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Towards a new framework for nuclear deterrence in Europe

European perceptions of Russian nuclear policy and the role of the UK and France in NATO's nuclear posture

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Preface

Amid renewed Russian belligerence and a pattern of nuclear threats, and against the backdrop of transatlantic burden-shifting between the United States and European NATO Allies, the UK and France – as Europe's two nuclear powers – have an opportunity to shape the future framework of nuclear deterrence in Europe. This study seeks to inform that effort by mapping how non-nuclear European Allies perceive the following:

1. Russia's evolving nuclear policy, through an analysis of the revised 'Fundamentals of State Policy of the Russian Federation in the Area of Nuclear Deterrence,' issued in November 2024.
2. The role of the UK and French nuclear deterrents within NATO's current nuclear posture.

Using hypothetical crisis scenarios, this study also examines dilemmas about NATO's nuclear posture and the UK and French roles therein. The study concludes by outlining the key conceptual questions that should guide discussions of a future framework for nuclear deterrence in Europe.

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The Nuclear Deterrence Fund seeks to stimulate wider UK expertise in nuclear deterrence issues and generate a research base to support nuclear deterrence policymaking. The analysis, conclusions and recommendations presented in this study reflect RAND Europe's research findings, and are not a statement of policy for the UK Ministry of Defence or His Majesty's Government.

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Executive summary

Since 2022, Russia's full-scale war against Ukraine has placed major strain on the European security architecture. Meanwhile, the United States (US) has continued to reorient its posture towards the Indo-Pacific, with the second Trump administration formulating a clear expectation that European NATO Allies take primary responsibility for the conventional defence of their continent. Since the threat posed by Russia has a clear nuclear dimension, European Allies have also been working to strengthen conventional and nuclear deterrence, both within NATO and through complementary arrangements, in the wider context of transatlantic burden-shifting.

Against that backdrop, the UK and France – as Europe's two nuclear powers – have an opportunity to shape the future framework of nuclear deterrence in Europe. This study seeks to inform that effort by mapping how non-nuclear European Allies perceive the following:

1. Russia's evolving nuclear policy, through an analysis of the revised 'Fundamentals of State Policy of the Russian Federation in the Area of Nuclear Deterrence', issued in November 2024.
2. The role of the UK and French nuclear deterrents within NATO's current nuclear posture.

The research team employed a qualitative multi-method approach, combining a literature review, scenario development and research interviews with European non-governmental researchers and think tankers to explore perceptions of the two themes outlined above. Using hypothetical crisis scenarios, the study also examines dilemmas about NATO's nuclear posture and the UK and French roles therein.

The study proposes six conceptual and policy questions that should guide discussions of the future of nuclear deterrence in Europe, drawing on the insights drawn from the research interviews and the dilemmas illuminated in the scenario discussions. Chapter 6 provides further context for each of these questions, along with a list of illustrative policy options.

Table S.1. Towards a future framework for nuclear deterrence in Europe: Key conceptual questions and their main components

1. What are the overall strategic objective(s) for a future nuclear deterrence posture in Europe?
Deterrence is not an abstract, scenario-agnostic endeavour, but rather a nuanced exercise in determining who is to be deterred, from doing what, in what circumstances, by the allocation of what means, and in pursuit of which ends. Any consideration of a future nuclear deterrence posture in Europe must therefore begin with an assessment of the threat environment, placing particular emphasis on Russia's capabilities and theories of victory against NATO. The next step is to consider whether NATO's strategic objectives remain valid or whether European governments should define new ones to replace or complement them. All other considerations (see the following five questions) must follow from the agreed strategic objective(s).
2. What nuclear and conventional missions are necessary to achieve the strategic objective(s)?
After defining the strategic objective(s) appropriate to the threat environment, the next step is to determine the main elements of NATO's theory of victory and the corresponding military strategy. The relevant nuclear and conventional missions may include: • Deterring nuclear first use by the adversary and, if necessary, managing escalation by giving decision makers a range of options to respond to limited nuclear attacks. • Deterring further limited nuclear escalation in the event of nuclear first use by the adversary. • Deterring uncontrolled escalation through the ability to impose unacceptable costs on the adversary via assured retaliatory strikes (secure second-strike). • Employing conventional and/or nuclear counterforce capabilities to limit the damage that the adversary could inflict. • Retaining the capacity to fight and win a conventional war in an environment in which the adversary has already used chemical, biological or nuclear weapons. While the above is not intended as an exhaustive list, it demonstrates the range of possible missions that may be considered necessary to achieve the agreed strategic objective(s) and negate Russia's theories of victory, particularly those linked to its non-strategic nuclear weapons.
3. What force attributes are required to perform the identified missions?
It is important to determine the force attributes that different missions would require in order to achieve the agreed strategic objectives. Examples of such attributes include[1]: • Forward-deployed or deployable. • Survivable against pre-emptive attack without force generation day-to-day. • A range of explosive yield options, including low yield. • Capable of penetrating advanced integrated air and missile defences with high confidence. • Operationally relevant weapon delivery timeline (promptness).

1 Congressional Commission on the Strategic Posture of the United States (2023, 49).

4. Which elements of the strategic objective(s) can *only* be delivered through nuclear weapons, and what should those capabilities look like?

The next step is to determine which forces and systems possess the identified attributes necessary for the required missions; and in particular, which missions can *only* be delivered through the employment of nuclear weapons and what systems those missions would require.

Answering that question would involve technical considerations relating to the characteristics of:

- Launch platforms (sea-based, land-based, air-based, e.g. submarines or strategic bombers).
- Delivery vehicles (e.g. ballistic missiles and cruise missiles, including their range, speed and manoeuvrability).
- Payloads (e.g. number and yield of warheads).

5. What enabling frameworks and strategic posture are needed to develop, organise and employ those capabilities, and where could UK–France coordination and/or cooperation with non-nuclear European Allies add value?

This question concerns the entire lifecycle of the selected forces, from development and deployment to the ways in which they might be employed. This would include considerations of:

- The industrial capacity to build and sustain nuclear forces.
- The number and location of deployed capabilities.
- Nuclear command, control and communications.
- Planning, including the integration of nuclear planning with non-nuclear planning.
- The broader operational architecture of the nuclear missions, including conventional support to nuclear operations.
- Training and exercises.
- Options for both coordinated individual nuclear signals and joint nuclear signalling.

While many of these areas will remain strictly sovereign matters for the UK and France, the Northwood Declaration and the Île Longue speech both emphasise the importance of deeper cooperation and coordination between British and French nuclear forces.

Meanwhile, possible avenues for closer cooperation with non-nuclear Allies, such as France's 'forward deterrence' initiative, are expected to involve dialogue on the role of nuclear weapons in European security, participation in exercises, strengthening the coherence between conventional and nuclear deterrence (or 'mutual support between conventional and nuclear forces' in the French context) with greater Allied participation, and potentially even discussing novel forms of nuclear signalling.

6. How can the UK and France ensure that the selected strategy, posture and capabilities have i) a credible deterrence effect on adversaries, and ii) a credible assurance effect on Allies?

The final question concerns credibility, which lies at the heart of deterrence. In cases where deterrence is extended to protect an Ally, it is important to distinguish between two related but functionally distinct aims:

i) seeking to deter the adversary.

ii) assuring the Ally of one's commitment to its security.

Although these two aims are directed at different audiences, both are fundamentally cognitive in nature, seeking to shape the minds of the adversary and the Ally, respectively.

Therefore, special consideration should be given to how the selected strategy, deterrence posture and the relevant capabilities are implemented and communicated in ways that generate credibility for both deterrence and assurance – for example, through political rhetoric, deployments and exercise patterns.

The table below summarises key perceptions of the UK and France with respect to their nuclear declaratory policy, nuclear forces and nuclear signalling, drawing on research interviews conducted for this study in early 2025 with 18 non-governmental experts and think-tank researchers from 10 European NATO Allies.

The research interviews were conducted prior to the release of the UK's Strategic Defence Review (SDR, 2 June 2025), the Northwood Declaration (10 July 2025), the latest French National Strategic Review (NSR, 14 July 2025) and President Macron's landmark deterrence speech at the Île Longue base (2 March 2026). Each of these addressed some of the issues raised in this research; however, Europe's nuclear adaptation remains very much an ongoing process with many unresolved questions and unrealised options.

Accordingly, the synthesis of views presented here should be regarded as a baseline of European perceptions. In turn, this baseline may help inform future adaptation as the Northwood Declaration and the 'forward deterrence' initiative are being implemented.

Table S.2. Key perceptions of the UK and France's nuclear policies, nuclear forces and signalling

	Key perceptions of the UK	Key perceptions of France
Nuclear declaratory policy	• The UK's policy since 1962 to commit its nuclear deterrent to NATO's defence, along with its significant conventional capabilities and operational experience, underpins the country's positive standing as a trusted Ally. • At the same time, the interviews suggested that the UK's formal nuclear commitments are often viewed not on their own terms, but rather in comparison with those of the United States. The prominence of US-centric discourse on the 'how' of extended deterrence – regarding issues such as the role of nuclear weapons, arsenal size, the flexibility of response options and employment thresholds – can anchor the frame through which the UK's contribution is assessed. • This creates an opportunity for the UK to articulate its own approach to extended deterrence more clearly and to deepen dialogue with non-nuclear Allies on the role it assigns to nuclear weapons, the specific deterrence effects it seeks to achieve and how it intends to achieve them – especially in the wake of the Northwood Declaration of July 2025. • The UK also has an important role in driving nuclear deterrence thinking and socialising related concepts across the Alliance, including within the Nuclear Planning Group.	• Non-nuclear European Allies have been seeking more clarity on France's declaratory policy, and particularly the practical implications of its 'European dimension.' • Since France's 'forward deterrence' initiative does not extend nuclear guarantees, its implementation will require identifying tangible forms of cooperation that could strengthen deterrence by expanding French and Allied options for escalation management and by further complicating Russia's strategic calculus. • France's absence from the NPG is deeply rooted in French strategic culture and is unlikely to change, yet this is still perceived by some European experts as a lack of commitment. Bridging this gap in perceptions and creating alternative opportunities for sufficiently deep exchanges on nuclear deterrence will be an important task for French diplomacy as part of implementing the 'forward deterrence' initiative. • Instances of perceived historical mismatch between French rhetoric and action on European defence issues, as well as uncertainty about the trajectory of French domestic politics, induce caution in European countries, primarily Germany.

	Key perceptions of the UK	Key perceptions of France
Nuclear forces	• The UK is widely perceived to possess a credible nuclear capability to deter extreme threats against the homeland, while also serving as an independent centre of decision making in NATO. • At the same time, experts raised concerns about the UK's dependence on the US nuclear enterprise for generating its capability, particularly in the context of broader European ambitions to lessen reliance on the US. • Several interviewees also expressed worries about the financial pressures facing UK Defence in general, and the operational strain on the UK's nuclear deterrent in particular. • The interviews emphasised a perceived constraint on the UK's extended deterrence guarantees, namely that the current size and composition of the deterrent provide only limited options for escalation management – a point subsequently echoed in the 2025 Strategic Defence Review. • It is important to differentiate between the perceptions of European Allies and that of Russia. The UK should consider what specific steps could enhance its standing in Moscow's eyes as an independent centre of decision making.	• France is perceived as a politically and industrially sovereign nuclear power, owing to its absence from the NPG, its ability to generate its nuclear deterrent forces independently, and its sovereign launch capacity. This is seen to complicate both Russia's and – to some extent – NATO's calculus. • While France's nuclear arsenal can credibly deter threats against the homeland, it is neither intended nor designed to fulfil a formal extended deterrence role, particularly not the flexible posture associated with the American approach. • France's more diverse nuclear delivery systems are perceived to provide more flexible signalling and escalation management options than the UK's single-leg force structure.

	Key perceptions of the UK	Key perceptions of France
Nuclear signalling	• A sea-based deterrent has inherent limitations in the visible signalling options it can offer, as these may reveal the location of the submarine. • The UK's conventional contributions to NATO are likely to be an important factor shaping perceptions of its overall deterrence commitments. Enhanced nuclear deterrence guarantees for European Allies without also bolstering conventional deterrence may push British and NATO decision makers to consider nuclear signalling options earlier in a crisis or conflict due to the lack of sufficiently flexible conventional options. • Among non-nuclear Allies, the UK's nuclear status could create expectations of a more forward-leaning approach to crisis response and escalation management, on the basis that the UK's nuclear deterrent could afford greater freedom of action and strategic flexibility than non-nuclear Allies have in managing escalation against Russia. • Public messaging about nuclear deterrence is important in both peacetime and in crises, for external and domestic audiences alike.	• The French political leadership is perceived to have responded assertively to Russian nuclear sabre-rattling at the time of the full-scale invasion of Ukraine. • Similar to the UK, France's nuclear status could create expectations among non-nuclear Allies of a more forward-leaning approach to crisis response and escalation management, on the basis that its nuclear deterrent could afford greater freedom of action and strategic flexibility than non-nuclear Allies have in managing escalation against Russia. • Gaps in conventional deterrence and the absence of sufficiently flexible conventional options may not only fail to close off escalation pathways in higher-risk scenarios involving Russian aggression, but also push decision makers to consider nuclear signalling options earlier in a crisis or conflict. This realisation is reflected in the growing emphasis in recent years on the concept of *épaulement* or 'mutual support between nuclear and conventional forces', through which France aims to 'set the threshold for our deterrence at the appropriate level.'[2]

Source: RAND Europe analysis of interview data.

2 French General Secretariat for National Defence and Security (2025, paragraph 177).

The table below presents an overview and the identified implications of Russia's revised 'Fundamentals of State Policy' on nuclear deterrence.

Table S.3. Overview and implications of Russia's revised nuclear declaratory policy

Overview of the 2024 'Fundamentals of State Policy'	Key implications of the revised document
• After previewing changes to Russia's approach to nuclear deterrence in September 2024, President Vladimir Putin signed a decree updating the country's formal policy on the possible use of nuclear weapons on 19 November 2024. Known as the 'Fundamentals of State Policy of the Russian Federation on Nuclear Deterrence', the new document became Russia's second publicly available policy document on nuclear deterrence, following its predecessor published in 2020. • The 'Fundamentals of State Policy' was approved following a lengthy and, in part, public debate about the need to revise Russia's nuclear declaratory policy. These debates were driven by a perception among Russian officials and experts that Russia had failed to coerce Kyiv into submission and had not fully deterred Western military and intelligence support to Ukraine. • Accordingly, Russia expanded and clarified the conditions for the use of nuclear weapons in response to conventional threats in the document. The revised document also added four new items to the category of military risks that 'are intended to be neutralised by the implementation of nuclear deterrence' (e.g. actions by a potential adversary aimed at isolating a part of the territory of the Russian Federation, including blocking access to vital transport communications). • Of note, the new nuclear declaratory policy also introduced a provision aimed at deterring non-nuclear states from attacking Russia in concert with nuclear-armed states. • The updated document also formally elevated the role of Belarus in Russia's nuclear declaratory policy.	• While Western discourse often labelled the document as 'nuclear doctrine', this characterisation is not fully accurate: both its original Russian title ('State Policy on Nuclear Deterrence') and its content are more appropriately described as nuclear declaratory policy. • Western officials publicly downplayed the significance of the revisions to Russia's nuclear policy. While the document listed specific conditions for nuclear use and reaffirmed the Russian president as the sole decision maker, declaratory policy is never prescriptive or automatic. • The document did not set out concrete changes to nuclear posture or force structure, but it does shape the broader political context in which such adjustments may later follow. • The document's signalling function was intended to intimidate the West, discourage continued support for Ukraine and induce caution during any future crisis. At the same time, its contents reveal not only the aims of Russian coercive activities but also Russia's fears, including of NATO's conventional forces. • Russia's deepening nuclear relationship with Belarus has a distinct bilateral context amid Belarus's de facto political and military absorption into Russia. While nuclear-related deployments in Belarus convey a message about the political importance of Minsk, they do not alter the strategic balance with NATO.

Source: RAND Europe analysis.

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Abbreviations

ALCM	Air-Launched Cruise Missile
CASD	Continuous At-Sea Deterrence
DNO	Defence Nuclear Organisation
NATO	North Atlantic Treaty Organization
NPG	Nuclear Planning Group
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NSR	National Strategic Review [France]
SDR	Strategic Defence Review [United Kingdom]
SHAPE	Supreme Headquarters Allied Powers Europe
SLBM	Submarine-Launched Ballistic Missile
SSBN	Ship Submersible Ballistic Nuclear [nuclear-powered submarines that carry missiles armed with nuclear warheads]

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Chapter 1. **Introduction**

Amid renewed Russian belligerence and a persistent pattern of nuclear threats, and against the backdrop of transatlantic burden-shifting between the United States and European NATO Allies, the UK and France have been considering measures that could strengthen nuclear deterrence in Europe. This chapter introduces the broader policy context for the study: Sections 1.1 and 1.2 outline the key elements of the policy context, while Section 1.3 sets out the study's research aims and Section 1.4 presents the research design. Section 1.5 then addresses the caveats and limitations of the study approach, and Section 1.6 provides an overview of the report's structure.

1.1. Russia's updated nuclear deterrence policy and transatlantic burden-shifting provide the context of this study

Nuclear weapons have played a prominent and visible role throughout Putin's presidency, particularly since Russia's initial aggression against Ukraine in 2014, and even more so since the full-scale invasion in 2022. Over the past four years, President Putin and other Russian officials have regularly referenced the nuclear dimension of the conflict and issued a range of nuclear signals. These have included verbal threats, weapon tests and military exercises, as well as public announcements of the deployment of nuclear-capable delivery vehicles and then nuclear warheads to Belarus.[3] As Ukraine has continued its fight against the invasion with Western support, Russian civilian and military experts have debated the country's nuclear doctrine and posture, pointing to its failure to compel Ukraine into submission and to deter the West from providing military and intelligence support to Ukraine.[4]

On 25 September 2024, the Security Council of the Russian Federation formally discussed updating Russia's nuclear declaratory policy, previously set out in the 2020 document titled 'Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence.'[5] At that meeting, President Putin announced that updates would include a new condition for nuclear weapons use: the case of 'an aggression against Russia from any non-nuclear state but involving or supported by any nuclear state as their joint attack against the Russian Federation', a clear reference to Ukrainian strikes on Russian territory.[6] Putin's remarks also highlighted a more explicit extension of the Russian nuclear umbrella to Belarus within the framework of the Union State, as well as a more expansive approach to air and missile threats.

On 19 November 2024, President Putin approved a revised policy document on nuclear deterrence titled 'Fundamentals of State

3 Williams et al. (2024).

4 For a comprehensive overview of the different Russian stakeholders and their respective positions in the debate about Russian nuclear declaratory policy and nuclear posture (including signalling and capabilities), see Fink et al. (2024). For an assessment of how Russian strategic culture informs the evolution of Russia's approach to coercion theory and strategy, see Adamsky (2025).

5 President of the Russian Federation (2020).

6 Kremlin.ru (2024).

Policy of the Russian Federation on Nuclear Deterrence' (hereafter, 'Fundamentals of State Policy'), which contained the proposed updates mentioned in the September 2024 meeting.[7] Analysing the perceived implications of this new policy document is one of the aims of this report, while recognising that this document is only one element within a much broader pattern of Russian nuclear activity since 2022.

In response to the growing Russia threat throughout the 2010s and early 2020s, the North Atlantic Treaty Organization (NATO) reiterated that nuclear deterrence remains central to the security of the Alliance. NATO's 2022 Strategic Concept reaffirmed earlier NATO declarations that 'as long as nuclear weapons exist, NATO will remain a nuclear alliance' and that 'the strategic nuclear forces of the Alliance, particularly those of the United States, are the supreme guarantee of the security of the Alliance.'[8] The Strategic Concept also underscored that 'the independent strategic nuclear forces of the United Kingdom and France have a deterrent role of their own and contribute significantly to the overall security of the Alliance.'[9]

In July 2024, the leaders of NATO Allies issued the Washington Declaration, in which they referred to nuclear deterrence as the 'cornerstone of Alliance security.' [10] Heads of state and government also stated their commitment to 'taking all necessary steps to ensure the credibility, effectiveness, safety, and security of the Alliance's nuclear deterrence mission, including by modernising its nuclear capabilities, strengthening its nuclear planning capability, and adapting as necessary.'[11]

Notwithstanding NATO's continued emphasis on nuclear deterrence, the Alliance's internal burden-shifting and the wider character of transatlantic relations have been evolving in important ways. The rise of China and the growing strategic significance of the Indo-Pacific have increasingly shaped American grand strategy, driving a shift in focus away from Europe. Under the second Trump administration, the United States has articulated clear goals for a revised model of transatlantic burden-shifting.

In February 2025, US Secretary of Defense Pete Hegseth announced that while the US remained committed to NATO, European Allies would need to take primary responsibility for the conventional defence of the continent.[12] This position was later formalised in the 2025 National Security Strategy and the 2026 National Defense Strategy of the United States. The former called on Europe to 'stand on its own feet and operate as a group of aligned sovereign nations, including by taking primary responsibility for its own defense, without being dominated by any adversarial power', while also criticising Europe for 'anti-democratic restrictions on core liberties in Europe' and for lacking 'civilizational self-confidence.'[13] The National Defense Strategy reiterated that the Pentagon would 'incentivize and enable NATO allies to take primary responsibility for Europe's conventional defense with critical but more limited U.S. support.'[14]

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7 President of the Russian Federation (2024).

8 NATO (2022, paragraph 29).

9 NATO (2022, paragraph 29).

10 NATO (2024a, paragraph 9).

11 NATO (2024a, paragraph 9).

12 US Department of Defense (2025a); US Department of Defense (2025b).

13 President of the United States of America (2025, 27, 12, 25).

14 US Department of War (2026, 11).

To implement the vision outlined in these strategic documents, the Pentagon began a six-month review of the United States' posture and military footprint in the European theatre in July 2026, which was still ongoing at the time of this report's publication.[15] This review is intended to facilitate a shift towards European Allies taking the lead in conventional deterrence and defence, although it does not automatically imply that any resulting US force reductions would include those that underpin US extended nuclear deterrence. This point was reinforced in early August 2026 in a speech by Under Secretary of War for Policy Elbridge Colby, who stated that the United States would continue to extend nuclear deterrence to NATO and that 'the best thing the Europeans can do for nuclear deterrence is to invest in their conventional forces.'[16]

Despite this and previous assurances, European NATO Allies have been actively exploring a range of options to strengthen nuclear deterrence, as discussed in the following section.

1.2. Transatlantic burden-shifting raises important questions for the future of nuclear deterrence in Europe

Debates over the scale and character of the United States' contribution to NATO – and the burden-sharing implications that follow – are as old as the Alliance itself, resurfacing with varying tone and intensity over the course of its 75-year history.[17] While the second Trump administration's push for conventional burden-shifting did not entail any reduction or withdrawal of formal US nuclear guarantees to NATO, its broader policies and rhetoric towards Europe still raised concern among European leaders in spring 2025 about the risk of US abandonment. For instance, in March 2025, President Macron reiterated calls he had made in previous years to strengthen Europe's sovereign defence capabilities so that 'it can act even when the US is not involved', and said that 'I want to believe that the US will stay by our side, but we have to be ready if they don't.'[18] Friedrich Merz echoed this sentiment when, following his electoral victory in the German federal elections, he stated that his 'absolute priority will be to strengthen Europe as quickly as possible so that, step by step, we can really achieve independence from the USA.'[19]

An important element of this European discourse has been how to strengthen nuclear deterrence. In March 2025, Macron reiterated that 'there has always been a European dimension to France's vital interests within its nuclear doctrine', adding that he was ready to 'open the discussion' on a possible future European nuclear deterrent.[20] Within days, political leaders in Poland, Lithuania and Latvia expressed their interest in discussing Macron's proposal.[21] In early March 2025, Merz also said that he wanted to talk about the 'sharing of nuclear weapons' with the UK and France, while underscoring that such steps would aim to strengthen NATO's nuclear deterrence instead of substituting the US nuclear umbrella.[22]

15 Oliveiro (2026).
16 Colby (2026).
17 Koivula & Ossa (2022).
18 Khalaf et al. (2025); Goury-Laffont & Caulcutt (2025).
19 Adler (2025).
20 France 24 (2025).
21 Corbet (2025).
22 Reuters (2025).

