The Stepping Stones Approach to Nuclear Disarmament Diplomacy

Impact through Collaboration: A personal explanation of the Approach from one of its designers

Paul Ingram
The Author

Paul Ingram is Academic Programme Manager in the Centre for the Study of Existential Risk at Cambridge University and Director of Emergent Change, which he established in 2019 to further the understanding and practice of the Stepping Stones Approach (the Approach). He created and developed the Approach with his team at British American Security Information Council (BASIC) and alongside Andrès Jato and the Swedish Foreign Ministry team for nuclear disarmament and non-proliferation in 2018/9. Much of it was based upon his extensive experience working with foreign and defence ministry officials from across the world on numerous projects related to nuclear disarmament. He was Executive Director of BASIC 2007-2019, and prior to that Senior Analyst from 2001. A principal focus for him throughout this period was seeking progress on the journey away from nuclear deterrence. He has had an innovative impact on discussions over Britain’s nuclear weapon policy, in particular in highlighting the limitations and technical dangers of deploying nuclear submarines in a time of revolutionary changes to robotics and sensing technologies. He set up and ran the Trident Commission (2011-14), chaired by the Lords Rt Hon Malcolm Rifkind, Rt Hon Des Browne and Sir Menzies Campbell, to consider Britain’s future nuclear weapon policy. He also helped Sharon Dolev and Emad Kiyaei set up the Middle East Treaty Organisation in 2017, applying a form of the Approach to a Middle East zone free of WMD.

Paul is a Quaker, and was an activist in the British peace and anti-nuclear movement throughout the 1990s. He was elected as a City Councillor in Oxford representing the Green Party for Central Ward which covers most of the university. Paul was co-leader of the City Council in a shared administration from 2000-02.

As the Green Party’s defence spokesperson he sat on the Stop the War Coalition Steering Group in the run-up to and after the war with Iraq in 2003, and toured TV studios commenting on the conflict. He subsequently assisted Guy Hughes in establishing Crisis Action as Chair of the Board from 2004-2007. Crisis Action is an award-winning network with hundreds of partners and nine offices on four continents working tirelessly to protect civilians from the ravages of self-serving conflict. He taught systems thinking at the UK National School of Government (Civil Service College) on the flagship Top Management Programme 2007-12. Over the same period he hosted a weekly peak-time political talk show on domestic Iranian TV, engaged in back-channel negotiations in advance of the Iran nuclear deal.

All these experiences had influence over the development of the Approach. But it has also been shaped by challenging personal experiences, particularly those of helplessness and despair. These lead to powerful insights often associated with a Buddhist outlook over the need for acceptance of the world as it is, and tapping into resources for transformation that arise from such acceptance rather than from resistance or willpower, somewhere beyond our attempt to control.

BASIC

BASIC is a London-based think tank that promotes meaningful dialogue amongst governments and experts in order to build international trust, reduce nuclear risks, and advance disarmament. We have a global reputation for convening distinctive and 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.
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The Stepping Stones Approach empowers non-nuclear weapon States to steer global collaboration on the nuclear disarmament agenda, for which there is an agreed but stalled programme of action.

It underpins a coalition of sixteen influential non-nuclear weapon States, the Stockholm Initiative for Nuclear Disarmament, formed in 2019. Their Foreign Ministers have met in person four times, in Stockholm, Berlin, Amman and Madrid. Some of the nuclear weapon States have responded warmly to the Initiative and indicate they will engage on the agenda, even whilst some of the proposals are challenging at this point in time.

The Approach grew out of a desire to see concrete improvement in nuclear disarmament diplomacy. There had been years of despondency after the deterioration in strategic relations. Inaction within nuclear diplomacy has been rooted in widespread limiting, entrenched beliefs, such as: we achieve peace by threatening war; destructive capability is synonymous with power; states can only ultimately rely on themselves for protection and collaboration is unreliable. The Approach shifts these beliefs by drawing states into a process that develops an alternative paradigm of common security through collaboration.

The Approach works with existing power structures. It seeks to draw the nuclear weapon States into a progression of steps that implement their existing obligations towards nuclear disarmament. It respects and values everyone's perspective. It encourages states to hold their positions less tightly and see the broader context within which they and their neighbours co-exist.

The Approach is a five-step process of inclusive communication to deliver transformed results.

**Step 1: Visioning**

States work together to gain clarity on shared objectives that can be used not as a manifesto, but as intentions, guidestars for action, ideas that light up the direction of travel. The Approach facilitates radical visions by distinguishing them from the more modest immediate policy actions (Step 3).

It involves the vision of common security through collaboration.

**Step 2: Assessment and acceptance**

We observe and understand as best we can the complexities involved as they are, as opposed to how we would like them to be. This demands a commitment to be led by the evidence. It also involves dialogue between a variety of perspectives and ideologies.

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1 At the time of writing there were plans to meet a fifth time in mid-December 2021.
Step 3: Proposals

Practical immediate ideas for action are generated and proposed to states with power and influence, an invitation to dialogue. Those states are then encouraged to improve upon those proposals from their own perspective. Individual stepping stones are valued for their own direct benefits and their contribution to sustained progress towards nuclear disarmament across a number of fronts. Each require constructive and voluntary steps by the nuclear weapon States, taken in good faith.

Step 4: Actions

The Approach is focused upon incremental action. Usually, actions will be taken by the nuclear weapon States. Other states, those in alliance and others also have responsibilities in these areas, and a role in the whole process.

Step 5: Evaluation

The results are reviewed with a view to continuing the process and developing further improvements. The Approach is adaptable as it unfolds. It is a feature that transformation emerges in a non-linear and unpredictable manner. We cannot be attached to particular outcomes if this is to succeed.
A common cause of catastrophe in complex systems is the failure to appreciate relevant perspectives. The Approach involves processes that are inclusive and respectful, valuing diversity because it improves decisions. Stakeholders are drawn into a collective process of transformation: imagining futures, drawing out recommendations, implementing interventions and evaluating results.

The Approach creates a more effective, trusting and functional international community that realises its goals. These are ambitious promises, but they are also realistic ones.

- Key nuclear weapon States variously appear resistant to disarmament. They see their nuclear deterrence strategies as existential. They in turn experience the non-nuclear weapon States as unreasonable. Efforts to pressure them to change are therefore counterproductive. States are more likely to engage if they believe their concerns are fully accounted for and they have a credible incentive to do so.

- Some would say that the Approach demands deep compromise and a dangerous lack of integrity. It certainly requires people to accept other mindsets, but it enables people to keep their own perspective at the same time. It facilitates a dialogue between viewpoints often marginalised or discounted and those more aligned with the status quo.

Opinions in the public sphere are polarised. The Approach provides an opportunity for states to better understand one another’s perspectives with the purpose of negotiating change. Success in this most challenging area will help build collective global capacity to address other existential risks facing the international community.
Author’s Prologue

This report is an explanation of the Stepping Stones Approach to negotiating nuclear disarmament. It was conceived in the context of despondency within a polarised disarmament diplomatic community.

We had witnessed decades of collective effort within non-nuclear weapon States trying to persuade nuclear weapon States to take constructive steps forward.

Let us begin in this prologue with the genesis and development of the Approach, and the challenges it seeks to address.

In the first chapter we will then go on to explore three points of departure, namely:

- the nature of our collaborative international community;
- its complexity, deep uncertainties, and contradictions or tensions;
- the inclusion of both evolutionary and radical change as a means to meeting our collective objectives.

