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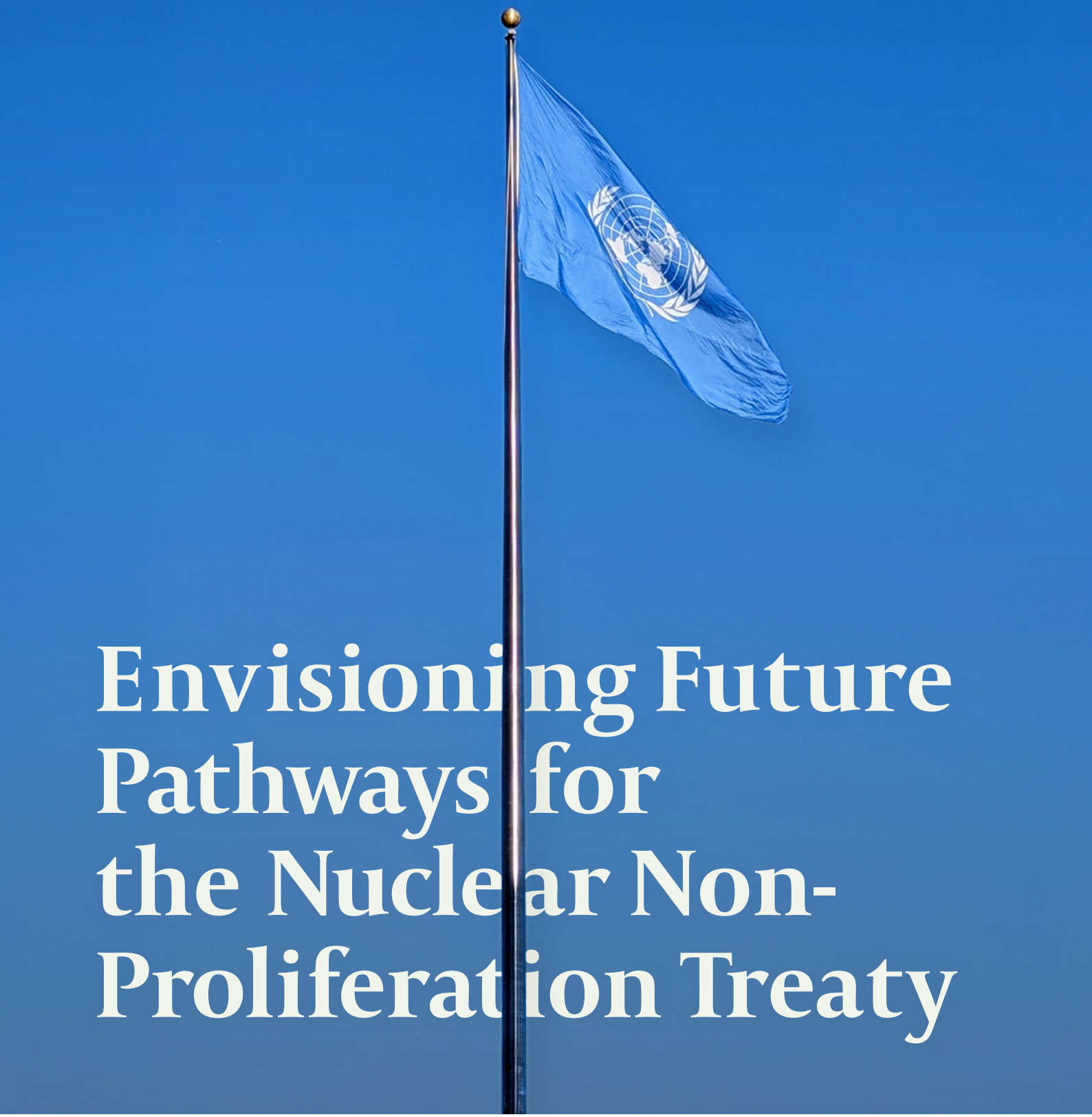

Envisioning Future Pathways for the Nuclear Non-Proliferation Treaty

Edited by Declan Penrose

PLOUGHSHARES

The British American Security Information Council (BASIC)
Work + Play
111 Seven Sisters Rd
Finsbury Park
London N7 7FN

Charity Registration No:
1001081

T: +44 20 3488 6974
www.basicint.org

BASIC

BASIC is an independent, non-profit think tank working to safeguard humanity and Earth's ecosystem from nuclear risks and interconnected security threats for generations to come. We have a global reputation for convening distinctive, empathic dialogues that help states overcome complex strategic and political differences. Our established networks and expertise, developed since 1987, enable us to get the right people in the room and facilitate effective, meaningful exchange between siloed and often hostile political communities.

Emerging Voices Network

Launched in December 2020, the Emerging Voices Network (EVN) is a digital network of high-potential, next-generation leaders on nuclear issues who will inherit the responsibility of managing nuclear threats. In founding the EVN, BASIC's aim was to create a truly inclusive digital space wherein younger voices from marginalised communities around the world are heard on nuclear issues. The network promotes collaboration, dialogue and bridge-building between next-generation leaders from the Global North and South, with diversity and inclusivity at the forefront of the Network's ethos and mission.

Declan Penrose

Declan Penrose is a Policy Fellow working on the Emerging Voices Network Programme. He is also a Postgraduate Researcher at the University of Manchester. He served as the Online Coordinator at Youth for TPNW. Declan focuses on nuclear disarmament, the global nuclear order, emotions and affect, and activism. Declan is a 2026 Atomic Anxieties Fellow, was a Nuclear Futures Fellow with Horizon 2045, completed the Global Peace and Security Changemakers programme with SOIF in 2023 and is interested in the application of futures and foresight methods. Declan has also completed a Multi-level Negotiation, Mediation, and Diplomacy programme with the Oxford Network of Peace Studies. He has an MRes in Gender Studies from the University of Chester, an MA in International Politics, and a BA in Human Geography and International Politics.

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Contents

Introduction

> BASIC's Emerging Voices Network (EVN) seeks to reach, engage, and platform early-career and young experts from around the globe.

As part of the recruitment and selection process, the EVN ensures a high proportion of members are from communities, countries, and backgrounds that are typically underrepresented in mainstream nuclear policy fora. The EVN is committed to helping our members overcome institutional barriers to ensure that those spaces are truly global. The EVN also seeks to ensure that the perspectives and expertise of communities that are often minoritised – yet crucially impacted by nuclear weapons development and policy – are centred and integrated into mainstream nuclear dialogue.

In October 2025, the EVN launched a new policy cycle with the aim of gathering the expertise of emerging experts in the nuclear field on what the future could hold for the Nuclear Non-Proliferation Treaty (NPT). We believe it is critical that youth play a role in shaping the future of the NPT, as well as the present. This policy cycle gives the early career participants the chance to offer their expertise and perspectives on what future pathways could lie ahead for the NPT. It is also intended to develop the skills of our members by educating them on utilising foresight methodologies, as well as making robust policy recommendations.

After failing to reach a consensus at the 2005 RevCon, a 64-point action plan was adopted in 2010, designed to help the disarmament process move forward.[1]

Yet, the 2015 and the postponed 2020 RevCons both ended with no outcome agreed, placing even more pressure on the 2026 RevCon to reach an agreement for the first time in 16 years.[2] Frustration with the NPT and the lack of progress made towards disarmament was a major driving force leading to the creation of the Treaty on the Prohibition of Nuclear Weapons (TPNW).

The current geopolitical environment exacerbates this pressure to prevent nuclear proliferation. Tensions are rising between adversaries. Nearly all nuclear states are modernising and/or expanding their nuclear arsenals. Both Israel and the US earlier in 2025 attacked NPT member Iran, citing fears that it was developing a nuclear weapon.[3] Yet they failed to destroy Iran's nuclear programme, and there are fears that this has pushed it closer to developing a bomb.[4] During the writing of this report, Israel and the US attacked Iran again, targetting Iran's missile infrastructure, military sites and leadership.[5] They killed Iran's Supreme Leader, Ayatollah Ali Khamenei and many other high ranking officials.

1 "2010 NPT Review Conference 64-point action plan", *Government of Canada*, (2010) https://www.international.gc.ca/world-monde/issues_development-enjeux_developpement/peace_security-paix_securite/action_plan-2010-plan_d_action.aspx?lang=eng.

2 Manuel Herrera, "Nuclear Non-Proliferation Treaty: Preparatory Committee fails to reach a consensus", *BASIC*, (2025) https://basicint.org/nuclear-non-proliferation-treaty-preparatory-committee-fails-to-reach-a-consensus/.

3 Nadine Yousif, "US strikes did not destroy Iran nuclear programme, says intelligence assessment", *BBC News*, (2015) https://www.bbc.co.uk/news/articles/ckglxwp5x030.

4 Julian Borger, "Attacking Iran's nuclear programme could drive it towards a bomb, experts warn", *The Guardian*, (2026) https://www.theguardian.com/world/2026/mar/04/us-israel-strikes-iran-nuclear-program-could-backfire.

5 "Why did US and Israel attack Iran and how long could the war last?", *BBC News*, (2026) https://www.bbc.co.uk/news/articles/cx2dyz6p3weo.

In 2022, Russia, a nuclear state, invaded Ukraine, a non-nuclear state, and has since made repeated nuclear threats to dissuade others from providing military assistance to Kyiv.[6] The second Trump Administration has so far been even more unpredictable than the first, with its allies less confident they can rely on the US nuclear umbrella and Trump has stated he is considering withdrawing from NATO.[7] The New START Treaty between the US and Russia expiring in 2026 demonstrates the volatility of the current political climate, ending the U.S. and Russian commitment to reduce their nuclear weapons on alert.[8]

To think about the future of the NPT, the EVN Programme organised a workshop-based policy cycle for EVN members to develop future pathways of the NPT utilising foresight methodologies and used their findings to inform policy recommendations for states, Non-Governmental Organisations (NGOs), and civil society.

> **Each focus group collectively imagined a favourable and an unfavourable future scenario. These were then used to inform a set of policy recommendations.**

Workshop 1

The first workshop started with an introduction to the recent history of the NPT and the upcoming 2026 Review Conference (RevCon). Then, in our first foresight exercises, we used the foresight tool 'futures wheels' to answer the question "What do you believe will be the primary drivers that will shape the future of the NPT?" Futures wheels were chosen because they enable a group to explore the immediate and second-order consequences of change, and then visualise it.[9] For our futures wheels, we used a version of the tool that focused on drivers and consequences across multiple security domains. This included individual, national, regional, global, and planetary. The focus groups then spent the rest of the workshops summarising their findings and reflecting on any findings they found most interesting and patterns that may have appeared. This left each focus group with a set of drivers to initiate their scenarios in the following workshop.

Workshop 2

In the second workshop, the focus group took the drivers identified in the previous workshop and began developing their desirable and undesirable scenarios. For this workshop, we utilised the 'scenario development' foresight tool. It is common to pair futures wheels with scenario development to inform scenarios.[10] The focus groups considered the impacts of their drivers and how these drivers would interact with each other when shaping their scenarios. They also began to reflect on the characteristics and events that embodied the key similarities and differences between their desirable and undesirable scenarios. By the end of this workshop, they had begun to turn their initial ideas into sequences of plausible events up to 2050.

6 Dr Patricia Lewis, "What is Putin's nuclear weapons threat?" *Chatham House*, (2022) https://www.chathamhouse.org/2022/03/how-likely-use-nuclear-weapons-russia.

7 Connor Stringer, "Trump interview: I am strongly considering pulling out of Nato", *The Telegraph*, (2026) https://www.telegraph.co.uk/world-news/2026/04/01/donald-trump-strongly-considering-pulling-us-out-of-nato/.

8 Erin D. Dumbacher, "Nukes Without Limits? A New Era After the End of New START", *Council on Foreign Relations*, (2026) https://www.cfr.org/articles/nukes-without-limits-a-new-era-after-the-end-of-new-start.

9 Andrew Curry, "Futures tools", *School of International Futures*, (2023) https://soif.org.uk/blog/futures-tools/.

10 José Manuel Roche, *The Future Is Ours: Strategic Foresight toolki – making better decisions*, (2019, London: Save the Children UK) p.22.