In less than a year, from mid-2025 to early 2026, several major developments occurred in the European nuclear deterrence landscape:

- In June 2025, the UK's Strategic Defence Review (SDR) endorsed a 'NATO First' approach, called for enhanced UK participation in NATO's nuclear mission and urged 'greater coherence between conventional and nuclear components of NATO's deterrence and defence posture.'[23]
- On 25 June 2025, the UK government announced that it would purchase 12 F-35A aircraft certified to carry American B61-12 nuclear bombs, and thus join NATO's dual-capable aircraft mission.[24]
- On 10 July 2025, the UK and France issued the Northwood Declaration and established a bilateral Nuclear Steering Group, declaring that their independent nuclear forces 'can be coordinated', and underscoring that there is 'no extreme threat to Europe that would not prompt a response by our two nations.'[25]
- In July 2025, France's revised National Strategic Review (NSR) reaffirmed the fundamentals of French nuclear policy and reiterated a commitment to strategic dialogue with selected European partners on 'the contribution of French nuclear deterrence to Europe's collective security', building on Macron's earlier proposals.[26]
- On 2 March 2026, President Macron gave a landmark speech on the evolution of French nuclear policy, in which he announced an unspecified increase in the number of nuclear warheads; reaffirmed investment into selected conventional capabilities, such as early warning, expanded air defences and deep-strike capabilities, to strengthen mutual support (*épaulement*) between nuclear and conventional forces; and unveiled the concept of 'forward deterrence' (*dissuasion avancée*).[27]

Overall, the context of this study is therefore shaped by two parallel strategic dynamics: Russia's continued aggression under the nuclear shadow, and transatlantic burden-shifting between the United States and European NATO Allies amid uncertainty over the future US role in NATO. Taken together, this political context raises several overarching questions about the future role of nuclear deterrence in European security:

1. What implications do Russia's evolving nuclear policy, nuclear rhetoric and nuclear behaviours have for NATO, and what are the implications of the 'Fundamentals of State Policy of the Russian Federation on Nuclear Deterrence' document that President Putin approved in November 2024?
2. As the United States seeks to rebalance its military posture across theatres, what does transatlantic burden-shifting mean for the future of NATO's deterrence and defence posture?
3. What roles do the UK and France play in NATO's current nuclear deterrence posture, and how might this evolve in the future in light of changes in the external threat environment and NATO's internal dynamics?

23 UK Ministry of Defence (2025, 102).

24 Royal Air Force (2025).

25 UK Prime Minister's Office (2025).

26 French General Secretariat for National Defence and Security (2025, paragraph 183).

27 President of the French Republic (2026).

The remainder of Chapter 1 sets out the study's specific scope and research questions within the broader political context outlined above. It then presents the research methodology and limitations, followed by an overview of the report's structure.

1.3. The UK's Ministry of Defence commissioned a study to map NATO Allies' perceptions of Russia's evolving nuclear policy and the role of the UK and French nuclear deterrents

In the wider policy context outlined above, the UK Ministry of Defence (MOD) commissioned RAND Europe in November 2024 to undertake an exploratory study of how European NATO Allies perceive the announced changes to Russian nuclear declaratory policy, as well as the role of Europe's nuclear-armed states – the UK and France – in NATO's nuclear posture. The study was funded through the Knowledge Accelerator Pathway of the Nuclear Deterrence Fund, which is a pilot programme established and coordinated by the Defence Nuclear Organisation. The Nuclear Deterrence Fund seeks to stimulate wider UK expertise in nuclear deterrence issues and generate a research base to support nuclear deterrence policymaking.

The study focuses on the following research questions (noting that these are narrower in scope than the overarching questions listed in Section 1.2):

1. How do European NATO Allies assess the new 'Fundamentals of State Policy ?'
2. How do European NATO Allies view the current role of the UK and French nuclear deterrents in NATO's nuclear posture?
3. What roles do European NATO Allies see for the UK and French nuclear deterrents in various hypothetical crisis scenarios set in 2030?
4. What policy and/or capability changes would European NATO Allies recommend that the UK and/or France, as Europe's two nuclear-weapon states, could make individually or jointly to bolster NATO's overall deterrence and defence posture, particularly in the nuclear domain?

While the scope of the study was set in late 2024, the change of administration in the United States and the initial priorities of the second Trump presidency further shaped its focus. In particular, the changing transatlantic dynamics outlined in the previous two sections reinforced the significance and timeliness of examining the role of the UK and French nuclear deterrents in European security. While the initial data collection and analysis were carried out in the first half of 2025, the draft report was updated in spring 2026 to incorporate targeted and concise reflections on relevant real-world developments that occurred in the interim. These included the release of strategic documents and notable public statements issued later in 2025 and in early 2026, such as the UK's Strategic Defence Review, the Northwood Declaration, the French National Strategic Review and President Macron's Île Longue speech.

The research sponsor and RAND Europe agreed that the study would focus primarily on how non-nuclear European NATO Allies perceive the roles of the UK and France. It was also agreed that the study team would engage non-governmental European experts to capture emerging thinking on the future of nuclear deterrence within NATO and European security more broadly. This reflected the judgement that direct discussions with government stakeholders would be more difficult due to political sensitivities and classification issues.

1.4. The research team employed a qualitative multi-method approach, combining a literature review, scenario development and research interviews with non-governmental experts

This study used a qualitative research approach consisting of three main components:

1. A literature review centred on the content and implications of the 'Fundamentals of State Policy.' document that President Putin approved in November 2024.
2. A scenario development activity focused on generating high-level NATO–Russia crisis scenarios with a nuclear dimension in order to explore hypothetical future contexts in which direct observation is impossible and empirical evidence is unavailable. These scenarios were scoped and developed with the sole intent to use them during the research interviews as question prompts.
3. Research interviews with non-governmental researchers and think tankers from European NATO Allies to map the perceptions of Russian nuclear policy and the role of the UK and French deterrents in NATO's nuclear posture, with a primary focus on engaging experts from non-nuclear European countries. The research interviews also included the scenario-based element.

Given the contemporary scope of the project, the research interviews led by the RAND Europe team in February and March 2025 constituted the primary source of research data for this study. The literature review informed the design and scope of those interviews and later served to complement their findings. In addition, the scenarios were developed explicitly to support the research interviews by generating tangible future escalation dilemmas that could be used as question prompts for discussion.

1.4.1. Literature review

The research team conducted a literature review focused on Russia's 'Fundamentals of State Policy' document issued in November 2024, the reactions of NATO Allies and the implications for the UK, France and NATO. This was conducted as a narrative literature review and included relevant academic studies and grey literature as well as government documents, official statements and newspaper articles. Relevant literature was identified through a set of Boolean search strings in relevant open-source databases and subscription services. The research team identified around 40 relevant sources, which were reviewed using a structured data-extraction approach. This process captured information in the following areas:

- Reactions by Western officials to changes in Russia's 2024 'Fundamentals of State Policy'.
- Expert assessments of continuity and change in Russia's new nuclear declaratory policy.
- Implications of Russia's new nuclear declaratory policy for the UK, France and NATO.

1.4.2. Scenarios

Any attempt to explore the future must grapple with its inherent uncertainty and the complex interactions of known and unknown factors. Scenarios are a widely used analytical tool for exploring such uncertainty as they help structure discussions around what *could* happen.[28] Given the study's focus on exploring

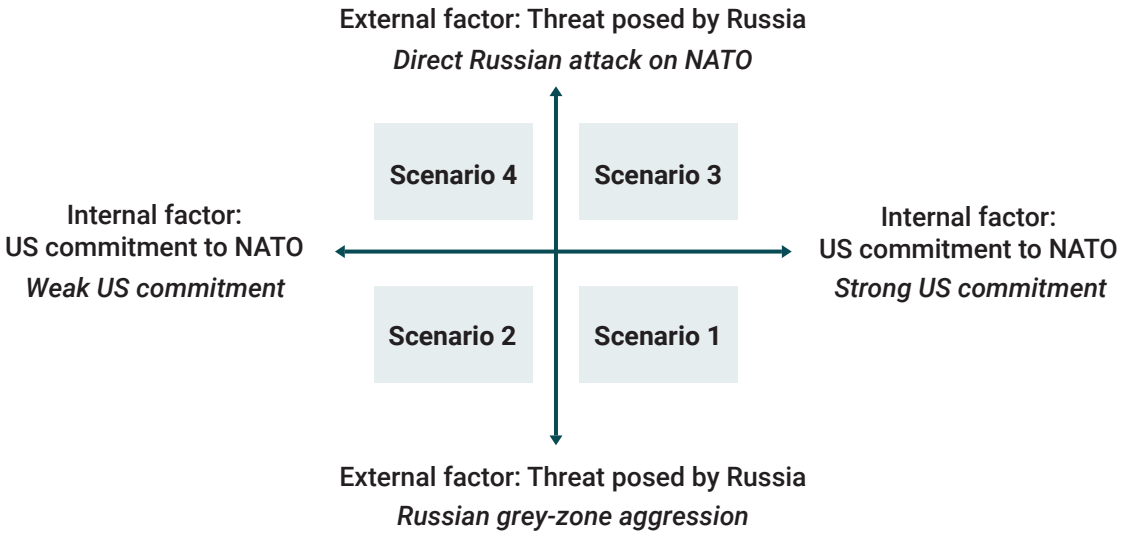
28 Pillkahn (2008).

possible future roles for the UK and French nuclear deterrents, the research team used scenarios to enable the guided exploration of hypothetical contexts in which direct observation is impossible and empirical evidence is unavailable.

For the purposes of this study, scenarios were not used as a standalone methodological approach but as a tool to support the study's core research activity: the research interviews. The aim was to develop scenarios that presented tangible, hypothetical escalation dilemmas while remaining concise enough to use in interviews as prompts about the potential role of the UK and France in a future NATO context. Recognising the time constraints of research interviews, especially relative to longer expert workshops or wargames, the research team selected a straightforward scenario planning tool known as the 2×2 scenario matrix. This approach explores the interaction between two drivers, which form the two axes of the scenario matrix, with each axis framed in terms of two opposite outcomes (typically a 'high' and 'low' outcome for the drivers).[29]

Since the study's context was defined by both the external threat to NATO (namely, a revanchist Russia in the process of refining its nuclear policy) and NATO's changing internal context (namely, uncertainty around the future scope and degree of US commitment to the Alliance), the research team selected these as the two axes of the scenario matrix. As shown in Figure 1.1 below, the first axis represented the threat posed by Russia, with Russian grey-zone aggression at the lower end and a direct Russian attack on NATO at the upper end. Meanwhile, variation in US commitment to NATO formed the second axis. The research team deliberately kept the definitions of 'strong US commitment' and 'weak US commitment' broad, inviting participants to articulate their own assumptions when discussing the relevant scenarios. In the context of semi-structured interviews, this was judged more productive than imposing a highly prescriptive scenario design that might unnecessarily constrain participants' thinking on what the different levels of commitment might entail.

Figure 1.1. The scenario matrix designed for this study



Source: RAND Europe.

29 Stucki (2022).

As the next step, the study team developed two high-level scenarios set in 2030: one centred on Russian grey-zone aggression against NATO, and the other on a Russian conventional attack on the Alliance. These scenarios are presented in Chapter 5, together with the findings of the scenario discussions. Mapped onto the 2×2 scenario matrix, the two high-level scenarios generated a total of four scenario variations. This made it possible to explore how nuclear policy experts from non-nuclear NATO countries envisaged the role of the UK and France in NATO's nuclear posture under different levels of US commitment across two archetypal scenarios of Russian aggression.

Overall, the four scenario variations presented a set of tangible, hypothetical escalation dilemmas aligned with the exploratory aim of this study. The scenarios were not intended to be predictive and were developed by RAND Europe solely as tools for research and analysis. The research team did not seek to assess their probability. Instead, the focus was on the strategic dilemmas and implications they could help expose.

1.4.3. Interviews

Given the contemporary scope of the project, the research interviews led by the RAND Europe team constituted the primary source of research data for this study. To explore a broad range of policy issues relating to Russia's nuclear policy and to map the perceptions of the UK and France within NATO's nuclear posture, the research team used a semi-structured interview approach. This allowed the interviews to be guided by a common interview protocol while retaining the flexibility to pursue follow-ups and raise tailored questions depending on participants' responses and individual expertise. The semi-structured interviews were conducted virtually and lasted up to 60 minutes each.

RAND Europe conducted research interviews with 18 experts for this study. The interview participants were identified through a combination of purposive sampling (focused primarily on experts from non-nuclear European NATO Allies) and snowball sampling (informed by recommendations from the interviewees).

The study team sought to engage a geographically diverse group of experts, with two important caveats:

1. Due to the primary focus of the study on how non-nuclear European NATO Allies perceive the role of the UK and France in NATO's nuclear posture, the research interviews did not include British or American experts. However, the interview outreach sample did include a limited number of French experts in order to capture French perspectives on the role of the UK.
2. As agreed with the research sponsor, the interviews did not include governmental stakeholders, given the judgement that political sensitivities and classification constraints would make discussion of the research questions with European officials more difficult.

Overall, RAND Europe's research interviews engaged 18 experts representing a total of 10 European NATO Allies, including:

- France, as the only other European nuclear-weapon state beyond the UK.
- Belgium, Germany and the Netherlands, as countries that contribute dual-capable aircraft capability to NATO.
- Estonia, Finland and Poland, as non-nuclear countries on NATO's Eastern Flank.
- Portugal, as a non-nuclear country on NATO's Southern Flank.

The list of interviewees is provided in Annex A of this report, in line with their preferred level of attribution. Some experts requested full or partial anonymity concerning their contributions.

The interview data were analysed using a combined inductive/deductive approach,[30] drawing on a structured data-extraction matrix and corresponding coding practices. The thematic analysis was deductive in overall design, centred on the core research questions of the semi-structured interview approach. At the same time, the identification of sub-themes followed an inductive logic, drawing on patterns that emerged from the interview findings.

1.5. Caveats and limitations

Several caveats and limitations of this study warrant consideration:

- Due to the study's contemporary focus, semi-structured research interviews offered a flexible and relevant method for generating research data about the scope of the study. At the same time, the insights and perceptions derived from the research interviews are inherently more subjective forms of research data than quantitative data or data derived from peer-reviewed academic sources.
- The interviews took place in a rapidly evolving policy context in early 2025. While the RAND Europe team updated the original draft report in spring 2026 to incorporate targeted reflections on relevant real-world developments that occurred in the interim – including strategic documents and notable public statements issued later in 2025 and early 2026, such as the UK's SDR, the Northwood Declaration, the new French NSR and President Macron's Île Longue speech – it was beyond the scope of those edits to initiate a new round of data collection or perform a comprehensive analysis of the implications of each new development. Nevertheless, the baseline of perceptions captured through the original data-collection process and the framework proposed in Chapter 6 remain valid and relevant to the ongoing process of nuclear adaptation in Europe.
- While the purposive sampling and snowballing approach to identifying interview participants was successful, the research team recognises the risk of selection bias. Additionally, despite best efforts to engage a diverse group of individuals, the 18 experts consulted for this study do not and cannot adequately represent the full range of perspectives across European NATO Allies.
- The research team used a common set of core questions in each interview, but the semi-structured format meant that the discussions inevitably diverged to varying degrees across the interviews. On the one hand, this gave the research team the flexibility to explore a wide range of issues and to accommodate participants' specific areas of expertise. On the other hand, the variation across the interviews limited the extent to which all sub-themes could be compared systematically, as might have been possible through a more rigidly structured survey approach.
- The study's scope meant that British and American experts, as well as governmental stakeholders, were not included in the research interviews. While this was justified by the scope of the research and agreed with the research sponsor, this may nonetheless limit the comprehensiveness of the findings and recommendations.

30 Proudfoot (2023).

- The final chapter of this report outlines the key conceptual and policy questions that should guide discussions on the future of nuclear deterrence in Europe. This chapter draws out key insights and dilemmas that surfaced in the scenario discussions, but it does not advocate any particular policy option. A more prescriptive approach would have required further comparative analysis of the available options, which lay beyond the resource constraints of this study. Instead, the final chapter rests on a more fundamental premise: that asking the right questions is a prerequisite for ensuring that subsequent discussions of policy options, ways and means are directed at an appropriately scoped problem set.

1.6. Structure of this report

Following this introductory chapter, this report includes five further chapters.

- Chapter 2 discusses Russia's 2024 'Fundamentals of State Policy' and analyses the implications of Russia's revised nuclear declaratory policy.
- Chapter 3 provides an overview of the UK's nuclear declaratory policy and its nuclear forces, then examines how its role in NATO's nuclear posture is perceived, based on the research interviews. The analysis is presented in separate sections on declaratory policy, nuclear forces and signalling.
- Chapter 4 provides an overview of France's nuclear declaratory policy and its nuclear forces, then examines how its role in NATO's nuclear posture is perceived, based on the research interviews. The analysis is presented in separate sections on declaratory policy, nuclear forces and signalling.
- Chapter 5 presents the scenarios developed by RAND Europe, with each of the four scenario variations discussed in two sections: one summarising how the experts interviewed for this study assessed the stakes and key implications of the scenario, followed by another presenting the potential responses identified through the interviews.
- Chapter 6 outlines the key conceptual and policy questions that any discussion on the future of nuclear deterrence in Europe will have to consider, building on the insights gained from the research interviews and the dilemmas that surfaced in the scenario discussions.

Chapter 2. **Assessing Russia's revised nuclear declaratory policy**

This chapter presents an overview of the 2024 'Fundamentals of State Policy of the Russian Federation on Nuclear Deterrence', followed by an analysis of key implications, including the elements of continuity and change, the document's internal context and the document's signalling function. The chapter also examines the deepening nuclear relationship between Russia and Belarus over the past few years, which has included the deployment of Russian nuclear-capable delivery systems as well as Belarusian official statements about the alleged deployment of nuclear warheads to their country. Although NATO has not formally confirmed the presence of forward-deployed Russian nuclear warheads, and no authoritative public evidence allows such claims to be independently verified, the chapter considers both the bilateral context and the wider implications of these reported activities.

2.1. Overview of the 2024 'Fundamentals of State Policy'

After previewing changes to Russia's approach to nuclear deterrence in September 2024, President Vladimir Putin signed a decree updating the country's formal policy on the possible use of nuclear weapons on 19 November 2024.[31] Known as the 'Fundamentals of State Policy of the Russian Federation on Nuclear Deterrence', the new document became Russia's second publicly available policy document on nuclear deterrence, following its predecessor published in 2020.

Issued two and a half years into Russia's war of aggression against Ukraine, the updated document stated that assured deterrence is among the highest priorities of the state.[32] It presented Russia's nuclear deterrence posture as defensive in nature, stating that its purpose is to 'deter a potential adversary from aggression against the Russian Federation and/or its allies, and – in the event of a military conflict – preventing the escalation of hostilities and their cessation on terms acceptable to the Russian Federation and/or its allies.'[33] While the text refers to both individual states as well as military blocs as potential adversaries, it does not name any specific actor.

Compared with the previous nuclear policy document issued in 2020, the new document introduced several key changes.

1. **The updated document elevated the role of Belarus in Russia's nuclear declaratory policy.** While the 2024 document retains the previously used general formula of deterring aggression against the 'Russian Federation and/or its allies', it also added explicit references to Belarus. Specifically, the document states that Russia reserves the right to use nuclear weapons 'in the event of aggression against the Russian Federation and/or the Republic of Belarus

31 Kimball (2024).

32 President of the Russian Federation (2024, paragraph 2).

33 President of the Russian Federation (2024, paragraph 4).

as members of the Union State.'[34] This change came after Russia reportedly deployed 'tactical nuclear weapons' on Belarusian territory, which Putin had announced in June 2023.[35] Nonetheless, the updated document also includes the principle of 'the centralisation of governmental control over the activities of federal executive entities and organisations engaged in ensuring nuclear deterrence', meaning that any nuclear-capable systems stationed in Belarus would still remain under Moscow's operational control.

2. **Russia expanded and clarified the conditions for nuclear use in response to conventional threats.** The previous declaratory policy from 2020 stated that Russia reserved the right to use nuclear weapons in response to 'nuclear and other types of weapons of mass destruction…as well as…the use of conventional weapons when the very existence of the state is in jeopardy.'[36] The updated declaratory policy instead states that Russia may use nuclear weapons in response to attacks 'posing a critical threat to their sovereignty and/or territorial integrity.'[37] The conceptually broader – albeit still deliberately ambiguous – articulation of this condition, along with its extension to Belarus as part of the Union State, marks a notable rhetorical shift. This new clause is one of five conditions for 'determining the possibility of nuclear weapons use.' The others include the receipt of reliable information about the launch of ballistic missiles, the use of nuclear or other types of weapons of mass destruction, a strike on vital governmental or military sites tied to nuclear forces, and the 'receipt of reliable data on the massive launch (take-off) of air and space attack means (strategic and tactical aircraft, cruise missiles, unmanned, hypersonic and other aerial vehicles) and their crossing of the state border of the Russian Federation.'[38]

3. **The new nuclear declaratory policy introduced a provision aimed at deterring non-nuclear states from attacking Russia in concert with nuclear-armed states.** The document stipulates that 'aggression against the Russian Federation and/or its allies by any non-nuclear state with the participation or support of a nuclear state is considered as their joint attack.'[39] Notably, Putin unveiled the revised nuclear declaratory policy two days after then US President Joe Biden authorised Ukraine to use long-range conventional missiles, including US MGM-140 Army Tactical Missile System (ATACMS) missiles, by which point the UK and France had already supplied Ukraine with Storm Shadow/SCALP-EG missiles.

4. **The revised document added four new items to the category of military risks that 'are intended to be neutralised by the implementation of nuclear deterrence.'** According to the document, the four risks listed below are among the main military risks that 'can evolve into military threats

34 President of the Russian Federation (2024, paragraph 18).
35 Detsch & Gramer (2024).
36 President of the Russian Federation (2020, paragraph 17).
37 President of the Russian Federation (2024, paragraph 18).
38 President of the Russian Federation (2024, paragraph 19).
39 President of the Russian Federation (2024, paragraph 11).

to the Russian Federation (threats of aggression)', therefore fall within the scope of nuclear deterrence[40]:

- The 'establishment of new or expansion of existing military coalitions (blocs, alliances), leading to the advancement of their military infrastructure to the borders of the Russian Federation'.
- 'actions by a potential adversary aimed at isolating a part of the territory of the Russian Federation, including blocking access to vital transport communications'.
- 'actions by a potential adversary aimed at defeating (destroying, eliminating) environmentally hazardous facilities of the Russian Federation that may lead to technogenic, ecological or social disasters'.
- 'planning and conduct of large-scale military exercises by a potential adversary near the borders of the Russian Federation.'[41]

2.2. Analysis and implications of the 'Fundamentals of State Policy'

2.2.1. Motivations and internal context of the document

Prior to examining the implications of the 'Fundamentals of State Policy' for NATO, it is important to consider the factors that likely drove the preparation and publication of the document. It is equally important to understand the function the document was intended to serve. Recent scholarship has discussed at length the debates within Russian stakeholder communities that preceded the release of the 2024 document. These included detailed assessments of the lessons Russian stakeholders may have inferred from the course of the war against Ukraine about the role of nuclear weapons,[42] alongside the wider process of 'policy co-production' involving state insiders and public commentators.[43]

The section below highlights four key considerations for understanding both the document's context and the lens through which it should be read, drawing on the research interviews conducted for this study.