The second chapter outlines the five-step iterative adaptive process behind the Approach. The text is peppered with illustrative, sample Stepping Stones in the expectation not that they will be accepted or rejected, but rather contribute to dialogue with a view to collective action. The ideas here are offered to convey elements of the Approach itself.

The third chapter addresses some of the objections, and explains why it can hold appeal to people and states of all persuasions.

This report is written for an audience keen to see progress on nuclear disarmament. Most of us are removed from any levers of power within nuclear weapon States and are unclear how we can find influence. This may include:

- officials within non-nuclear weapon States;
- advocates for disarmament; and
- those in think tanks and academia seeking influence.

The Approach is also relevant to anyone seeking change in complex systems and who recognises that traditional strategies are not working.
Genesis

The idea of the Approach emerged from a series of diplomatic side events between 2016 and 2018 organised by the German Federal Foreign Office on Negative Security Assurances (NSAs). I had been invited to explain the ideas outlined in my BASIC briefings that nuclear weapon States be encouraged to tighten up and relinquish their NSA exceptions. This I believed was a matter of respect for the national security of states without nuclear weapons. Whilst NSAs were seen by some as a marginal issue because nuclear risk is a problem between nuclear armed states, an unwillingness to act on this agenda would call into question their good faith. The approach I took appeared to me to be relevant to a broader set of nuclear disarmament proposals. Those of us demanding action needed to articulate the moves in bite-sized, achievable ‘steps-within-steps’. These would fill in the space between where we were and where we wanted to go on the agreed agenda. The Swedish disarmament team invited me to Stockholm in early 2018 to discuss the proposed Middle East zone free of WMD and the state of disarmament diplomacy. As a result, we settled on the need to work up this approach.

The Stockholm Initiative

We first introduced the Stepping Stones Approach to the first official side event at the NPT Preparatory Committee in April-May 2019. The following day, the Swedish Foreign Minister, then Margot Wallström, introduced Sweden’s official paper on the Approach. The following month, foreign ministers of the 16-nation intergovernmental Stockholm Initiative met for the first time. This initiative includes a diverse group of states across the nuclear diplomacy spectrum (US allies and NATO members, Ban Treaty advocates and those in between). It is a call to the whole international community to cooperate again to achieve progress, just as it did when it first negotiated the NPT, and when it agreed consensus documents at the end of Review Conferences, particularly in 2000 and 2010. The Foreign Ministers have met specifically on this agenda four times between June 2019 and July 2021. They have made strong and pragmatic appeals to the nuclear weapon States to engage with sincerity, with the assurance that they will be treated with respect and understanding. The Berlin Declaration in February 2020 included an annex, listing areas of policy in which stepping stones could be developed.

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2 NSAs involve promises by the nuclear weapon States that they will not threaten or use nuclear weapons against those that do not possess them. These events involved panel discussions amongst several experts including former US State Department official Bob Einhorn and former UN High Representative for Disarmament Affairs Angela Kane. Germany was later to chair Subsidiary Body 4 in the Conference on Disarmament in 2018, which I addressed.
5 The full list of the sixteen states is: Argentina, Canada, Ethiopia, Finland, Germany, Indonesia, Japan, Jordan, Kazakhstan, the Netherlands, New Zealand, Norway, the Republic of South Korea, Spain, Sweden and Switzerland.
6 The Swedish Foreign Ministry page with links to all the declarations and statements arising from the ministerial process is available here: https://tinyurl.com/dxm3d837 (last accessed 10 Nov 2021)
7 https://tinyurl.com/38wa2fym (last accessed 10 Nov 2021)
In creating and applying the Approach we are attempting to resurrect a focus upon pragmatic implementation of the agreed NPT disarmament agenda, inquiring into how states could best go about removing the obstacles and achieve momentum.
This report does not address the Stockholm Initiative directly, much less speak on its behalf or for any of its members. Rather, it outlines and explores the many features of the approach that underpins the Initiative. The Approach seeks to answer the ‘how’ in terms of effective diplomacy and engagement. The ‘what’, its agenda, is up to the participants and in this case, the members of the Stockholm Initiative.  

Addressing the challenges

The Approach seeks positive change in a world marked by international rivalry and power plays. Usually, we tend to identify our preferred solutions consistent with our perspective or interests, and then use rational argument, manipulation of evidence and emotion, incentives, threat and punishment, or other tactics to build or strengthen support. This often reverts to a simple trial of strength and wits with those on the ‘other side’. It can drive a perpetual cycle of conflict between entrenched positions. There has in recent years and in many countries been a resurgence in the already widespread belief that you get what you want and gain control of a situation through threat and control. This approach to change is particularly ineffective when pursued from a position of weakness, as those with greater power usually protect the status quo. But even powerful groups or governments can experience fierce resistance from those with vested interests and others with divergent perspectives, such that any benefit is degraded or even eliminated.

So how do non-nuclear weapon States hold nuclear weapon States accountable for the impact of their nuclear postures on global stability and every other state’s national security? The principal approach until recently appears to have been to wrestle with them over draft texts at NPT meetings and making the occasional outraged speech at subsequent meetings about how they have failed to live up to their commitments. Ultimately, this reenforces a sense of powerlessness. The Treaty for the Prohibition of Nuclear Weapons (TPNW), overwhelmingly adopted at the United Nations on 7th July 2017, may appear to be an attempt to wrest power over the agenda. Ultimately, it is only the nuclear weapon States that can disarm.

In creating and applying the Approach we are attempting to resurrect a focus upon pragmatic implementation of the agreed NPT disarmament agenda, inquiring into how states could best go about removing the obstacles and achieve momentum. It is not an easy road. It is all too easy to skate over the challenges. Writing this report has included periods of doubt and despair. The British government, seen by many as the most progressive of the nuclear weapon States, has taken a big step into secrecy when publishing their Integrated Review in March 2021, raising the limits on its arsenal and expanding upon the scenarios in which it would consider using its nuclear weapons against those without them. It later announced a deal with the United States to supply Australia with naval nuclear propulsion and submarines, and with Tomahawk cruise missiles, in a deal widely criticised as undermining nuclear and missile non-proliferation norms.

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8 The ‘what’ in the case of the Stockholm Initiative is contained within the Sweden NPT working paper referred to above, and in the Annex to the Ministerial Declaration issued at the Berlin meeting in February 2020: Stepping Stones for Advancing Nuclear Disarmament – Annex to the Declaration of the Berlin Ministerial Meeting on 25 February 2020. This is available online here: https://www.government.se/497342/globalassets/regeringen/lena-micko-test/stepping-stones-for-advancing-nuclear-disarmament.pdf (last accessed 10 Nov 2021)

9 The vote was 122 to 1 with 1 abstention, though the nuclear armed states and almost all their allies failed to participate. United Nations Conference to Negotiate a Legally Binding Instrument to Prohibit Nuclear Weapons, Leading Towards their Total Elimination, UN website available here: https://www.un.org/disarmament/tpnw/


The Approach also goes against many of our learned and socialised behaviours, particularly when we have strong opinions and a belief we are uniquely right. Righteousness is one of the psychological mechanisms we deploy to cope with this sense of powerlessness. In the 1990s I was a British peace activist engaged with demonstrations and non-violent direct action against US and British deployments of nuclear weapons. I felt a strong sense of being right and was committed to these activities, to the point that it did not even matter to me whether it was effective. I needed to bear public witness to the danger and immorality involved. I felt that those involved in the ‘outrage’ ought to know that there was principled opposition. This energy that drove an extraordinary devotion also meant that whilst my passion had its own individual rewards my ability to influence others was limited.