Workshop 3

The third workshop saw the focus groups continue to develop their scenarios using the 'visioning' foresight tool. Visioning is often utilised by policy makers and businesses to develop a desirable future by focusing on a common set of aims and objectives.[11] This approach encourages stakeholders to try to achieve their shared goals and focuses on specific details to create a sophisticated vision of the future. Visioning in futures and foresight thinking involves developing an image of a desirable (or undesirable) future state and working backwards to identify what steps to take (or avoid). For this exercise, participants were tasked with imagining ahead and planning backwards to get to, or avoid, an imagined future.The focus groups were tasked with applying this methodology to their favourable and unfavourable future scenarios for the NPT. They identified the critical points of divergence that separated their favourable and unfavourable scenarios. This was to better understand the key differences between these pathways to inform policy recommendations that could help us to simultaneously pull us towards a desirable future and push us away from an undesirable one. When utilising visioning in foresight methodologies, you must imagine ahead and plan backwards to understand the steps to achieve, or avoid, an imagined future. This is known as 'Presencing'.[12]

Workshop 4

The fourth workshop, 'Roadmapping' was used to draw out the pathways to the focus groups' desirable and undesirable futures. Roadmapping is a tool that integrates perspectives relevant to a policy or project – including 'what needs to be done', 'why is it needed' ('pull') and 'how it is to be achieved' ('push'), all mapped against time ('when') – often in a visual, easy to communicate format.[13] This helped the focus groups to visualise their desirable and undesirable pathways. They could then to identify

the key actions required to encourage their desired future and, crucially, the chronological order in which they should be taken. This left them with a timeline of decisions that would lead to both futures. This workshop saw the focus groups begin to finalise their future scenarios.

Workshop 5

In the fifth and final workshop, Umi Ariga, a policy cycle member who had recently taken part in the first United Nations (UN) Youth4Disarmament Forum, presented on developing policy recommendations. Umi taught the participants how to create recommendations for policymakers that were clear, concise, and actionable. After this workshop, the focus groups were tasked with writing up their final scenarios and submitting them alongside a set of policy recommendations to help strengthen the NPT.

11 José Manuel Roche, *The Future Is Ours: Strategic Foresight toolkit – making better decisions*, p. 79.

12 "Strategic Foresight: Stage 4 – Visioning a Preferred Future", *Hillbreak*, (2017) https://www.hillbreak.com/conducting-corporate-foresight-part-4-of-6/.

13 Emma Griffiths, "The role of Roadmapping in the Futures Toolkit", *Government Office for Science*, (2019) https://foresightprojects.blog.gov.uk/2019/10/17/the-role-of-roadmapping-in-the-futures-toolkit/.

FOCUS GROUP ONE

The NPT and Saving Nuclear Arms Control: Reinforcing Nuclear Norms, Transparency, and Civil Society Inclusion for a Strong NPT

GROUP MEMBERS AND AUTHORS:

Umi Ariga
Camilla Braito
Hely Desai
Guilherme Setokushi Ferreira
Syed Nasir Hassan
Esther W. Kabochi
Zahraa Kapasi
(Focus Group Rapporteur)

Unfavourable Scenario: The Nuclear World Order

By 2035, the global order will become deeply polarised, marked by intensified divisions, both within states and across the international system. These dynamics weaken norms-based institutional arrangements and erode shared understandings of restraint. Similarly, as the nuclear taboo weakens and great-power competition intensifies, the NPT steadily loses relevance, both as a security framework and as a moral constraint. Nuclear weapons are no longer framed primarily as exceptional instruments whose spread must be prevented, but increasingly as rational tools of survival in an unstable and competitive international environment.

> **Rather than reinforcing restraint, the NPT is perceived as an unevenly applied regime that constrains some while enabling others.**

Compliance erodes, ambiguity becomes normalised, and withdrawals, formal or de facto, become more frequent. The regime fragments not through a single collapse, but through cumulative political disengagement, technological circumvention, and selective norm-breaking.

Unlike earlier periods of pressure driven by humanitarian advocacy or civil society mobilisation, this trajectory is driven primarily by state insecurity, domestic political incentives, accelerating technologies, and the growing role of illicit and non-state networks. The result is a nuclear order in which restraint is voluntary, enforcement is inconsistent, and proliferation increasingly appears both feasible and legitimate.

The first key driver of this scenario is the political polarisation and the erosion of political will. Deepening geopolitical polarisation paralyses the NPT's core mechanisms and reframes it as an instrument of nuclear domination rather than a universal security framework. Due to selective enforcement by major powers, trust in security guarantees erodes, making NPT membership a strategic liability. At the same time, domestic leaders, responding to a fragmented global order, increasingly invoke nuclear security to reassure their populations.

The second key driver is Artificial Intelligence (AI) and emerging technologies. Advances in AI and emerging technologies accelerate weapons design, simulation, and enrichment processes, lowering the technical and temporal barriers to nuclear proliferation. States increasingly use AI in threat forecasting to justify pre-emptive nuclear strikes and accelerated capability development, turning technology into both an enabler and a political justification for proliferation.

The erosion of the nuclear taboo was the third main driver of this scenario. Repeated nuclear threats and coercive signalling normalise nuclear weapons as usable tools of statecraft, allowing deterrence logic

to prevail over moral stigma. Similarly, NPT withdrawals and nuclear proliferation become symbols of national survival and sovereignty amid regional instability and unreliable security assurances.

The last key driver of this scenario was the role of non-state actors. Non-state actors, including illicit procurement networks, technology brokers, financiers, smugglers, and state-linked proxies, play an increasingly central role in proliferation by exploiting dual-use supply chains and regulatory gaps. Blurred boundaries between state and non-state activity further undermine the credibility and enforceability of treaty-based control.

Timeline

2026–2030

Normalisation of escalatory rhetoric

Nuclear signalling intensifies among middle and great powers as geopolitical tensions rise; securitised discourse dominates multilateral forums.

2031–2035

Institutional paralysis and diplomatic deadlock

The annual cycles of multilateral forums such as NPT review processes increasingly reflect entrenched positions rather than cooperative problem-solving.

2036-2040

Fragmentation of arms control frameworks

Increased reservations on implementation of arms control regimes, leading to selective withdrawals.

2041–2045

Erosion of norms of restraint

With the world completely engulfed in realist and security-centric paradigms, global institutions and frameworks lose their practical relevance.

Favourable Scenario: Managed Competition and Reinforced Nuclear Restraint

By the mid-2030s, nuclear governance has adapted to technological and political change without tipping into instability. While geopolitical competition persists, states increasingly treat nuclear risk as a shared management challenge rather than a domain for signalling dominance. Nuclear weapons remain widely stigmatised in political discourse, and their use is broadly understood as exceptional, catastrophic, and incompatible with responsible statecraft. Norms-based institutions do not eliminate rivalry, but they retain credibility as mechanisms for preventing worst-case outcomes.

The NPT remains the cornerstone of the non-proliferation regime. Rather than serving solely as a compliance instrument, it functions as a platform to reinforce nuclear non-use, support transparency, and address emerging technological and governance challenges. While disagreements on disarmament pace and equity persist, they no longer crowd out cooperation on risk reduction and norm maintenance. Nuclear restraint is increasingly framed as a collective achievement requiring active political maintenance.

AI and related technologies are integrated cautiously into nuclear-related systems. States publicly reaffirm that nuclear decision-making remains under meaningful human control and treat AI as an inherently fallible support tool rather than an authoritative decision-maker. Voluntary exchanges of information on system failures, misclassifications, and cyber incidents support shared learning and reduce escalation risks driven by misinterpretation or overconfidence in technology.

Non-state actors play a more visible and better understood role in nuclear governance. Their support for compliance and implementation efforts is considered more systematically within multilateral discussions, reducing blind spots and governance gaps. Civil society participation becomes more coordinated and sustained, extending beyond traditional arms control

communities and reinforcing public awareness, normative restraint, and intergenerational accountability. Together, these dynamics support a nuclear order that remains tense but is more predictable, resilient, and oriented toward long-termstability.

For the favourable scenario, the first key driver was the political commitment to restraint. States recognise that managing nuclear risk is compatible with competition and essential to national and collective security. Discursive restraint reinforces the political unacceptability of nuclear use and threat of use. The NPT retains legitimacy as the key shared framework for sustaining non-use and managing risk.

The second key driver was the responsible and transparent use of AI. Meaningful human control is reaffirmed as a core principle of nuclear governance. AI-enabled systems support analysis and early warning without displacing human judgment or accountability. Transparency and shared learning on technological failures reduce escalation risks.

The maintenance of the norm of nuclear non-use was another key driver of this scenario. Nuclear weapons remain framed as an exceptional category of weapons that must never be used. Non-use is treated as an active norm requiring reinforcement rather than a passive acquiescence. Nuclear threat rhetoric is recognised as destabilising and counterproductive.

The last key driver of the favourable scenario is the constructive role of non-state actors and civil society. The impact of non-state actors is more systematically assessed within NPT processes. Illicit and destabilising activities are constrained through oversight and cooperation. Civil society engagement strengthens public accountability and supports the resilience of the nuclear taboo.

Timeline

2026–2030

Risk recognition and norm reaffirmation

States increasingly acknowledge AI-related and governance risks in nuclear systems and prioritise transparency, restraint, and meaningful human control in multilateral settings.

2031–2035:

Institutional learning and confidence building

Voluntary information-sharing and confidence-building practices expand, and multilateral forums adapt to address emerging technological risks and non-state actor influences more systematically.

2036–2040

Formalisation of guardrails and cooperative risk-reduction measures

States translate shared principles into more structured arrangements, including agreed transparency practices, crisis communication protocols, and guidelines on AI integration that reinforce human oversight and clarify accountability.

2041–2045

Stabilisation and resilience

Norms of nuclear non-use remain intact, technological risks are better managed, and inclusive governance arrangements strengthen the long-term resilience and legitimacy of the nuclear order.

FOCUS GROUP ONE

Policy Recommendations

FG1 formulated the following policy recommendations, structured around three key drivers: (i) strengthening nuclear norms, (ii) enhanced civil society participation, and (iii) responsible and transparent use of AI in nuclear systems. The group assesses that these drivers will be decisive in shaping the future of nuclear governance and in determining whether outcomes evolve towards more favourable or adverse scenarios. Across the three drivers, the recommendations address political polarisation and insufficient political will by identifying pathways to strengthen nuclear governance even amid sustained geopolitical tension.

I. Strengthen the norm of nuclear non-use

The group urges **states** to:

- Adopt and uphold commitments to discursive restraint that explicitly underscores the exceptional, catastrophic, and politically unacceptable nature of nuclear weapon use. Nuclear-weapon States (NWS) should reaffirm the Reagan-Gorbachev statement that "a nuclear war cannot be won and must never be fought", as the P5 did in 2022.[14] Non-Nuclear-Weapon States (NNWS) should promote agreed language emphasising the fundamental distinction between nuclear weapons and all other weapons, including through reaffirmations such as the 2022 G20 Bali Leaders' Declaration that "the use or threat of use of nuclear weapons is inadmissible."
- Reframe the NPT as a central forum for sustaining the norm of nuclear non-use, even in the absence of near-term disarmament progress. This could be operationalised through working papers that explicitly address the risks posed by nuclear threat rhetoric and the erosion of the nuclear taboo, and by promoting broader recognition of nuclear non-use as a collective achievement requiring active maintenance.

14 White House Press Office, "Joint Statement of the Leaders of the Five Nuclear-Weapon States", *U.S. Mission to International Organizations in Geneva*, (2022) https://geneva.usmission.gov/2022/01/03/p5-statement/.

II. Develop an impact lens to assess third-party contributions

The group urges **states** to:

- Adopt a voluntary, state-led 'impact lens' to identify and assess the contributions of third-party actors- including, but not limited to, civil society- to the objectives and implementation of the Treaty across its three pillars, enhancing evidence-based engagement and coordination among states and relevant actors.
- Consider using the existing format of the Open-Ended Working Group (OEWG) on Nuclear Disarmament to support the development and piloting of an impact lens, including agreement on its scope and guiding questions.
- Apply the pilot throughout the subsequent review cycle, and assess its added value in enhancing engagement, coordination, and tangible support for Treaty implementation.
- Identify areas where informal coordination or dialogue formats may add value, and, where beneficial, convene voluntary and informal exchanges between states and relevant actors identified through the impact lens.