1. **The 'Fundamentals of State Policy' was approved following a lengthy and, in part, public debate about the need to revise Russia's nuclear declaratory policy. These debates were driven by a perception among Russian officials and experts that Russia had failed to coerce Kyiv into submission and had not fully deterred Western military and intelligence support to Ukraine.** Experts interviewed for this study broadly concurred that, although Russia succeeded in deterring direct NATO intervention, it failed to deter Western military and intelligence support to Ukraine – even if it was able to influence the scope, speed and volume of that support.[44] Continued Western assistance to Ukraine became an increasing source of frustration to Moscow and, in turn, prompted debate within political and military establishments over how to strengthen the credibility

40 President of the Russian Federation (2024, paragraph 15).

41 President of the Russian Federation (2024, paragraph 15).

42 Fink et al. (2024).

43 Graef & Rosa-Hernandez (2026).

44 Artur Kacprzyk, interview by the authors, 18 February 2025; Nele Loorents, interview by the authors, 13 March 2025; Rafael Loss, interview by the authors, 21 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Dr Bruno Tertrais, interview by the authors, 27 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025.

of Russia's nuclear signals and whether changes to nuclear employment plans were necessary.[45] Therefore, the publication of the 'Fundamentals of State Policy' can be interpreted both as a genuine response to a perceived credibility deficit in Russia's coercive nuclear signals and as an effort to conclude what had been a vocal and dynamic expert debate until the document's release.[46]

2. **While Western discourse often labelled the document as 'nuclear doctrine', this characterisation is not fully accurate: both its original Russian title ('State Policy on Nuclear Deterrence') and its content are more appropriately described as nuclear declaratory policy.** NATO formally defines 'doctrine' as 'the fundamental principles by which military forces guide their actions in support of objectives.'[47] The 'Fundamentals of State Policy' document does not fully meet this NATO definition, since the content of the executive order can be considered more as political, rather than military, guidance on nuclear deterrence.[48] Accordingly, the use of this standard NATO term to describe the document is slightly misleading in this context. A more nuanced characterisation is also consistent with the document's original Russian framing (i.e. 'state policy on nuclear deterrence').[49] In practical terms, the document is an act of declaratory policy that defines the 'essence' of Russia's nuclear deterrence and the 'conditions for the transition…to the employment of nuclear weapons' for select internal and external audiences.[50] It does not, however, provide details or direction on the 'how', that is, the practical implementation of Russia's nuclear deterrence posture, which Russian military officers could then directly apply in training, exercises or, indeed, in an actual crisis. Consequently, the document's internal function is to provide top-level political guidance for the Russian state, which may in turn steer the development of new doctrinal documents as well as new military options or capabilities.[51] Meanwhile, externally, the 'Fundamentals of State Policy' fulfils a nuclear signalling function, as discussed in Section 2.2.4.

3. **The new declaratory policy does not set out concrete changes to nuclear posture or force structure, but it does shape the broader political context in which such adjustments may later follow.** While not its primary function, the 2024 'Fundamentals of State Policy' could become a reference point for internal processes that, over time, could result in the development of an actual, non-public nuclear doctrine with

45 In September 2024, the Center for Naval Analyses published a comprehensive overview of this debate, identifying the different Russian stakeholders and their respective positions on the key issues related to Russian nuclear declaratory policy, signalling and capabilities. For more detail, see Fink et al. (2024).

46 Rafael Loss, interview by the authors, 21 February 2025. See also Graef & Rosa-Hernandez (2026), who framed the so-called Karaganov debate as 'a form of policy co-production in which public interventions shape how problems are framed, prioritized, and sequenced, even though ultimate decision making authority remains firmly concentrated in the presidency and the wider bureaucracy.'

47 UK Ministry of Defence (2022, 30).

48 Ian Anthony, interview by the authors, 13 February 2025.

49 President of the Russian Federation (2024).

50 President of the Russian Federation (2024, paragraph 1).

51 Ian Anthony, interview by the authors, 13 February 2025.

specific operational- and tactical-level principles and guidelines.[52] The evolving role of Belarus in Russian nuclear policy is a relevant case in point. While the deepening relationship between the two members of the Union State preceded the revised declaratory policy, the document helped formalise Belarus's special status, which was then followed by closer cooperation in exercises and the publicly announced deployment of the nuclear-capable Oreshnik missile on Belarusian soil. Relatedly, it will be important to monitor whether and how the document influences Russian planning and nuclear capability development.[53] At the same time, the publication of the document should not be taken to mean that such changes inevitably follow. Russia's strategic arsenal is coming to the end of its current modernisation cycle, according to claims by the Russian government.[54] However, the expiry of the New START treaty in February 2026, together with Russia's prior de-ratification of the Comprehensive Nuclear-Test-Ban Treaty in 2023, could provide more flexibility for Russia to expand its nuclear capabilities in the coming years.[55]

4. **Important questions remain concerning the causal pathways behind the development of this document, which are not possible to verify from open sources.** Was the document developed because the Russian leadership sought to steer the machinery of Russian government bureaucracy? Was it primarily intended to manipulate the threat perceptions of external audiences? Or did it reflect a response by political leadership to considerable internal discontent over the perceived ineffectiveness of Russia's coercive threats? To what extent did the initiative reflect aspirations in the bureaucracy to provide political leaders with a broader range of options? The answers to these questions are unlikely to be mutually exclusive, and it is plausible that multiple dynamics contributed to the document's development, albeit to differing degrees.[56] These questions remain important to bear in mind when interpreting the provisions of the document.[57]

2.2.2. The document listed specific conditions for nuclear use and reaffirmed the president as the sole decision maker, but declaratory policy is not prescriptive

In addition to the conditions for nuclear use discussed above, the updated 'Fundamentals of State Policy' reiterated a long-standing element of Russian declaratory policy: 'The decision to employ nuclear weapons is made by the President of the Russian Federation.'[58] The key implication of this is that while the revised document serves as the formal state policy on nuclear deterrence, there are no legal or technical guarantees that could prevent the Russian president from authorising a nuclear strike.

52 Ian Anthony, interview by the authors, 13 February 2025.

53 Lydia Wachs, interview by the authors, 14 February 2025.

54 Reuters (2024a).

55 Ian Anthony, interview by the authors, 13 February 2025.

56 Graef & Rosa-Hernandez (2026).

57 Anonymous Expert #1, interview by the authors, 24 February 2025. For an analysis of the internal Russian deliberations, see Adamsky (2025).

58 President of the Russian Federation (2024, paragraph 20).

Experts consulted for this study were also in agreement that while the revised 'Fundamentals of State Policy' outlines the conditions for nuclear use, there is nothing automatic about the implementation of the document.[59] President Putin could choose to use nuclear weapons even if the conditions outlined in the document had not materialised. Equally, the president could decide not to employ nuclear weapons even if one or more of those conditions had been met. In any real-world decision-making context, it is implausible to assume that Putin would feel constrained by the wording of the existing declaratory policy. The document should therefore be understood not as a blueprint for nuclear use, but rather as a noteworthy statement of policy as well as an instrument of signalling and psychological influence.[60]

Establishing this point is also key to engaging with the debate over whether the so-called threshold for nuclear use has changed. The experts interviewed for this study were divided on this matter. Some argued that the revised language suggests a lower threshold, above all because it replaces the earlier formula that 'the very existence of the state is in jeopardy' with the broader condition of 'a critical threat to their sovereignty and/or territorial integrity.'[61] Others contended that the amendments are better understood as clarifications, in that they define the conditions for nuclear use more precisely rather than lowering the threshold itself.[62] A third view held that, while a literal reading of the revised language would indeed imply that the threshold is lower, the change in wording should primarily be read as a signalling move designed to shape the decision space of Western governments.[63]

2.2.3. Western reactions largely downplayed the significance of the revisions to Russia's nuclear policy

Overall, the dominant view across official statements, the literature and the research interviews was that the updated declaratory policy did not constitute a significant change for Russia's nuclear posture. Rather, the publication of the revised 'Fundamentals of State Policy' was seen as the latest step in a broader pattern of nuclear sabre-rattling and escalatory signalling that began with the annexation of Crimea in 2014 and has become even more prominent since the full-scale invasion of Ukraine in February 2022.

This interpretation was reflected in the measured public response of many Western officials who argued that the revised declaratory policy did not represent a significant change. For example, Sabrina Singh, then Deputy Pentagon Press Secretary, stated that the United States was not 'surprised by Russia's update to its nuclear doctrine', and did not 'see any changes that need to be made to our own

59 Artur Kacprzyk, interview by the authors, 18 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025; Nele Loorents, interview by the authors, 13 March 2025; Lydia Wachs, interview by the authors, 14 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

60 Grajewski (2024); Anonymous Expert #3, interview by the authors, 21 February 2025.

61 Adérito Vicente, interview by the authors, 18 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025; Anonymous Expert #3, interview by the authors, 21 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025.

62 French think tanker on nuclear policy, interview by the authors, 17 February 2025.

63 Linde Desmaele, interview by the authors, 13 March 2025; Dutch think-tank researcher, interview by the authors, 17 February 2025.

nuclear posture.'[64] Beyond stating that NATO's nuclear posture did not require adjustment, several Western leaders stressed that Russia's revised declaratory policy would not weaken their resolve to support Ukraine. This included then UK Prime Minister Keir Starmer, who said that 'there's irresponsible rhetoric coming from Russia, and that is not going to deter our support for Ukraine.' In similar fashion, French Foreign Minister Jean-Noël Barrot dismissed the document as 'just rhetoric', stating that France was not intimidated.[65]

The experts consulted for this study largely echoed this view. Many emphasised that the 'Fundamentals of State Policy' should not be interpreted as a major change to Russia's nuclear policy, and that the document in itself did not appear to introduce any significant shifts in capability or operational patterns.[66]

At the same time, the revised document points to a future in which nuclear weapons will assume more salience in Russia's defence policy. This is closely linked to Russia's heavy military losses in Ukraine, which will pose a years-long force reconstitution problem.[67]

Two further implications follow from this. First, if NATO Allies deliver on their pledged increases in defence spending, including sustained investment in long-range fires and airpower, Russia's conventional weaknesses vis-à-vis NATO are likely to become even more pronounced.[68] This would further incentivise Russia to increase reliance on nuclear weapons, including non-strategic nuclear capabilities, for deterrence and escalation management.

Second, Russia's failure to achieve its political objectives in the opening phase of the full-scale invasion of Ukraine is likely to have reinforced, in Moscow's view, the importance of terminating any future conflict on advantageous terms early on – not least because Russia may seek to avoid the risk of becoming entangled in a protracted war against NATO. The implication here is not that the most recent revision has lowered Russia's threshold for nuclear use, but rather that the point at which Moscow might perceive the utility of nuclear use could be reached earlier in a conflict, largely because of Russia's conventional inferiority relative to NATO.

2.2.4. The document's signalling function reveals not only the aims of Russian coercive activities but also Russia's fears, including conventional NATO forces

A prominent view among experts is that the revised declaratory policy was intended to intimidate the West, discourage continued support for Ukraine and induce caution during any future crisis. These are not novel objectives. In the years prior to the publication of this document, Russia had already sought to influence NATO decision making vis-à-vis Ukraine and to compel Western countries to halt financial assistance and military aid

64 US Department of Defense (2024).

65 Reuters (2024c).

66 Lydia Wachs, interview by the authors, 14 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025; Rafael Loss, interview by the authors, 21 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025; Linde Desmaele, interview by the authors, 13 March 2025.

67 French think tanker on nuclear policy, interview by the authors, 17 February 2025.

68 Ian Anthony, interview by the authors, 13 February 2025.

by implying that such support could trigger unwanted escalation with Russia.[69]

Russian officials have explicitly linked this coercive intent to revisions in nuclear policy. Following the 25 September 2024 meeting of Russia's Security Council, Dmitry Peskov, President Putin's press secretary, stated that 'This [formal discussion about updating Russia's nuclear declaratory policy] should be considered a definite signal. This is a signal that warns these countries about the consequences if they participate in an attack on our country by various means, and not necessarily nuclear ones.'[70] After the document was formally approved and published in November 2024, Peskov again drew attention to the changes, describing them in media remarks as 'very important messages.'[71]

A specific case in which the Russian government's public rhetoric was likely intended to influence Western decision making was the discourse around the possible delivery of Germany's long-range Taurus missile to Ukraine. Then Chancellor Olaf Scholz refused to provide the missiles to Ukraine in autumn 2023, citing escalation risks as one of his reasons.[72] Upon taking office, Chancellor Merz reversed his campaign pledge to approve the transfer, pointing to limited stockpiles and Ukraine's capacity to develop their own indigenous missile capabilities.[73]

Furthermore, the revised document is believed to have been intended to intimidate and deter Ukraine itself. This interpretation rests primarily on the new provision stating that Russia would regard aggression by a non-nuclear state with the support of a nuclear-armed ally as a joint attack. The timing of Russian announcements supports this reading: Putin's first announcement of the revisions to the 2020 'Basic Principles' coincided with talks in the US during which President Zelenskyy was seeking permission to use advanced Western weapons, including long-range missiles capable of striking targets inside Russia.[74] The revised declaratory policy was published only two days after then President Biden granted that permission to Kyiv in November 2024.[75] By that point, the document was certainly complete, but delaying its publication until after the US decision allowed Moscow to frame its release as a direct response to American policy.

Another perceived objective of the revised declaratory policy was to intimidate European publics and divide NATO Allies. According to this interpretation, Russian statements and the release of the new document were intended in large part for media effect, with the aim of stoking fear among European populations.[76] In Finland, for example, some media coverage framed the discussion in terms of whether assisting an attack on Russia could provide grounds for retaliation.[77] Indeed, some

69 Artur Kacprzyk, interview by the authors, 18 February 2025; Lydia Wachs, interview by the authors, 14 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025; Ian Anthony, interview by the authors, 13 February 2025.

70 Reuters (2024b).

71 TASS (2024).

72 Von der Burchard (2023).

73 Axe (2025); Rafael Loss, interview by the authors, 21 February 2025; Euractiv (2026).

74 Paul (2024).

75 Grand (2024).

76 Olivier Schmitt, interview by the authors, 19 February 2025; Lydia Wachs, interview by the authors, 14 February 2025.

77 Jyri Lavikainen, interview by the authors, 10 February 2025.

analysts argued that Moscow succeeded in creating a degree of uncertainty and anxiety.[78] The broader aim was likely to widen divisions among European NATO Allies and thereby weaken support for Ukraine, with non-nuclear states likely serving as the main targets of this messaging.[79] Nevertheless, most experts interviewed for this study concluded that the document gained only limited traction in European media, and that its broader impact on both publics and policymakers was similarly modest.[80]

Finally, it is also worth asking what Russian fears and concerns the substance of the document reveals. One major theme – Western support for Ukraine – has already been addressed above. Another revealing element is paragraph 19(d) of the document. Whereas the 2020 'Basic Principles' referred only to the 'receipt of reliable information about the launch of ballistic missiles targeting the territories of the Russian Federation and/or its allies', the revised document introduced much broader language: 'receipt of reliable data on the massive launch (take-off) of air and space attack means (strategic and tactical aircraft, cruise missiles, unmanned, hypersonic and other aerial vehicles) and their crossing of the state border of the Russian Federation.'[81] This expanded wording echoes historic Soviet and Russian concerns about NATO's growing conventional firepower, particularly in the air and space domains.[82] The implication is that, as Russia's conventional capabilities increasingly lag behind those of the Alliance, Russia will likely see growing reliance on its nuclear weapons as necessary to offset the threat it perceives from NATO.[83]

2.3. Russian deployments to Belarus send a deterrent message but do not alter the strategic balance with NATO

On 23 March 2023, President Putin announced plans to station Russian nuclear weapons in Belarus, which had already hosted Russian conventional military units and weapon systems and has been an enabler of Russia's war of aggression against Ukraine.[84] In June 2023, Belarus's Alexander Lukashenko announced that some of the Russian nuclear 'missiles and bombs' have been transferred to Belarus, adding that the presence of these weapon systems would act as a deterrent against potential aggressors targeting Belarus.[85] In December 2023, Lukashenko announced that the deployment of Russian nuclear weapons had been completed in October 2023, underscoring that by hosting

78 Rafael Loss, interview by the authors, 21 February 2025.

79 Williams (2024); Adérito Vicente, interview by the authors, 18 February 2025; Ian Anthony, interview by the authors, 13 February 2025.

80 Jyri Lavikainen, interview by the authors, 10 February 2025; Rafael Loss, interview by the authors, 21 February 2025; Ian Anthony, interview by the authors, 13 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025; Adérito Vicente, interview by the authors, 18 February 2025; Lydia Wachs, interview by the authors, 14 February 2025.

81 President of the Russian Federation (2024, paragraph 19e).

82 Lydia Wachs, interview by the authors, 14 February 2025.

83 Ian Anthony, interview by the authors, 13 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Dutch think-tank researcher, interview by the authors, 17 February 2025; Lydia Wachs, interview by the authors, 14 February 2025.

84 Ljunggren (2023).

85 Kelly & Osborn (2023).

Russian nuclear capabilities, he intended to deter a potential attack from Poland.[86]

Neither Russia nor Belarus has publicly confirmed the type or number of systems allegedly deployed to Belarus in this period. However, open-source analyses by the Federation of American Scientists and the Center for Naval Analyses identified recent or ongoing infrastructure projects associated with the suspected stationing of both nuclear-capable delivery systems as well as nuclear warheads and munitions. These include the 465th Missile Brigade in Asipovichy, which hosts the nuclear-capable Iskander missile complex, and the 1405th Artillery Ammunition Base near Asipovichy.[87] According to open-source analysis by the Federation of American Scientists, in addition to upgrades to the Soviet-era nuclear warhead storage depot at Asipovichy, extensive work on the surrounding infrastructure was still under way as of early 2026.[88]

In December 2024, Lukashenko declared that 'I brought [Russian] nuclear warheads here [Belarus]. More than a dozen of them.'[89] A year later, in December 2025, Russia and Belarus announced that the nuclear-capable Oreshnik intermediate-range ballistic missile had been deployed to Belarus and entered combat duty, with its location subsequently identified by researchers at the James Martin Center for Nonproliferation Studies as Krichev air base, near the Belarusian–Russian border.[90] However, announcements of deployments should not be conflated with any transfer of control over the weapons, especially with respect to decisions on nuclear employment: under both the 2020 'Basic Principles' and the 2024 'Fundamentals of State Policy', the decision on the use of Russian nuclear weapons remains the sole prerogative of the Russian president.

The evolution of joint exercises further illustrates the deepening nuclear relationship between the two countries. For instance, in June 2024, Belarusian involvement in binational nuclear exercises entailed the participation of Belarusian units in a Russian non-strategic nuclear weapons exercise conducted on Russian territory.[91] Two years later, another large-scale exercise marked the first time the Belarusian military participated in the exercising of Russia's strategic and non-strategic nuclear forces, which also practised the delivery of nuclear munitions to field storage facilities in Asipovichy, Belarus.[92]

It should be emphasised that there is no authoritative, publicly available evidence that would allow independent confirmation of whether Russian nuclear warheads are presently stationed in Belarus. While NATO has condemned Russia's 'announced stationing of nuclear weapons in Belarus, which demonstrate a posture of strategic intimidation',[93] the Alliance has not formally confirmed the presence of Russian nuclear weapons in Belarus, either. Similarly, the potential deployment was not mentioned in various NATO governments' publicly available intelligence assessments, such

86 Associated Press (2023b).

87 Kristensen et al. (2026, 227–28); Rosa-Hernandez et al. (2025, 10).

88 Kristensen et al. (2026, 228).

89 Belarusian Telegraph Agency (2024).

90 RFE/RL's Belarus Service (2026).

91 Faulconbridge (2024).

92 Wilk et al. (2026).

93 NATO (2024a, paragraph 19).

as the US Defense Intelligence Agency's 2024 'Nuclear Challenges' report,[94] the US intelligence community's recent Annual Threat Assessments, or the Estonian Foreign Intelligence Service's annual report.[95]

At the same time, comments from then Polish president Andrzej Duda in August 2023[96] and also in March 2025[97] implied that the deployments had indeed taken place, while a website linked to Belarusian railway workers opposing Lukashenko's rule published information on the possible logistical arrangements for the transportation of nuclear weapons and related systems in late June 2023.[98] The deployment was also confirmed by unnamed Western officials speaking to the *Foreign Policy* magazine in 2024,[99] even though open-source reporting suggests that logistical challenges remain related to any potential stationing of nuclear warheads.[100]

In the absence of authoritative and conclusive open-source evidence, the authors of this report do not take a position on the possible presence of Russian nuclear warheads in Belarus. Verifying or debunking these claims through open-source investigation also fell outside the scope of this study. That said, the research team gathered interview-based insights on the hypothetical implications of the alleged deployments. Two overarching findings emerged from these, which are presented in the following subsections.

2.3.1. Russia's deepening nuclear relationship with Belarus has a distinct bilateral context amid Belarus's de facto political and military absorption into Russia

Although Russia and Belarus had already achieved a degree of integration through the Union State, Lukashenko's dependence on Moscow increased markedly after Putin intervened to keep him in power during the 2020–2021 protests. In 2022, Belarusian territory served as a crucial staging ground for Russia's full-scale invasion of Ukraine, and Belarus continues to play a role in fixing some Ukrainian forces along the border.[101] As Russia's influence over Belarus increased politically, militarily and culturally, the deployment of nuclear weapons would represent a further step in the growing military integration of the two states and in the emergence of a common Union State defence space, as evidenced by news of joint training on nuclear-capable systems.[102] This is consistent with earlier analysis, which suggested that the transfer of Iskander systems has advanced the de facto integration of Belarusian military units into the Russian Armed Forces.[103]

Further, as Lukashenko now heavily depends on Russia for the survival of his regime, he may see deeper military integration in the nuclear realm both as a deterrence signal to the West and as a means of preserving his relevance to Putin, even at the cost of further entrenching

94 US Defense Intelligence Agency (2024).

95 Estonian Foreign Intelligence Service (2025).

96 Associated Press (2023a).

97 Bowen (2025).

98 Community of Railway Workers of Belarus (2023).

99 Detsch & Gramer (2024).

100 Kristensen et al. (2024a, 124).

101 Olivier Schmitt, interview by the authors, 19 February 2025.

102 Jyri Lavikainen, interview by the authors, 10 February 2025; Dr Bruno Tertrais, interview by the authors, 27 February 2025; Ian Anthony, interview by the authors, 13 February 2025.

103 Wilk & Zochowski (2023).

Belarus's subordinate status.[104] Indeed, any nuclear deployment would be a significant signal of commitment to the stability of the Lukashenko regime.[105] The underlying message is that Moscow considers Belarusian territory as a practical extension of the Russian Federation.[106] This was also formalised in paragraph 18 of the 'Fundamentals of State Policy', which stated that 'the Russian Federation reserves the right to employ nuclear weapons in response to the employment of nuclear and (or) other types of weapons of mass destruction against itself and (or) its allies, as well as in the event of aggression against the Russian Federation and (or) the Republic of Belarus as participants in the Union State with the employment of conventional weapons, which creates a critical threat to their sovereignty and (or) territorial integrity.'[107]

While the 2020 'Basic Principles' had already covered Belarus under the general reference to 'allies', the revised document names the country explicitly, signalling a more direct Russian commitment to extending nuclear deterrence to Belarus.[108] The revised declaratory policy nevertheless retained the broader mention of 'allies', too. This can be understood as a reference to members of the Collective Security Treaty Organization as well as North Korea, which signed a comprehensive defence and security treaty with Russia in June 2024.