A close friend once told me that the blame in any conflict within personal relationships is shared 50:50. This struck me at the time as absurd; there were so many counter-examples. But on reflection it helped me appreciate how important it was to see beyond my powerful desire to be right, to recognise my contribution to conflict, and to remember the value I place on the relationships. It is my view that the same applies in international relations and in nuclear disarmament diplomacy. Though we may understand the frustration, both the nuclear weapon States and the non-nuclear weapon States bear responsibility for the state of polarisation in which we find ourselves, and to consider novel and courageous ways out of the impasse and into diplomacy.

This observation is related to cognitive dissonance, when information we receive clashes with something central to our deeply-held beliefs which themselves are usually established through unconscious processes rooted in our past. This impacts people of all shades of opinion. Wherever we sit on the deterrence-disarmament spectrum we are also prone to confirmation bias, whereby we interpret the evidence in a way that strengthens our pre-existing position, and downplay or ignore evidence that flatly contradicts it. I have seen both operate throughout my life, professionally and personally. The Approach has emerged from these observations, and is drawn from the wisdom of traditions that go back many generations. By engaging and respecting diverse viewpoints it does not avoid the cognitive traps we all experience, but it does strengthen the chances that we can see past them.

In essence, the Approach seeks to change the recipe and practice of diplomacy, cut through the Gordian knots, and improve the chances of progress on the disarmament agenda. While preconceiving that disarmament forms part of the way forward, it does not stipulate the path, nor who takes which steps, nor how.

The Approach offers an effective change in strategy. We cannot continue imagining that we can prevail by building sufficiently powerful alliances and meeting our opponents on the open battlefield – be that in conflict or in diplomatic debate. Instead, we must acknowledge the greater complexities involved, that our perspective is valid but exists in a broader ecology of perspectives that all deserve airtime, and any number of which can help in enriching and improving our own. In this sense, the Approach is a radical peace-building practice that holds the promise of transforming the way governments engage in all their global multilateral projects. In an age of expanded existential threat, this is one of the most important objectives of our time.

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12 This refers to religious and philosophical traditions that emphasise qualities referred to within the Stepping Stones Approach, particularly those related to noticing, acceptance and non-attachment to particular outcomes. Specific influences will be referenced later on.
CHAPTER ONE

Foundations

The Approach aims to facilitate global collaboration on actions that reduce nuclear risks and take us in the direction of nuclear disarmament.

This is based upon the belief that alternatives to nuclear deterrence can be developed gradually if the will is engaged and if the process is sensitive to the concerns and perspectives of all the major stakeholders, even though the route may not today be clear or obvious.

Such an approach, if engaged seriously, strengthens international society and builds collective capacity to address other global existential challenges such as climate change that also suffer from problems of coordination, not least as all these issues are inextricably connected in cause and management.

The whole global community currently exists under a continual threat of nuclear war. This threat ebbs and flows with the tide of international relationships, but most people and states believe it has risen recently and is unacceptably high.\textsuperscript{13} Even those most strongly convinced that nuclear deterrence brings strategic stability acknowledge that it comes with significant, terrifying risks that are unstable and demand careful management. The threat is used by the small number of states that possess nuclear weapons to achieve some level of security against threats from other states with nuclear weapons, and indirectly by allies sheltering under their nuclear umbrellas, under practices that fall under the term ‘nuclear deterrence’. Those involved believe they are making the best of a bad situation. If they believed there were credible alternative means that held less risk they would support exploring them. The Approach is just such an exploration.

Unfortunately, the current debate is often binary and polarised. Minimising global and regional strategic risks is made far more challenging in the context of strategic competition involving dynamic inequalities and disruptive challenge, and deep collective trauma. When we open to and admit the complexity, we are one step closer to a more constructive process in which protagonists can hear one another and implement possible improvements.

\textsuperscript{13} The doomsday clock, created in 1947 by the Bulletin of the Atomic Scientists, founded by Albert Einstein, now sits at 100 seconds to midnight largely because of the unpredictability of the nuclear balance and how it interacts with other existential risks. https://thebulletin.org/doomsday-clock/current-time/ (last accessed 10 Nov 2021)
The Approach is based upon three key beliefs that may appear self-evident to many people, but have always been contested and have recently appeared fragile.

1. We exist within an international community which by necessity limits the degree of autonomy individual states have.

2. The dynamics within the international community are characterised by complexity, deep uncertainties, and contradictions or tensions. These limit the ability of states to control outcomes, implying that it is more appropriate to look for improvements rather than solutions.

3. Those advocating change often split into two opposite camps – evolutionary (incremental) and revolutionary (paradigm shift). The Approach attempts a synthesis of incremental radicalism.

We look at each of these in turn before outlining its features.

1. We live in an international community

Sovereign states exist within an international community with shared interests mediated through negotiation and agreement. The balance between global governance and national sovereignty is complex and contested. There is a general recognition that states possess responsibilities towards international society and towards their own citizens, and by and large there is a widespread principled respect for the rule of international law and participation in processes to develop it further. All states recognise the authority of the United Nations and its Charter. In particular, nuclear weapon States recognise some degree of accountability to the international community in relation to their nuclear possession (mediated formally through UN meetings and those associated with the nuclear non-proliferation treaty, NPT), though its nature and extent is controversial, and a matter for legitimate debate.

The Approach is predicated upon the belief that progress is best achieved by recognising and developing understanding of the existing interdependencies and common interests, and through deepening relationships, rather than by resorting by default to force, threat, will-power, manipulation or even clever argument in diplomatic circles or media spats intended to win a point. In simple game-theory language, when there is a bilateral relationship with infinite rounds of the game the most effective practical tactic for any individual state is usually tit-for-tat. Of course other factors can complicate this, not least the discount rate in operation (whereby future outcomes are seen as less important than current ones), particularly when elected governments have short time horizons. But there is an even more important consideration to account for. States with an enlightened self-interest approach may attempt to rise above a continual game of simple interaction by building stronger international institutions and establishing confidence in shared norms. This requires the patient construction of trust and their own reputations by eschewing tit-for-tat on occasion and drawing adversaries into a more predictable collaborative game.

This is challenging for many reasons, but its subtleties have been explored in the recent book, ‘Conflicted: why arguments are tearing us apart and how they can bring us together’, by Ian Leslie.

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15 A good example of this discussion is in the 1996 SIPRI Yearbook: John Simpson, ‘Chapter 13. The nuclear non-proliferation regime after the NPT Review and Extension Conference’, 1996.
16 Robert Axelrod, The Evolution of Cooperation, Basic Books, 1984. Axelrod hosted a computer tournament where different strategies were tested against one another and tit-for-tat was the most successful.
He points to many examples where individuals and groups have escaped intractable conflict by reaching out to adversaries with authentic compassion in order to build new institutions.¹⁷

In addition, the Approach involves diplomats paying as much attention to the process of disarmament diplomacy as to its content, establishing and deepening the interpersonal relationships with officials from other states, particularly those with competing interests or different perspectives.¹⁸ Paying attention to and valuing those interconnections, building trust, confidence and understanding, even in the face of challenging dynamics and conflicting interests and ideologies, are critical steps in finding breakthroughs.