III. Establish a global education coalition to stigmatise nuclear weapons

This group encourages **think tanks, NGOs, academics and relevant institutions** to:

- Establish a global coalition, modelled on existing networks, such as the EU Non-Proliferation and Disarmament Consortium, to challenge the perceived legitimacy and effectiveness of nuclear weapons as instruments of ultimate security through coordinated awareness-raising initiatives.
- Develop tailored educational programs in consultation with pedagogical specialists and integrate them into primary, secondary, and post-secondary curricula to strengthen critical awareness of nuclear policy, reinvigorate grassroots engagement among younger generations, and enhance political accountability in matters of peace and security.
- Support and amplify the coalition's efforts through a strategic public engagement plan, including targeted social media campaigns, to raise awareness beyond schools and engage broader public audiences.
- Assess progress during the 2026-2028 biennium, in advance of the 60th anniversary of the signing of the NPT, by using regular survey-based monitoring to identify measurable normative shifts from these educational and awareness-raising efforts.

IV. Integrate non-nuclear NGOs into nuclear governance debates

The group recommends that **civil society organisations**:

- Integrate non-nuclear civil society actors -including but not limited to environmental, humanitarian, and development organisations- into nuclear policy debates and advocacy efforts to enhance the legitimacy and societal relevance of nuclear governance debates by reaching new audiences beyond traditional expert communities.
- Leverage the expertise, credibility and outreach capacity of these actors to raise awareness of the humanitarian, environmental, and intergenerational impacts of nuclear weapons and counter their normalisation in public discourse.
- Sustain visible bottom-up civil society engagement, across diplomatic and negotiation cycles, to maintain public attention and societal pressure for responsible leadership and results-based nuclear diplomacy.

V. Maintain meaningful human control over the integration of AI in nuclear decision-making

The group urges **states** to:

- Reiterate meaningful human control as a core element of nuclear risk reduction in an AI-enabled environment through national statements and thematic interventions at the NPT Review Conference, ensuring that final authority over decisions with irreversible consequences remains with accountable human decision makers.
- Develop shared understandings by issuing joint statements or working papers affirming that AI-enabled systems do not override human responsibility and accountability.
- Embed the principle in NPT Review Conference documents by referencing its essentiality in the context of emerging technologies.

VI. Establish transparency on AI-related nuclear near-miss incidents

The group urges **states** to:

- Promote the voluntary reporting and exchange of information on AI-related nuclear near-miss incidents, including false alarms, system misclassifications, and cyber intrusions, as a confidence-building measure to prioritise shared learning, transparency, and nuclear risk reduction over attribution or blame.
- Facilitate voluntary, non-operational exchanges of lessons learned and best practices through multilateral, regional, or informal information-sharing arrangements, drawing on mechanisms such as the Hague Code of Conduct and the UN Register of Conventional Arms as models for confidence-building and risk reduction, while ensuring participation respects national security considerations.
- Reflect these practices in NPT Review Conference documentation, including the Chair's summaries and working papers, as confidence-building measures that complement existing verification mechanisms.

FOCUS GROUP TWO

Governance or Instability: Mapping the Trajectory of Global Nuclear Governance

GROUP MEMBERS AND AUTHORS:

Sanaa Alvira

Mohamed El Yamine Atrouche

Darragh Crean

Emily Day

Anabel García García

Sathchidha Pachiappan
(Focus Group Rapporteur)

Hree Putri Samudra

Focus Group 2 (FG2) argued that the Nuclear Non-Proliferation Treaty (NPT) remains a central component of global nuclear governance.

Yet, its legitimacy and long-term viability are increasingly in question because of stalled disarmament progress, widening geopolitical fractures, and repeated failures to agree on Final Documents at successive Review Conferences. Participants highlighted a set of overlapping and mutually reinforcing pressures, from open nuclear threats and renewed arms racing to the erosion of arms-control arrangements such as New START and growing strain on multilateral institutions, which together risk hollowing out the Treaty's effectiveness over the coming decades.

Within this broader crisis of multilateralism, FG2 identified four key drivers shaping global nuclear governance between 2026 and 2050: the decay or renewal of multilateralism, the expansion and governance of peaceful nuclear uses, the development and regulation of emerging technologies, and the role and protection of civil society. While acknowledging the transformative potential of nuclear energy, artificial intelligence (AI), quantum and cyber technologies, the group warned that without renewed political will, stronger safeguards, and more meaningful civil-society participation, these developments could accelerate instability.

Desirable and Undesirable Scenarios for the Future of the NPT

At the beginning of the policy cycle, FG2 identified four drivers they believed would most shape the future trajectory of the NPT, namely the decay or renewal of multilateralism, the expansion and governance of the peaceful uses of nuclear energy, the development and regulation of emerging technologies, and the role and protection of civil society. FG2's desirable and undesirable scenarios traced how different configurations of these drivers could steer the NPT towards either gradual strengthening and resilience or mounting fragility across the near (2026–2030), medium (2030–2040) and long-term (2040–2050) horizons.

In the desirable trajectory, States Parties manage to stabilise and then reinforce the NPT's central role in global nuclear governance through renewed multilateral cooperation, credible implementation of Articles III, IV and VI, and structured engagement with non-state expertise.[15]

15 NPT/CONF.2026/PC.III/CRP.4/Rev.1 and NPT/CONF.2026/PC.III/CRP.4, *Draft (Revised) Recommendations to the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*, 5 and 8 May 2025, paras. 1–5 and 10–16, on reaffirming the NPT as the "cornerstone" of the regime, balanced implementation of all three pillars, and the status of the draft recommendations as a basis for the 2026 Review Conference. Document set listed at Reaching Critical Will, "Documents, 2025 NPT PrepCom": https://reachingcriticalwill.org/disarmament-fora/npt/2025/documents.

They explicitly reaffirm the Treaty as the cornerstone of the non-proliferation and disarmament regime, recommit to the 1995 package, the 2000 Final Document and the 2010 Action Plan, and treat the 2025 Preparatory Committee's draft recommendations not as an aspirational endpoint but as a minimal starting point for further action. In the undesirable trajectory, by contrast, those same review documents are filed away rather than implemented, and the 2026 and subsequent Review Conferences fail to agree even on relatively modest recommendations. Subsequently, the NPT begins to look less like a living framework and more like an increasingly rigid container for unresolved grievances.[16]

A similar divergence emerges on the question of who actually drives multilateralism. In the desirable future, cross-regional coalitions of middle powers, including members of the Non-Aligned Movement (NAM), G77, New Agenda Coalition and Stockholm Initiative, use their PrepCom initiatives and working papers to push a more ambitious agenda on disarmament, transparency, nuclear-weapon-free zones and risk reduction, which gradually eases entrenched polarisation among Nuclear Weapon States (NWS).[17] This renewed diplomatic energy helps to reinforce the moratorium on nuclear testing, and sustain political and financial backing for the International Atomic Energy Agency (IAEA). It also normalised regular consultations on emerging technologies within the NPT review process, in line with the language on the Comprehensive Test Ban Treaty (CTBT), safeguards and new technologies in CRP.4/Rev.1 and related documents.[18] In the undesirable future, great-power competition and regional crises crowd these coalitions out of agenda-setting roles, the Preparatory Commission for the Comprehensive Test Ban Treaty Organization (CTBTO) is politically marginalised, the CTBT norm frays under the combined pressure of Russia's 2023 de-ratification and renewed testing rhetoric, and Permanent Five (P5) countries' resistance to meaningful multilateral reform entrenches perceptions of double standards.[19]

> **Emerging technologies are the second decisive driver. In the desirable scenario, NPT States accept that AI, quantum and cyber capabilities are here to stay and choose to govern them cooperatively rather than race to exploit them.**

Building directly on language in CRP.4/Rev.1 and on the joint statement by Treaty on the Prohibition of Nuclear Weapons (TPNW) States,[20] NWS agree that any decision to use nuclear weapons, or to authorise launch, targeting or employment, must remain under meaningful human control, and they begin exploratory work on an international framework for emerging technologies in

16 NPT/CONF.2026/PC.III/CRP.11, *Draft Final Report of the Preparatory Committee for the 2026 Review Conference of the Parties to the Treaty on the NPT*, sections on the review of recent Review Conference outcomes and the risk that failure to reach consensus recommendations will weaken the regime and deepen political fault lines; and Kelsey Davenport, "Waiting for Godot at the 2026 NPT Review Conference," *Arms Control Today*, September 2025, discussing the political dynamics around CRP.4/Rev.1 and possible failure at the 2026 Review Conference.

17 NPT/CONF.2026/PC.III/CRP.11, Annexes on working papers by the New Agenda Coalition, the Stockholm Initiative, NAM and other cross-regional middle-power coalitions, outlining proposals on disarmament, transparency, nuclear-weapon-free zones and risk reduction intended to shape the 2026 Review Conference agenda; and European Leadership Network, "Pragmatic steps forward: How to protect the Non-Proliferation Treaty (NPT) and get disarmament back on track," 31 October 2023, which analyses the role of middle-power groupings in sustaining NPT multilateralism. Summary at: https://europeanleadershipnetwork.org/commentary/pragmatic-steps-forward-how-to-protect-the-non-proliferation-treaty-npt-and-get/.

18 NPT/CONF.2026/PC.III/CRP.4/Rev.1, sections on safeguards, export controls and the handling of sensitive fuel-cycle activities, which underline the risk that unresolved disputes over enrichment and reprocessing could re-emerge and stress the need to avoid weakening IAEA access and resources. https://docs.un.org/en/NPT/CONF.2026/PC.III/SR.20.

19 Al Jazeera, "Putin revokes Russia's ratification of nuclear test-ban treaty," 2 November 2023, detailing Russia's CTBT de-ratification and associated rhetoric; Arms Control Association, "The CTBT, the Global Nuclear Test Moratorium, and New US Threats to Break the Norm," 14 July 2024, on the fragility of the CTBT norm; and analyses of P5 reluctance to reform multilateral disarmament structures cited in CTBT Friends and EU ministerial statements. See e.g. CTBT Friends' 2024 joint statement: https://www.ctbto.org/sites/default/files/2024-09/Joint%20Statement%20of%20the%20Eleventh%20Meeting%20of%20the%20Friends%20of%20 the%20CTBT.pdf.