2.3.2. Nuclear-related deployments in Belarus convey a message about the political importance of Minsk, but would not change the strategic balance with NATO

Experts consulted for this study were of the view that the deployment would not alter the strategic balance with NATO, since Russia's diverse strategic and non-strategic nuclear capabilities already held all of Europe at risk.[109] Further, frontline NATO Allies on the Eastern Flank are already assumed to be heavily targeted by Russia. On that basis, participants argued that there is no direct implication for changing NATO's nuclear posture in response.[110] Rather, the deepening nuclear relationship appears to convey a political message about the importance Russia attaches to keeping Belarus as a close ally and to preventing any change in the country's geopolitical orientation. Experts also shared the view that repeated public statements by Russian and Belarusian leaders about the alleged deployment of Russian nuclear systems to Belarusian soil may have formed part of a calibrated and coordinated nuclear signalling campaign. The relevant announcements and exercises gave Russia recurring opportunities to inject the 'nuclear card' into Western news cycles, and to reinforce existing narratives that the West should avoid 'provoking' Russia and 'interfering' in what Moscow sees as its closest sphere of influence.

104 Jyri Lavikainen, interview by the authors, 10 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025.

105 Rafael Loss, interview by the authors, 21 February 2025.

106 Belgian nuclear policy expert, interview by the authors, 13 February 2025; Anonymous Expert #1, interview by the authors, 24 February 2025.

107 President of the Russian Federation (2024, paragraph 18).

108 Williams (2024).

109 Jyri Lavikainen, interview by the authors, 10 February 2025; Nele Loorents, interview by the authors, 13 March 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025.

110 Dutch think-tank researcher, interview by the authors, 17 February 2025; Dr Bruno Tertrais, interview by the authors, 27 February 2025; Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

While Russia's messaging about the nuclear relationship with Belarus may be driven by its own interests, forward-deploying Russian nuclear weapons to Belarus may also feed into NATO's own messaging about the Alliance's nuclear adaptation. In the 1997 NATO–Russia Founding Act, NATO Allies reiterated that they have 'no intention, no plan and no reason to deploy nuclear weapons on the territory of new members, nor any need to change any aspect of NATO's nuclear posture or nuclear policy.'[111] This commitment – also known as the 'three no's' – also excludes the establishment of 'nuclear weapon storage sites on the territory of those members, whether through the construction of new nuclear storage facilities or the adaptation of old nuclear storage facilities.'[112] While Russia's deepening nuclear relationship with Belarus would not in itself be a primary driver of NATO's nuclear adaptation, it could – alongside Russia's flagrant violations of the NATO–Russia Founding Act, not least through the full-scale invasion of Ukraine – provide NATO with an opportunity to frame its own actions as a response to a broader pattern of irresponsible Russian nuclear behaviour. As one Polish expert observed, there is clearly a mismatch between Russia's announced deployment of nuclear capabilities to Belarus and NATO's internal divisions over the way ahead on the 'three no's' policy.[113] According to this view, self-restraint by the Alliance clearly fails to influence the Russian calculus.

Additionally, even if the military-operational impact of a potential deployment were limited, the forward-deployment of Russian nuclear systems could serve a further messaging function in the future. This relates to the potential use of these weapons as a bargaining tool to leverage in future arms control discussions. Specifically, Russia might offer to withdraw its nuclear weapons from Belarus in exchange for the withdrawal of US forward-deployed nuclear capabilities from Europe. Such an offer would be consistent with Moscow's long-standing objective of seeking to drive a wedge between the US and European Allies.[114] While this scenario is plausible, there is no indication at present to suggest that such an attempt would have a high likelihood of success.

Lastly, as a final point on messaging and narratives surrounding the Russian–Belarusian nuclear relationship, it is important to underscore that the alleged nuclear deployments in Belarus place NATO in a difficult position in the battle for narratives. This may partly explain NATO's relatively muted response to relevant Russian and Belarusian announcements. NATO maintains that its own nuclear sharing arrangements are in full compliance with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), as the arrangements predate the negotiation of the treaty and the language of the treaty was drafted to account for NATO's pre-existing nuclear posture.[115] However, many non-nuclear states parties to the NPT have continued to criticise extended nuclear deterrence and nuclear sharing.[116] Russia added the criticism of NATO's nuclear sharing arrangements as a regular diplomatic talking point since 2015, including at NPT

111 NATO (1997).

112 NATO (1997).

113 Artur Kacprzyk, interview by the authors, 18 February 2025.

114 Jyri Lavikainen, interview by the authors, 10 February 2025.

115 NATO (2024b).

116 Acheson (2024).

conferences, as NATO–Russia relations worsened following Russia's initial invasion of Ukraine. In apparent contrast to that position, Russia's Deputy Foreign Minister claimed in June 2023 that the deployment of Russian tactical nuclear weapons on Belarusian soil 'does not violate' the NPT because the operational control of the weapons remains with Russia.[117] Given NATO's long-standing practice of nuclear sharing, Russia's actions could be perceived by much of the international community – including many states that already advocate the prohibition of nuclear weapons – as simply mirroring those of the United States.[118] Indeed, President Putin's first public statement on this issue was framed precisely in those terms, as he drew an explicit parallel between Russian actions and those of the United States.[119] Against this backdrop, NATO would likely find it difficult to prevail in the battle of narratives by loudly condemning Russia.[120]

117 TASS (2023).

118 Anonymous Expert #3, interview by the authors, 21 February 2025; Linde Desmaele, interview by the authors, 13 March 2025.

119 Reuters (2023).

120 Linde Desmaele, interview by the authors, 13 March 2025.

Chapter 3. **The role of the UK in NATO's nuclear posture: Expert perceptions and implications**

NATO's public-facing documents set out the main tenets of the Alliance's nuclear policy and posture, including the following statements:

1. 'NATO's deterrence and defence posture is based on an appropriate mix of nuclear, conventional and missile defence capabilities, complemented by space and cyber capabilities.'[121]
2. 'Nuclear deterrence is the cornerstone of Alliance security. The fundamental purpose of NATO's nuclear capability is to preserve peace, prevent coercion and deter aggression.'[122]
3. 'The strategic nuclear forces of the Alliance, particularly those of the United States, are the supreme guarantee of the security of the Alliance.'[123]
4. 'The independent strategic nuclear forces of the United Kingdom and France have a deterrent role of their own and contribute significantly to the overall security of the Alliance. These Allies' separate centres of decision making contribute to deterrence by complicating the calculations of potential adversaries.'[124]
5. 'NATO's nuclear deterrence posture also relies on the United States' nuclear weapons forward-deployed in Europe and the contributions of Allies concerned. National contributions of dual-capable aircraft to NATO's nuclear deterrence mission remain central to this effort.'[125]

Of the elements of NATO's nuclear policy and posture, this chapter focuses on the contributions of the UK's nuclear deterrent, presenting the study's findings on a range of European perceptions of the UK's nuclear declaratory policy, deployed capability and other aspects of its role as a nuclear-armed state within NATO's wider nuclear posture. As noted in Section 1.4, the below analysis draws principally on research interviews conducted in early 2025 with leading European experts on nuclear policy. Since the interviews took place prior to the release of the UK's Strategic Defence Review (SDR) and the Northwood Declaration in summer 2025 – both of which addressed some of the issues discussed in the chapter – the synthesis of views presented here should be treated as a baseline of European perceptions. In turn, this baseline may help inform subsequent adaptation as the SDR and the Northwood Declaration are being implemented.

The findings presented in this chapter are not intended to provide a comprehensive or definitive assessment of the UK's role in NATO's nuclear posture, not least because the geopolitical context is evolving rapidly. Rather, this snapshot of perceptions is intended to inform current policy debates and to provide context for the range of considerations set out in Chapter 6.

Table 3.1 below summarises the key perceptions identified through the study team's research interviews.

121 NATO (2022, paragraph 20).
122 NATO (2024a, paragraph 9).
123 NATO (2022, paragraph 29).
124 NATO (2022, paragraph 29).
125 NATO (2022, paragraph 29).

Table 3.1. Summary of themes relating to perceptions of the UK's role in NATO's nuclear posture

Themes	Key perceptions based on research interviews
UK nuclear declaratory policy	• The UK's policy since 1962 to commit its nuclear deterrent to NATO's defence, along with its significant conventional capabilities and operational experience, underpins the country's positive standing as a trusted Ally. • At the same time, the interviews suggested that the UK's formal nuclear commitments are often viewed not on their own terms, but rather in comparison with those of the United States. The prominence of US-centric discourse on the 'how' of extended deterrence – regarding issues such as the role of nuclear weapons, arsenal size, the flexibility of response options and employment thresholds – can anchor the frame through which the UK's contribution is assessed. • This creates an opportunity for the UK to articulate its own approach to extended deterrence more clearly and to deepen dialogue with non-nuclear Allies on the role it assigns to nuclear weapons, the specific deterrence effects it seeks to achieve and how it intends to achieve them – especially in the wake of the Northwood Declaration of July 2025. • The UK also has an important role in driving nuclear deterrence thinking and socialising related concepts across the Alliance, including within the Nuclear Planning Group.
UK nuclear forces	• The UK is widely perceived to possess a credible nuclear capability to deter extreme threats against the homeland, while also serving as an independent centre of decision making in NATO. • At the same time, experts raised concerns about the UK's dependence on the US nuclear enterprise for generating its capability, particularly in the context of broader European ambitions to lessen reliance on the United States. • Several interviewees also expressed worries about the financial pressures facing UK Defence in general, and the operational strain on the UK's nuclear deterrent in particular. • The interviews emphasised a perceived constraint on the UK's extended deterrence guarantees, namely that the current size and composition of the deterrent provide only limited options for escalation management – a point subsequently echoed in the SDR. • It is important to differentiate between the perceptions of European Allies and that of Russia. The UK should consider what specific steps could strengthen its standing in Moscow's eyes as an independent centre of decision making.

Themes	Key perceptions based on research interviews
UK nuclear signalling	• A sea-based deterrent has inherent limitations in the visible signalling options it can offer, as these may reveal the location of the submarine. • The UK's conventional contributions to NATO are likely to be an important factor shaping perceptions of its overall deterrence commitments. Enhanced nuclear deterrence guarantees for European Allies without also bolstering conventional deterrence may push British and NATO decision makers to consider nuclear signalling options earlier in a crisis or conflict due to the lack of sufficiently flexible conventional options. • Among non-nuclear Allies, the UK's nuclear status could create expectations of a more forward-leaning approach to crisis response and escalation management, on the basis that its nuclear deterrent could afford greater freedom of action and strategic flexibility than non-nuclear Allies have in managing escalation against Russia. • Public messaging about nuclear deterrence is important in both peacetime and in crises, for external and domestic audiences alike.

Source: RAND Europe analysis of interview data.

3.1. Overview of UK nuclear declaratory policy and posture

The 2025 Strategic Defence Review underscored that 'a minimum credible, independent UK nuclear deterrent' remains the 'foundation of the UK's approach to deterrence.'[126] The document states that 'the purpose of the UK's nuclear weapons is to preserve peace, prevent coercion, and deter aggression', adding that the UK 'would consider using nuclear weapons only in extreme circumstances of self-defence, including the defence of its NATO allies.'[127] The latter constitutes a formal extended deterrence commitment to the defence of NATO Allies, which has been in place since 1962.[128]

Notwithstanding this commitment to NATO, UK declaratory policy also maintains that only the British Prime Minister can authorise the use of the UK's nuclear weapons, which remain operationally independent.[129] The UK's nuclear forces currently consist of three main elements:

1. Four Vanguard-class nuclear-powered ballistic missile submarines (SSBNs).
2. Trident II D5 submarine-launched ballistic missiles (SLBMs).
3. Mk4A nuclear warheads deployed on the Trident II D5.[130]

Since 1969, the Royal Navy has maintained continuous at-sea deterrence (CASD) through Operation Relentless. As part of CASD, at least one UK SSBN has been on patrol as a second-strike capability every day for the past 57 years. While the UK does not disclose details of its operational stockpile, such as the number of deployed missiles, warheads

126 UK Ministry of Defence (2025, 98).
127 UK Ministry of Defence (2025, 98).
128 UK Ministry of Defence (2026b, 11).
129 UK Ministry of Defence (2025, 98).
130 Mills (2025, 14).

or their yield, open-source estimates suggest that the UK has 48 Trident II D5 SLBMs and a total of 225 warheads.[131] As of 2015, the UK had stated that each patrolling SSBN carried 40 nuclear warheads and no more than 8 operational missiles.[132] In the 2021 Integrated Review, the UK government halted its previous practice of providing public figures for its operational stockpile, deployed warhead or deployed missile numbers.[133] The same document also announced that 'in recognition of the evolving security environment', the UK would increase its overall nuclear weapon stockpile to 'no more than 260 warheads.'[134] It also reiterated that the UK's nuclear-armed missiles are not targeted at any state, which has been UK policy since 1994.[135]

The future of the UK's nuclear capability is defined by the ongoing modernisation programme. As part of this, the existing Vanguard-class SSBNs will be replaced by four new Dreadnought-class submarines, with the first new submarine due on patrol in the early 2030s.[136] In 2021, the UK Parliament also voted to replace the UK's nuclear warheads, while maintaining the existing stockpile. The Replacement Warhead Programme (designated as A21/Mk7) is being delivered in parallel with the W93/Mk7 warhead of the United States.[137]

The close links between the US and UK nuclear enterprises also extend to the delivery vehicle of the nuclear deterrent: the Trident II D5 missile is manufactured in the United States and the UK has access to a shared missile pool under the 1963 Polaris Sales Agreement.[138] The two countries also cooperate closely, including the exchange of nuclear materials, technology and information under the 1958 US–UK Mutual Defence Agreement, which has been renewed several times and was extended indefinitely in November 2024.[139] The UK is contributing to the US-led life extension programme for the Trident II D5 missiles, which could be in service until at least the 2040s.[140]

Until 1998, the UK also operated a so-called air leg of its nuclear forces, most recently the WE.177 gravity bomb, which also had a tactical role through its lower-yield variants.[141] Since the retirement of the WE.177 in 1998, the UK has relied solely on a sea-based nuclear deterrent, and, as of 2026, remains the only nuclear-armed power in the world to operate just a single leg of the so-called nuclear triad. However, in June 2025, the Starmer government announced that it would purchase 12 F-35A aircraft certified to carry American B61-12 nuclear bombs, and thus join NATO's dual-capable aircraft mission.[142] While the full delivery schedule has not been disclosed, the

131 Kristensen et al. (2024b, 394).
132 UK Government (2015, 34).
133 UK Government (2021, 77).
134 UK Government (2021, 76).
135 UK Government (2021, 77).
136 UK Defence Nuclear Enterprise (2024, 8).
137 UK Defence Nuclear Enterprise (2024, 32).
138 UK Defence Nuclear Enterprise (2024, 29).
139 Mills (2024, 22).
140 Thomas (2023).
141 Walker (2019, 10).
142 Royal Air Force (2025).

2026 Defence Investment Plan stated that the first British F-35A aircraft will enter service 'in the early 2030s.'[143] This will reintroduce the nuclear role for the Royal Air Force and represents an important step in strengthening the UK's contributions to NATO.

3.2. Perceptions of the UK's nuclear declaratory policy

The research interviews conducted for this study highlighted four main findings about the UK's nuclear declaratory policy.

1. **The UK's long-standing nuclear commitment to NATO, its significant conventional capabilities and operational experience underpin a positive perception of the UK as a trusted Ally.** Interviewees noted in particular that, because France does not participate in NATO's Nuclear Planning Group (NPG), the UK is the only European nuclear power represented in that forum. This gives London an important role, alongside Washington, in shaping the Alliance's nuclear policy and posture.[144] Additionally, compared with France's historically more ambiguous declaratory policy about the European dimension of its deterrent (discussed in more detail in Sections 4.1 and 4.2), the formal and explicit Allied dimension of UK nuclear policy is viewed as a strong foundation for its commitment to European security.[145]
2. **Several experts assessed the UK's formal nuclear commitments to the defence of NATO not on their own terms, but rather in comparison with those of the United States.** The UK's declaration that its nuclear weapons are assigned to the defence of the Alliance raises familiar questions about the credibility of extended deterrence and assurance more broadly, echoing long-standing policy and academic debates over the utility, means and credibility of US extended deterrence commitments. On the one hand, trust and credibility are seen as central to making an extended deterrence relationship work. In this regard, the UK's long-standing political commitment to the Alliance and leading role on nuclear issues has helped establish a trusted relationship, valued by non-nuclear Allies.[146]

   On the other hand, discussions of the UK's nuclear commitments brought repeated comparisons with what might be described as the 'American way of extended deterrence.' One specific question was whether the UK would in fact be willing to use nuclear weapons in defence of European Allies in a hypothetical crisis scenario in which the United States was unwilling to do so.[147] Related concerns centred on possible differences between the United States and UK thresholds for nuclear use, reflecting a perception that the UK's threshold in an extreme crisis scenario may be higher than that of the United States.[148] While a decision on nuclear employment would always be highly context-dependent rather than follow any prescriptive formula, it is useful to note here that NATO sees

143 UK Ministry of Defence (2026, 45a).

144 Adérito Vicente, interview by the authors, 18 February 2025.

145 Anonymous Expert #2, interview by the authors, 12 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025.

146 Linde Desmaele, interview by the authors, 13 March 2025.

147 Linde Desmaele, interview by the authors, 13 March 2025.

148 Dutch think-tank researcher, interview by the authors, 17 February 2025.

value in the United States, the UK and France acting as separate centres of decision making. In the language of the 2022 Strategic Concept, having multiple centres is expected to complicate the calculations of potential adversaries and thereby induce caution in them.[149] Concerns about thresholds also reflect a perceived difference between how the US might approach escalation management and re-establishing deterrence through the employment of nuclear weapons, and the UK government's view of its nuclear weapons as a 'political tool of last resort rather than a war fighting capability.'[150]

A third concern revolved around the fear that Russia might judge nuclear coercion against the UK to be more likely to succeed than against the United States, given the simple geographical reality that the UK presents a smaller set of potential targets that the Russians could threaten to strike. If Russia accepted this logic, one possible scenario would involve Moscow issuing extreme nuclear threats against major UK cities in a crisis.[151] UK deterrence therefore needs to overcome the dilemma of trading Birmingham for Białystok: in other words, how to counter Russian coercive threats intended to decouple the UK from non-nuclear Allies on the Eastern Flank.

3. **The interviews underscored the importance of further discussion between the UK and European Allies on the aims and details of UK declaratory policy.** Several European experts consulted for this study emphasised that non-nuclear European Allies would value a more in-depth dialogue on the specific contributions of the UK nuclear deterrent to NATO, including the specific deterrence effects the UK seeks to achieve and how it intends to achieve them.[152] This may be especially timely in the context of the Northwood Declaration's implementation and NATO's broader conventional burden-shifting.

4. **The UK has an important role in driving nuclear deterrence thinking and socialising related concepts across the Alliance, including within the NPG and through other engagements with non-nuclear European Allies.** As noted above, the United States currently occupies the clear central role in NATO's nuclear policy and posture, as it provides the most significant and most diverse mix of nuclear and conventional capabilities for the defence of the Alliance. Against that backdrop, the UK's position as a second (and European) centre of decision making is not only a privileged position in NATO's nuclear decision-making structure, but also gives London significant scope to help shape Alliance policy.[153] Interviewees stressed that the UK has already been playing an important role in driving nuclear deterrence thinking and socialising

149 NATO (2022, paragraph 29).

150 The 2013 Trident Alternatives Review stated that 'The fundamental and enduring premise is that the UK deterrent will remain a political tool of last resort rather than a war fighting capability. 'The 2025 SDR noted that 'the UK would consider using nuclear weapons only in extreme circumstances of self-defence', and Lord Coaker, Minister of State for Defence, reaffirmed in June 2025 that 'the UK continues to view its nuclear deterrent as a political tool rather than a war-fighting capability, and it will remain the case that none of the UK's nuclear weapons is designed for tactical use.' See HM Government (2013, 13); UK Ministry of Defence (2025, 98); Lord Coaker (2025).

151 Dutch think-tank researcher, interview by the authors, 17 February 2025.

152 French think tanker on nuclear policy, interview by the authors, 17 February 2025; Ian Anthony, interview by the authors, 13 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025; Lydia Wachs, interview by the authors, 14 February 2025.

153 Belgian nuclear policy expert, interview by the authors, 13 February 2025.

related concepts across the Alliance.[154] This is an area where the UK should continue to remain a reliable partner for non-nuclear European Allies, helping to drive NATO's adaptation not only in nuclear policy but also in strengthening the coherence between nuclear and conventional capabilities across the spectrum of conflict. One expert cited the UK government's important role in discussions on the value of nuclear sharing with Germany's incoming government coalition in late 2021. The Scholz cabinet subsequently reaffirmed Germany's formal commitment to that arrangement, despite the fact that all three coalition parties included factions that had previously opposed Germany's participation in NATO's nuclear sharing arrangements.[155]

3.3. Perceptions of the UK's nuclear forces

The research interviews conducted for this study highlighted five main findings about the UK's nuclear forces.

1. **The UK is widely perceived to possess a credible nuclear capability to deter extreme threats against the homeland, while also serving as an independent centre of decision making in NATO.** The European experts interviewed for this study were in consensus that the UK maintains a credible and survivable second-strike capability for the purposes of deterring extreme threats against the homeland. It was noted that UK nuclear forces make a valuable contribution to NATO's overall nuclear posture, complementing US capabilities.[156] Further, many emphasised that they consider London as an independent centre of decision making within the Alliance that has the technical capacity to launch its nuclear-armed SLBMs independently.[157]
2. **At the same time, experts raised concerns about the UK's dependence on the US nuclear enterprise for generating its capability, particularly in the context of broader European ambitions to lessen reliance on the United States.** On the one hand, participants generally agreed that the UK's ongoing nuclear modernisation programme – including the development of a new class of SSBNs and a replacement warhead – would further bolster the credibility and capability of the UK nuclear deterrent.[158] On the other hand, there was a widely shared view that the UK's dependence on the United States[159] introduces risks for the UK's nuclear capability. In particular, interview participants pointed to the uncertainty in the direction of the transatlantic relationship in general, and the US–UK

154 Academic expert based in the Netherlands, interview by the authors, 19 March 2025; Lydia Wachs, interview by the authors, 14 February 2025.

155 Rafael Loss, interview by the authors, 21 February 2025.

156 Ian Anthony, interview by the authors, 13 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025.

157 Ian Anthony, interview by the authors, 13 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025; Rafael Loss, interview by the authors, 21 February 2025; Lydia Wachs, interview by the authors, 14 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025; Linde Desmaele, interview by the authors, 13 March 2025; Dr Bruno Tertrais, interview by the authors, 27 February 2025.