Further, governments form only part of the whole ecosystem of the international community. Civil society and other non-state actors play an important role in disarmament diplomacy by generating ideas, creating space for dialogue and negotiation, challenging assumptions and harmful practices, and linking back to the populations that governments can often only indirectly communicate with. Foreign affairs, particularly strategic and defence policies, are distant from democratic debate and most people are excluded because they appear so distant from their everyday lives. Civil society provides an opportunity for states to interact with people who are in a position to think independently from particular bureaucracies.

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¹⁷ Ian Leslie, Conflicted: why arguments are tearing us apart and how they can bring us together, Faber and Faber, 2021.
Listen to most debates on the subject of nuclear deterrence and you would be forgiven for thinking that this was a simple choice – between deterrence and disarmament. Yet the reality also involves management of a complex dynamic polarity, and when considered in this way dialogue can flourish.

2. Complexity and polarities

The dynamics within the international community are complex. Objectives often appear contradictory, are impossible to fully comprehend, and defy efforts to control. They are frequently what complexity theorists call chaotic, in which the relationships between cause and effect are unclear and sometimes mysterious. This is a major problem. As individuals we all find being out of control psychologically destabilising. It is even more challenging for officials within governments, as their very raison d'être is to maintain order and exert control over complex challenges in order to keep their populations safe. A government that appears to be out of control does not last long. But control is next to impossible in international relations, and frequently the effort to control can lead to dangerous unintended consequences.

Simple analyses and seemingly obvious solutions need to be treated with great caution when attempting to manage complex situations. International strategic relationships have emergent properties that cannot be surmised from their individual components or any particular characteristics. Attempts to simplify by reduction, or to silo issues, will have limited effect because important dynamics will be overlooked. Complex and chaotic wicked problems demand, “an approach that requires experimentation and the capacity to allow a path forward to emerge over time – the common cause-and-effect thinking and tools that leaders use to fix problems don’t create the results they expect”.

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20 Emergent properties are those that are not inherent within the components of a system but that are observed when the system as a whole operates. For example, human cells each have functions, and collectively make up organs and other parts of the body that all together make up an individual.
In complex situations, signals and reactions to them can be contradictory and unpredictable. For example, significant disarmament moves can signal a confidence in the future and reduced threat, encouraging competitors to relax and de-escalate. On the other hand, they can be interpreted as demonstrating less resolve or even weakness, encouraging an assertive competitor to move into the space created and increasing the pressure. Clarity and consistency of messaging reduces the possibility of misinterpretation, but does not eradicate it. It helps to ensure our analysis considers the broader context, the imperfections, unintended consequences, our political and cognitive distortions, and the likely systems failures. It requires humility.

Managing polarities

We often observe the tendency for complex situations to exhibit two or more polarities in tension with one another, each with advantages and disadvantages for people within the community, but that do not exist in isolation. We are forced to live with the paradox even as we attempt to escape it. Often people and states tend to take positions that involve picking one idea or approach and promoting this as a solution. When this triggers undesirable effects, these are seen as acceptable costs, or are blamed on others’ refusal to cooperate. The problems fester, and power shifts to someone with an alternative solution to the impasse, one related to taking the opposite pole.

In contrast, when people and states with very different perspectives recognise the polarities involved, it can strengthen dialogue and understanding, without requiring people to change their minds or even to compromise. This enables us to see our own perspective existing within a broader context, and encourages sensitivity to perspective and choreography. It also deepens an appreciation of the dynamic nature of the system as it changes over time.

I now turn to two examples of polarities within nuclear diplomacy. I do not claim the analysis to be unbiased or balanced, and I have little doubt that many readers will find it to be partial. They are an authentic attempt from my perspective, along with its bias and prejudices, and could be used as a starting place for dialogue.

Polarity 1: Transparency and Ambiguity

Transparency is important to international stability and attempts to build trust, but sits uncomfortably alongside an enduring commitment to ambiguity for those practicing nuclear deterrence. It is widely acknowledged that the most significant risk of nuclear exchange arises from the possibility of misunderstanding or misperception. Transparency over nuclear arsenals, doctrine and intentions directly reduces this risk by providing clarity, as well as facilitating the active management of strategic relationships. Alongside inspections and other formal measures to verify agreements, it is an essential ingredient of multilateral nuclear diplomacy and arms control. Transparency also shows respect for fellow members of the international community. It brings trust and stability when parties recognise the mutual benefits from balance and accommodation, if not cooperation. It deepens a broader understanding of the complexities at the heart of the current system, and enables others to become friendly critics rather than hostile challengers. It reduces the risks of strategic surprise, builds confidence, and thereby encourages

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22 Polarities Management was introduced to BASIC and Emergent Change by the Nucleus Group (www.thenucleusgroup.com), who helped us develop a series of workshops with diplomats and officials from a number of countries under a grant from the Carnegie Corporation of New York in 2019. We have come to view it as a key part of the SSA.

lower defence spending. Greater transparency also facilitates communication of genuine intent and resolve when necessary.

On the negative side, transparency over the circumstances that would trigger nuclear use may give comfort to aggressors if they believe that smaller transgressions would go unpunished, or force one’s own hand when they break red lines. Being open about deployments can expose them to action that neutralises their impact, or expose one’s own weaknesses and vulnerabilities to adversaries or allies. There is also the concern that reversals in transparency at dangerous times might further escalate tensions at sensitive moments.

The perceived benefits arising from secrecy and ambiguity are so strong that they are the default behaviour of many governments. The idea of ambiguity (that applies to the possibility of nuclear use) can sometimes be used to mask secrecy (that surrounds capabilities and their deployments). When publishing its Integrated Review in March 2021 the UK government abandoned its practice of operational transparency (in regards to the numbers of warheads and missiles on patrol) and stepped into greater secrecy. It misleadingly described the move as an extension of its ‘long-standing policy of deliberate ambiguity... [that] complicates the calculation of potential aggressors, reduces the risk of deliberate nuclear use by those seeking a first-strike advantage, and contributes to strategic stability’. See Global Britain in a Competitive Age: the Integrated Review of Security, Defence, Development and Foreign Policy, Cabinet Office Policy Paper, HMG, March 2021, p. 77

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<th>Transparency</th>
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<tr>
<td>Positives</td>
<td>Negatives</td>
</tr>
<tr>
<td>• Provides trust, clarity and confidence</td>
<td>• Freedom of action in crisis</td>
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<td>• Facilitates collective understanding &amp; management of strategic relationships</td>
<td>• Maximises return from investment</td>
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<td>• Clearer signalling</td>
<td>• Doubt in the minds of aggressors, complicating their calculations</td>
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<td>• Essential ingredient of nuclear diplomacy and arms control</td>
<td>• Delivers additional deterrence/influence</td>
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<td>• Shows respect for international community</td>
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<table>
<thead>
<tr>
<th>Positives</th>
<th>Negatives</th>
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<tr>
<td>• Freedom of action in crisis</td>
<td>• Higher risk of misunderstanding/misperception</td>
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<td>• Maximises return from investment</td>
<td>• Invites strong responses</td>
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<td>• Doubt in the minds of aggressors, complicating their calculations</td>
<td>• Damages international law/cooperation</td>
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<td>• Delivers additional deterrence/influence</td>
<td>• Undermines allies’ confidence</td>
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<td></td>
<td>• Is an obstacle to disarmament and signals an apparent indefinite commitment to deterrence</td>
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Table 1: Managing the polarity between transparency and ambiguity
will have little value in any existential crisis. Political leaders can also be reluctant to limit the use of nuclear weapons when they have spent valuable limited resources on their deployment. Ambiguity delivers doubt in the minds of an aggressor who might otherwise push forward, and complicates their strategic planning. Opacity might deliver some additional deterrence against other unspecified threats, or broader influence over international outcomes. These features are summarised in the Table 1.