20 NPT/CONF.2026/PC.III/CRP.4/Rev.1, *Draft (Revised) Recommendations to the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*, 8 May 2025, especially para. 18 and related sections on "emerging technologies" and nuclear risk reduction, which recognise both the risks and potential benefits of AI, cyber and other emerging technologies for disarmament and verification and call for regular consideration of their implications within the NPT review process; and NPT/CONF.2026/PC.III/CRP.11, *Draft Final Report of the Preparatory Committee*, which reflects these debates in its summary of discussions. Access via: Reaching Critical Will, "2025 NPT PrepCom – Documents,".

nuclear-relevant contexts.[21] By 2030, a standing subsidiary body under Article VIII(3) is examining AI, quantum and cyber implications across the NPT's three pillars, while the IAEA and regional organisations pilot AI-assisted satellite monitoring and advanced data analytics for safeguards under strict transparency, auditability and cybersecurity standards, reflecting the Preparatory Committee's call to harness new tools for risk reduction without sacrificing irreversibility, verifiability and transparency.[22] In the undesirable scenario, the same technologies are woven into nuclear and conventional postures with almost no agreed constraints, so that AI-enabled decision-support, offensive cyber tools and space-based assets are integrated into doctrines in ways that increase misperception, enable spoofing and data poisoning and dramatically raise the risk of deepfake-driven crisis escalation, despite detailed warnings in PrepCom working papers and wider expert commentary.[23]

The third driver, the peaceful uses of nuclear energy, is pulled in opposite directions by climate politics and governance choices. In the desirable scenario, a rapidly expanding global nuclear energy sector, driven by climate and energy-security imperatives, is tightly coupled to strengthened safeguards, increased IAEA resources and targeted assistance for newcomer States, which reflects and deepens the Preparatory Committee's emphasis on linking Article IV implementation to comprehensive safeguards, safety, security and sufficient, assured and predictable funding for technical cooperation.[24] Between 2030 and 2040, carefully scoped experiments with cradle-to-grave digital tracking for selected fuel-cycle segments, such as small modular reactors and research reactors, are undertaken under governance frameworks that protect sensitive information while remaining consistent with Article III and existing safeguards norms.[25] In the undesirable scenario, by contrast, the same "nuclear energy boom" becomes a hedge against uncertain security environments rather than a tool for decarbonisation. IAEA safeguards are hollowed out by arrears, budgetary shortfalls and constrained access, and contentious disputes over enrichment and reprocessing re-emerge across several regions, in stark contradiction with the commitments to strengthen safeguards and export controls recorded in CRP.4/Rev.1.[26] As climate stress and conflict converge, cyberattacks and physical assaults on civilian nuclear infrastructure, including facilities in warzones and sites exposed to extreme weather, become normalised instruments of coercion, directly undermining IAEA decisions

21 Joint Statement by Treaty on the Prohibition of Nuclear Weapons (TPNW) States Parties and Signatory States to the Third NPT Preparatory Committee," New York, 28 April 2025, which calls explicitly for maintaining meaningful human control over nuclear weapons-related decisions and raises concern about the integration of opaque AI systems into nuclear command, control and communications; read together with the emerging-technologies language in CRP.4/Rev.1.

22 NPT/CONF.2026/PC.III/CRP.4/Rev.1, recommendations encouraging exploration of how emerging technologies (including AI, remote sensing and digital tools) can assist nuclear risk reduction and verification while upholding the principles of irreversibility, verifiability and transparency; and Akira Igata et al., "The NPT can't ignore emerging technologies anymore," European Leadership Network, 14 April 2024, which documents how the IAEA and national laboratories are already piloting AI-enabled safeguards tools (satellite imagery, data analytics) and argues for more structured treatment of emerging technologies in the NPT context. https://europeanleadershipnetwork.org/commentary/the-npt-cant-ignore-emerging-technologies-anymore/.

23 NPT/CONF.2026/PC.III/CRP.11, sections summarising PrepCom discussions on information manipulation, cyber threats and emerging technologies and warning that integration of such capabilities into nuclear postures without norms risks increasing crisis instability; and Muhammad Ali Baig, "Deepfakes and nuclear weapons: Why AI regulation can't wait," Lowy Institute, *The Interpreter*, 25 July 2025, which sets out how AI-generated deepfakes, spoofing and data poisoning could heighten misperception and escalation risks in nuclear-armed crises. https://www.lowyinstitute.org/the-interpreter/deepfakes-nuclear-weapons-why-ai-regulation-can-t-wait#:~:text=Muhammad%20Ali%20Baig,a%20risk%20during%20a%20crisis.

24 NPT/CONF.2026/PC.III/CRP.4/Rev.1 and NPT/CONF.2026/PC.III/CRP.4, *Draft (Revised) Recommendations to the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*, 5 and 8 May 2025, section III (Peaceful Uses), paras. 56–63 and 38–43. These paragraphs stress that expansion of nuclear energy under Article IV must be accompanied by strengthened IAEA safeguards, safety and security, "sufficient, assured and predictable" funding for technical cooperation, and the use of advanced digital tools and data systems consistent with Article III to support nuclear-material accountancy and verification.

25 NPT/CONF.2026/PC.III/CRP.4/Rev.1 and NPT/CONF.2026/PC.III/CRP.4, *Draft (Revised) Recommendations to the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*, 5 and 8 May 2025, section III (Peaceful Uses), paras. 56–63 and 38–43. These paragraphs stress that expansion of nuclear energy under Article IV must be accompanied by strengthened IAEA safeguards, safety and security, "sufficient, assured and predictable" funding for technical cooperation, and the use of advanced digital tools and data systems consistent with Article III to support nuclear-material accountancy and verification.

26 International Atomic Energy Agency, *Energy, Electricity and Nuclear Power Estimates for the Period up to 2050* (45th edition, 2025), summarised in "IAEA increases nuclear growth projections," *World Nuclear News*, 14 September 2025, and "IAEA again raises global nuclear power projections," *Nuclear News* (ANS), 16 September 2025. These reports document repeated upward revisions in global nuclear-power projections, including the expected role of SMRs, and note that rapid expansion will require commensurate strengthening of safeguards, regulatory capacity and international oversight. See: https://www.world-nuclear-news.org/articles/iaea-increases-nuclear-growth-projections and https://www.ans.org/news/2025-09-16/article-7370/iaea-again-raises-global-nuclear-power-projections. Taken together with CRP.4/Rev.1, they support the contrast between a safeguarded, assistance-backed energy expansion and a scenario where growth outpaces safeguards and reignites disputes over enrichment and reprocessing.

and NPT commitments on the prohibition of armed attack against nuclear installations.[27]

The fourth driver concerns who has a voice within the regime. In the desirable trajectory, civil society, including youth, technical experts and communities affected by nuclear activities, moves from the margins to a more structured role in both domestic and multilateral processes. The 2023–2025 review cycle's rules of procedure and draft final report are used to entrench clearer modalities for observer participation, more stable support for scientific and youth advisory mechanisms and stronger attention to the experiences of people and communities affected by nuclear weapons and testing, in line with language in CRP.4/Rev.1 and civil-society statements such as those by the Arms Control Association (ACA) and the International Campaign to Abolish Nuclear Weapons (ICAN). Over time, this helps to sustain the legitimacy of the NPT and to anchor disarmament and non-proliferation in broader social constituencies. In the undesirable scenario, the opposite occurs: access for NGOs, independent media and academic institutions is restricted, harassment and disinformation target critical voices, funding for disarmament education and advocacy is slashed, and youth engagement is treated as a cosmetic add-on rather than a substantive input, which erodes the social foundations of the regime exactly when nuclear and climate risks are most acute.

Across the near-term horizon to 2030, these contrasts accumulate. In the desirable scenario, the 2026 Review Conference breaks the pattern of failure by adopting a focused package on nuclear risk reduction, CTBT implementation and emerging technologies that closely track the core elements of

27 International Atomic Energy Agency, *Nuclear Safety, Security and Safeguards in Ukraine* and related updates, as summarised in "IAEA to continue Zaporizhzhia safety zone efforts as war enters second year," *World Nuclear News*, 24 February 2023, which details shelling of Ukrainian nuclear sites and IAEA warnings that military activity around nuclear facilities is "untenable"; and OECD Nuclear Energy Agency, *Climate Change: Assessment of the Vulnerability of Nuclear Power Plants and Approaches for their Adaptation* (Paris: OECD/NEA, 2021; updated 2025 information note), which analyses how floods, storms, heatwaves and droughts already affect nuclear plants and increase risks under climate change. See: https://world-nuclear.org/ukraine-information/wnn-ukraine/wnn-iaea-to-continue-zaporizhzhia-safety-zone-effo and https://www.oecd-nea.org/jcms/pl_61802/climate-change-assessment-of-the-vulnerability-of-nuclear-power-plants-and-approaches-for. For a broader scientific overview of climate hazards to present and future nuclear energy infrastructure, see Joana Portugal-Pereira et al., "Exposure of future nuclear energy infrastructure to climate hazards," *Public Administration Faculty Publications*, 2024, which documents risks from extreme weather, sea-level rise and heatwaves to nuclear plants and associated infrastructure.

CRP.4/Rev.1. The now passed expiration of New START in 2026 is followed relatively quickly by new bilateral or plurilateral understandings that limit the most destabilising capabilities, and States begin making good on their commitments on meaningful human control, enhanced safeguards and expanded education and capacity-building. In the undesirable scenario, the 2026 Review Conference again collapses without consensus, Russia's CTBT de-ratification and explicit testing rhetoric encourage at least one State to resume or threaten nuclear explosive testing, as New START simply lapsed without replacement, and NPT debates on safeguards and verification fall ever further behind the pace of technological change.

By the medium-term horizon of 2030–2040, the system begins to look qualitatively different depending on which path dominates. Under the desirable trajectory, successive review cycles codify and expand earlier gains, the IAEA's safeguards laboratories and analytical networks are strengthened, nuclear-weapon-free zones deepen their institutional capacity, concrete steps are taken towards a Middle East Weapons of Mass Destruction (WMD)-free zone, and at least one NWS makes verifiable reductions that demonstrate that Article VI can still be operationalised even in a tense geostrategic climate. Under the undesirable trajectory, deepening mistrust and pervasive ambiguity reinforce arms-race dynamics across multiple dyads, state-sponsored disinformation and sophisticated cyber operations corrode confidence in official communications and in international organisations, evasion of safeguards and incremental treaty withdrawals go largely unpunished, and the normative centre of gravity shifts away from universal treaties towards fragmented regional arrangements and opaque coalitions of convenience.

By the long-term horizon of 2040–2050, the divergence is stark. In the desirable scenario, sustained investment in quantum-secure communications, resilient verification architectures and capacity-building has produced a more distributed, robust and inclusive safeguards system, the CTBT has entered into force or is underpinned by a much stronger political norm and enhanced International Monitoring System capabilities. Additionally, a multi-decade roadmap towards a global treaty on the elimination of nuclear weapons has been agreed as an "effective measure" under Article VI, with the NPT, CTBT, TPNW and nuclear-weapon-free zones functioning as mutually reinforcing pillars of a more rules-based nuclear order.[28] In the undesirable scenario, sustained mistrust, corrosive misinformation and intensifying competition have pushed the system towards a form of nuclear anarchy in which arms-control guardrails have largely disintegrated, verification architectures are outpaced by miniaturised and digital technologies, research and development moves into opaque state, quasi-state and private spaces, non-state actors gain greater access to dual-use technologies and potentially fissile materials and the probability of miscalculation, unauthorised use or catalytic escalation is significantly higher than it is today.

28 NPT/CONF.2026/PC.III/CRP.4/Rev.1, *Draft (Revised) Recommendations to the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*, 8 May 2025, especially para. 18 and related paragraphs on "emerging technologies", nuclear risk reduction and strengthening the review process under Article VIII(3), which call for systematic consideration of AI, cyber and other technologies and note the value of horizon-scanning and expert input. See also NPT/CONF.2026/PC.III/CRP.11, *Draft Final Report of the Preparatory Committee*, which summarises debates on institutionalising discussions of emerging technologies across all three pillars.

Ultimately, the divergence between these two pathways turns on how governments choose to handle a finite set of decision points in the coming years. In the favourable trajectory, States Parties use the NPT review process under Article VIII(3) to revitalise multilateralism, to implement Articles III, IV and VI more fully and to integrate the governance of emerging technologies and peaceful uses into a coherent and anticipatory framework grounded in the recommendations of CRP.4/Rev.1 and related working papers. In the unfavourable trajectory, the same fora are allowed to hollow out, political will dissipates and unresolved grievances over disarmament, equity and representation accelerate fragmentation, even as formal rules and procedures remain intact. States face a series of critical choices: how they fund and empower bodies such as the IAEA and CTBTO, whether they regulate or instrumentalise AI, quantum and cyber capabilities, whether they protect or restrict civil-society space, and how they respond to nuclear accidents, near-miss incidents and attempted norm violations. Ultimately, these decisions, alongside whether they entrench or abandon the emerging standard of meaningful human control over nuclear-related technologies highlighted at the 2025 PrepCom, will determine which scenario moves from a foresight exercise to a political reality.

> **The policy recommendations that follow are explicitly designed to tilt those decision points towards FG2's desirable pathway and to disrupt the feedback loops that would otherwise propel the international system towards nuclear anarchy.**

FOCUS GROUP TWO

Policy Recommendations

Building on its scenario analysis and four core drivers, FG2 proposes a compact set of measures intended to pull global nuclear governance towards a more ordered, resilient NPT-centred regime rather than an increasingly anarchic landscape. These recommendations translate the draft outcomes of the 2023–2025 NPT Preparatory Committee and recent stresses on the arms-control architecture. This includes the expiry of New START in 2026, the fragility of the CTBT norm, and the projected boom in nuclear energy, into concrete, near-term policy moves for the 2026 Review Conference and beyond.