158 Anonymous Expert #3, interview by the authors, 21 February 2025.

159 As noted in Section 3.1, the Trident II D5 missile is manufactured in the United States. While the design of the UK's replacement warhead is sovereign, it is being delivered 'in parallel' with the US W93/Mk7 warhead, according to the UK government. See UK Defence Nuclear Enterprise (2024).

special relationship in particular.[160] A French expert raised the concern that, if transatlantic relations continued to deteriorate, the UK might face growing pressure to choose between the United States and its European partners on certain policy issues.[161] This reflected a wider fear that the UK may prioritise preserving the special relationship with Washington – including close cooperation in the nuclear enterprise – over either the bilateral relationship with France or its broader relationship with the rest of Europe.[162]

3. **Several interviewees also expressed worries about the financial pressures facing UK Defence in general, and the operational strain on the UK's nuclear deterrent in particular.** The appropriate level of defence spending has been subject to long debates within Britain's political and expert circles.[163] Notwithstanding the increased NATO target for defence spending, there was a view that wider economic and fiscal pressures could still constrain UK ambitions on defence.[164] Several European experts also raised concerns about the apparent operational strain on the CASD mission, stressing that since the UK deterrent relies on a single sea leg, it cannot afford risks to operational availability or readiness.[165] In this regard, the increasing length of SSBN patrol times was highlighted as a sign of growing operational pressures.[166] Indeed, the average length of an SSBN patrol increased to above five months in recent years – the record for the longest-ever SSBN patrol was set by a 204-day deployment in late March 2025,[167] only to be surpassed by another patrol lasting 205 days in April 2026.[168] The episode in 2025 even prompted a rare public comment by then Prime Minister Starmer, who pledged to 'go further and faster in our capabilities' to avoid this happening again.[169]

4. **The interviews emphasised a perceived constraint on the UK's extended deterrence guarantees, namely that the current size and composition of the deterrent provide only limited options for escalation management – a point subsequently echoed in the SDR.** Interviewees noted that, notwithstanding the UK's nuclear commitment to NATO, its current arsenal remains limited to a sea-based capability and includes fewer warheads than the arsenals of the United States and France. It should be underscored that UK nuclear forces were not designed to provide the kind of flexible

160 Nele Loorents, interview by the authors, 13 March 2025; Rafael Loss, interview by the authors, 21 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025; Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

161 French think tanker on nuclear policy, interview by the authors, 17 February 2025.

162 French think tanker on nuclear policy, interview by the authors, 17 February 2025.

163 Rathbone et al. (2024).

164 Rafael Loss, interview by the authors, 21 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025.

165 French think tanker on nuclear policy, interview by the authors, 17 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025.

166 French think tanker on nuclear policy, interview by the authors, 17 February 2025.

167 Navy Lookout (2025).

168 Navy Lookout (2026).

169 Landler (2025).

extended deterrence posture associated with the United States, and therefore cannot directly offer that.[170] However, there was a view that the UK's deterrent is primarily postured to deter extreme threats to the homeland, with few options for managing escalation in an existential crisis or high-intensity conflict.[171] It was also argued that a sea-based deterrent has particular limitations concerning nuclear signalling options because if its location is compromised, the second-strike capability could become exposed.[172] Further, the relatively small size of the UK nuclear arsenal – at least compared to that of the United States – raises questions about the extent to which London could respond to Russian nuclear use against NATO Allies while still preserving a sufficient capability to deter a potential follow-on attack on the UK itself.[173] While the UK nuclear deterrent in its current form is neither intended nor designed to provide sufficient assurance to Allies on its own without the US nuclear umbrella, this points to a broader conclusion: any future European-led deterrence arrangement would require a larger UK contribution, including in the nuclear realm.[174] The SDR echoes this conclusion, stating that 'the UK would need a full spectrum of options to manage escalation as part of NATO, delivered by its nuclear and conventional forces in combination', while also recommending 'enhanced UK participation in NATO's nuclear mission.'[175]

5. **It is important to differentiate between the perceptions of European Allies and that of Russia, as Moscow may not share the European view of the UK as an independent centre of decision making.** Interviewees noted that the UK's nuclear forces are intended to introduce additional ambiguity and uncertainty into Russian calculations, complicating the planning and organisation of its forces and thereby inducing caution in any hypothetical crisis scenario.[176] At the same time, open sources offer limited scope, if any, for assessing the actual effect that the UK's declaratory policy and posture have on the Russian leadership's calculus.[177] One expert observed that while Russia has long argued that the UK and France should also participate in nuclear arms control treaties, the fact that Russia signed the New START treaty without UK or French participation suggests that Russia did not regard the UK and French arsenals as decisive when agreeing the treaty with the United States in 2010.[178] There was also a view

170 Artur Kacprzyk, interview by the authors, 18 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025; Anonymous Expert #1, interview by the authors, 24 February 2025.

171 Artur Kacprzyk, interview by the authors, 18 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025; Anonymous Expert #1, interview by the authors, 24 February 2025.

172 Rafael Loss, interview by the authors, 21 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025; Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

173 Artur Kacprzyk, interview by the authors, 18 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

174 Lydia Wachs, interview by the authors, 14 February 2025; Dutch think-tank researcher, interview by the authors, 17 February 2025.

175 UK Ministry of Defence (2025, 20).

176 Anonymous Expert #1, interview by the authors, 24 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025.

177 Artur Kacprzyk, interview by the authors, 18 February 2025.

178 Anonymous Expert #1, interview by the authors, 24 February 2025.

that while European NATO Allies see the UK as an independent centre of decision making, Russia may still believe that the UK would align with US decisions in a crisis or conflict rather than act on its own.[179] The perspectives of Russian officials and experts on this question is an area that requires further research and analysis.[180]

3.4. Perceptions of the UK's nuclear signalling

For the purposes of this study, nuclear signalling is understood as the deliberate communication of a deterrence message through public statements and/or visible activities involving the readiness levels, deployment or posturing of a country's nuclear forces. Non-public means of signalling, such as private backchannel communications, fall outside the scope of this definition because of their confidential nature.

Four main insights emerged from the research interviews concerning perceptions of UK nuclear signalling.

1. **A sea-based deterrent has inherent limitations in the visible signalling options it can offer.** Building on the discussion of the UK's reliance on a sea-based deterrent, it was noted that the deployment of a single UK SSBN imposes an inherent constraint on options for visible posture changes, as these may reveal the location of the submarine.[181] The deployment of additional SSBNs, however, could offer further options for visible signalling.

2. **The UK's conventional contributions to NATO are likely to be an important factor shaping perceptions of its overall deterrence commitments.** Conventional deployments and operations, underpinned by the nuclear deterrent, could serve a dual purpose: strengthening deterrence by denial through constraining Russia's ability to secure the gains it is seeking, while also offering the UK more flexible options for imposing costs on the aggressor in a hypothetical crisis. A larger British conventional presence on NATO's Eastern Flank or other contributions to conventional deterrence were seen by some as a means to strengthen the overall credibility of UK's commitment to the defence of Allies: under this logic, the credibility of UK nuclear commitments increases when the country demonstrates through its conventional posture that it is prepared and able to fight for Allies on the frontline.[182] By contrast, increased nuclear deterrence guarantees for European Allies in and of themselves, without also bolstering conventional deterrence, may push British and NATO decision makers to consider nuclear signalling options earlier in a crisis or conflict due to the lack of sufficiently flexible conventional options.[183]

3. **Among non-nuclear Allies, the UK's nuclear status could create expectations of a more forward-leaning approach to crisis response and escalation management.** The interviews emphasised that non-nuclear European Allies see specific benefits in the UK's nuclear power status in hypothetical crisis scenarios. In

179 Dr Bruno Tertrais, interview by the authors, 27 February 2025.

180 See Wolford et al. (2025).

181 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

182 Rafael Loss, interview by the authors, 21 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025.

183 Rafael Loss, interview by the authors, 21 February 2025.

particular, the UK and France are perceived to be more resistant to coercive Russian nuclear signalling because their own nuclear deterrents may afford them greater freedom of action and strategic flexibility than non-nuclear Allies in managing escalation against Russia.[184] The decision to provide Ukraine with Storm Shadow/SCALP-EG missiles prior to a similar decision by Germany or even the United States was referenced as an example of a greater decision space that this additional confidence can create.[185]

4. **Public messaging about nuclear deterrence is important in both peacetime and in crises, for external and domestic audiences alike.** Some pointed to what they saw as a perceived aversion to engaging in public nuclear signalling on the part of the UK government in early 2022. For instance, a French expert mentioned that parts of the French expert community regarded the UK's relatively restrained public nuclear signalling in response to Russia's full-scale invasion of Ukraine as underwhelming,[186] particularly when compared to France's decision to send out three submarines to sea[187] and to test-launch its upgraded nuclear air-launched cruise missile (ALCM) in March 2022.[188] It should be noted that the above views on the perceived lack of public nuclear signals do not imply that the UK government failed to send clear messages to the Russian government through private channels; however, the existence or content of any such private signalling cannot be assessed or confirmed from public sources. There was also a related perception that recent UK governments have not engaged in regular public messaging about the UK's nuclear policy and forces.[189] However, the visits by then Prime Minister Starmer and then Defence Secretary John Healey to HMS Vanguard-class SSBNs on their return from CASD patrols in March 2025 and April 2026 suggest a shift in this regard towards more regular public visibility for the UK's nuclear capabilities.[190]

184 Artur Kacprzyk, interview by the authors, 18 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025; Rafael Loss, interview by the authors, 21 February 2025.

185 Artur Kacprzyk, interview by the authors, 18 February 2025.

186 French think tanker on nuclear policy, interview by the authors, 17 February 2025.

187 Newdick (2022).

188 Siminski (2024).

189 Nele Loorents, interview by the authors, 13 March 2025.

190 Haynes (2025).

Chapter 4. **The role of France in NATO's nuclear posture: Expert perceptions and implications**

This chapter presents the study's findings on a range of European perceptions of the French nuclear deterrent's role within NATO's wider nuclear posture. As noted in Section 1.4, the below analysis of France's nuclear declaratory policy, deployed capability and other aspects of its role as a nuclear-armed state draws principally on research interviews conducted in early 2025 with leading European experts on nuclear policy. Since the interviews took place prior to the release of the Northwood Declaration on 10 July 2025, France's most recent National Strategic Review (NSR) in July 2025 and President Macron's landmark deterrence speech at the Île Longue base on 2 March 2026 – which addressed some of the issues discussed in this chapter – the synthesis of views presented here should be treated as a baseline of European perceptions. In turn, this baseline may help inform subsequent adaptation as the Northwood Declaration and President Macron's 'forward deterrence' initiative are implemented.

Similar to the approach in Chapter 3, the findings presented in this chapter are not intended to provide a comprehensive or definitive assessment of France's role in NATO's nuclear posture, not least because the geopolitical context is evolving rapidly. Rather, this snapshot of perceptions is intended to inform current policy debates and to provide context for the range of considerations set out in Chapter 6.

Table 4.1 below summarises the key perceptions identified through the study team's research interviews.

Table 4.1. Summary of themes relating to perceptions of France's role in NATO's nuclear posture

Themes	Key perceptions based on research interviews
France's nuclear declaratory policy	• Non-nuclear European Allies have been seeking more clarity on France's declaratory policy, and particularly the practical implications of its 'European dimension.' • Since France's 'forward deterrence' initiative does not extend nuclear guarantees, its implementation will require identifying tangible forms of cooperation that could strengthen deterrence by expanding French and Allied options for escalation management and by further complicating Russia's strategic calculus. • France's absence from the NPG is deeply rooted in French strategic culture and is unlikely to change, yet this is still perceived by some European experts as a lack of commitment. Bridging this gap in perceptions and creating alternative opportunities for sufficiently deep exchanges on nuclear deterrence will be an important task for French diplomacy as part of implementing the 'forward deterrence' initiative. • Instances of perceived historical mismatch between French rhetoric and action on European defence issues, as well as uncertainty about the trajectory of French domestic politics, induce caution in European countries, primarily Germany.

Themes	Key perceptions based on research interviews
France's nuclear forces	• France is perceived as a politically and industrially sovereign nuclear power, owing to its absence from the NPG, its ability to generate its nuclear deterrent forces independently, and its sovereign launch capacity. This is seen to complicate both Russia's and – to some extent – NATO's calculus. • While France's nuclear arsenal can credibly deter threats against the homeland, it is neither intended nor designed to fulfil a formal extended deterrence role, particularly not the flexible posture associated with the American approach. • France's more diverse nuclear delivery systems are perceived to provide more flexible signalling and escalation management options than the UK's single-leg force structure.
France's nuclear signalling	• The French political leadership is perceived to have responded assertively to Russian nuclear sabre-rattling at the time of the full-scale invasion of Ukraine. • Similar to the UK, France's nuclear status could create expectations among non-nuclear Allies of a more forward-leaning approach to crisis response and escalation management, on the basis that its nuclear deterrent could afford greater freedom of action and strategic flexibility than non-nuclear Allies have in managing escalation against Russia. • Gaps in conventional deterrence and the absence of sufficiently flexible conventional options may not only fail to close off escalation pathways in higher-risk scenarios involving Russian aggression, but also push decision makers to consider nuclear signalling options earlier in a crisis or conflict. This realisation is reflected in the growing emphasis in recent years on the concept of *épaulement* or 'mutual support between nuclear and conventional forces', through which France aims to 'set the threshold for our deterrence at the appropriate level.'[191]

Source: RAND Europe analysis of interview data.

4.1. Overview of France's nuclear declaratory policy and posture

In France's 2025 NSR, the ambition to maintain a robust and credible nuclear deterrent is the first of the country's 11 strategic objectives.[192] The document states that nuclear deterrence is 'the ultimate guarantee of the Nation's security, protection and independence' and is 'aimed at protecting France against any state-origin aggression targeting its vital interests, regardless of its source or form, whether nuclear or otherwise.'[193] The NSR reaffirmed that these vital interests, which the President of the Republic alone determines, have a 'European dimension' (discussed further at the end of this section).[194] The document also notes that France remains an independent decision-making centre within NATO, outside of NATO's NPG, and contributes to the overall

191 French General Secretariat for National Defence and Security (2025, paragraph 177).

192 French General Secretariat for National Defence and Security (2025, paragraph 164).

193 French General Secretariat for National Defence and Security (2025, paragraph 167).

194 French General Secretariat for National Defence and Security (2025, paragraph 181).

deterrence of the Alliance by 'complicating the calculations of any potential aggressor.'[195]

The French nuclear deterrence rests on a nuclear dyad composed of SLBMs and air-launched cruise missiles. Under the concept of strict sufficiency, the stated objective for France's nuclear force structure is to be able to 'inflict unacceptable damage on any state that threatens France's vital interests.'[196] According to open-source estimates, the French dyad consists of the following elements[197]:

1. Four Triomphant-class SSBNs, equipped with M51.2 and soon M51.3 nuclear-armed SLBMs.
2. 40 nuclear-capable Rafale BF3/4 aircraft operated by the Strategic Air Forces, capable of delivering air-launched ASMP-A nuclear-armed cruise missiles with a range of 2,000 km.
3. At least one squadron of ten Rafale MF3/4 aircraft intended for nuclear missions onboard France's aircraft carrier *Charles de Gaulle*.

The same open-source estimates suggest that the French Air and Space Force and the French Navy possess a total of approximately 290 active nuclear warheads.[198] The French Navy has maintained a continuous at-sea deterrent posture since 1972, ensuring a second-strike capability. In March 2022, France reportedly deployed three of its four SSBNs to sea simultaneously for the first time in approximately 30 years, most likely as a response to Russia's full-scale invasion of Ukraine.[199]

According to open-source estimates, each of the French SSBNs is capable of carrying sixteen M51 SLBMs, with up to six warheads on each missile.[200] The M51 SLBM undergoes continuous iteration, with the most recent M51.3 variant planned to be deployed from 2026 onwards.[201] In 2021, the French Navy launched the Third-Generation Nuclear Ballistic Missile Submarine (SNLE 3G) programme that will provide it with a new fleet of four SSBNs designed to meet France's operational requirements into the 2090s.[202] France's land-based and carrier-based aircraft have 40 thermonuclear warheads available, and the country is currently planning to bolster its capabilities by establishing a fourth nuclear-capable air base and ordering additional Rafale fighters.[203] The country's nuclear-capable aircraft regularly participate in nuclear exercises, including Opération Poker, which are typically conducted four times a year and simulate strategic air raids.[204] While France used to possess a full nuclear triad, it deactivated all of its land-based medium-range ballistic missiles in 1996.[205]

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195 French General Secretariat for National Defence and Security (2025, paragraph 182).

196 French General Secretariat for National Defence and Security (2025, paragraph 175).

197 Kristensen et al. (2025, 317–22).

198 Kristensen et al. (2025, 314).

199 Newdick (2022).

200 Kristensen et al. (2025, 317).

201 Kristensen et al. (2025, 319).

202 Naval Technology (2024).

203 Rose (2025); Newdick (2025); Kristensen et al. (2025, 316).

204 Kristensen et al. (2025, 316).

205 French Ministry for Europe and Foreign Affairs (2025).

France's declaratory policy reserves the right to conduct a 'singular and non-repeatable' nuclear strike to restore deterrence.[206] This policy, which is traditionally called the 'final warning' or more recently the 'nuclear warning', was adopted in the early 1970s.[207] Such warning could include a limited strike against military objectives, or a detonation at a high altitude aimed at neutralising the adversary's electrical circuits, if France's vital interests were threatened.[208] In a major policy speech on nuclear deterrence delivered on 2 March 2026, President Macron reiterated the policy of the nuclear warning shot, which could 'demonstrate very clearly that the nature of a conflict has changed and that France intends, through this means, to preserve an ultimate chance to restore deterrence.'[209]

The role of France's nuclear weapons in the defence and security of Europe has been a long-standing question in French declaratory policy. Such debates go back to the Cold War era, including the short-lived idea of a European nuclear force in the 1950s, even before France's first successful nuclear test.[210] By the 1970s, when France had already built its nuclear arsenal, its military posture reflected the recognition that French vital interests extended beyond its national territory.[211] After the Cold War, both President François Mitterrand and President Jacques Chirac proposed dialogues on the contributions of the French nuclear deterrent to European security. President Chirac also signed a document with German Chancellor Helmut Kohl that stated their readiness to 'open a dialogue on the role of nuclear deterrence in the context of European defence policy.'[212] However, these proposals for deeper dialogue were never formalised and institutionalised.[213]

In his 2020 speech on nuclear deterrence, President Macron declared that French nuclear weapons 'strengthen the security of Europe through their very existence and they have, in this sense, a truly European dimension', adding that 'France's vital interests now have a European dimension.'[214] In the same speech, Macron also offered to open a strategic dialogue with European partners 'on the role played by France's nuclear deterrence in our collective security.' However, this initiative did not materialise, as European Allies at the time were wary of sending any signal that existing US extended nuclear deterrence guarantees might be insufficient.[215] Macron reiterated the 'European dimension' of France's nuclear deterrent in a 2024 speech at the Swedish Defence University.[216]

In early 2025, German Chancellor Merz announced that he planned to discuss nuclear sharing with both France and the UK following his victory at the federal elections, pointing to concerns about the credibility of US

206 French General Secretariat for National Defence and Security (2025, paragraph 174).
207 Tertrais (2020, 35–36).
208 Tertrais (2020, 35).
209 President of the French Republic (2026).
210 Egeland & Pelopidas (2020, 239).
211 Fayet et al. (2024, 69).
212 Schuman (1997).
213 Egeland & Pelopidas (2020, 240–41).
214 President of the French Republic (2020).
215 Ian Anthony, interview by the authors, 13 February 2025; Lydia Wachs, interview by the authors, 14 February 2025.
216 Fayet et al. (2024).

commitment to Europe.[217] Macron responded on 5 March 2025 by announcing that although France's nuclear deterrent is 'complete, sovereign, French through and through', he had decided to 'open the strategic debate on the protection of our allies on the European continent through our [nuclear] deterrence.'[218] Macron's proposal was also welcomed by Poland and the Baltic states, which feel particularly exposed to the Russian threat.[219]

In parallel, France deepened its ties with the UK, resulting in the bilateral Northwood Declaration of 10 July 2025. Issued a few days later, the 2025 NSR reiterated the French intent to conduct a strategic dialogue with select European Allies about 'the contribution of French nuclear deterrence to Europe's collective security…intended to be fully complementary to NATO's nuclear policy, without seeking to replace it.'[220]

The evolution of French nuclear policy reached another milestone on 2 March 2026 at France's Île Longue submarine base. In a landmark speech, Macron announced an unspecified increase in the number of nuclear warheads; reaffirmed investment into selected conventional capabilities, such as early-warning, expanded air defences and deep-strike capabilities, to strengthen mutual support (*épaulement*) between nuclear and conventional forces; and unveiled the concept of 'forward deterrence' (*dissuasion avancée*).[221] Building on the strategic dialogues conducted in late 2025 and early 2026, 'forward deterrence' will provide a framework for cooperation between France and selected Allies (including Belgium, Denmark, Finland, Germany, Greece, the Netherlands, Norway, Poland, Sweden and the UK), while France retains full sovereignty and control over its deterrent. Based on Macron's announcement, the concept could manifest in several ways, including Allied participation in French deterrence exercises, unspecified forms of French nuclear signalling beyond its borders, conventional support by Allies to French nuclear activities (potentially in line with the abovementioned *épaulement* concept), and even the temporary dispersal of elements of France's nuclear-capable Strategic Air Forces to selected Allied states.

4.2. Perceptions of France's nuclear declaratory policy

The research interviews conducted in early 2025 highlighted four main perceptions about French nuclear declaratory policy.

1. **Non-nuclear European Allies have been seeking more clarity on France's declaratory policy, and particularly the practical implications of its 'European dimension.'** Several experts interviewed for this study mentioned that while French strategic ambiguity about its 'vital interests' and their 'European dimension' is understandable, this makes it difficult for non-nuclear European Allies to have detailed discussions about what it means in practice and how, if at all, Allies could deepen their engagement with France's

217 Connolly (2025).

218 Melander & Rose (2025).

219 Corbet (2025).

220 French General Secretariat for National Defence and Security (2025, paragraph 183).

221 President of the French Republic (2026).

nuclear deterrence mission.[222] Experts noted that Macron was disappointed in 2020 when his proposal to launch a strategic dialogue on this topic was not reciprocated.[223] At the time, European NATO Allies were much more concerned about not upsetting the status quo and avoiding sending any signals that would cast doubts on the credibility of US extended deterrence guarantees.[224] Additionally, a French expert also noted that the offer to the Allies may not have been communicated in a manner appealing to the Allies.[225] However, as the security environment shifted and transatlantic relations evolved, many Allies reached a point by 2025 at which they were actively seeking greater clarity on French declaratory policy as well as opportunities for closer engagement in this area. More in-depth and substantive discussions – of the kind that began in the second half of 2025 – were also deemed to be necessary so that France and non-nuclear European Allies could understand the impacts of their respective defence plans. For example, the execution of a French 'nuclear warning shot' could carry direct implications for Allies on the Eastern Flank given Europe's geography. Conversely, the escalation dynamics generated by various national conventional defence plans against Russia could also have implications for France's nuclear posture, if such plans were to target critical Russian systems – for example, systems co-located or entangled with assets relevant to Russia's second-strike capability.

2. **While France's 'forward deterrence' initiative does not extend nuclear guarantees, and France itself never fully trusted US extended deterrence, questions remain about how France can make the 'European dimension' of its own deterrent more credible going forward.** France's historical lack of trust in US commitments to Europe now raises the same question about any future French commitment.[226] Indeed, France's nuclear policy has been built around the idea of a fully independent nuclear arsenal. This in turn raises the question of why European countries should trust the so-called European dimension of France's nuclear deterrence or any political commitments made by the French president, if France itself does not trust such assurances made by its largest ally.[227] Politically and doctrinally, this is perceived as an important gap to bridge if France ever wanted to engage more formally with Allies on the role of nuclear deterrence in Europe.[228] In his March 2026 speech, Macron resolved this tension by not offering any explicit extended deterrence guarantee, and by keeping the definition of what constitutes a 'vital interest' a strictly sovereign French judgement. As Macron put it: 'There will be no guarantee

222 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025; Anonymous Expert #2, interview by the authors, 12 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025; Rafael Loss, interview by the authors, 21 February 2025.