Ambiguity can come at considerable cost beyond the opportunity costs from reduced transparency. When a government insists that all options remain on the table, for example, it invites strong responses from adversaries and other members of the international community and damages international law by implying a willingness to operate beyond it. The ambiguity can undermine confidence of allies, undermine global diplomacy, and can suggest an indefinite and inflexible attachment to nuclear deterrence.

Understanding and exploring in good faith the positives and negatives of the two polarities of transparency and ambiguity enables a more nuanced discussion of the options, and a recognition that this is more about managing objectives in tension rather than the ideological struggles these debates are often characterised as.

**Polarity 2: Deterrence and Disarmament**

Listen to most debates on the subject of nuclear deterrence and you would be forgiven for thinking that this was a simple choice – between deterrence and disarmament. Yet the reality also involves management of a complex dynamic polarity, and when considered in this way dialogue can flourish.

There is a near-universal belief in human societies that some forms of deterrence work to contain undesirable behaviours in others, and are preferable to alternatives. The simple idea that decisions can be affected by the threat of undesirable consequences is so obvious it does not need evidence. The risks of nuclear deterrence are often justified on the back of its preventing global strategic conventional conflicts that had in the twentieth century caused destruction on a massive scale. Whilst the practice of nuclear deterrence brings some risk, it is seen as manageable and a responsible, pragmatic approach to the dangers inherent in a world populated by states that challenge the prevailing order, or those that dominate and need to be resisted.

Deterrence is a major motivation in the creation and enforcement of domestic laws, and, unlike nuclear deterrence, has the benefit of many data points to draw conclusions from. A US Department of Justice publication summarises the overwhelming evidence demonstrating that deterrence is effective when a potential criminal has a high confidence both that their action will be detected and that it triggers a response that diminishes or negates the advantage of their aggression. The same evidence suggests that the severity of the punishment has little demonstrable deterrent impact. In other words, preventing an aggressor from achieving their objective (deterrence by denial) is probably more effective than deterrence by threat of massive punishment through nuclear retaliation, which may have less deterrent effect than often assumed because of doubt over credibility and resolve.

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27 National Institute of Justice (Dept of Justice), Five Things About Deterrence, June 2016, available online here: https://nij.ojp.gov/topics/articles/five-things-about-deterrence#note1 (last accessed 10 Nov 2021)
Nuclear deterrence can drive arms races, it diverts resources and brings existential risk to the international community. Arms control and disarmament approaches seek to mitigate these negative effects and hold a future potential of escape from the threat. International agreements develop trust between adversaries building capacity to transcend conflict, and the institutions that build up to support and verify the agreements deepen the resilience of the international community. However, many people fear that if these are pursued without attention to strategic balance they could encourage aggression from those liberated from the threat of massive retaliation, and trigger crises and conflict, which in turn could cause rapid reversals and renewed arms racing. This approach to diplomacy also closes off the possibility of prevailing over one’s adversary.

### Table 2: Managing the polarity between deterrence and disarmament

<table>
<thead>
<tr>
<th>Deterrence</th>
<th>Disarmament &amp; arms control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positives</strong></td>
<td><strong>Positives</strong></td>
</tr>
<tr>
<td>• Containing worst excesses of aggression</td>
<td>• Mitigating/escaping the risks from and costs of nuclear deterrence</td>
</tr>
<tr>
<td>• Strategic stability and avoiding major conflict</td>
<td>• Building trust &amp; international institutions</td>
</tr>
<tr>
<td><strong>Negatives</strong></td>
<td><strong>Negatives</strong></td>
</tr>
<tr>
<td>• Significant question over effectiveness of severe punishment</td>
<td>• Containing own capabilities to prevail</td>
</tr>
<tr>
<td>• Driving arms racing</td>
<td>• Could unbalance strategic relations with disastrous effect</td>
</tr>
<tr>
<td>• Diverting scarce resources</td>
<td></td>
</tr>
<tr>
<td>• Existential risk</td>
<td></td>
</tr>
</tbody>
</table>

Nuclear deterrence can drive arms races, it diverts resources and brings existential risk to the international community. Arms control and disarmament approaches seek to mitigate these negative effects and hold a future potential of escape from the threat. International agreements develop trust between adversaries building capacity to transcend conflict, and the institutions that build up to support and verify the agreements deepen the resilience of the international community. However, many people fear that if these are pursued without attention to strategic balance they could encourage aggression from those liberated from the threat of massive retaliation, and trigger crises and conflict, which in turn could cause rapid reversals and renewed arms racing. This approach to diplomacy also closes off the possibility of prevailing over one’s adversary.

### Accepting complexity

Managing these tensions effectively and building the conditions for further disarmament is complex. It requires open engagement between states and people with diverse perspectives. It involves paying attention to the signals of negative unintended consequences that can arise when people veer off too far too quickly in a particular direction. In identifying those signals, the debate can focus upon cooperative actions to mitigate the negative aspects, actions often related to the more positive dimensions of the opposite pole. These are the “stepping stones” at the heart of the Approach. Accepting the attachment today that many states have to nuclear deterrence is not incompatible with a radical desire to achieve nuclear disarmament in future.

Often the trick in navigating these polarities is to recognise the dynamic systemic context they sit within, and to attempt to strengthen the positive dimensions of the poles whilst minimising the negative unintended consequences. This is about managing improvement rather than finding solutions.

You may notice that there is something a little dissatisfying laying out these ambiguities in this manner. It could have something to do with a lack of resolution, a sense of uncertainty about outcome, or a loss of clarity about what needs to be done. If so, then you may be experiencing the near-universal attraction to
simplified righteousness. We all like to be right, and most of us prefer a situation to be simple rather than complex. But this does not usually deliver simple outcomes. Rather, it drives conflict. Understanding and accepting the complexity strengthens the chances of a constructive engagement and lasting agreed cooperation.

3. The nature of change

Change involves its own strong polarities, sensitive to the specifics of each situation, particularly when systems are complex. Sometimes radical or even revolutionary change is demanded, sometimes more gentle, incremental nudges to the system.

Immunity to change

All well-established systems have mechanisms that act as negative feedback loops or checks on rapid change. These drive the system back towards its natural equilibrium, even when change is attempted by those in positions of strong formal power. Without such negative feedback features, the system would have been unstable and would previously have spun off into another state. Harvard professors Lisa Laskow Lahey and Robert Kegan talk of “immunities to change” in our lives, as individuals, groups or nations. They propose that we often fail in our attempts to change even when we have strong commitment to it. We miss the hidden, unconscious, competing commitments to the status quo, and deep assumptions that underpin them. They advise that when contemplating change we need explicitly to surface those factors and find alternative ways to satisfy them within the process, rather than ignore or suppress them. Kegan and Lahey suggest that identifying these hidden competing commitments and big assumptions can alone strengthen the chances of change, or reassure us that we do in fact want to abandon the proposed change.

The context for nuclear deterrence has changed several times over the last half century, along with its primary justifications, yet the practice remains largely unchanged. Nuclear deterrence began in the late 1940s as a major definitional dynamic of the ideological Cold War. There were evolutions in strategy. Early tactics suggested many saw nuclear weapons as super-large ordinance, similarly to be used to bomb civilians into submission. Later new strategies such as mutually assured destruction and then flexible response emerged. When the Cold War ended there were massive reductions in the nuclear arsenals of the two protagonists, yet some tactics, such as launch on warning, remained despite the idea that hostilities were over. The purpose for nuclear weapons shifted from a live and existential threat emanating from a Cold War adversary to being a hedge against the emergence of a new unspecified threat. The table below suggests some of the immunities to change operating in the nuclear disarmament arena.