I. Peaceful Use of Nuclear Energy and Safeguards

The group urges **NPT States Parties** to:

- Promote "Safeguards-by-Design": Member states should encourage the integration of safeguards-by-design for all new reactor types (especially small modular reactors [SMR] and advanced reactors) and ensure vendors and operators engage the IAEA Department of Safeguards at the design stage so that verification approaches evolve alongside technology.
- Increase Safeguards Funding: Member States should increase IAEA predictable regular-budget funding for safeguards, reduce over-reliance on earmarked voluntary contributions, and invest in recruitment, training, and retention of specialised staff, particularly in digital security and data analytics, in line with the resource and laboratory strengthening priorities reflected in CRP.4/Rev.1 and the IAEA's recent reports on growing safeguards workloads.
- Uphold IAEA Procedures and Restrain Unilateral Actions: Member states should address suspected violations of safeguards obligations through Article XII of the IAEA Statute, and should refrain from unilateral counter-proliferation actions that bypass or undermine the Agency, since such measures erode confidence in the multilateral regime that the NPT is meant to anchor.

II. Emerging Technologies and Verification

The group urges NPT States Parties to:

- Establish a Standing Expert Working Body: Create a standing expert working body under NPT Article VIII, supported by the United Nations Institute for Disarmament Research (UNIDIR) and collaborating with the IAEA, CTBTO, and United Nations Office for Disarmament Affairs (UNODA). This body would be tasked with horizon scanning, risk assessments, and policy guidance on AI, quantum technologies, autonomous systems, and cyber threats across all three NPT pillars. This body should also interface with a broader Permanent Horizon-Scanning and Foresight Forum to identify "black swan" technologies before they outpace norms and safeguards.
- Codify Meaningful Human Control & Transparency: NWS should collectively codify a norm of meaningful human control over any decision to use nuclear weapons or authorise launch, targeting, or employment. All States Parties should endorse a political declaration and provide regular transparency reports on AI integration into NC3, technical safeguards against autonomy, and the robustness of human-in-the-loop testing.

CONTINUED >

II. CONTINUED:

- Future-Proof Verification Infrastructures: Prioritise the migration of safeguards communications, early-warning links, and arms-control data exchanges to post-quantum cryptography. Launch IAEA-led blockchain pilots for nuclear-material accounting in selected SMR and research-reactor fuel cycles. Create a joint IAEA–UNODA program to expand AI-assisted verification tools, enforcing strict standards of explainability, auditability, bias testing, and resistance to adversarial manipulation.

III. Effective Multilateralism and Governance

The group urges **NPT States Parties** to:

- Create an NPT Technical Secretariat: The 2026 Review Conference President and Bureau, with strong backing from Non-Nuclear-Weapon States (NNWS) coalitions and key financial stakeholders, should secure assessed funding to establish a small, professional NPT technical secretariat, mandated to provide continuity, data management and institutional memory between Review Conferences. Such a body would help mitigate the recurring "process failure" of non-consensus Review Conferences, stabilise administrative support for the Treaty at a time of political and budgetary pressure on the IAEA and CTBTO, and reduce representation and capacity gaps that currently disadvantage small and marginalised States, including Small Island Developing States (SIDS), in highly technical debates.

IV. Civil Society and Activism

The group urges **NPT States Parties** to:

- Establish a Trust Fund for Disarmament Education: States Parties should establish a dedicated, transparently governed trust fund for disarmament education, translation, and outreach, supporting work in multiple languages and formats and targeting underserved communities.
- Facilitate Meaningful Civil Society Participation: Facilitate meaningful civil society participation in the review process by opening subsidiary-body meetings by default, institutionalising interactive sessions between delegations and civil society (ensuring generational, gender, and geographic diversity), and creating a standing scientific advisory group to work with the proposed NPT Technical Secretariat and brief delegations on relevant technological and scientific developments.
- Establish Whistle-blower Protections: The UN and the IAEA should establish secure channels and protection mechanisms for whistle-blowers who report potential treaty-relevant violations

Conclusion

In conclusion, FG2 underlines that the following recommendations are responses to a lived period of systemic stress on nuclear governance, marked by the expiry of New START and renewed pressures on the CTBT. This is also reflected by a rapidly expanding civil and military nuclear landscape, as well as by new initiatives such as the 2024 UN General Assembly decision to establish an independent scientific panel on the physical effects and societal consequences of nuclear war. The group therefore urges States to view these measures as mutually reinforcing steps towards revitalising multilateralism, managing emerging technologies responsibly and embedding disarmament as a guiding orientation, including through the use of "effective measures" such as the TPNW alongside the NPT.

FOCUS GROUP THREE

Adapt or Collapse: Changing Pathways and Practices to Stabilise and Reinvigorate the NPT

GROUP MEMBERS AND AUTHORS:

Noel Ang
Daihan Cheng
Chiara Fargnoli
Kuhaneetha Bai Kalaicelvan
Parul Trivedi
Sarah Weiler
Ian Fleming Zhou
(Focus Group Rapporteur)

The failure of the 2022 NPT Review Conference to adopt a consensus outcome document demonstrated how geopolitical shocks can derail institutional processes and accelerate negative trajectories within the non-proliferation regime.

As the international community approaches the 2026 Review Conference, similar dynamics risk further weakening confidence in the Treaty unless proactive steps are taken to adapt its practices and strengthen nuclear risk-reduction mechanisms.[29] Experts have increasingly argued that over-reliance on a single consensus outcome document risks institutional paralysis and that alternative approaches and procedural reforms should be considered for the 2026 Review Conference.[30] This paper presents two contrasting futures for the NPT: one leading toward fragmentation and functional collapse, and another characterised by adaptive stabilisation and renewal. These scenarios illustrate how decisions taken in the lead-up to and during the 2026 Review Conference may either reinforce negative pathways or strengthen the Treaty's capacity to manage nuclear risks amid sustained geopolitical competition. Drawing on these pathways, the paper concludes with a focused set of policy recommendations aimed at mitigating the drivers of regime erosion while strengthening pathways toward stabilisation, risk reduction, and institutional resilience.

Favourable Scenario: Adaptive Stabilisation and Renewal of the NPT

This scenario describes a best-case trajectory in which the NPT adapts to sustained geopolitical competition by prioritising nuclear risk reduction, procedural resilience, and normative reinforcement. Rather than resolving all disarmament deadlock immediately, the regime gradually stabilises itself through incremental, practical measures that preserve credibility, manage escalation risks, and maintain broad political buy-in.

In the immediate period surrounding the 2026 Review Conference, States Parties increasingly recognise nuclear risk reduction as the most viable stabilising function of the treaty amid persistent disarmament deadlock and intensified geopolitical competition. Consensus agreements in the past have prioritised practical measures to reduce risks

29 United Nations, "Non-Proliferation Treaty Review Conference Ends without Adopting Substantive Outcome Document due to Opposition by one Member State," press release, August 26 2022, https://press.un.org/en/2022/dc3850.doc.htm.

30 Ian F. Zhou, Valeriia Hesse, Anna E Schmitz., and Karina Touzinsky, "Achieving Success Beyond Final Documents: Recommendations for the 2026 NPT Review Conference," *Arms Control Today*, May 2024, https://www.armscontrol.org/act/2024-05/features/achieving-success-beyond-final-documents-recommendations-2026-npt-review.

of miscalculation, inadvertent escalation, and accidental nuclear use.[31] Where consensus proves unattainable, progress is preserved through alternative outcome formats such as chair's summaries or issue-specific agreed elements, preventing procedural paralysis and sustaining the credibility of the review process.

This favourable trajectory is continued through incremental but meaningful stabilisation dynamics amongst State Parties. In the initial five to ten years following the expiration of the New START, nuclear states recognise the necessity of enacting interim arms control and risk-reduction measures. This helps preserve transparency and predictability following the erosion of formal bilateral treaties, while reduced nuclear rhetoric and limited de-escalatory developments create political space for confidence-building. As these confidence-building practices develop, measures such as advanced notification of missile tests, military hotlines, and information-sharing arrangements are increasingly treated as baseline expectations of responsible nuclear conduct. This creates a more manageable transition into an adaptable and agile NPT system. In this favourable scenario, there is also a reinforced commitment from the U.S. and Russia to negotiate a successor to New START, even if only through interim or framework agreements that prevent a complete collapse of bilateral arms control.

In the meantime, cooperative engagement on emerging technologies, including AI and advanced verification tools, supports dialogue while reducing misperception, thereby strengthening confidence in monitoring and risk-reduction efforts. Over time, improved verification technologies and transparency-enhancing tools contribute to lowering uncertainty and reinforcing strategic stability. Parallel progress on the peaceful uses pillar further reinforces the legitimacy and balance of the NPT.

> **Advances in nonproliferation nuclear technologies, strengthened safeguards, and enhanced international cooperation in civilian nuclear energy link development objectives with non-proliferation commitments, sustaining political support from NNWS and reinforcing the Treaty's credibility.**

In the long-term outlook, about 15 to 20 years into the future, sustained civil society engagement and humanitarian advocacy reinforce norms of restraint, contributing to moderation in declaratory policies and strengthening the nuclear taboo even in the absence of substantive nuclear arsenal reductions.

In tandem with the strengthening of global norms, the incremental inclusion of non-NPT nuclear-armed states, such as Israel, India, and Pakistan, through safeguards cooperation and observer engagement reduces regime blind spots and aligns a broader range of actors with shared expectations of responsible nuclear conduct.[32] In this scenario, these developments position the NPT as an adaptive framework capable of managing nuclear risks despite enduring geopolitical competition and structural disarmament constraints. The implications of this stabilised system would be a global security environment that is more inclusive, resilient towards shocks, and productive of the gradual reinforcement of de-escalatory and risk-reducing norms and practices.

31 Harald Müller, "The NPT Review Process and the Future of the Nuclear Order," *International Affairs* 96, no. 2 (2020): 409–428, https://academic.oup.com/ia/article/96/2/409/5819331.

32 Michael Krepon, "Nuclear Risk Reduction: Is It Time to Revisit Crisis Management?" Arms Control Today, June 2019, https://www.armscontrol.org/act/2019-06/features/nuclear-risk-reduction-time-revisit-crisis-management.

Unfavourable Scenario: Fragmentation and Functional Collapse of the NPT

This scenario describes a worst-case trajectory in which the NPT progressively loses its credibility and functional relevance due to mutually reinforcing geopolitical, institutional, and normative failures. A central manifestation of this outcome is the failure of the 2026 Review Conference to produce a consensus outcome document, reinforcing perceptions of institutional paralysis and undermining confidence in the treaty as a viable mechanism for managing nuclear risks during periods of major power confrontation.[33]

The late 2010s marked a significant inflexion point with the collapse of the INF Treaty, as well as the unresolved status of the CTBT. In the scenario presented here, the erosion of arms control mechanisms continues and deepens in the decade following the expiration of New START.

As verification mechanisms and cooperative arms control practices are not maintained by states, they increasingly default to hostile interpretations of others' actions, undermining confidence in treaty-based restraint. This dynamic weakens incentives for compliance within the NPT framework, as some states lower their compliance ambitions while others signal potential withdrawal. The NPT persists formally but becomes less effective in constraining nuclear behaviour, and renewed arms racing gains momentum.

Breakdown of bilateral and multilateral arms control poses a direct challenge to the NPT. The failure to renew New START in this manner removes the last remaining constraints on strategic arsenals. The resulting loss of transparency, verification, and predictability intensifies worst-case threat assessments, deepens strategic mistrust, and reduces political willingness to compromise at the 2026 Review Conference and subsequent review cycles.

33 United Nations, "Non-Proliferation Treaty Review Conference Ends without Adopting Substantive Outcome Document due to Opposition by one Member State."