223 Olivier Schmitt, interview by the authors, 19 February 2025.

224 Ian Anthony, interview by the authors, 13 February 2025; Lydia Wachs, interview by the authors, 14 February 2025.

225 Olivier Schmitt, interview by the authors, 19 February 2025.

226 Rafael Loss, interview by the authors, 21 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025.

227 Rafael Loss, interview by the authors, 21 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025.

228 Olivier Schmitt, interview by the authors, 19 February 2025.

in the strict sense of the term. A rigid guarantee would not be wise. It would lower the nuclear threshold and reduce the uncertainty of our adversaries in equal proportion.'[229] Therefore, the main task for implementing 'forward deterrence' will be to identify tangible forms of cooperation that could strengthen deterrence by expanding French and Allied options for escalation management and by further complicating Russia's strategic calculus.

3. **France's absence from the NPG is deeply rooted in French strategic culture and is unlikely to change, yet this is still perceived by some European experts as a lack of commitment.** Both the 2025 NSR and the Île Longue speech reaffirmed France's traditional opposition to joint nuclear planning and to any sharing of nuclear decision-making processes. One expert noted that any future calls by American, British or other European counterparts that France should reconsider would not be well received and should be abandoned because they remain a source of frustration for many French officials and experts alike.[230] The same sentiment was echoed by another expert, who stated that France was 'proudly outside the NPG.'[231] At the same time, it should be noted that some experts consulted for this study reported that they personally did not understand the French position on this matter and argued that staying out of the NPG signalled a lack of commitment to the security of Europe.[232] As one of them put it: 'If a talking club is too much for the French, how can we count on them in a crisis?'[233] Whether frustrating or not, overcoming this gap in perceptions and creating alternative opportunities for sufficiently deep exchanges on nuclear deterrence will be an important task for French diplomacy as part of implementing the 'forward deterrence' initiative.

4. **Instances of perceived historical mismatch between French rhetoric and action, as well as uncertainty about the trajectory of French domestic politics, induce caution in European countries, primarily Germany.** Some European Allies, particularly Germany, are said to perceive French rhetoric as more forward-leaning than its practice, citing examples such as various failed Franco-German procurement efforts and France's prior decision to leave NATO's integrated military structure in 1966.[234] Historical French nuclear targeting policy, which would have devastated German territory in the event of a Soviet invasion, also serves as a symbolic reminder that in crises approaching the existential, French and German strategic interests may not fully align.[235] One expert suggested that, given the acute threat perceptions of Central and Eastern European countries, any shifts in French declaratory policy alone would

229 President of the French Republic (2026).

230 French think tanker on nuclear policy, interview by the authors, 17 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025.

231 Linde Desmaele, interview by the authors, 13 March 2025.

232 Academic expert based in the Netherlands, interview by the authors, 19 March 2025; Anonymous Expert #2, interview by the authors, 12 February 2025.

233 Anonymous Expert #2, interview by the authors, 12 February 2025.

234 Rafael Loss, interview by the authors, 21 February 2025.

235 Rafael Loss, interview by the authors, 21 February 2025.

be unlikely to reassure Allies in the short term.[236] Additionally, experts consulted for this study pointed to uncertainty over France's domestic political trajectory and how this might shape French cooperation with European Allies on nuclear issues.[237] Nevertheless, as of mid-2026, the 'forward deterrence' initiative constitutes a structured approach to addressing the problem of assurance and to implementing a selected set of measures to strengthen it.

4.3. Perceptions of France's nuclear forces

The research interviews highlighted two main findings about French nuclear forces.

1. **France is perceived as a politically and industrially sovereign nuclear power, owing to its absence from the NPG, its ability to generate its nuclear deterrent forces independently, and its sovereign launch capacity. This is seen to complicate both Russia's and – to some extent – NATO's calculus.** France is widely regarded to be both politically and industrially independent when it comes to its nuclear strategy and capabilities.[238] The interviews emphasised that while France's nuclear arsenal can credibly deter threats against the homeland, it is neither intended nor designed to fulfil a formal extended deterrence role, particularly not the flexible posture associated with the American approach.[239] At the same time, uncertainties over thresholds, including the boundaries of France's 'vital interests' and red lines, and France's broader sovereign approach serve the stated purpose of complicating the calculations of potential adversaries.[240] Related to this, one expert argued that France likely complicates the Russian calculus even more than the UK's nuclear posture.[241] Further, linked to the ambiguities of declaratory policy discussed in the previous section, it was noted that French posture may indeed complicate the decision-making calculus of other NATO Allies, too.[242]
2. **France's more diverse nuclear delivery systems are perceived to provide more flexible signalling and escalation management options than the UK's single-leg force structure.[243]** It was emphasised that while France may not have an arsenal on par with the size of the US or Russian

236 Lydia Wachs, interview by the authors, 14 February 2025.

237 Rafael Loss, interview by the authors, 21 February 2025; Lydia Wachs, interview by the authors, 14 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025.

238 Ian Anthony, interview by the authors, 13 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025; Adérito Vicente, interview by the authors, 18 February 2025; Lydia Wachs, interview by the authors, 14 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025; Linde Desmaele, interview by the authors, 13 March 2025; Dr Bruno Tertrais, interview by the authors, 27 February 2025; Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

239 Belgian nuclear policy expert, interview by the authors, 13 February 2025; Anonymous Expert #1, interview by the authors, 24 February 2025.

240 Anonymous Expert #3, interview by the authors, 21 February 2025; Dr Bruno Tertrais, interview by the authors, 27 February 2025.

241 Linde Desmaele, interview by the authors, 13 March 2025.

242 Anonymous Expert #3, interview by the authors, 21 February 2025; Linde Desmaele, interview by the authors, 13 March 2025.

243 Rafael Loss, interview by the authors, 21 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025.

nuclear arsenal, French nuclear weapons are modern and of high quality.[244] France's air-launched capabilities were highlighted in particular, especially the military potential of shorter-range strategic aircraft equipped with stand-off ALCMs, which are less likely to be interpreted as instruments of a strategic first strike.[245] One expert even noted that nuclear sharing arrangements were materially possible for France, even though that remains a highly unlikely option given the political opposition to it.[246]

4.4. Perceptions of France's nuclear signalling

The research interviews yielded only limited insights on French nuclear signalling. The main finding in this regard was the perceived assertiveness of the French political leadership in sending public nuclear signals. Related examples included the public messages directed at Russia, such as then Foreign Minister Jean-Yves Le Drian's statement on the first day of Russia's full-scale invasion of Ukraine that 'Vladimir Putin must also understand that the Atlantic alliance is a nuclear alliance.'[247] Notably, France put out two additional SSBNs to sea in March 2022, which meant that for the first time since the end of the Cold War, three French SSBNs were on patrol.[248] Some of the experts interviewed for this study praised this willingness to conduct visible posturing and to issue public deterrence messages aimed at Russia, on the grounds that this demonstrates strength in the face of aggressive Russian rhetoric and signalling.[249] Admittedly, it is not possible to determine the actual effect of such signals on Russian decision making solely on the basis of public sources – just as it is not possible to attribute deterrence successes to non-public signals that the UK, France and the United States may have conveyed alongside public-facing messaging. Nonetheless, it is important to recognise that the leaders and publics of non-nuclear Allies are themselves a key audience of nuclear signalling from the perspective of assurance. Even if visible signals such as firm rhetoric or additional SSBN patrols may not significantly alter the adversary's calculus, they may still strengthen Allied confidence. In contrast, if public signalling is considered lacking or unconvincing by Allies in a crisis, this would produce the opposite effect.

As noted in Section 3.4, the interviews emphasised that non-nuclear European NATO Allies welcome the escalation management options that the UK and France's nuclear status and related signals could provide. Specifically, it was noted that the UK and France are perceived to be more resistant to coercive Russian nuclear signalling because their own nuclear deterrents may afford them greater freedom of action and strategic flexibility than non-nuclear Allies in managing escalation against Russia.[250] The decision to provide Ukraine with Storm Shadow/SCALP-EG

244 Anonymous Expert #1, interview by the authors, 24 February 2025.

245 Artur Kacprzyk, interview by the authors, 18 February 2025.

246 Rafael Loss, interview by the authors, 21 February 2025.

247 Reuters (2022).

248 Newdick (2022).

249 Anonymous Expert #2, interview by the authors, 12 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025.

250 Artur Kacprzyk, interview by the authors, 18 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025; Rafael Loss, interview by the authors, 21 February 2025.

missiles before the United States or Germany agreed to send similar capabilities offers a related example.[251] Extrapolating from this, some experts suggested that the nuclear status of France and the UK could make them less easily deterred from conducting conventional operations in response to Russian aggression against NATO, including special forces operations and wider reinforcements to the Eastern Flank in a crisis or conflict.[252]

Additionally, gaps in conventional deterrence – such as NATO collectively lacking the means on the Eastern Flank to deny benefits to Russia and to impose costs on them, should they threaten escalation – could harm the credibility of nuclear deterrence. As noted in Section 3.4, the absence of sufficiently flexible conventional options may not only fail to close off escalation pathways in higher-risk scenarios involving Russian aggression, but also push decision makers to consider nuclear signalling options earlier in a crisis or conflict.[253] This logic is also reflected in the growing emphasis in recent years on the concept of *épaulement* or 'mutual support between nuclear and conventional forces', through which France seeks to 'set the threshold for our deterrence at the appropriate level.'[254]

251 Artur Kacprzyk, interview by the authors, 18 February 2025.

252 Artur Kacprzyk, interview by the authors, 18 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025.

253 Rafael Loss, interview by the authors, 21 February 2025.

254 French General Secretariat for National Defence and Security (2025, paragraph 177).

Chapter 5. **Future dilemmas for NATO's nuclear posture: Insights on the roles of the UK and France from a scenario exercise**

This chapter examines potential future dilemmas for NATO's nuclear deterrence posture, including the British and French roles therein, drawing on scenario discussions conducted in RAND Europe's research interviews in early 2025. As outlined in Section 1.4.2, the purpose of the scenarios was to facilitate the guided exploration of hypothetical future contexts in which direct observation is impossible and empirical evidence is unavailable.

The research team developed two high-level NATO–Russia crisis scenarios, which are presented below. The scenarios were not intended to be predictive and were developed by RAND Europe solely as tools for research and analysis. The scenarios were necessarily concise to suit the research interview format in which they were discussed. While framed as high-level archetypes, they still allowed the research team to explore responses to key elements of each scenario. The scenario assessments and potential response options presented in this chapter are a synthesis of expert insights captured by the research team during the interviews. As such, they do not represent RAND Europe's institutional views or previous research findings, and they are not a statement of policy for the Ministry of Defence or His Majesty's Government.

Box 5.1. Scenario 1: Russian grey-zone aggression in 2030

Russian troop deployments increase in the Leningrad Military District and in Belarus. NATO officials warn this is consistent with Russian preparations for a limited incursion into NATO territory in the Baltic region.

NATO cannot reach consensus on measures to strengthen the Eastern Flank, due to certain NATO Allies vetoing action while pointing to the risk of escalation with Russia.

Meanwhile, grey-zone activities intensify against various NATO Allies: undersea cables are cut, drones overfly and crash into NATO bases, and there are reports of explosions at various NATO facilities.

Box 5.2. Scenario 2: Direct Russian attack on NATO in 2030

Russia launches a conventional incursion into Latvia and Lithuania from Belarus. NATO starts to deploy elements of the Allied Reaction Force.

In the meanwhile, Russia conducts a strategic nuclear deterrent exercise, simulating retaliatory strikes against European targets.

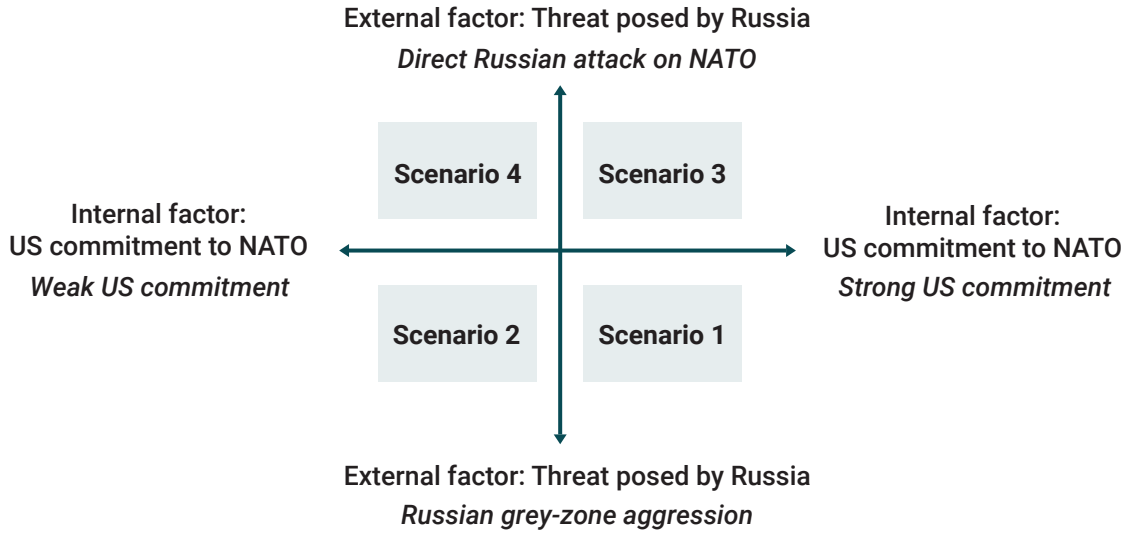
Western intelligence also picks up suspicious activities related to Russia's non-strategic nuclear weapons, with warheads being transported from central storage sites to designated rendezvous points where they are mated with delivery vehicles.

Source: RAND Europe.

As described Section 1.4, the team used a 2×2 scenario matrix to develop four distinct scenario variations from the two high-level archetypes presented in the boxes 5.1 and 5.2. The direct-attack scenario occupied the upper end of the vertical axis, with grey-zone aggression at the lower end, while the horizontal axis captured variation in the future level of US commitment to NATO. The resulting 2×2 matrix generated the following four scenario variants (also shown in Figure 5.1):

1. Russian grey-zone aggression against NATO while US commitment remains strong.
2. Russian grey-zone aggression against NATO amid reduced US commitment.
3. Direct Russian attack on NATO while US commitment remains strong.
4. Direct Russian attack on NATO amid reduced US commitment.

Figure 5.1. The four scenario variations within the 2×2 scenario matrix



Source: RAND Europe.

As noted earlier, the research team deliberately kept the definitions of 'strong commitment' and 'weak commitment' broad, inviting interview participants to articulate their own descriptions and their own assumptions in their responses, including what the different levels of commitment would mean in practice and what implications they might carry for NATO's nuclear posture and for the respective roles of the UK and France within it. In the context of semi-structured interviews, this was judged more productive than imposing a highly prescriptive scenario design that might unnecessarily constrain participants' thinking on what the different levels of commitment might entail.

The following four sections present the findings from the research interviews for each of the four scenario variations. Each section includes the synthesis of participants' assessment of the scenario variation, followed by the potential responses they proposed. The research team's data-capture plan focused on how participants assessed the problem set presented to them, as well as on the potential response options they proposed in response to each scenario variation. It also sought to capture views on the potential role of the UK and France, and how views on those roles varied according to the perceived strength of US commitment across the scenario variations.

A cross-cutting conclusion across all four scenario variations was that, if NATO were to face any of them, this would imply at least a partial failure of the Alliance's deterrence posture in the case of grey-zone aggression, and a significant deterrence failure in the event of a direct Russian attack on NATO.[255] The nature and circumstances of the deterrence failure would likely be defining factors in shaping NATO's response. For example, where NATO had tried and failed to deter specific Russian activities, a stronger response might be required to restore deterrence than in a case where no credible deterrence effort had been made to prevent the threat from materialising in the first place.[256] A core analytical question in any scenario is therefore how and why the aggression occurred, and where the gaps in NATO's deterrence posture were.[257]

5.1. Scenario variation 1: Russian grey-zone aggression against NATO while US commitment remains strong

5.1.1. Scenario assessment

When assessing the two scenario variations focused on Russian grey-zone aggression, several participants anchored their analysis in the observation that NATO's nuclear deterrence posture is not primarily designed to deter such attacks.[258] Russia's preference for grey-zone aggression in the scenario was seen to be rooted in Moscow's confidence in its ability to control and dominate escalation dynamics, underpinned by its conventional forces and non-strategic nuclear arsenal.[259] Therefore, acting against NATO interests in the grey zone can be preferable for Russia, because such scenarios play to perceived Russian strengths – as seen in Moscow's demonstrated

255 Dr Bruno Tertrais, interview by the authors, 27 February 2025.

256 Dr Bruno Tertrais, interview by the authors, 27 February 2025.

257 French think tanker on nuclear policy, interview by the authors, 17 February 2025.

258 Dr Bruno Tertrais, interview by the authors, 27 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Linde Desmaele, interview by the authors, 13 March 2025.

259 Belgian nuclear policy expert, interview by the authors, 13 February 2025.

willingness to undertake such activities in real life.[260] Therefore, Russia's willingness to accept greater risk was seen as the main driver of the first scenario variation, on the assumption that the Kremlin would judge the West to be more fearful of escalation than itself.[261]

However, it should be emphasised that Russia's resort to grey-zone provocations would not in itself mean that NATO's overall nuclear deterrence posture had lost credibility, since the first scenario variation contains no indication that Moscow was imminently considering more overt or aggressive attacks at that point.[262] Consequently, it can be assumed that general deterrence against Russia still holds in this scenario variation.[263]

5.1.2. Potential responses to scenario variation 1

The majority view among participants was that grey-zone aggression on NATO territory would not require any changes in NATO's nuclear posture if US commitment to the Alliance remained strong.[264] This view rested mainly on the argument that, so long as Russia did not introduce an explicit nuclear dimension into the scenario, it would not be in NATO's interest to 'nuclearise' the situation, particularly given NATO's conventional advantage over Russia.[265] Experts stressed the need for clarity on the role of nuclear weapons, which they did not regard as a credible deterrent against the kinds of grey-zone activities generally envisaged in the first scenario variation, such as limited incidents involving undersea cables.[266]

By contrast, a minority of experts argued that limited nuclear signalling could still play a role in containing the crisis within the grey zone and in warning Russia against further escalation.[267] In a similar vein, one expert suggested that preventing Russia from 'nuclearising' the scenario may require private warnings conveyed directly to Moscow.[268] A further view was that NATO Allies should signal vigilance and preparedness in the nuclear domain,[269] with another analyst suggesting that the deployment of additional submarines on patrol could serve as a useful signal.[270]

The overall view was that the appropriate response to this type of grey-zone aggression lies in strengthening conventional deterrence and ensuring that Allies have a sufficient range of conventional response options available. More specifically, European powers

260 Belgian nuclear policy expert, interview by the authors, 13 February 2025.

261 Belgian nuclear policy expert, interview by the authors, 13 February 2025.

262 French think tanker on nuclear policy, interview by the authors, 17 February 2025.

263 Ian Anthony, interview by the authors, 13 February 2025.

264 Ian Anthony, interview by the authors, 13 February 2025; Nele Loorents, interview by the authors, 13 March 2025; Lydia Wachs, interview by the authors, 14 February 2025; Anonymous Expert #1, interview by the authors, 24 February 2025; Linde Desmaele, interview by the authors, 13 March 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

265 Jyri Lavikainen, interview by the authors, 10 February 2025; Rafael Loss, interview by the authors, 21 February 2025; Anonymous Expert #1, interview by the authors, 24 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025.

266 Dr Bruno Tertrais, interview by the authors, 27 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Linde Desmaele, interview by the authors, 13 March 2025.

267 Olivier Schmitt, interview by the authors, 19 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

268 Rafael Loss, interview by the authors, 21 February 2025.

269 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

270 Jyri Lavikainen, interview by the authors, 10 February 2025.

need to do more in the conventional realm to deter Russia in the grey zone, and thereby reduce the risk that future crises escalate to the nuclear level.[271] Conventional forces were likewise viewed as important for both deterring and, if necessary, countering further provocations, including drone attacks on critical infrastructure and attacks against undersea cables.[272]

At the political level, it was suggested that this scenario variation should trigger NATO consultations and a concerted effort to build political unity in response to the grey-zone provocations, including clear public messaging to call out irresponsible behaviour.[273] Displays of unity were seen as particularly important because Russia would likely use the crisis to deepen existing divisions among NATO Allies.[274] Further, Allies should consider taking force protection measures and raising the alert levels of their conventional forces.[275] Where feasible, the deployment of conventional forces to stop or prevent further grey-zone aggression was also seen as prudent.[276]

If US commitment to NATO remained strong, the United States would be expected to take the lead in responding to the crisis, underpinned by its continued conventional presence in Europe and its forward-deployed nuclear weapons.[277]

For instance, some of the potential nuclear signalling options contemplated in this scenario variation, such as Bomber Task Force overflights or the dispersal of dual-capable aircraft, would require US leadership by definition.[278]

Against that backdrop, any role for the UK and French nuclear deterrents in this scenario variation would be expected to be a supporting one: reinforcing US deterrence through close coordination, amplifying NATO's strategic messaging and participating in joint demonstrations of strength and unity under US leadership.[279] Experts suggested that coordination across the nuclear powers was essential, with one analyst reiterating that the role of the UK and France would be to remain closely aligned with the US so that NATO communicates with one voice.[280] As part of this, the UK would likely liaise closely with both the US and the Supreme Headquarters Allied Powers Europe (SHAPE).[281] This consultation process would need to produce tangible outputs, such as a message to Russia that demonstrates resolve while avoiding unnecessary escalation. The latter point reflects the earlier observation that NATO would have little incentive to 'nuclearise' the crisis unnecessarily. For example, a firm yet measured message could be that Allies are ready to defend their interests with 'all assets

271 Lydia Wachs, interview by the authors, 14 February 2025.

272 Rafael Loss, interview by the authors, 21 February 2025.

273 Lydia Wachs, interview by the authors, 14 February 2025; Linde Desmaele, interview by the authors, 13 March 2025; Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

274 Lydia Wachs, interview by the authors, 14 February 2025.

275 Rafael Loss, interview by the authors, 21 February 2025.

276 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

277 Belgian nuclear policy expert, interview by the authors, 13 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025; Adérito Vicente, interview by the authors, 18 February 2025.

278 Belgian nuclear policy expert, interview by the authors, 13 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025.

279 Anonymous Expert #3, interview by the authors, 21 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025.

280 Anonymous Expert #3, interview by the authors, 21 February 2025.

281 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

at our disposal', but without making the nuclear dimension of NATO's defensive posture too explicit.[282]

The UK and France could also play a key advisory and diplomatic role within the Alliance in this scenario variation. For instance, they could make an important contribution to Alliance cohesion by persuading Allies – including those that might be hesitant to respond to Russia's provocations – of the seriousness of the situation by explaining the risks posed by Russian aggression.[283] In addition, the UK was seen as well placed to play an important advisory role in internal NATO discussions, including through the NPG's Staff Group, on possible nuclear escalation dynamics and related risks.[284]

5.2. Scenario variation 2: Russian grey-zone aggression against NATO amid reduced US commitment

5.2.1. Scenario assessment

Embracing the intentional flexibility built into the second scenario variation, experts debated the different ways in which 'weak US commitment' might be understood. The key variable highlighted in these discussions was whether this meant primarily the drawdown or withdrawal of US conventional forces from Europe, or if it also encompassed the withdrawal of forward-deployed US nuclear weapons, effectively ending extended deterrence commitments. Even as a hypothetical, the end of US nuclear sharing arrangements would be a highly negative development, even if the US retained the notional ability to conduct 'one-time deterrence missions', such as bomber overflights, after a withdrawal from Europe.[285]

Overall, the prevailing view was that, even if a weak US commitment 'only' entailed a reduced conventional presence in the European theatre, the consequences would still be significant.[286] For instance, not being able to rely on US sensing, monitoring and intelligence capabilities would limit the ability of European countries to detect and prevent Russian grey-zone activities on time.[287] More broadly, a reduced US commitment to NATO would substantially weaken the Alliance's conventional deterrence posture, given the critical role of US capabilities, such as intelligence, airpower, long-range fires, theatre-range missile defence and logistics.[288]

Moreover, if 'weak US commitment' were also to include the withdrawal of forward-deployed B61-12 gravity bombs and the end of NATO's nuclear sharing arrangements, this would deal a significant blow to the political cohesion of the Alliance.[289] For this reason, the withdrawal of these capabilities from

282 Artur Kacprzyk, interview by the authors, 18 February 2025.

283 Lydia Wachs, interview by the authors, 14 February 2025.

284 Lydia Wachs, interview by the authors, 14 February 2025.

285 Nele Loorents, interview by the authors, 13 March 2025.

286 Anonymous Expert #2, interview by the authors, 12 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Rafael Loss, interview by the authors, 21 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025; Nele Loorents, interview by the authors, 13 March 2025.