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29 More people were reported to have died from the mass bombing of Tokyo on the night of the 9/10 March 1945 than in either of the atomic bombs detonated over Hiroshima and Nagasaki. See https://en.wikipedia.org/wiki/Bombing_of_Tokyo_(10_March_1945) (last accessed 10 Nov 2021)
Radical approaches

Sometimes it takes strong measures to break the stasis. Thomas Kuhn developed the understanding that progress is driven by revolutions in paradigm rather than gradual evolution.\(^{30}\) These happen as emerging scientists with less investment in the status quo gather evidence contradicting the established world view. Leading physicist and father of quantum mechanics, Max Planck, observed the power of institutional inertia when he said several decades earlier, “a new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it”.\(^{31}\)

Tony Robinson, a colleague of mine in the Middle East Treaty Organisation (METO), derives this from theorist Ortega y Gasset when he says:

> “Every generation is born into its social and cultural landscape. The generation born in the late 1930s was characterised by the horror of totalitarianism and war... that of the 70s and 80s was marked by growing globalisation and the fear of nuclear holocaust. Subsequent generations by increasingly sophisticated technology, the internet and growing fears for the survival of natural ecosystems. These landscapes deeply mark our different beliefs and our values... When power passes from one generation to the next change can be rapid, witnessed in the moves to legalise same-sex marriage appearing all over the world.” \(^{32}\)

Even so, individuals and groups most invested in the mainstream paradigm will have disproportionate power vested in them by the system. Premature confrontational efforts to break the dominant paradigm can often trigger overwhelming reaction and be self-defeating, leaving a collective trauma that entrenches people on both sides and undermines future progress. Moreover, introducing a culture and practice of radical transformation is unattractive even to governments that might otherwise seek change internationally, as they have the challenge of maintaining order and structure within their own societies.

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32 Private communication with myself
The landscape of change

We find clues as to how we can achieve change within human systems by observing transition in natural systems. Ed Young, writing about microbes within human beings, describes well the stickiness and then tipping points often seen in ecosystems and associated most famously in the threat of ecosystem breakdown from climate change effects, and brings to mind a complex landscape of hills and valleys:

Imagine a ball, sitting in a valley and surrounded by steep slopes. If you shove the ball, it will roll up the slope, slow down, and eventually fall back to its original starting point. To get the ball all the way up the slope, over the top, and into a neighbouring valley, you need one really big push, or several small sequential ones. This is how ecosystems work: they have a certain resilience to change, which must be overcome if they are to be pushed into a different state.33

We might imagine a multitude of potential equilibrium points within international strategic relations. It may be necessary to operate on a number of fronts to achieve sustained progress through a sequence of small changes on nuclear disarmament, seeing the value of proposals not only on their own merit but also in unlocking the stickiness in the system.

It may be helpful to remember this as we engage in frustrating and interminable discussions around apparently minor incremental proposals to nuclear weapon states that shift them in a constructive direction. We have to expect resistance, failures that take us back to an equilibrium we were hoping to shift. But when we build momentum we can create lasting change.

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The best way to begin to understand the Stepping Stones Approach is in its incremental process, implied in the name. Whilst those using it individually or collectively may have particular high hopes and radical ambition, it involves a pragmatic, collective, respectful and adaptive learning cycle with five steps that involve many stakeholders (See Figure 2). We now look at each of these steps in turn.

**Figure 2: The Stepping Stones Approach**
Step 1: Visions for the future

Effective and sustainable action comes from inspiration around potential futures rather than a rejection of the present. The Approach encourages those looking for change to develop and communicate constructive visions for how things could be; but then crucially to hold them lightly. These visions are not manifestos, but rather guide-stars – ideas that help communicate a desirable direction of travel and elements of progress. We have to understand that we may never achieve these visions, and that they will adapt along the way. We may in future discover new directions that could better meet our collective objectives. Talking about the visions helps us better communicate with each other about our shared purpose, and assists in the exploration of initial steps in those directions.

Application to a Middle East zone

Sitting in my garden in London in summer 2016, Sharon Dolev of the Israeli Disarmament Movement and I came up with the idea of using a civil-society-generated draft treaty for a Middle East zone free of weapons of mass destruction (WMD) as a tool to drive constructive dialogue around the thorny issues that would need to be addressed were a zone and supporting institutions for the region ever to be realised. As Executive Director of BASIC I had for some years hosted workshops with officials and technical experts across the region to discuss a WMD Free zone with limited effect, including one in collaboration with Sharon in Tel Aviv. For too long, the issue had been kicked backwards and forwards like a football in diplomatic arenas such that most officials had a deep cynicism around prospects for progress and trust was very low. We saw an opportunity to cut through the Gordian knot by bringing people together under a shared assumption that a zone was indeed possible, albeit a wicked challenge, and to ask what a successful treaty text, process and supporting institutions would look like in addressing the concerns of all stakeholders. We were clear that this was not in order to ‘solve’ the challenges, nor to present a finished article to states as a template for a treaty. Rather, this was a tool to get people thinking differently. To think positively. To take the first steps on the unpredictable road towards a zone in the faith that those steps would open up future steps.

Our vision was a zone. Our process was one of technical but humble suggestions of constructive proposals and options outlined in the draft treaty text, offered in a spirit of curiosity and openness, inviting participants to improve upon them. We established the civil society organisation Middle East Treaty Organisation (METO), attracted a number of officials and civil society to participate in in-person and online workshops, and built up a formidable young and passionate team delivering an array of activities. Sharon and Emad Kiyaei – the Israeli and Iranian duo – injected a positive energy into several NPT Preparatory Committees at side events on an issue that normally triggered despondency; and our living, evolving draft treaty text provides an important resource for governments and civil society. We do not offer definite answers, but rather a space to listen to one another exploring ideas that could overcome blockage.

34 www.wmd-free.me
Relating to the TPNW

There appears to be a collective tendency to limit our ambitions on the basis of ‘being realistic’, and a shaming of those whose ideas are too radical for the ‘mainstream’ bandwidth. Sometimes those that seek to change the mainstream also use shaming techniques. The efforts by civil society within the International Campaign to Abolish Nuclear Weapons (ICAN) to shame those that support the practice of nuclear deterrence is mirrored by many of their opponents. Whatever its merits or weaknesses, many of the attacks on the TPNW appear to arise from the perception that it departs from established diplomatic practices and creates a parallel track to the NPT. Nuclear weapon States have criticised the TPNW for being premature, for lacking adequate verification and enforcement, for failing to account for ‘legitimate’ strategic assessments and many other reasons. They say that it has not involved the disarmament of a single warhead, and instead threatens the delicate balance behind the Non-Proliferation Treaty and the complex systems of inspection and verification in place. Whilst the nuclear weapon States have blamed the TPNW for polarising the international community, the damage had already been done before 2017, and much of the responsibility must lie at their own collective doorstep.

Since the TPNW has recently entered into force, and is therefore part of the international legal aquis (applying to those states that are full members of treaties), the nuclear weapon States have toned down their hostility to the Treaty, tacitly acknowledging the right of other states to willingly and freely come together to form agreements between themselves even whilst they continue to oppose its wider application.