In the first five to ten years after the onset of this scenario, persistent geopolitical conflict, such as the Ukraine-Russia conflict, continues to deepen East-West divisions and limits space for cooperation within the NPT. Experience from the 2022 Review Conference shows how unresolved geopolitical conflicts can prevent consensus even where technical agreement exists. Additional crises, including heightened tensions in the Middle East or expanded great-power confrontation elsewhere, could further entrench bloc-based dynamics. Under such conditions, geopolitical confrontation overshadows arms control and risk-reduction priorities, weakening the credibility of the review process.

> **Technological acceleration, signs of which had started to appear already in the early 2010s, begins to outpace governance capacity more decisively as this scenario continues into the late 2020s and beyond.**

Rapid advances in AI, cyber capabilities, and delivery systems by design exceed the governance capacity of the NPT. Risks include evasion of verification,[34] disinformation that undermines compliance assessments, accelerated decision-making, cyber theft of sensitive technologies, and weapons modernisation outside existing arms control frameworks.

On top of, and resulting from, the developments sketched above, nuclear weapons become increasingly normalised as instruments of statecraft, which in turn erodes any normative authority the NPT may have to encourage responsible nuclear behaviour. In the immediate post–Cold War period, the nuclear taboo had appeared to strengthen. This trend had already stalled and then reversed in the years leading up to the 2026 Review Conference; in the unfavourable scenario we develop here, the erosion of the nuclear taboo and related norms continues at an increased pace in the following decades. Nuclear weapons regain strategic salience in security discourse, while humanitarian and legal constraints recede in relative prominence. Meanwhile, the credibility of negative security assurances erodes, and NNWS increasingly question whether NPT membership provides protection from coercion or attacks on civilian nuclear infrastructure.[35] These trends reinforce perceptions of inequality and injustice within the regime and weaken normative commitment to restraint.

In earlier Review Conferences, coalitions played a central role in aggregating interests and facilitating compromise within the NPT. In recent cycles, however, increasing polarisation has weakened these groupings, making compromise more difficult and heightening the risk of persistent deadlock in future review cycles. If, as described in this scenario, these trajectories were to shape the upcoming years and decades, the NPT would remain legally intact, but progressively marginalised, failing to effectively prevent proliferation, increasing risks of escalation, and moving us towards a more dangerous and unstable world.

34 Cindy Vestergaard, "Verify, Verify, Verify: How Technological Disruption is Redefining Nuclear Risk," Stimson Center, August 5, 2025, https://www.stimson.org/2025/verify-verify-verify-how-technological-disruption-is-redefining-nuclear-risk.

35 Arms Control Association, "Nuclear Declaratory Policy and Negative Security Assurances," Arms Control Association, January 2025, https://www.armscontrol.org/factsheets/nuclear-declaratory-policy-and-negative-security-assurances.

FOCUS GROUP THREE

Policy Recommendations

The recommendations are targeted at the following groups of stakeholders: States, including both nuclear and non-nuclear states; civil society, including non-governmental organisations; and international organisations.

I. Move Beyond Consensus as the Sole Measure of Success

The group urges **NPT State Parties** to:

- States Parties should not assume that failing to reach a final consensus document agreement automatically makes a NPT Review Process a failure.[36] Persistent geopolitical tensions have made reaching a full consensus increasingly difficult, allowing individual disputes to paralyse the process. Alternative outcome formats, including Chair's summaries, issue-specific agreed elements, or compilations of positions, should be formally recognised to ensure continuity, transparency, and substantive progress even in the absence of consensus.

36 See Ian Fleming Zhou et al., "Achieving Success Beyond Final Documents: Recommendations for the 2026 NPT Review Conference," Arms Control Today (May 2024), which argues that while traditional consensus outcome documents have been the benchmark of success, current geopolitical polarization necessitates exploring alternative outcome modalities that preserve transparency and progress in the absence of full consensus.

II. Institutionalise Compartmentalisation Within the Review Process

The group urges **NPT State Parties** to:

- Strengthen procedural mechanisms to separate geopolitical disputes from treaty implementation discussions.[37] Structured negotiation practices, disciplined language use, and empowered subsidiary bodies can help insulate technical work on safeguards, non-proliferation, and risk reduction from external political conflicts. Compartmentalisation should be understood as a risk-reduction tool that protects shared security interests during periods of geopolitical tension.

37 See Ian Fleming Zhou et al., 2024.

III. Re-anchor Deliberations in Existing Consensus Commitments

The group urges **NPT State Parties** to

- Systematically review and reaffirm the consensus-based commitments adopted in 2000 and 2010, including the 13 Steps and the 64-point Action Plan.[38] Using these agreed benchmarks as reference points would enhance continuity, reduce procedural deadlock over language, and refocus deliberations on implementation rather than renegotiation.

38 United Nations, *Final document of the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*, NPT/CONF.2010/50 (Vol. I) (New York: United Nations, 2010).

IV. Reinvest in Arms Control and Nuclear Risk-Reduction Mechanisms

The group urges **NPT State Parties** to:

- Prioritise interim stabilising measures such as transparency arrangements, data exchanges, crisis communication channels, and voluntary restraint. These mechanisms help manage threat perceptions, reduce miscalculation risks, and stabilise strategic relationships, reinforcing the NPT's relevance as a risk-management framework.

V. Address Emerging Technologies within the NPT Framework

The Group Urges **NPT States Parties, UNODA, and UNIDIR** to:

- Initiate structured dialogue on the implications of emerging technologies, including AI, cyber capabilities, and advanced delivery systems for nuclear risk, verification, and stability. Dedicated expert-level processes can help develop common guardrails, prevent technological subversion of safeguards, and ensure that innovation supports stability rather than arms racing dynamics.[39] P5 States should also reaffirm that the decision to employ nuclear weapons must remain under human control.

39 See Stockholm Initiative for Nuclear Disarmament, "Navigating the potential impact of emerging technologies on nuclear disarmament, arms control, non-proliferation and peaceful uses of nuclear energy and technology", working paper submitted to the Preparatory Committee for the 2026 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, August 2025, NPT/CONF.2026/PC.III/WP.35, https://digitallibrary.un.org/record/4081445?ln=en&v=pdf.

VI. Facilitate Incremental Inclusion of Non-NPT Nuclear-Armed States

The group urges **NPT States Parties, UNODA, UNIDIR, and P5 Governments** to:

- Explore structured engagement mechanisms, including observer participation, for India, Pakistan, and Israel. Incremental inclusion through safeguards cooperation and review-process engagement promotes norm diffusion, reduces institutional blind spots, and strengthens the NPT's relevance in a multipolar nuclear order without undermining the Treaty's legal integrity.

FOCUS GROUP FOUR

Recipes for Peace: Communication or Annihilation

GROUP MEMBERS AND AUTHORS:

Sardar Jehanzaib Ghalib

Kaya van der Horst
(Focus Group Rapporteur)

Vivienne Lyndon

Kenji Miu

Amanda Narhan Pereira

Nivedita S

CONTRIBUTOR:

Mahlet Sebsibe Haile

The Undesirable Scenario: Failure of the NPT Regime

2026–2045

In Greek mythology, prophecies unfold inexorably, often ending in tragedy despite all efforts to avert them. The scenario described in this section is not a prophecy: It is a warning. It outlines a plausible sequence of developments over the next two decades should current efforts to sustain the NPT and the broader arms control architecture fail.

Between 2026 and 2045, a convergence of structural pressures steadily weakened the foundations of strategic stability. The erosion of arms control unfolded alongside intensifying climate stress, rapid technological change, and deepening political polarisation. Rising nationalism and domestic fragmentation reduced support for multilateralism, constrained institutional capacity, and narrowed the political space for compromise. Together, these forces created an environment increasingly resistant to cooperation and risk mitigation.

The initial phase of decline was triggered by the collapse of arms control frameworks. The failure to extend the New START Treaty in February 2026 removed verifiable limits on the world's two largest nuclear arsenals, accelerating the arms race, reducing transparency and eroding trust.[40] This rupture further weakened the CTBT, as signals of renewed nuclear testing undermined disarmament norms and diminished the credibility of the NPT's disarmament pillar, deepening frustration among non-nuclear weapon states (NNWS).

These dynamics coincided with intensifying climate-induced scarcity. The inability of governments to integrate climate risks into security planning exacerbated competition over food, water, and strategic resources, amplifying migration pressures, regional instability, and conflict risks in fragile settings.[41]

Amid continuing instability and mistrust, nuclear deterrence remained dominant. Political leaders increasingly portrayed nuclear weapons as indispensable to national survival, weakening restraint, normalising their potential use, and reinforcing proliferation incentives. Domestic polarisation and the rise of nationalist governments further eroded support for multilateralism,[42] as selective compliance and institutional attacks hollowed out cooperative security arrangements.

40 Tim Caughley, *Racing Towards Risk: The Hidden Costs of Nuclear Arms Build-Up* (Geneva: United Nations Institute for Disarmament Research, 2025), https://doi.org/10.37559/WMD/25/NRR/01.

41 *Climate change and security risks*, United Nations Environment Programme, accessed January 27, 2026, https://www.unep.org/topics/disasters-and-conflicts/environment-security/climate-change-and-security-risks.

42 United Nations, "Rising Nationalism Threatens Multilateralism's 70-Year 'Proven Track Record' of Saving Lives, Preventing Wars, Secretary-General Tells Security Council," *UN Press*, November 9, 2018, https://press.un.org/en/2018/sc13570.doc.htm.

By the mid-2030s, the cumulative erosion of governance and accelerating technological change had begun to destabilise crisis management itself. AI was increasingly embedded in early-warning and decision-support systems, but automation bias, data vulnerabilities, and false positives compressed decision-making timelines, heightening risks of misperception and inadvertent escalation.

In parallel, AI-enabled disinformation and deepfakes became routine features of international crises.[43] Fabricated evidence of attacks or treaty violations spread faster than verification or diplomatic response mechanisms, intensifying public and elite pressure for rapid action and further narrowing the space for de-escalation.

Crisis communication channels continued to deteriorate. Diplomatic isolation, cyber disruption, and the erosion of military-to-military hotlines reduced opportunities for clarification and reassurance, encouraging worst-case interpretations of adversary behaviour. As a result, conventional conflicts, particularly among nuclear-armed rivals, were increasingly prone to escalation beyond initial intent.

International institutions proved unable to reverse these trends. Funding constraints, selective compliance, and sustained political pressure weakened the UN and the IAEA, while declining inspection credibility further eroded confidence in compliance monitoring and hollowed out the NPT regime. In this environment, crisis stability rested less on institutions and shared rules than on unilateral judgment and coercive capability, consolidating a shift toward Hobbesian power politics defined by self-help, suspicion, and dominance in escalation.

The final phase is defined by the failure of escalation control. In a context of systemic distrust, compressed decision-making, and weakened institutions, a major crisis--whether triggered by regional conflict, nuclear terrorism, or misinterpreted signals–inadvertently escalated beyond containment.[44] Nuclear weapons were used, either directly between states or following a terrorism-related incident that provoked rapid retaliation.

The consequences were catastrophic. A nuclear exchange produced immediate mass casualties, followed by cascading humanitarian and ecological effects.[45] Infrastructure collapse, radiation exposure, and severe climate disruption triggered global food shortages and widespread displacement. The resulting humanitarian crisis overwhelmed remaining governance capacities and pushed global systems beyond recovery thresholds.

In the aftermath, little remained of the multilateral order beyond its remnants. The formal architectures of diplomacy and arms control persisted only as hollowed structures. What had once constrained escalation now served mainly as evidence of a system that assumed restraint would endure. The post-crisis environment was defined not by recovery or renewed equilibrium, but by a world stripped to coercion and survival, with irreversible damage to human societies and the planetary systems on which they depended.