287 Olivier Schmitt, interview by the authors, 19 February 2025.

288 French think tanker on nuclear policy, interview by the authors, 17 February 2025.

289 French think tanker on nuclear policy, interview by the authors, 17 February 2025.

Europe has been a long-standing Russian (and historically Soviet) demand.

Notwithstanding the precise modalities of US retrenchment from Europe envisaged in this scenario variation, some experts argued that the overarching dilemma about the role of nuclear weapons remains broadly the same across both variations of the grey-zone scenario: nuclear weapons are still unlikely to be a credible and effective deterrent against grey-zone threats.[290] One expert illustrated this point by noting that posturing with nuclear-capable Rafale aircraft would be unlikely to affect Russia's calculus on cutting undersea cables.[291]

By contrast, others argued that US retrenchment would likely further embolden Russia.[292] Therefore, a weaker US commitment to Europe would only increase the need for both the UK and France to play a larger role in this scenario variation.[293] One expert framed their primary task as denying Russia any viable pathway to victory.[294] Participants saw considerable potential for both countries to contribute to this effort: the UK and France could lead Allied efforts to strengthen a conventional deterrence-by-denial posture on the Eastern Flank, protect undersea cables, and contribute to Allied security with missile defence capabilities.[295] It was also noted that the UK was expected to play an important leadership role in shaping NATO's response to the scenario, broadly mirroring the current US leadership role in guiding the Alliance's overall response.[296]

It is important to emphasise that the UK and France would need to fill both a political and capability gap in this scenario variation.[297] At the political level, the absence of the United States would raise immediate questions about leadership within NATO. The way in which US retrenchment unfolded could itself create additional challenges for NATO's consultation processes. For example, there was a view that a reduced military posture combined with shifting political priorities – but short of a formal exit from NATO – could make the consultation process more difficult and potentially even obstruct the path to consensus.[298] In such circumstances, it would be essential for the UK and France to assume a stronger leadership role to guide NATO's response, similar to how many European countries, including Germany, looked to US leadership in shaping the response to Russia's full-scale invasion of Ukraine.[299]

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290 Belgian nuclear policy expert, interview by the authors, 13 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Linde Desmaele, interview by the authors, 13 March 2025.

291 Linde Desmaele, interview by the authors, 13 March 2025.

292 Rafael Loss, interview by the authors, 21 February 2025.

293 Lydia Wachs, interview by the authors, 14 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025.

294 Jyri Lavikainen, interview by the authors, 10 February 2025.

295 French think tanker on nuclear policy, interview by the authors, 17 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025.

296 Lydia Wachs, interview by the authors, 14 February 2025.

297 Jyri Lavikainen, interview by the authors, 10 February 2025.

298 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

299 Lydia Wachs, interview by the authors, 14 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025.

The research interviews also generated insights on the specific responsibilities that the UK and France, as nuclear powers, might be expected to bear: deterring Russian nuclear use, verbally committing to defending Allies on the Eastern Flank, and complicating Russia's risk calculus by ensuring that NATO's conventional deterrence posture is appropriately underpinned by nuclear deterrence.[300]

A further concern raised by several participants was that US retrenchment – a key variable in this scenario – could leave NATO more exposed to Russian nuclear coercion.[301] Although the nuclear coercion does not form part of the narrative in the second scenario variation, this concern still points to a broader imperative: if the US contribution to NATO's toolkit for countering nuclear coercion – or even limited nuclear use – were reduced, non-nuclear Allies would increasingly look to the UK and France to assume a larger role in this area. Crucially, relevant options include leveraging the UK's doctrinal deliberate ambiguity 'about precisely when, how, and at what scale it would contemplate the use of nuclear weapons',[302] as well as France's concept of a 'unique and non-renewable' nuclear warning shot.[303] The toolkit for countering Russian nuclear coercion will require additional non-nuclear escalation management options and, potentially in the future, an expanded set of nuclear options as well (see Chapter 6).

That said, an alternative perspective on this scenario variation was that, similar to the first one, Russia would be unlikely to see any NATO nuclear signalling in response to grey-zone aggression as credible in the first place, and it would therefore be better not to attempt such signalling.[304]

5.2.2. Potential responses to scenario variation 2

Given the perceived limitations of nuclear deterrence in countering grey-zone threats, several experts argued that the UK and France would not need to change their nuclear posture in response to the second scenario variation, and that European Allies should instead prioritise conventional response options.[305] However, the prospect of further Russian escalation within the scenario could not be ruled out and should therefore remain an immediate concern for NATO leaders. Against the backdrop of a more emboldened Russia following a period of US retrenchment, the core strategic question for the UK and France would be how to deter Russia while assuring Allies on the Eastern Flank.[306]

If the United States were no longer directly involved in a crisis in Europe, the immediate

300 Jyri Lavikainen, interview by the authors, 10 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025; Artur Kacprzyk, interview by the authors, 18 February 2025.

301 Belgian nuclear policy expert, interview by the authors, 13 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025; Lydia Wachs, interview by the authors, 14 February 2025; Anonymous Expert #1, interview by the authors, 24 February 2025.

302 UK Ministry of Defence (2025, 98).

303 President of the French Republic (2026).

304 Anonymous Expert #1, interview by the authors, 24 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025.

305 Anonymous Expert #1, interview by the authors, 24 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Linde Desmaele, interview by the authors, 13 March 2025.

306 Rafael Loss, interview by the authors, 21 February 2025; Lydia Wachs, interview by the authors, 14 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

diplomatic priority for European governments would be to forge consensus on the threat and formulate a unified response,[307] especially a show of unity between the UK, France, Germany and Poland.[308] One analyst argued that the Europeans should also seek to draw the United States back in, while preparing for the possibility of having to confront Russian grey-zone aggression without US involvement.[309]

Overall, the experts interviewed for this study fell into three broad camps regarding the role of nuclear signalling in a European response to the second scenario variation: those favouring UK and/or French verbal signalling; those advocating nuclear signalling that went beyond rhetoric; and those arguing that no nuclear signalling was needed at all in this context.

Those in the first group supported limited verbal signalling. One expert suggested that this could take the form of rhetoric similar to the statement of the French Foreign Minister on 24 February 2022, when he reminded Russia that France was also a nuclear-armed state and that NATO was a nuclear alliance.[310] Another expert in this camp proposed that the UK and France could declare that their nuclear forces were being placed on special alert.[311] However, this group of experts generally emphasised the importance of making only verbal nuclear signals, stressing that more forceful nuclear signals, such as posture changes, would be excessive in the current scenario and would lack credibility.[312]

A second group of experts, by contrast, argued that visible nuclear signalling from the UK and France would be crucial in response to the threat presented in this scenario variation.[313] Illustrative ideas of what this might look like included deploying France's nuclear-capable Rafale aircraft to Poland, Lithuania or Latvia, but without putting nuclear-capable systems on them[314]; the UK and France surging SSBN patrols[315]; SSBNs surfacing in unusual places[316]; and an increase in nuclear alert levels to signal to Russia that it would not gain advantages by escalating what for the time being was still a grey-zone crisis.[317] Another suggestion was for France to conduct a snap POKER nuclear exercise.[318]

Meanwhile, the third group of experts stressed that Russia's grey-zone activities in this scenario variation would require a fully, or at

307 Anonymous Expert #3, interview by the authors, 21 February 2025; Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

308 Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

309 Dutch think-tank researcher, interview by the authors, 17 February 2025; Nele Loorents, interview by the authors, 13 March 2025; Adérito Vicente, interview by the authors, 18 February 2025.

310 Ian Anthony, interview by the authors, 13 February 2025.

311 Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

312 Lydia Wachs, interview by the authors, 14 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025.

313 Belgian nuclear policy expert, interview by the authors, 13 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025; Anonymous Expert #3, interview by the authors, 21 February 2025; Ian Anthony, interview by the authors, 13 February 2025; Rafael Loss, interview by the authors, 21 February 2025.

314 Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

315 Ian Anthony, interview by the authors, 13 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025.

316 Rafael Loss, interview by the authors, 21 February 2025.

317 Anonymous Expert #3, interview by the authors, 21 February 2025.

318 Ian Anthony, interview by the authors, 13 February 2025.

least primarily, conventional response rather than verbal or physical nuclear signals.[319] Several experts suggested that the UK and France should deploy additional troops in Eastern European countries to bolster the conventional deterrence posture of the Alliance and to demonstrate their resolve.[320] If NATO cohesion cannot be achieved on this proposed action, it could instead be implemented at the bilateral or minilateral level.[321] Conventional deployments should be accompanied by measures to protect critical infrastructure, such as undersea cables, law-enforcement operations to directly counter Russia's grey-zone activities, and steps to increase the readiness of air and missile defence systems to protect against aerial threats.[322]

5.3. Scenario variation 3: Direct Russian attack on NATO while US commitment remains strong

5.3.1. Scenario assessment

If NATO were to face the conventional incursion depicted in the third scenario variation, that would amount to a strategic failure of its deterrence and defence posture.[323] Accordingly, several experts argued that the events described here would clearly cross the Article 5 threshold and NATO's conventional response plans would be activated.[324] A Russian invasion of the Baltic states would likely bring Russian troops into direct engagement with the forward-deployed forces of NATO's three nuclear powers stationed in the region.[325] Any such confrontation would likely spill over across the Baltic Sea region and trigger a forceful military response from the Alliance.[326] NATO's objective would therefore be to defeat the incursion conventionally while seeking to deter Russian nuclear use.[327]

A widely held view was that NATO's response should include nuclear signalling, planning and some posturing, while refraining from the employment of nuclear weapons.[328] This was seen as an appropriate response to a direct Russian attack and the reported preparations for Russian nuclear use described in this scenario variation, and as a way of preserving the credibility of NATO's nuclear deterrence posture even after the initial deterrence failure.

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319 French think tanker on nuclear policy, interview by the authors, 17 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025; Lydia Wachs, interview by the authors, 14 February 2025; Swedish nuclear deterrence expert, interview by the authors, 10 March 2025; Artur Kacprzyk, interview by the authors, 18 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025.

320 Adérito Vicente, interview by the authors, 18 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025.

321 Anonymous Expert #3, interview by the authors, 21 February 2025.

322 French think tanker on nuclear policy, interview by the authors, 17 February 2025; Dutch think-tank researcher, interview by the authors, 17 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Rafael Loss, interview by the authors, 21 February 2025.

323 Jyri Lavikainen, interview by the authors, 10 February 2025.

324 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025; Rafael Loss, interview by the authors, 21 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025.

325 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

326 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

327 Jyri Lavikainen, interview by the authors, 10 February 2025.

328 Anonymous Expert #2, interview by the authors, 12 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025; Dutch think-tank researcher, interview by the authors, 17 February 2025; Dr Bruno Tertrais, interview by the authors, 27 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025; Adérito Vicente, interview by the authors, 18 February 2025.

It was also suggested that Russia might employ so-called salami tactics in its Baltic campaign, seeking to secure a land grab, aggressively sanctuarise the newly occupied territory and deter NATO from deploying reinforcements.[329]

Notwithstanding the caveat that the scenarios were designed to explore hypothetical strategic dilemmas without making any judgement on their probability, one expert questioned the plausibility of this scenario variation, arguing that a conventional Russian attack on NATO would be excessively aggressive and irrational if US commitment to the Alliance remained strong in 2030.[330] At the same time, another analyst noted that this scenario felt more plausible than they had ever previously considered it to be.[331]

5.3.2. Potential responses to scenario variation 3

NATO's short-term priorities would be to bolster conventional deterrence in Poland, Finland and the Baltics, while resisting Russian aggression on the ground.[332] Forward-deployed UK and French forces would be expected to contribute to this effort and, given their locations, would likely engage directly with invading Russian troops.[333]

With US commitment still strong in this scenario variation, NATO was perceived to retain a wide range of nuclear signalling options. Several experts suggested that the United States would be expected to lead the overall NATO response, including nuclear signalling through a combination of verbal and posture-related elements.[334] Suggested verbal signals included a strongly worded consensus declaration by NATO heads of government reaffirming their readiness to defend all Allies and reminding Russia that NATO is a nuclear alliance.[335] Statements by the leaders of NATO's nuclear powers, alongside wider Alliance messaging, would warn Russia of the risks of further escalation and underscore NATO's readiness to respond to aggression with all means at its disposal, including nuclear capabilities.[336] In addition to forging consensus within the Alliance, the UK and France should also work to bring the wider international community on side, especially China and India.[337] The purpose of this would be to signal to Russia that crossing the nuclear threshold would carry global costs.

As for posture-related nuclear signals, several interviewees observed that in a scenario of continued strong US commitment, some of the desirable measures could be taken by the United States unilaterally, such as deploying additional

329 Anonymous Expert #3, interview by the authors, 21 February 2025.

330 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

331 Dr Bruno Tertrais, interview by the authors, 27 February 2025.

332 Anonymous Expert #3, interview by the authors, 21 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

333 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

334 Ian Anthony, interview by the authors, 13 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025; Lydia Wachs, interview by the authors, 14 February 2025.

335 Artur Kacprzyk, interview by the authors, 18 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025; Dutch think-tank researcher, interview by the authors, 17 February 2025.

336 Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

337 Linde Desmaele, interview by the authors, 13 March 2025.

bombers or SSBNs to the European theatre.[338] Another suggestion was that the United States could strengthen its nuclear posture in the maritime domain while also increasing the readiness of its forward-deployed B61 bombs.[339]

By contrast, an alternative view was that using US strategic forces for signalling – for instance, by deploying a Bomber Task Force while Russia is taking nuclear warheads out of storage – would be too strong a signal.[340] From this perspective, NATO should mirror Russian moves and demonstrate that it would not rule out nuclear use if Russia crossed that threshold first, while carefully calibrating which forces it used for signalling. Specifically, it was noted that US SSBNs going out to sea would be a very strong signal, whereas Moscow may perceive the deployment of British or French SSBNs less escalatory in the same context.[341] The reasoning was that while the SSBN fleets of all three countries primarily carry strategic nuclear weapons, Russia could perceive the risks of escalation differently when US strategic forces are directly involved compared to when they are not.[342]

Additional options involving non-strategic systems included increasing the readiness and dispersal levels of nuclear-capable aircraft stationed in Europe.[343] This presents decision makers with a choice over which activities should be publicly signalled for deterrent effect and which should remain covert.[344]

Regarding the role of the UK and France, it was noted that the UK's nuclear weapons are integrated into NATO planning and would therefore feature in discussions within SHAPE.[345] Since the Russian aggression in the scenario had a clear nuclear dimension, additional consultations would be required between the United States, the UK and France.[346] Several experts argued that both the UK and France would need to join the United States in nuclear signalling activities to strengthen the message to Russia and to bolster assurance among Allies.[347] The involvement of British and French nuclear forces would also serve the broader purpose of complicating Russia's strategic calculus and slowing down Russian decision making.[348]

At the same time, other interview participants voiced doubts about what role the UK and France could realistically play in this scenario variation. One concern was that the UK's sea-based strategic deterrent would offer limited signalling options, which could present

338 Artur Kacprzyk, interview by the authors, 18 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025; Lydia Wachs, interview by the authors, 14 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025.

339 Anonymous Expert #3, interview by the authors, 21 February 2025.

340 Anonymous Expert #2, interview by the authors, 12 February 2025.

341 Anonymous Expert #2, interview by the authors, 12 February 2025.

342 Anonymous Expert #2, interview by the authors, 12 February 2025.

343 Artur Kacprzyk, interview by the authors, 18 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

344 Dr Bruno Tertrais, interview by the authors, 27 February 2025.

345 Ian Anthony, interview by the authors, 13 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025.

346 Linde Desmaele, interview by the authors, 13 March 2025.

347 Olivier Schmitt, interview by the authors, 19 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Dutch think-tank researcher, interview by the authors, 17 February 2025; Ian Anthony, interview by the authors, 13 February 2025.

348 French think tanker on nuclear policy, interview by the authors, 17 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025.

assurance problems for Allies on the Eastern Flank.[349] There were also concerns that any visible posturing by UK SSBNs would reveal the location of the deterrent and thereby expose it to risk.[350]

By contrast, France was regarded as having a broader set of nuclear signalling options because of its nuclear-capable aircraft. It was suggested that these aircraft could deploy to the Eastern Flank, conduct air policing patrols and exercise simulated strikes on Russia as part of French signalling coordinated with the rest of the Alliance.[351] Nonetheless, the limited flexibility of both European nuclear arsenals was highlighted as a general constraint given the perceived absence of sufficient rungs on the escalation ladder.[352]

At the same time, interviewees stressed that the conventional capabilities of the UK and France could play a useful role in both signalling and directly countering the Russian incursion. This reflected an overarching judgement that the required response to the Russian incursion in this scenario variation would remain primarily conventional.[353] NATO's response should impose a multi-theatre problem set on Russia, complicating its calculus and making it harder to sustain aggression against the Baltic states.[354] In this context, one interview participant recommended limited conventional strikes on Russian territory in response to the direct attack on NATO, arguing that the British and French nuclear arsenals would provide the necessary 'nuclear cover' for such operations.[355] It was also noted that non-nuclear Allies on the Eastern Flank, such as Poland and Finland, could participate in such strike campaigns, provided the UK and France were politically and militarily prepared to conduct them.[356]

5.4. Scenario variation 4: Direct Russian attack on NATO amid reduced US commitment

5.4.1. Scenario assessment

Among the four scenario variations, experts interviewed for this study viewed a direct Russian attack on NATO without the prospect of major US involvement as the most severe challenge. Similar to the third scenario variation, this would be an unambiguous breach of Article 5.[357] However, in this case the implications would be much more significant: an existential threat to Eastern Flank nations, with a high risk of further escalation that could lead to a protracted war of attrition.[358] This hypothetical scenario was seen as the critical test of Europe's strategic autonomy – in other words,

349 Lydia Wachs, interview by the authors, 14 February 2025.

350 Artur Kacprzyk, interview by the authors, 18 February 2025.

351 French think tanker on nuclear policy, interview by the authors, 17 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

352 Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

353 Lydia Wachs, interview by the authors, 14 February 2025.

354 Anonymous Expert #3, interview by the authors, 21 February 2025.

355 Anonymous Expert #3, interview by the authors, 21 February 2025.

356 Anonymous Expert #3, interview by the authors, 21 February 2025.

357 Belgian nuclear policy expert, interview by the authors, 13 February 2025; Rafael Loss, interview by the authors, 21 February 2025.

358 Anonymous Expert #3, interview by the authors, 21 February 2025.

whether European NATO Allies could defend Allies under attack in the Baltic region and deter further escalation without direct US support.[359]

A central consideration in assessing this scenario variation was the different forms that a potential US retrenchment might take. In general, the stronger the level of US engagement and commitment to NATO, the easier it would be to manage any crisis involving Russia.[360] Consequently, this particular scenario – defined by a weak US commitment – was seen as posing very difficult dilemmas for European NATO Allies.

The likelihood of a potential US re-engagement would be a crucial contextual factor in determining the role of the UK and France in this scenario variation. If there remained a plausible prospect that the US might re-engage on Europe's side in the crisis, then a key task for the UK and France would be to persuade the American leadership to do so.[361] In practice, that might mean resisting Russian aggression in ways that increased the pressure on the United States to respond – possibly even escalating the conflict in the short term in order to raise the stakes for American decision makers.[362] In a similar vein, one expert deemed it 'highly unlikely' that the United States would simply stand aside if Russia launched a conventional attack on NATO and preparations for the possible use of non-strategic nuclear weapons were detected.[363] In such a scenario, the UK and France would have an important role in liaising with the United States, regardless of the prior state of transatlantic relations. Further, the continued presence of forward-deployed US nuclear weapons would remain an important factor: if the United States reduced its conventional presence in Europe but maintained – or even strengthened – the nuclear sharing arrangements, it could hardly ignore Russian nuclear signalling given the direct threat to US nuclear assets stationed in Europe.[364]

However, if the United States were unwilling to get involved, this would amount to the worst-case version of this scenario variation. In that case, the strength of Europe's conventional deterrence would become an even more decisive factor. Specifically, the decision space of the UK and France would depend in large part on whether European Allies could counter Russia's aggression conventionally without US support.[365] This is where the US role emerges as a cross-cutting factor across both nuclear and conventional deterrence, given that US capabilities are central to not only NATO's nuclear guarantees but also its conventional posture.[366]

Planning was highlighted as a particular concern under this scenario variation. Given the role of US Strategic Command in NATO's nuclear operations planning, questions remain as to how the NPG and SHAPE would function in such a crisis without US involvement.[367] More broadly, US retrenchment would also leave NATO's conventional deterrence and defence posture without the benefit of experienced US officers

359 Jyri Lavikainen, interview by the authors, 10 February 2025.

360 Belgian nuclear policy expert, interview by the authors, 13 February 2025.

361 Anonymous Expert #1, interview by the authors, 24 February 2025.

362 Anonymous Expert #1, interview by the authors, 24 February 2025.

363 Linde Desmaele, interview by the authors, 13 March 2025.

364 Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

365 Anonymous Expert #2, interview by the authors, 12 February 2025.

366 Ian Anthony, interview by the authors, 13 February 2025.

367 Ian Anthony, interview by the authors, 13 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025; Dutch think-tank researcher, interview by the authors, 17 February 2025.

with substantial expertise in planning large-scale conventional operations.[368]

An alternative view, however, held that while these shortcomings would indeed be significant in the near future, the UK, France and non-nuclear European Allies could still make meaningful progress by 2030 in strengthening extended deterrence and conventional deterrence as the process of burden-shifting advanced.[369]

Given the risk of nuclear use embedded into this scenario variation, interview participants also explored what potential Russian nuclear use would mean for NATO as a whole and for the roles of the UK and France in particular. On the assumption that Russia had accepted the risk of escalating to nuclear use within this scenario,[370] it was argued that deterring Russian first use should be the foremost priority for London and Paris, especially given Russia's advantage in non-strategic nuclear weapons.[371] Yet assessments of what the UK and France could actually do in this regard were pessimistic. Several experts argued that the current force structures of the two deterrents would impose clear constraints because they lack sufficiently flexible response options.[372] In practical terms, this meant that, in their view, the threat of retaliation against the Russian homeland with strategic systems in response to limited Russian nuclear use in the Baltic region would not be credible.

Nonetheless, several experts argued that the UK and France would still need to seek to counter Russia through a combination of nuclear signalling and conventional operations.[373] Above all, the central perception was that European NATO Allies would need to persuade Russia that any further aggression would be too costly to sustain.[374] The following section outlines the ways in which interview participants envisaged the UK and France contributing to that effort.