On the other hand, declaring that nuclear weapons are now illegal and implying that this covers the globe, is transparently untrue. Most TPNW supporters acknowledge that the Treaty does not by itself implement disarmament. One of the principal diplomat architects of the TPNW state said to me after the Treaty was established in 2017 that in his opinion, now that this particular piece in the global disarmament regime jigsaw was in place, the main focus should now be the step-by-step approach establishing the many other building blocks that were missing. Radical and incremental approaches can sit side by side. Indeed, they must.

There is no concrete reason why States that have not signed the TPNW could not have a more constructive albeit critical relationship with the TPNW. The Treaty has a present and a future role because:

36 ICAN: www.icanw.org (last accessed 10 Nov 2021)
40 Aiden Liddle (UK Disarmament Ambassador) address to the Council for Christian Approaches to Defence and Disarmament meeting 14 September 2021.
it commits its 50 plus member states (and only them) to avoid any relationship with nuclear weapons from the moment they join; and

it encourages the international community to imagine alternative aspirational visions of a world free of nuclear weapons that can be developed and shared.

If there are strong and valid criticisms of the TPNW as a building block towards nuclear disarmament, what alternatives can they imagine that could replace nuclear deterrence, deliver sufficient assurance and develop strategic partnerships between strategic adversaries?

The TPNW can be seen in the context of the Approach's visioning stage. As nuclear historian and theorist Ward Wilson has recently put it, the TPNW provides inspiration that enables people to shift their imagination on what is possible. This is illustrated by its ability to attract support even from past NATO Secretary Generals, leaders of NATO states and a US Defense Secretary. It could then come to be seen not as a campaigning position but as an inclusive invitation for dialogue.

True to its explicit pluralism that respects and incorporates diverse perspectives, the Approach facilitates and gives explicit encouragement to those who advocate radical visions by distinguishing those visions from the more modest immediate policy actions that are to be implemented in the immediate term.

Building upon the vision of a nuclear weapon free world

We often hear reference in nuclear diplomacy to disarmament and to a nuclear weapon-free world. These are by definition negative visions (a lack of nuclear weapons), a rejection of the current situation in which nuclear deterrence mediates relations between the larger powers. It bakes in conflict with those attached to current practices. It leaves wide open (and unexplained) the nature of the transformations that would be required to bring it about and the possible qualities of a strategic world in which there was no nuclear deterrence. These are questions members of the international community face together, committed to the goals by the NPT Treaty and by the UN Charter.

States have an unambiguous responsibility to explore related critical implementation questions such as how those dependent upon nuclear weapons might reduce their salience over time, that is logically essential to live up to the Treaty obligation in Article VI to enter into negotiations in good faith towards nuclear disarmament. This is explicitly recognised by the actions agreed in NPT consensus documents in 2000 and 2010. In 2000 the nuclear weapon States agreed to, “A diminishing role for nuclear weapons in security policies to minimize the risk that these weapons will ever be used and to facilitate the process of their total elimination”. In 2010 they agreed, “to further diminish the role and significance of nuclear weapons in all military and security concepts, doctrines and policies”.


45 An extraordinary Open Letter calling for states to join the TPNW from 56 former Prime, Foreign and Defence Ministers from NATO states, Japan and South Korea, including former NATO Secretary Generals Willy Claes and Javier Solana. 21 September 2020. Available here: https://d3n8a8pro7vhmx.cloudfront.net/ican/pages/1712/attachments/original/1600645499/TPNW_Open_Letter_-_English.pdf  (last accessed 10 Nov 2021)


48 Action 5c.
True to its explicit pluralism that respects and incorporates diverse perspectives, the Approach facilitates and gives explicit encouragement to those who advocate radical visions by distinguishing those visions from the more modest immediate policy actions that are to be implemented in the immediate term.

Progress on the reduction of nuclear salience is a crucial objective for the Stockholm Initiative. In private consultations, it also appears to have been the most challenging part of the Initiative’s agenda for some of the nuclear weapon States, even as they have supported the Initiative as a whole. Some within the nuclear weapon States believe that reductions in nuclear salience can damage nuclear deterrence because they could be interpreted as weaker resolve for nuclear use, and thus could perversely increase nuclear risks by emboldening aggression. They believe that reduced nuclear salience needs to follow improved strategic relationships between nuclear armed States, rather than seek to improve relationships by reducing nuclear salience within strategic defence postures first. This is reflected in their focus upon what they describe as creating a strategic environment conducive to nuclear disarmament.49 Other people believe that moves to reduce reliance on nuclear deterrence can send positive signals of intent to improve strategic relationships and reduce nuclear risks. It is an excellent example of complexity in which we would do well to recognise the strength of both perspectives in tension.

49 Under Secretary of State Chris Ford first proposed an initiative to create the conditions for nuclear disarmament in March 2018, and the first inaugural meeting of CEND was held in July 2019. See William Potter, Taking the Pulse at the Inaugural Meeting of the CEND Initiative, July 2019; https://nonproliferation.org/taking-the-pulse-at-the-inaugural-meeting-of-the-cend-initiative (last accessed 10 Nov 2021)
**Stepping Stone 1: Article VI recommitment**

Much of the negative atmosphere at NPT events has to do with the interpretation and record of states’ commitments under the Treaty’s Article VI and the extensive commitments made in 2000 and 2010. Much of this friction is an inevitable consequence of the nature of compromise at the heart of the Treaty. But the nuclear weapon States could handle this far better. The level of trust in their commitment to disarmament is low at present. They could consider having Heads-of-State make political recommitments to the principal bargains of the NPT that includes commitment to nuclear disarmament in principle and by negotiation, to reducing the salience of their nuclear weapons in their military doctrine and to a formal discussion within the wider NPT community about each state’s understanding of what Article VI requires of them today.

**Stepping Stone 2: Develop proposals for multilateral arms control, and US-Russia plan moves in their nuclear doctrines towards minimum sufficiency or minimum deterrence**

Strong calls were made to multilateralise arms control when the deadline to extend New START was approaching, and some sympathy with this position was widely expressed. New START has now been extended five years, but US and Russian nuclear arsenals together still account for over 90% of the global total. The numbers of weapons are directly related to one another because both States follow counterforce postures (targeting each other’s nuclear systems). Both these factors explain why further bilateral arms control makes sense, and talks on a New START follow on is necessary at an early stage. Nevertheless, proposals on how best to initiate a multilateral process are also needed. China, with a much smaller and less sophisticated arsenal will resist restraint on its weapons if this bakes in a US-Russian superiority indefinitely. The UK and France are resolute in seeing their nuclear arsenals as independent of the United States. If they are serious about future multilateral talks the United States and Russia will eventually need to consider steps in the direction of minimum deterrence and away from counter-force targeting. For their part, the other three recognised nuclear weapon States will need to reconsider the trade-off between transparency and minimum deterrence, and to explore how they could adopt some of the transparency measures the United States and Russia accept under New START. These present considerable technical and confidence challenges, so an early start to the conversation is essential.