Desirable Scenario: Success of the NPT Regime

2026–2045

Following the momentum generated at the 2026 NPT Review Conference–where urgency, diplomatic creativity, and political determination crystallised a universal recommitment to the NPT's initial principles to prevent the use of nuclear weapons and achieve their complete elimination–multilateral diplomacy succeeded in bringing the CTBT into force.[46] Further, the Conference on Disarmament ended its nearly 30-year political stalemate and returned to negotiating substantive issues. With cooperative dialogue restored, States successfully negotiated the Prevention of an Arms Race in Outer Space (PAROS) treaty and the Fissile Material

43 Todd C. Helmus, *Artificial Intelligence, Deepfakes, and Disinformation*, RAND Perspectives (Santa Monica, CA: RAND Corporation, July 6, 2022), https://www.rand.org/pubs/perspectives/PEA1043-1.html.

44 Andrey Baklitskiy and Sarah Ruth Opatowski, *Nuclear Risks: Perceptions and Pathways – Retreat Report* (Geneva: United Nations Institute for Disarmament Research, 2024), https://doi.org/10.37559/WMD/24/NRR/01.

45 See Annie Jacobsen, *Nuclear War: A Scenario* (New York: Torva, 2024).

46 *Comprehensive Nuclear-Test-Ban Treaty*, Annex 2.

Cut-Off Treaty (FMCT), and negative security assurances (NSA) were reflected in legally binding commitments. The US and Russia also negotiated an agreement succeeding the expiration of the New START treaty. In effect, legally binding restraints became embedded in both domestic and international law.

Another success building on the 2026 NPT RevCon was the widespread recognition and fear amongst both States and civil society of a nuclear fallout's deadly consequences, leading to the abandonment of first-use policies. The significant attention to the reality of nuclear war was due to a successful campaign by civil society and scientists.[47] As the states continued to shift from deterrence-based security doctrines to cooperative international security approaches, nuclear states acknowledged that nuclear weapons are ultimately self-defeating. Further, states realised that an overreliance on deterrence, without arms control, does not guarantee safety. Consequently, states ceased the use of nuclear escalation as a coercive tool, redirecting their defence strategies to pressing threats of the 21st century, including climate change, mis/disinformation and cyberwarfare.[48]

In a similar vein, the public underwent a mass awakening whereby popular opinion shifted towards an understanding that nuclear weapons are threats to security on all fronts.

The dramatic evolution in public discourse and newly instituted stigma against nuclear weapons was largely achieved through concerted efforts by civil society, scientists, academics, and doctors. Importantly, youth-led initiatives—like the CTBTO Youth Group and UNODA's Youth 4 Disarmament—succeeded in educating young people about the dangers, and at the time, the imminent threat of nuclear war. This inspired collective action in the form of campaigning and organising for political activism,[49] where anti-war activists took to the streets to protest, contributing to heightening public pressure to redirect the outlandish rates of skyrocketing military expenditure to health care, education and other social goods. This youth empowerment set the ground for greater youth representation in peace movements and decision-making spaces. Ultimately, the narrative that nuclear weapons are essential for security was debunked as peace-based national security doctrines took hold by 2030.

> **As states fully complied with their international legal obligations– and security doctrines shifted from deterrence-focused to collaboration-focused as an established global norm– reporting and verification measures became standardised and transparent.**

47 This could be following the release of the report by the independent Scientific Panel on the Effects of Nuclear War. See United Nations Office for Disarmament Affairs, "Panel on the Effects of Nuclear War," United Nations, https://disarmament.unoda.org/en/panel-effects-nuclear-war/home.

48 To illustrate, the UK Government's 2025 National Security Strategy and Strategic Defence Review has acknowledged climate change and environmental degradation as "persistent transnational challenges," while NATO has designated climate change risks as "threat multipliers" and has highlighted the need for energy security, resilience and adaption from sudden or dramatic changes in natural environments for security and defence. See UK Government, 'Government Response to the Climate Change Committee 2025 Adaptation Progress Report', (2025) *GOV.UK* https://www.gov.uk/government/publications/government-response-to-the-climate-change-committee-2025-adaptation-progress-report/government-response-to-the-climate-change-committee-2025-adaptation-progress-report; North Atlantic Treaty Organisation. 2025. 'Environment, Climate Change and Security' https://www.nato.int/en/what-we-do/wider-activities/environment-climate-change-and-security.

49 Monalisa Hazarika, *"Role of Youth in Advocating against 'Weapons of Widespread Destruction'"* (United Nations Youth Champion for Disarmament, May 2025), https://unicri.org/sites/default/files/2025-05/07_Role%20of%20youth.pdf.

Voluntary data exchanges increased, accompanied by doctrinal clarifications, and the notification of military exercises.[50] The normalisation of reporting and verification measures thereby lowered the risk of inadvertent nuclear escalation through rebuilt trust and open communication. Concurrently, notifying military exercises normalised third-party observation and joint monitoring missions, thereby further enabling reporting.

Crucially, the entry into force of the CTBT granted the CTBTO its full verification authority. Interim arms control and confidence-building measures became more routine, giving rise to a web of practical cooperation, driven by the expanded scope of collaborative consensus that reduces strategic uncertainty and builds trust incrementally. Thus, by the mid 2030s, reporting was straightforward and routine for states.

The political commitment to retain humans in nuclear decision-making was steadfast, as evidenced by numerous policy declarations and by interim safeguards against AI being weaponised or becoming too autonomous to withstand human decision or input. These immediately begin to develop into a norm against the use of AI in nuclear decision-making, thereby reinforcing the expectation that ultimate authority over nuclear use must be subject to human judgment, accountability, and ethical restraint and reflection. Consequently, by 2040, sensitive areas such as cyberwarfare, AI in the military domain, and autonomous weapons systems were governed through internationally aligned frameworks that tackle issues like sensitive information, opacity, control, and implementation risks that affect AI governance.[51]

Lastly, by the end of 2045, the end of major conflicts brought geopolitical stabilisation to key regions. In the Middle East, Europe, East and South Asia, a nuclear weapons-free zone was established, decreasing tensions between nuclear weapon states (NWS) and NNWS. India and Pakistan stabilised their relations and 'moved into a phased disarmament pathway', while the war between Russia and Ukraine ended with a peace treaty that included disarmament and arms control obligations. Trilateral relations between China, Korea and Japan stopped generating mutual hostility and mistrust, and tensions between Israel, Iran and other neighbouring Arab nations were significantly eased through limits on armaments.

50 Vignard, Kerstin. 2010. *Disarmament Forum: Arms Control Verification*, (Geneva: United Nations Institute for Disarmament Research), pp. 27–32. https://Unidir.org/Publication/Disarmament-Forum-Arms-Control-Verification/.

51 Taeihagh, Araz. 2025. 'Governance of Generative AI', *Policy and Society*, 44.1 nuclear-weaponhttps://doi.org/10.1093/polsoc/puaf001.

FOCUS GROUP FOUR

Policy Recommendations

Between 2026 and 2045, the NPT regime faces a critical fork in the road ahead. One path leads to institutional decay and catastrophic nuclear use; the other, built through deliberate action, prevents nuclear war and advances disarmament. These six "recipes for peace" create political, legal, institutional and technological conditions for survival. Like recipes, they require the right ingredients in the right sequence: trust enables a doctrine shift, which locks in legal commitments, in turn allowing transparent crisis management, underpinned by technological safeguards that can be verified and sustained. All recommendations are directed towards states.

I. Foster Cooperation, Dialogue and Rebuild Trust

The group urges **states** to:

- Stop fueling polarisation in multilateral forums, especially the Conference on Disarmament.
- Cease provocative rhetoric or procedural obstruction of substantive negotiations.
- Conduct nuclear negotiations in good faith, refraining from engaging in political theatre. NWS should focus on 'low-hanging fruit' issues, such as nuclear risk reduction.
- Guarantee NSA.
- Convene conferences on non-state actor threats (i.e. nuclear terrorism, cyber operations).
- Advance no-first-use commitments.
- Establish a P5 Declaration of Action outlining steps to prevent nuclear war. Nuclear rivals should launch joint research on crisis management.

II. Establish a New International Security Doctrine:

The group urges **states** to:

- Formally incorporate youth, scientists, educators and civil society into security policymaking as standing advisory groups, not consultees.
- Incorporate nuclear risk education into mandatory peace-based civic education, including for officials and military personnel.
- Strengthen science-policy interfaces in decision-making related to national security.
- Fund and promote sustained public peace-centred education that links nuclear and technological risks to concrete societal impacts, including health system resilience, climate disruption, food security, and economic stability. Ultimately, the goal is to move beyond nuclear deterrence doctrines and rather embrace cooperative, holistic international security doctrines that are fit to address today's global challenges.

III. Anchor International Obligations in Domestic Law and Public Commitment:

The group urges **states** to:

- Translate international commitments into binding domestic law: ratify and constitutionally embed the CTBT and NSA to ensure future governments cannot abandon them. States should ensure meaningful public engagement through citizens' assemblies and parliamentary hearings where doctors, educators, youth and communities debate the trade-off: nuclear weapons spending versus spending on health, education, climate and jobs. As compliance becomes embedded in law and institutions, transparency becomes politically unavoidable, shifting culture from secrecy to accountability.

IV. Establish Crisis Communication and Transparency as Permanent Infrastructure:

The group urges **states** to:

- Standardise hotline arrangements through expert exchanges on testing schedules, crisis protocols, and functionality during tension. NWS lacking Nuclear Risk Reduction Centres should establish equivalent contact points with regularised use beyond arms control notifications. Standardised frameworks for advanced notification of military activities with nuclear relevance should also be developed —including exercises, tests, deployments—providing common reference points across dyads. The instant information-sharing interfaces between national centres need to be explored for rapid communication during crisis scenarios, to avoid inadvertent escalation.

V. Institutionalise Verification and Monitoring Practice

The group urges **states** to:

- Establish an efficient verification mechanism that would include regularised data exchanges on warhead numbers, delivery systems, and fissile material, in defined formats and schedules. Nuclear-armed states should refrain from interfering with the function of National Technical Means, such as satellite observation and remote sensing, as they are legitimate tools for nuclear risk reduction. Efforts should be made to incorporate on-site inspections in disarmament agreements. This joint effort should engage more NNWS, with particular attention to regions involving multiple nuclear actors. The combination of collaborative inspection teams, shared monitoring mechanisms, and collective reporting frameworks can enhance trust and confidence, reduce asymmetries in perception, and strengthen the credibility f disarmament commitments.

Conclusion

These recipes require both political will and sustained effort. They outline a clear sequential process: First, trust must precede commitment. Second, this commitment is formalised both legally and publicly. Third, safety is maintained through resilient and reliable mechanisms. Emerging risks are managed transparently, and adopting robust verification prevents regression. Attaining the envisioned desirable 2045 scenario—characterised by enduring peace—is possible through cooperation. It is now incumbent upon all stakeholders in the international nuclear community to realise this future.
The choice is ours.

VI. Govern AI in the Military Domain to Preserve Human Judgment and Crisis Stability

The group urges **nuclear -armed states and military leadership with NC3 authority** to:

- Ensure meaningful human control over all use-of-force decisions, explicitly including nuclear and early-warning systems. Heads of State and their militaries must therefore immediately and publicly affirm a clear red line: AI must not be used for autonomous escalation or strike decision-making in military operations, recognising the heightened risks of miscalculation, automation bias and inadvertent escalation. States should work to embed this restraint in doctrine by limiting military AI to transparent, auditable decision support functions that assist human judgment but cannot initiate, escalate, or bypass command authority. These commitments should be advanced through multilateral processes, such as the Responsible Military Use of Artificial Intelligence and Autonomy (REAIM) framework, to establish shared standards for accountability and crisis stability.
- Come to IHL- and human rights-compliant consensus on a combination of legally binding norms and instruments inhibiting an autonomous escalation, alongside consolidated global AI governance. Without human control, nuclear peace would rest on codes rather than judgment, making crisis decision-making dangerously irreversible.

Conclusion

> Throughout these focus group scenarios and even in previous EVN foresight-driven policy cycles, there is a remarkable amount of consensus reached on what the primary drivers will be that shape the future of nuclear politics.