5.4.2. Potential responses to scenario variation 4

The core perception was that US retrenchment would require the UK and France to take the lead in countering Russian aggression.[375] Europe's primary task would be to persuade Russia that continued aggression would impose intolerably high costs.[376] Achieving this would require clear, cohesive and united signalling from the UK and France, alongside other NATO Allies.[377] In parallel, as already noted in the previous section, it was also argued that the two countries

368 Ian Anthony, interview by the authors, 13 February 2025.

369 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

370 Belgian nuclear policy expert, interview by the authors, 13 February 2025.

371 Anonymous Expert #2, interview by the authors, 12 February 2025.

372 Anonymous Expert #1, interview by the authors, 24 February 2025; Linde Desmaele, interview by the authors, 13 March 2025; Ian Anthony, interview by the authors, 13 February 2025; Nele Loorents, interview by the authors, 13 March 2025; Adérito Vicente, interview by the authors, 18 February 2025; Lydia Wachs, interview by the authors, 14 February 2025.

373 Anonymous Expert #1, interview by the authors, 24 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025.

374 Olivier Schmitt, interview by the authors, 19 February 2025.

375 Anonymous Expert #1, interview by the authors, 24 February 2025; Linde Desmaele, interview by the authors, 13 March 2025; Lydia Wachs, interview by the authors, 14 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025.

376 Olivier Schmitt, interview by the authors, 19 February 2025.

377 Artur Kacprzyk, interview by the authors, 18 February 2025.

should attempt to convince the United States to re-engage with Europe in the face of such unprecedented Russian aggression.[378]

Several experts stressed that the UK and France would need to send explicit signals to Russia about their nuclear deterrence capabilities in response to the events described in this scenario variation.[379] Notably, since both countries already have conventional forces deployed in the Baltic states, non-nuclear European Allies would also expect them to send strategic signals connected to those forward-deployed forces in the area already under attack in this scenario variation.[380] The signalling measures suggested by the expert interviewees included forceful public messaging; integrated conventional–nuclear signals through the posturing of maritime assets, including SSBNs[381]; additional SSBNs deployed on patrol; the deliberate surfacing of SSBNs; and joint exercises that could include simulated nuclear strikes by Rafale aircraft.[382] One expert offered an important caveat: the scale and intensity of nuclear signalling would depend on whether European Allies could mount a sufficiently forceful and rapid conventional response that offered a strong prospect of prevailing conventionally.[383] It was also suggested that the gravity of the developments in this scenario variation could push Paris to restate the European dimension of its nuclear deterrence in more explicit terms, and perhaps even more towards a formal extension of nuclear guarantees to the Allies under attack.[384]

Finally, the interviews identified the format of UK–French coordination as an area where this hypothetical scenario offers implications for current policy. Since France is not part of the NPG and is not expected to join it, it was suggested that the two countries would need a mechanism for consultation on signalling and nuclear planning.[385] This idea, raised in interviews conducted in early 2025, was later embodied in the Northwood Declaration of July 2025. Even so, the introduction of any new consultation mechanism between the two nuclear powers raises a further question, namely whether non-nuclear Allies could be involved, and if so, in what form. France's 'forward deterrence' initiative, announced in March 2026, marks a step in that direction, but the specific circumstances of its implementation – together with the future shape of bilateral or minilateral engagement between the UK and non-nuclear Allies on deterrence matters – will remain a salient question going forward.

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378 Linde Desmaele, interview by the authors, 13 March 2025.

379 Lydia Wachs, interview by the authors, 14 February 2025; Rafael Loss, interview by the authors, 21 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025.

380 French think tanker on nuclear policy, interview by the authors, 17 February 2025; Anonymous Expert #1, interview by the authors, 24 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025.

381 Rafael Loss, interview by the authors, 21 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025.

382 Artur Kacprzyk, interview by the authors, 18 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

383 Anonymous Expert #2, interview by the authors, 12 February 2025.

384 Jyri Lavikainen, interview by the authors, 10 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025.

385 Artur Kacprzyk, interview by the authors, 18 February 2025.

Chapter 6. **Towards a future framework for nuclear deterrence in Europe: Key conceptual questions**

Russia's continued belligerence and persistent nuclear threats, against the backdrop of evolving burden-shifting between the United States and European NATO Allies, raise fundamental questions about the future framework of deterrence and defence in Europe – both conventional and nuclear. As Europe's two nuclear powers, the UK and France have a distinctive opportunity to shape the emerging debate over the nuclear dimension of any future framework, including the roles of their respective deterrents and the place of non-nuclear Allies alongside them.

The final chapter of this report outlines the key conceptual and policy questions that should guide discussions on the future of nuclear deterrence in Europe. The chapter builds on the insights drawn from the research interviews and the dilemmas illuminated in the scenario discussions.

This chapter does not advocate for any particular policy option, recognising that such a prescriptive approach would have exceeded the constraints of this study. Instead, the chapter rests on a more fundamental premise that asking the right questions is a prerequisite for ensuring that subsequent discussions of policy options, ways and means address an appropriately scoped problem set.

Consequently, at this critical moment for European security, the contribution of this study lies not in offering a blueprint for the solution to an identified problem, but in setting out the key questions and associated considerations that should guide how the problem is framed and addressed. Indeed, before committing political capital as well as significant financial, industrial and human resources, European leaders must first discuss and determine the objectives of a future deterrence and defence posture in Europe.

Table 6.1 below presents the key questions that should guide conceptual discussions of a future nuclear deterrence posture in Europe. The table also includes selected insights and recommendations drawn from the research interviews conducted for this study. The analysis and options presented in this chapter reflect RAND Europe's research findings, and are not a statement of policy by the UK Ministry of Defence or His Majesty's Government.

Table 6.1. Towards a future framework for nuclear deterrence in Europe: Key conceptual questions

Question 1: What are the overall strategic objective(s) for a future nuclear deterrence posture in Europe?

General context and key components of the question	Forward-looking dilemmas based on the research interviews conducted for this study
Deterrence is not an abstract, scenario-agnostic endeavour, but rather a nuanced exercise in determining who is to be deterred, from doing what, in what circumstances, by the allocation of what means, and in pursuit of which ends. In other words, a deterrence and defence posture is not an end, but a means to an end. In the case of NATO, the Alliance's objectives are defined as 'collective defence, against all threats, from all directions.'[386] NATO's strategic objectives also include defending 'every inch of Allied territory, preserv[ing] the sovereignty and territorial integrity of all Allies and prevail[ing] against any aggressor.'[387] The objectives of a nuclear deterrence posture are integrated into this, though they are typically narrower – for example, the UK's policy that nuclear weapons deter not all, but the 'most extreme threats to national security.'[388] Any consideration of a future nuclear deterrence posture in Europe must therefore begin with an assessment of the threat environment, placing particular emphasis on Russia's capabilities and theories of victory against NATO. The next step is to consider whether NATO's strategic objectives remain valid or whether European governments should define new ones to replace or complement them. All other considerations must follow from the agreed strategic objective(s), including: • The nuclear and conventional missions deemed necessary to achieve the strategy objective(s). • The attributes of forces required in those missions. • The elements of the strategic objective(s) that can *only* be delivered through nuclear weapons. • The enabling frameworks and strategic posture needed to develop, organise and employ those capabilities. • Additional measures to ensure that the selected strategy, posture and capabilities have a credible deterrence effect on adversaries, and a credible assurance effect on Allies.	If European NATO Allies see a need to adapt NATO's deterrence and defence posture in response to changing external and internal dynamics, two broad pathways present themselves: 1. Reinforce the existing posture within NATO's current structures, working closely with the United States. 2. Build new layers of nuclear deterrence outside the NATO framework and not directly dependent on US capabilities. It must be emphasised that these two options are not necessarily mutually exclusive: efforts to adapt, modernise and even expand NATO's nuclear posture with continued US involvement could unfold in parallel with initiatives by the UK and France to strengthen nuclear deterrence outside the NATO framework, while non-nuclear Allies could reinforce conventional deterrence through investing in deep precision strike and integrated air and missile defence. Indeed, even in this period of adaptation and burden-shifting, there is a strong case for European Allies to preserve US nuclear deterrence guarantees for as long as possible, while building a new European layer of deterrence that complements rather than replaces them.[389] In this process, there is an expectation that the UK and France should articulate a clearer vision for the European role of their nuclear deterrents: what each can contribute and what support they expect from non-nuclear Allies.[390] This should involve discussions of the exact nature of the UK's role as a 'second centre of decision making',[391] combined with clear and confident public-facing narratives.[392] The UK–French Northwood Declaration and France's forward deterrence initiative represented important steps in this direction. However, further analysis will be needed to clarify exactly how these recent and any future developments reinforce the logic of multiple centres of decision making and how they shape Russia's calculus about the risks of escalation. Going forward, further dialogue will therefore be important to discuss respective visions and expectations, agree on strategic objectives, and create a framework in which both Europe's nuclear powers and non-nuclear Allies can define their respective roles.[393]

386 NATO (2022, paragraph 1).

387 NATO (2022, paragraph 20).

388 UK Ministry of Defence (2025, 98).

389 Lydia Wachs, interview by the authors, 14 February 2025.

390 Anonymous Expert #1, interview by the authors, 24 February 2025; Anonymous Expert #3, interview by the authors, 21 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025; Artur Kacprzyk, interview by the authors, 18 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025; Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

391 Jyri Lavikainen, interview by the authors, 10 February 2025.

392 Nele Loorents, interview by the authors, 13 March 2025.

393 Dr Bruno Tertrais, interview by the authors, 27 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025.

Question 2: What nuclear and conventional missions are necessary to achieve the strategic objective(s)?

General context and key components of the question	Forward-looking dilemmas based on the research interviews conducted for this study

While NATO's core objective as a defensive Alliance aimed at ensuring the collective defence of its members has not changed, its military strategy – including the nuclear and conventional missions that the Alliance has focused on – has evolved throughout its seven decades.[394]
 	
After defining the strategic objective(s) appropriate to the threat environment, the next step is to determine the main elements of NATO's theory of victory and the corresponding military strategy. As part of this, the relevant nuclear and conventional missions may include:
• Deterring nuclear first use by the adversary and, if necessary, managing escalation by giving decision makers a range of options to respond to limited nuclear attacks.
• Deterring further limited nuclear escalation in the event of nuclear first use by the adversary (recognising that the requirements here would be highly dependent on the political objectives pursued in the wake of Russian first use).
• Deterring uncontrolled escalation through the ability to impose unacceptable costs on the adversary via assured retaliatory strikes (secure second-strike).
• Employing conventional and/or nuclear counterforce capabilities to limit the damage that the adversary could inflict.[395]
• Retaining the capacity to fight and win a conventional war in an environment in which the adversary has already used chemical, biological or nuclear weapons.
 	
While the above is not intended as an exhaustive list, it demonstrates the range of possible missions that may be considered necessary to achieve the agreed strategic objective(s) and negate Russia's theories of victory, particularly those linked to its non-strategic nuclear weapons.
	The research interviews revealed that key nuclear and conventional missions as part of a future European deterrence framework may include the following:
	• Maintaining a credible secure second-strike nuclear deterrent that can inflict unacceptable damage in order to deter the most extreme threats, such as Russian strikes on the UK and French homelands.[396]
	• Maintaining the ability to impose a range of credible costs on Russia short of unacceptable damage, in order to deter nuclear coercion and limited nuclear first use.[397]
	• Maintaining damage-limitation options, including conventional counterforce and missile defence[398]:
	  • Conventional counterforce options that can support the nuclear mission, create more uncertainty for Russia, provide non-nuclear response options to aggression and limited nuclear use by the adversary, strengthen a conventional denial posture and give more operational influence for non-nuclear Allies.[399]
	  • Air and missile defence capabilities that can deny Russian missile coercion scenarios, raise the threshold against missile strikes in general and mitigate the impact of missile attacks on NATO forces, industrial capacity and population centres.[400]
	• Providing conventional support to nuclear operations in support of the American, British and French deterrents, including aerial refuelling and suppression of enemy air defences.[401]

394 Ruiz Palmer (2024); Mattelaer (2024).

395 Lieber & Press (2017).

396 Linde Desmaele, interview by the authors, 13 March 2025.

397 Anonymous Expert #1, interview by the authors, 24 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025.

398 Honich (2025, 219–30).

399 Linde Desmaele, interview by the authors, 13 March 2025; Anonymous Expert #1, interview by the authors, 24 February 2025; Anonymous Expert #2, interview by the authors, 12 February 2025; Swedish nuclear deterrence expert, interview by the authors, 10 March 2025; Artur Kacprzyk, interview by the authors, 18 February 2025; Dutch think-tank researcher, interview by the authors, 17 February 2025; Academic expert based in the Netherlands, interview by the authors, 19 March 2025.

400 Dutch think-tank researcher, interview by the authors, 17 February 2025; Nele Loorents, interview by the authors, 13 March 2025; Anonymous Expert #1, interview by the authors, 24 February 2025; French think tanker on nuclear policy, interview by the authors, 17 February 2025; Linde Desmaele, interview by the authors, 13 March 2025; Rafael Loss, interview by the authors, 21 February 2025.

401 Artur Kacprzyk, interview by the authors, 18 February 2025; Swedish nuclear deterrence expert, interview by the authors, 10 March 2025.

Question 3: What force attributes are required to perform the identified missions?

General context and key components of the question	Forward-looking dilemmas based on the research interviews conducted for this study
Given the distinct requirements of different missions, it is important to determine for each mission what attributes the relevant forces and capabilities would need in order to fulfil them in support of the agreed strategic objectives. To illustrate what such attributes might look like in practice, the 2023 Congressional Commission on the Strategic Posture of the United States recommended that future US theatre nuclear delivery vehicles should have the following attributes[402]: • Forward-deployed or deployable in the European and Asia–Pacific theatres. • Survivable against pre-emptive attack without force generation day-to-day. • A range of explosive yield options, including low yield. • Capable of penetrating advanced integrated air and missile defences with high confidence. • Operationally relevant weapon delivery timeline (promptness).	Key attributes mentioned in the interviews included: • Diversity of platforms: Greater flexibility in the UK nuclear deterrent could improve its signalling options and bolster the credibility of its existing commitments to the defence of Allies.[403] Examples mentioned included the ability to deploy a second submarine[404] and re-introducing the air leg to the UK's nuclear forces.[405] • Flexibility: There was a view that if France wanted to provide more explicit nuclear guarantees to European Allies, it would need to move beyond the principle of strict sufficiency.[406] France ultimately reaffirmed that principle in the 2025 NSR and did not extend explicit nuclear guarantees in the Île Longue speech. However, the stated decision to increase the number of warheads suggests that the threshold of sufficiency is not static and has increased. • Survivability: Various options relating to strengthening the survivability of NATO's existing nuclear sharing arrangements were mentioned, including the deployment of additional air and missile defence systems and expanded dispersal options. This could be supported by broadening participation in the dual-capable aircraft mission,[407] similar to the UK's decision in 2025 to rejoin it once its future F-35A capability enters service.

402 Congressional Commission on the Strategic Posture of the United States (2023, 49).

403 Anonymous Expert #1, interview by the authors, 24 February 2025.

404 Ian Anthony, interview by the authors, 13 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025.

405 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025; Artur Kacprzyk, interview by the authors, 18 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025; Olivier Schmitt, interview by the authors, 19 February 2025.

406 Olivier Schmitt, interview by the authors, 19 February 2025.

407 Belgian nuclear policy expert, interview by the authors, 13 February 2025; Artur Kacprzyk, interview by the authors, 18 February 2025.

Question 4: Which elements of the strategic objective(s) can *only* be delivered through nuclear weapons, and what should those capabilities look like?

General context and key components of the question	Forward-looking dilemmas based on the research interviews conducted for this study
After identifying the relevant missions and the attributes they require, the next step is to determine which forces and systems can perform those missions. NATO has historically maintained both conventional and nuclear escalation management options, based on the assumptions that an escalating conventional conflict is one of the primary pathways to the threat of adversarial nuclear use, and that possessing a flexible range of tools may inject sufficient uncertainty into Russia's calculus about whether escalation would lead to the outcome they desire. A central consideration here is to identify which missions can *only* be delivered through the employment of nuclear weapons and what systems those missions would require. Answering that question would involve technical considerations relating to the characteristics of: • Launch platforms (sea-based, land-based, air-based, e.g. submarines or strategic bombers). • Delivery vehicles (e.g. ballistic missiles and cruise missiles, including their range, speed and manoeuvrability). • Payloads (e.g. number and yield of warheads).	The research interviews highlighted a range of capability options that could be considered by the UK and France, alongside certain conventional options for non-nuclear Allies, depending on the strategic objectives and missions for deterrence identified: • The UK could add another submarine to its SSBN fleet.[408] • The UK could reintroduce an air leg through hosting forward-deployed US nuclear weapons.[409] • The UK and France could jointly develop a next-generation nuclear-armed cruise missile, building on existing cooperation in missile production, and make it adaptable for the Royal Air Force.[410] • The US and/or the UK could develop nuclear-armed stand-off options for dual-capable aircraft, in light of the potential limitations of the current approach in a rapidly evolving threat environment.[411] • Non-nuclear European Allies could develop conventionally armed, ground-launched medium-range missiles.[412] One view held that these systems could be designed in ways that left open the possibility of future nuclearisation,[413] while another argued that any future European ground-launched missiles should remain strictly conventional.[414] Expanding Europe's conventional missile capabilities could create incentives for Russia to engage in risk reduction and arms control dialogue with Europe.[415]

408 Ian Anthony, interview by the authors, 13 February 2025.

409 French think tanker on nuclear policy, interview by the authors, 17 February 2025; Jyri Lavikainen, interview by the authors, 10 February 2025.

410 Rafael Loss, interview by the authors, 21 February 2025.

411 Lydia Wachs, interview by the authors, 14 February 2025; Belgian nuclear policy expert, interview by the authors, 13 February 2025.

412 Rafael Loss, interview by the authors, 21 February 2025.

413 Rafael Loss, interview by the authors, 21 February 2025.

414 Belgian nuclear policy expert, interview by the authors, 13 February 2025.

415 Van Hooft (2024); Van Hooft & Ellison (2023).

Question 5: What enabling frameworks and strategic posture are needed to develop, organise and employ those capabilities, and where could UK–France coordination and/or cooperation with non-nuclear European Allies add value?

General context and key components of the question	Forward-looking dilemmas based on the research interviews conducted for this study
Broadly speaking, this question concerns the entire lifecycle of the selected forces, from development and deployment to the ways in which they might be employed. This would include considerations of: • The industrial capacity to build and sustain nuclear forces. • The number and location of deployed capabilities. • Nuclear command, control and communications. • Planning, including the integration of nuclear planning with non-nuclear planning. • The broader operational architecture of the nuclear missions, including conventional support to nuclear operations. • Training and exercises. • Options for both coordinated individual nuclear signals and joint nuclear signalling. While many of these areas will remain strictly sovereign matters for the UK and France, the Northwood Declaration and the Île Longue speech both emphasise the importance of deeper cooperation and coordination between British and French nuclear forces. Meanwhile, possible avenues for closer cooperation with non-nuclear Allies, such as France's 'forward deterrence' initiative, are expected to involve dialogue on the role of nuclear weapons in European security, participation in exercises, strengthening the coherence between conventional and nuclear deterrence (or 'mutual support between conventional and nuclear forces' in the French context) with greater Allied participation, and potentially even discussing novel forms of nuclear signalling.[416]	Key insights from the interviews included the following: • Bilateral UK–French cooperation could be critical, including a degree of doctrine convergence. There was a view that any credible signal of the European dimension of their deterrents would need to be a joint effort, rather than being separate, parallel efforts.[417] This logic was later fully reflected in the Northwood Declaration. • A potential US retrenchment from NATO and/or new UK–French arrangements may require new formats for nuclear consultations and planning.[418] • The UK and France could consider conducting joint exercises and/or involve non-nuclear European Allies in such exercises.[419] Some of these exercises could take place further east in the Alliance, while France and NATO could also explore closer coordination between their respective nuclear exercises.[420]

416 President of the French Republic (2026).

417 Olivier Schmitt, interview by the authors, 19 February 2025.

418 Swedish nuclear deterrence expert, interview by the authors, 10 March 2025; Artur Kacprzyk, interview by the authors, 18 February 2025.

419 Anonymous Expert #2, interview by the authors, 12 February 2025; Adérito Vicente, interview by the authors, 18 February 2025.

420 Artur Kacprzyk, interview by the authors, 18 February 2025.

Question 6: How can the UK and France ensure that the selected strategy, posture and capabilities have i) a credible deterrence effect on adversaries, and ii) a credible assurance effect on Allies?

General context and key components of the question	Forward-looking dilemmas based on the research interviews conducted for this study
The final question concerns credibility, which lies at the heart of deterrence: the credibility of a deterrent threat is a key factor in whether it succeeds or fails in shaping the decision-making calculus of the adversary.[421] In cases where deterrence is extended to protect an Ally, it is important to distinguish between two related but functionally distinct aims: i) Seeking to deter the adversary ii) Assuring the Ally of one's commitment to its security. Although these two aims are directed at different audiences, both are fundamentally cognitive in nature, seeking to shape the minds of the adversary and the Ally, respectively.[422] Therefore, special consideration should be given to how the selected strategy, deterrence posture and the relevant capabilities are implemented and communicated in ways that generate credibility for both deterrence and assurance – for example, through political rhetoric, deployments and exercise patterns.	Even after aligning on strategic objectives and the overall approach, a key task for the UK and France will be to determine how best to signal their commitment to the defence of Europe both in peacetime (e.g. as part of the Northwood Declaration and 'forward deterrence') and through coordinated signalling during a crisis. They must also consider how to make any new layers of European deterrence credible in the eyes of Russia, and what measures would provide credible assurance in the eyes of non-nuclear Allies.[423] The research interviews suggested that credibility challenges facing the British and French nuclear arsenals differ in important ways[424]: • For the UK, Allies generally value the 'software' of its nuclear deterrence (declaratory policy, thought leadership and its role in the NPG), while concerns tend to centre on the limited flexibility of its nuclear forces. • For France, Allies see strengths in the 'hardware' of its nuclear deterrence (a more flexible nuclear force along with a higher willingness to issue nuclear signals in a crisis), while concerns tend to centre on the perceived lack of clarity in declaratory policy and on what escalation management would look like beyond the 'warning shot.'[425]

421 Freedman & Michaels (2019).

422 Bradley (2024).

423 Olivier Schmitt, interview by the authors, 19 February 2025; Dr Bruno Tertrais, interview by the authors, 27 February 2025; Dutch think-tank researcher, interview by the authors, 17 February 2025.

424 Linde Desmaele, interview by the authors, 13 March 2025.

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Annex A. **Interview participants**

This annex contains a list of the experts that the research team engaged in semi-structured interviews as part of the study (see Table A.1 below). The individuals are listed in accordance with the level of attribution they requested for the purposes of this study. Of the eighteen interview participants, five experts requested partial anonymity and three requested full anonymity.

Table A.1. List of experts interviewed for this study (listed in alphabetical order and with the affiliations held at the time of the research interview)

Name	Organisation	Position
Dr Ian Anthony	Swedish Defence Research Agency (FOI)	Researcher with the Department for Security Policy
Dr Linde Desmaele	Leiden University	Assistant Professor of Intelligence and Security
Artur Kacprzyk	Polish Institute of International Affairs	Nuclear Deterrence Analyst
Jyri Lavikainen	Finnish Institute of International Affairs	Research Fellow
Nele Loorents	International Centre for Defence and Security	Research Fellow
Rafael Loss	European Council on Foreign Relations	Policy Fellow
Prof. Olivier Schmitt	Royal Danish Defence College	Head of Research at the Institute for Military Operations
Dr Bruno Tertrais	Fondation pour la Recherche Stratégique	Deputy Director
Dr Adérito Vicente	Lusíada University of Porto	Assistant Professor of International Relations
Lydia Wachs	Stockholm University	PhD candidate
Academic expert based in the Netherlands		
Anonymous Expert #1		
Anonymous Expert #2		
Anonymous Expert #3		
Belgian nuclear policy expert		
Dutch think-tank researcher		
French think tanker on nuclear policy		
Swedish nuclear deterrence expert		

Source: RAND Europe.