclear weapons in all military and security concepts, doctrines and policies; (5d) Discuss policies that could prevent the use of nuclear weapons and eventually lead to their elimination, lessen the danger of nuclear war and contribute to the non-proliferation and disarmament of nuclear weapons".
Draft Final Document of the 9th NPT Review Conference	2015 .	All "states concerned" are called upon "to continue to review their military and security concepts, doctrines and policies over the course of the next review cycle, with a view to reducing further the role and significance of nuclear weapons therein". NWS are called upon to report on "(iii) the measures taken to reducing the role and significance of nuclear weapons in military and security concepts, doctrines and policies".
Draft Final Document of the 10th NPT Review Conference The NPT remains the most important framework for discussions on how to reduce the salience of	2022 .	NWS are called upon to implement disarmament commitments inter alia by "further diminishing and ultimately eliminating the role and significance of nuclear weapons in all military and security concepts, doctrines and policies" and to report on measures taken in this regard. NWS should "take steps to diminish, with a view to eliminating, the role and significance of nuclear weapons in all military and security concepts, doctrines and policies". NWS "commit to refrain from any inflammatory rhetoric concerning the use of nuclear weapons".
nuclear weapons.		

Table: NPT language on the salience of nuclear weapons

Unilateral action for NWS

As NWS anchor their nuclear weapons more firmly in their military and nuclear doctrines, it becomes increasingly difficult to stop the reversal of their NPT obligations and commitments and to embark on a path towards nuclear disarmament. The NWS bear the main responsibility for turning down the heat. Therefore, they need to take urgent action to address the growing salience of nuclear weapons and the related risks of nuclear escalation, including by fulfilling their obligations under the NPT, adhering to previous commitments, and reinforcing the nuclear taboo.

To address these challenges, all nuclear-weapons states should commit to:

- Not lowering the threshold for nuclear weapons use;
- Not assigning nuclear weapons new roles in military and security policies;
- Not responding to non-nuclear threats with nuclear weapons;
- Not threatening NNWS with nuclear weapons.

Important unilateral steps to reduce the role and significance of nuclear weapons in military and security policies include lowering the operational status of nuclear weapons, as well as declaratory restraint by the NWS, commitments to increase transparency on their doctrines and arsenals, and the strengthening of security guarantees vis-à-vis the NNWS.

Actions among the P5

The P5 should restore a climate of nuclear restraint. This requires more than reaffirming the Reagan-Gorbachev formula that a nuclear war cannot be won and must never be fought. It requires the recognition that the heated tensions will not subside without active work to cool them down.

- To strengthen the nuclear taboo, the P5 should jointly reaffirm the G20 declaration that "[t]he use or threat of use of nuclear weapons is inadmissible" and that nuclear threats undermine international peace and security.
- The P5 should also implement 'cool packs' for their relations, i.e. practical measures to reduce risks, including enhancing crisis communication and military-to-military dialogue to prevent miscalculations or accidental nuclear use.
- The NWS should reinvigorate arms control dialogues at a bilateral and multilateral level, building on past and existing frameworks such as the New START treaty and channels such as the recent US-China talks.

One key step to rebuild a basis for cooling down tensions is to start structured processes of dialogue among the NWS but also between NWS and NNWS. A structured dialogue on nuclear doctrines would be necessary to rebuild trust and reduce the risk of

The NWS bear the main responsibility for turning down the heat. Therefore, they need to take urgent action to address the growing salience of nuclear weapons and the related risks of nuclear escalation. misunderstandings. Before Russia's full-scale invasion of Ukraine, the P5 dialogue served as a critical mechanism for information exchange and confidence-building. It provided a platform for discussing the role of nuclear weapons in security policies and addressing misperceptions. Such a focussed process should be revitalised, regardless of the broader international security environment.

- Discussions among the P5 on doctrines should also explicitly discuss no-first-use policy – rather than dismissing such proposals outright.
- Such discussions should provide space to resolve concerns about the credibility of NFU and explore what conditions and modalities would be required – in terms of force posture, number of operational warheads and delivery systems, and verification arrangements – before a NFU policy would be considered credible and viable.

Actions within the NPT

A meaningful dialogue on reducing nuclear salience should extend beyond the P5 to include also NNWS to ensure that diverse security perspectives are represented within the NPT framework.