Firstly, they share the belief that collaboration, communication, and transparency are all required to move towards a favourable future for the NPT and nonproliferation. Collaboration and trust are seen as essential to building a favourable future for the NPT, as this can only be achieved by working together on new agreements and safeguards within and outside the NPT framework. All four groups show in their scenarios and policy recommendations that not only are nuclear arms control and related technologies agreements needed urgently to mitigate nuclear risks, but much work is also needed to create a geopolitical environment that is conducive to such work. The collapse of New Start in February 2026 means that there are no legally binding limits on US and Russian strategic nuclear forces for the first time since the 1970s.[52] Without new arms control, we could see nuclear arsenals continuing to expand. The collapse of New Start and other nuclear arms control in recent years threatens the credibility of the NPT, making it harder to address the growing proliferation challenges globally.[53] This clearly concerns the focus groups, and they believe that we must reverse this trend to achieve a desirable future for the NPT.

The need for increased cooperation and diplomacy is not just restricted to within the NPT, but also on rebuilding nuclear arms control and regulating disruptive technologies, particularly AI. It is clear from several favourable scenarios that they believe states need to move quickly to start to address the potential threat AI poses. The rapid rate at which we have seen AI develop in recent years risks further destabilising nuclear politics by accelerating military decision-making timeframes, increasing the risk of cyberattacks, and encouraging states to compete in an AI arms race.[54] While agreements on the use of AI in nuclear weapons and energy systems may not come from consensus agreements in the NPT, having such agreements could still have a significant positive impact on the stability of the NPT and nonproliferation. Increased transparency on the uses of AI can help build trust that can be used for starting collaborations on other nuclear-related matters.

Consolidating norms regarding nuclear threats and non-use was also essential to protect the nuclear taboo and reduce the incentive for more states to pursue nuclear weapons across the working groups. They show a deep concern about states increasing their reliance on nuclear weapons in the absence of adequate diplomacy and arms control.

52 Georgia Cole, "The US and Russia's nuclear weapons treaty is set to expire. Here's what's at stake", *Chatham House*, (2026) https://www.chathamhouse.org/2026/01/us-and-russias-nuclear-weapons-treaty-set-expire-heres-whats-stake.

53 Karim Haggag, "After New START expires, Europe needs to step up on arms control", *SIPRI*, (2026) https://www.sipri.org/commentary/essay/2026/after-new-start-expires-europe-needs-step-arms-control.

54 Andrew Jones, "From nuclear stability to AI safety: Why nuclear policy experts must help shape AI's future", *European Leadership Network*, (2025) h,aregovernancettps://europeanleadershipnetwork.org/commentary/from-nuclear-stability-to-ai-safety-why-nuclear-policy-experts-must-help-shape-ais-future/.

In these scenarios, increased use of nuclear threats contributes to an erosion of the "nuclear taboo" norm, increasing the chances of nuclear weapons use. Since 1945, a powerful norm has developed that delegitimised nuclear weapons as weapons of war, and this has been institutionalised by the array of international agreements and regimes, including the NPT.[55] We have already seen Russia use increasingly alarming nuclear threats during the early years of the Russian invasion of Ukraine since 2022.[56] Thankfully, in this case, these threats were not followed by escalatory threats in response. The absence of diplomacy in these scenarios seems to inevitably lead to escalatory threats, which further exacerbate tensions and threaten both nonproliferation and non-use.

It is unsurprising to see calls for increased nuclear education across the focus group policy recommendations. Despite nuclear weapons featuring more prominently in the news in recent years, general awareness remains significantly lower than during the Cold War. Consistently over the years in our EVN policy cycles, we have seen repeated calls for increased nuclear education.[57]

An educated public is also more likely to express their opinions and hold policymakers to account. The focus groups also consistently cite an increased role for civil society as a key factor in their favourable scenarios. Civil society has already had a great impact on nuclear weapons politics and non-proliferation. Mikhail Gorbachev, the former Soviet president, praised the part played by 'Greenham women and the peace movement of Europe' in achieving the 1987 Intermediate-range Nuclear Forces (INF) Treaty, which then led to the removal of all of the US cruise missiles from RAF Greenham Common by 1991.[58] The International Campaign to Abolish Nuclear Weapons (ICAN) led the creation of the 2017 Treaty on the TPNW by focusing on the humanitarian consequences of nuclear weapons.[59] Civil society has a key role to play if a favourable future for the NPT is to be achieved.

> **Perhaps the most sobering theme across the groups, and in recent foresight-driven EVN policy cycles, is the perception that the NPT and international relations are currently on a pathway to an unfavourable scenario and that significant course-correction is needed to steer us towards a favourable future.[60]**

55 Nina Tannenwald, "The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use", *International Organization*, (1999) 53(3), pp. 433-468 (p. 434).

56 Stephen Blank, "Vladimir Putin's endless nuclear threats are a sign of Russian weakness', *Atlantic Council*, (2025) https://www.atlanticcouncil.org/blogs/ukrainealert/vladimir-putins-endless-nuclear-threats-are-a-sign-of-russian-weakness/.

57 Declan Penrose, "De-siloing Existential Threats III: Future Pathways to a World Beyond Nuclear Deterrence", *BASIC*, (2025) p. 13 https://basicint.org/wp-content/uploads/2025/09/25_13_BASIC_De-siloing-Existential-Threats-report_04-1.pdf; "De-siloing Existential Threats II: Tackling the Interconnections Between Global Dangers", *BASIC*, (2024) p. 9, 19; S Nivedita, Shaghayegh Chris Rostampour (Co-Chair), Camilla Braito, Vhaire Kim Gudgeon, Camille Larsen, Natalia Luers, Kudakwashe Mapako, Adelaide Rabino, "Nuclear Testing and Displacement in the Pacific: Integrating Transitional Justice into the Nuclear Justice Framework", in Dave Cullen (ed) *Nuclear Harm Reduction*, (2025, London: BASIC) p. 44-45 https://basicint.org/wp-content/uploads/2025/07/Nuclear-Harm-Reduction-v10.pdf; Maren Vieluf, Chase Harward, Noel Ang, Nadezhda Kulibaba, Kseniia Pirnavskaia, Adelaide Rabino, Vedika Rekhi, "Strengthening the Humanitarian Impacts Agenda: Nuclear Education and Raising Nuclear Awareness Within the NPT'", in Anahita Parsa (ed) *Strengthening the Humanitarian Impacts of Nuclear Weapons Agenda within the NPT*, (2024, London: BASIC) p. 21 https://basicint.org/wp-content/uploads/2024/06/Strengthening-the-HINW-agenda-within-the-NPT.pdf. Vivienne Zhang, Orion Noda (Co-Chair), Eliana Johns, Mubashar Rizvi, Morgan Slessor, Jodie Bougaard, Vanessa Canola, Natasha Karner, Vilma Vanhala, Natalia Zhurina, Jennet Charyyeva, in Kim Obergfaell (ed), *De-siloing Existential Threats: Challenging Identity, Power, and Inclusivity in the Nuclear Policy Field*, (2023, London: BASIC) p. 14 https://basicint.org/wp-content/uploads/2023/07/Anthology_De-siloing-Existential-Threats_A4-2-1.pdf.

58 Rebecca Johnson, "Date with history: What we Greenham Common women achieved", *Chatham House*, (2023) https://www.chathamhouse.org/publications/the-world-today/2023-08/date-history-what-we-greenham-common-women-achieved.

59 "Civil society and disarmament", *United Nations Office for Disarmament Affairs*, https://disarmament.unoda.org/en/our-work/emerging-challenges/civil-society-and-disarmament.

60 Declan Penrose, *De-siloing Existential Threats III: Future Pathways to a World Beyond Nuclear Deterrence*, (2025, London: BASIC) p. 34.

As we have seen in recent years, tensions between nuclear adversaries have been rising, contributing to a breakdown of nuclear arms control and restraint regarding nuclear threats. Almost all NWS are increasing and modernising their arsenals.[61] Our *The Emerging Voices of Planetary Security* report from 2025, which tasked early-career experts with identifying the key drivers of change in nuclear weapons politics and nuclear security, found that the worst developments are often driven by fear and mistrust, leading to decisions that prioritise deterrence and arms racing over long-term stability and arms control agreements.[62] The same report found that early career experts believe positive changes arise when states push to build trust and cooperate on the key challenges they face, including arms control.

It is remarkable that in these times of rapid change in global nuclear politics, we can find such consistency between what our network members believe will lead to a favourable and unfavourable future over the last few years. It is also clear that they believe we are currently spiralling towards an unfavourable future, and it is hard to disagree with them, given current events. During the writing of this report, Israel and the US attacked Iran and started a war in the Middle East despite ongoing negotiations about Iran's nuclear programme.[63] This report should serve as a warning to states at the 2026 NPT RevCon. The people who will be the future of the nuclear field believe we are heading in the wrong direction. They fear not only that states are failing their disarmament obligations, but also that nonproliferation could be under threat if we continue on this trajectory.

A change of direction is needed immediately if we are to avoid unfavourable future pathways for the NPT. If not, we may soon find ourselves at a point where diplomacy, arms control, and nonproliferation become almost impossible in a world full of mistrust and reliant on deterrence for security.

61 "Nuclear risks grow as new arms race looms—new SIPRI Yearbook out now", *SIPRI*, (2025) https://www.sipri.org/media/press-release/2025/nuclear-risks-grow-new-arms-race-looms-new-sipri-yearbook-out-now.

62 Declan Penrose, *The Emerging Voices of Planetary Security: Envisioning the Future of Nuclear Security*, (2025, London: BASIC) p. 21 https://basicint.org/wp-content/uploads/2025/07/25_11_BASIC_The-Emerging-Voices-of-Planetary-Security-%E2%80%93-Envisioning-the-Future-of-Nuclear-Security_02-1-1-2.pdf.

63 Christian Edwards, Karina Tsui, Mitchell McCluskey, "What we know about why the US and Israel attacked Iran and Tehran's retaliation", *CNN*, (2026) https://edition.cnn.com/2026/02/28/middleeast/israel-attack-iran-intl-hnk.

About the Policy Cycle Participants

28

EVN members participated in the Policy Cycle for its duration and contributed policy recommendations for this report.

Where were the policy cycle members from?

Europe	Asia	Africa	North America	South America
7	13	4	1	2

This means that, with a total of 19, 68.7% of policy cycle participants were from the Global South.

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participants identified as female or as a gender minority, totalling 71.4%.

There were in total 19 nations represented in this policy cycle.

This helps the EVN to continue its pledge to foster dialogues and relationships between the Global North and Global South, and to ensure diversity and inclusivity are at the heart of this project.

Thank You to the Participants

We would like to thank all of the members involved in the policy cycle for their thorough engagement throughout the process, their willingness to learn, and for making this report possible. The EVN would not exist without our members, who will go on to be the future leaders of nuclear policymaking, advocacy, and education.

APPENDIX

List of Acronyms

ACA	Arms Control Association
PAROS	Prevention of an Arms Race in Outer Space
AI	Artificial Intelligence
CTBT	Comprehensive Test Ban Treaty
CTBTO	Comprehensive Test Ban Treaty Organization
EVN	Emerging Voices Network
FG1	Focus Group 1
FG2	Focus Group 2
FG3	Focus Group 3
FG4	Focus Group 4
FMCT	Fissile Material Cut-Off Treaty
IAEA	International Atomic Energy Agency
ICAN	International Campaign to Abolish Nuclear Weapons
NSA	Negative Security Assurances
NAM	Non-Aligned Movement
NGOs	Non-Governmental Organisations
NPT	Nuclear Non-Proliferation Treaty
NNWS	Non-Nuclear-Weapon States
NWS	Nuclear-Weapon States
OEWG	Open-Ended Working Group
P5	Permanent Five
REAIM	Responsible Military Use of Artificial Intelligence and Autonomy
RevCon	Review Conference
TPNW	Treaty on the Prohibition of Nuclear Weapons
UN	United Nations
UNIDIR	The United Nations Institute for Disarmament Research
UNODA	United Nations Office for Disarmament Affairs
WMD	Weapons of Mass Destruction

BASIC promotes meaningful dialogue amongst governments and experts in order to build international trust, reduce nuclear risks, and advance disarmament.

The British American Security Information Council (BASIC)
Work + Play
111 Seven Sisters Rd
Finsbury Park
London N7 7FN