- Discussions on the nuclear doctrines of the P5 should be systematically integrated into NPT meetings to foster transparency and accountability. This could be done as part of reporting requirements and discussions on national reports in the NPT.
- In recent years, the dialogue on security and threat perceptions by a majority of NNWS has become more nuanced. The NPT should build on this momentum by actively incorporating a broad spectrum of perspectives, ensuring that the perspectives of NNWS are meaningfully reflected in discussions on nuclear risks.
- Given widespread international concern over nuclear threats, including Russia's nuclear rhetoric in the Ukraine war, NPT states should initiate a comprehensive dialogue on the inadmissibility of nuclear threats.²⁹
- Such a dialogue should also address the modalities of a legally binding instrument on negative security assurances for nonnuclear-weapons states in the NPT and explore ways to review unilateral reservations to protocols of nuclear-weapon-free zones (NWFZs) and engage in consultations with NWFZ to resolve standing issues related to ratifications.

Despite the deteriorating international security environment, NPT states should work to revamp commitments to reduce the role of nuclear weapons in military and security concepts, doctrines, and policies. To achieve this, it is essential to:

 Establish follow-up mechanisms for discussions on doctrines, nuclear risk, and threat perceptions and on the inadmissibility of nuclear threats – for example in the form of working groups within the NPT context;

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- Develop reporting standards on nuclear risk, doctrines, and the role of nuclear weapons in security strategies;
- Strengthen accountability mechanisms within the NPT to ensure sustained pressure on the NWS to reduce nuclear salience.

Table: Recommendations to reduce the salience of nuclear weapons

		Recommendations
NAC Working Paper (NPT/ 2022 CONF.2020/ WP.5)		" call on States that are part of military alliances that include nuclear- weapon States to report, as a significant transparency and confidence- building measure, on steps taken, or future steps planned, to reduce and eliminate the role of nuclear weapons in national and collective security doctrines".
		" urge nuclear-weapon States to refrain from pursuing military doctrines that emphasize the importance of nuclear weapons or that lower the threshold for their use".
Stockholm Initiative Working Paper (NPT/CONF.2020/ WP.6)	2022	Call on NWS "to discuss and take practical measures to reduce the role of nuclear weapons in their policies and doctrines".
		Call on NWS "to deepen discussions on nuclear doctrine and declaratory policies, both among themselves and with Non-Nuclear Weapon States, at the upcoming NPT Review Conference and throughout the next NPT review cycle".
NPDI Working Paper (NPT/ CONF.2020/ WP.10)	2022	Call on NWS "to improve the transparency of information related to their nuclear weapons" including "measures taken for risk reduction and measures taken to reduce the role and significance of nuclear weapons".
		Call on NWS to "review their nuclear doctrines with the aim of increasing predictability, crisis stability and avoidance of miscalculations. The review should emphasize concrete steps to further reduce the operational status, role and significance of nuclear weapons and be made publicly available in order to facilitate dialogue with non-nuclear-weapon States".
NAM Working Paper (NPT/ CONF.2020/ WP.26)	2022	" call for the complete exclusion of the use and the threat of use of nuclear weapons from all the military and security policies, concepts and doctrines."
		" call upon nuclear-weapon States to refrain, under all circumstances, from the use or threat of use of nuclear weapons against any non-nuclear- weapon State party to the Treaty, including, inter alia, by the complete exclusion of the use or threat of use of nuclear weapons from all their military and security concepts, doctrines and policies".
TPNW Treaty Text (A/ CONF.229/2017/8)	2017	"Each State Party undertakes never under any circumstances to: (d) Use or threaten to use nuclear weapons or other nuclear explosive devices; (Article 1)".
G20 declaration	2022	"The use or threat of use of nuclear weapons is inadmissible".
G7 declaration	2023	"[T]hreats by Russia of nuclear weapon use, let alone any use of nuclear weapons by Russia, in the context of its aggression against Ukraine are inadmissible".

Turning down the heat

The growing salience of nuclear weapons in security policies is pushing the international system towards a boiling point. Doctrinal shifts, expanded roles for nuclear weapons, and nuclear build-ups are raising the risks of miscalculation and escalation, reinforcing a dangerous cycle of competition rather than cooperation. Instead of cooling tensions, nuclear-weapons states are turning up the heat, making global security more fragile and unpredictable.

The NPT remains the primary venue for addressing these challenges. While dialogue among the P5 is essential to restoring nuclear restraint, broader engagement with NNWS is equally crucial to ensuring that security concerns and risk perceptions are widely understood and acknowledged. Given the deepening divisions in the disarmament regime, creative approaches will be needed, whether through unilateral commitments, coordinated efforts by like-minded states, or structured dialogue, to prevent the danger of an overheating system

Reducing the role and significance of nuclear weapons in security policies will not happen overnight, but steps must be taken now to prevent further escalation. Strengthening the nuclear taboo, reaffirming past commitments, and promoting broad political cooperation to limit nuclear risks beyond the divides in the NPT membership are essential. At a time when the danger of nuclear escalation is rising, NPT member states should ensure that discussions on declaratory restraint and risk reduction remain high on the NPT's agenda.

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