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52 Unfortunately, the UK’s Integrated Review of March 2021 shows movement in the other direction. Global Britain in a Competitive Age: the Integrated Review of Security, Defence, Development and Foreign Policy, Cabinet Office Policy Paper, HMG, March 2021, pp. 76-78
Stepping Stone 3: Dialogue on nuclear doctrine and salience

The Stepping Stone above points to the utility of a dedicated forum for discussion of nuclear doctrine. In a welcome development the recently resuscitated ‘P5 Process’ is now addressing nuclear postures and strategic stability directly. Yet this lacks the involvement of the non-nuclear weapon States. Setting up a regular and substantial on-going forum in Geneva that involved both disarmament diplomats and deterrence officials familiar with the creation and evolution of nuclear doctrine would be an excellent initiative and would have the benefit of drawing in and educating everyone in perspectives which they otherwise rarely experience directly. Discussions that inform non-nuclear weapon States of the complexities surrounding disarmament would raise the quality of disarmament diplomacy, and facilitate more meaningful policy discussions and progress. They would remind defence officials of the critical importance reduced salience has to the future of the NPT regime. This arena would also be an excellent venue to discuss emerging disruptive influences upon established deterrence doctrines (such as novel offensive cyber capabilities, artificial intelligence, autonomous vehicles, and capable sensor technologies), and how best to manage technological and political transformation without major increases in nuclear and strategic risk.

Some particular areas states could discuss in such a forum include:

- the common principles of nuclear doctrine;
- what criteria states consider to be legitimate and illegitimate in nuclear postures;
- the principle of minimum sufficiency (that an arsenal should only be as large as needs to be to deliver the publicly-declared doctrine);
- the variety of technical risk reduction measures, including military-to-military contacts, hotlines and nuclear codes of conduct;
- the impact of current modernisation programmes on nuclear doctrine, strategic stability and disarmament commitments;
- the type of nuclear deployment that could be destabilising, and how states might go about reassuring one another to reduce the risks of crisis escalation and other nuclear risks;
- how best to minimise the use of nuclear rhetoric by leaders and the strengthen the norm that nuclear arsenals should not be used as explicit threats in day-to-day communication; and
- the desirability in principle of moves to reduce salience, and how these may safely be pursued in practice.
Step 2: Analysis and acceptance of the situation, adopting pluralism

The Approach has at its core an appreciation of the contribution diversity has to sustainable change when engaging stakeholders, an acceptance of the complexities involved and an appreciation of their resistance to simple solutions.

Acceptance

Acceptance is a challenging idea to get across clearly, and appears counter-intuitive. Many of us have been encouraged to believe our greatest strength lies in our ability to convince others of our position and to follow us. Our usual reaction to a situation we do not like is to reject it, seek to assert control over it and change the situation. We fear that if we accept current realities and others’ views that may conflict with our own, we end up losing our energy to drive the change that we have identified with and that moves us forward. It is important to accept others’ opinions because they form part of the reality we are engaging with.

We may desire the world to be different, but anyone wanting to impact upon it in a responsible manner needs to understand its complexities as they exist today. This requires us to observe both the situation and our responses to it, and attempt to suspend any rush to judgement. Dialogue involving diverse perspectives can develop some shared understanding of what the situation is in the present before we judge what is good or bad, let alone attempt to establish what needs to change.53

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53 This was an observation made by Chris Ford in his challenging article, 'The Bodhisattva Vow and Nuclear Arms', Upaya newsletter, July 2009. He wrote this some years before joining President Trump’s White House and then becoming US Under-Secretary of State.
**Stepping Stone 4: Managing the body of NPT agreements**

It is possible that the dispute in forthcoming NPT meetings most damaging to reaching a consensus will be over the status of previous commitments made by States Parties, particularly those made by consensus in 2000 and 2010.\(^{54}\) Many non-nuclear weapon States have suggested that commitments made in past consensus documents make up a body of political and semi-legal obligations that member states are answerable to at each Review Conference. After all, what is the point of commitments made, and the process of review, if states do not feel accountable in relation to them? In contrast, nuclear weapon States have suggested that previous Final Documents are snap-shot aspirations, statements of intent that cannot bind current administrations. This difference of view has strengthened the view amongst some non-nuclear weapon States that there is little intention of moving away from practicing nuclear deterrence.

The Stockholm Initiative states have suggested that, “All states commit to enhancing the NPT review cycle to improve implementation in all its aspects” beyond the Review Conference.\(^{55}\) Perhaps the Stockholm Initiative could invite the nuclear weapon States into an open and ongoing dialogue on the Stockholm agenda, issues that include nuclear doctrine and salience reduction, risk reduction, transparency and confidence-building measures. Future NPT meetings should include dedicated time to:

1. receive and exchange views on the national reports of the nuclear weapon States;
2. discuss nuclear postures, doctrines and declaratory policies, and include defence officials in those discussions; and
3. discuss the costs and benefits of different pathways to reductions and elimination of nuclear weapons, actions to create benign conditions and the barriers to achieving progress, and to agree to a ‘minimisation point’ target of 2000 nuclear weapons worldwide by 2035.

The Review Conference could discuss the polarities involved in how the international community manages the consensus commitments agreed to in previous Reviews, as well as the nature of commitments entered into at this Conference. On the one hand we can all acknowledge the need to adapt our interpretation of commitments in the light of significant changes to the strategic security environment to ensure they remain relevant. On the other, we can all also recognise the importance of accountability to past commitments and the imperative to further develop them with a view to maintaining some form of momentum in the direction of disarmament. It should not be beyond the wit of our diplomatic process to manage this polarity.

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Stepping Stone 5: NWS commit to actions that improve the strategic environment

The dialogue triggered in 2019 by Under Secretary of State for Arms Control and International Security Chris Ford at the US State Department, Creating the Environment for Nuclear Disarmament (CEND), was a welcome enterprise from an Administration sceptical of the disarmament agenda. The CEND process appears to have survived the change of Administration, though its future remains uncertain. More recently, the United States and Russia have started nuclear strategic stability talks agreed by the two Presidents at their summit in Geneva in June 2021. Both governments recognise the importance of stability and risk reduction even in the midst of deep divisions between them. If nuclear weapon States were to acknowledge their accountability to the broader international community on issues of strategic stability and the impact of their nuclear deterrence postures this could go some way to reducing NPT tensions and avoiding damage to a regime, they gain significant benefit from. The nuclear weapon States could include a clear statement of this accountability in their national and collective statements to the Review Conference.

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Resolution demands more than sharing carefully-crafted official statements in a diplomatic arena. Efforts to engage officials from a nuclear weapon State could involve authentic invitations to adapt proposals or propose alternatives in an effort to build a collaborative process.
Addressing divergent opinion on nuclear deterrence

When communicating the Approach to diverse constituencies it makes sense to operate with different emphases on stages in the learning cycle, to appeal to the emerging generation and to be sensitive to those in power.

- With the former, the appeal would be made in terms of their own concerns, hopes, priorities, identities and direction by establishing strong positive visions for how the world may look different in the future. This would focus on the threats that nuclear weapons pose to national and international security for all members of the international community, and the need to maintain momentum in the direction of disarmament.

- With the latter, discussion could centre upon policy challenges, national security concerns and international relations generally, and treading a path that seeks to balance interests in a dynamic manner. This involves acknowledging the strength of belief within the nuclear weapon States and many of their allies that nuclear deterrence enhances their national security, and recognising that strong advocacy of proposals that weaken nuclear deterrence without providing alternative ways to maintain national security will attract resistance and could lead to entrenched positions.

The NPT recognises the temporary possession of nuclear weapons by five states and places specific and varied obligations on all states. The NPT review process has also accumulated a body of agreement and ambition outlined in the respective consensus documents. The nuclear weapon States have agreed in principle to actions that take us collectively in the direction of disarmament. The agreed agenda exists. The friction is over the pace and choreography of implementation.

Resolution demands more than sharing carefully-crafted official statements in a diplomatic arena. Efforts to engage officials from a nuclear weapon State could involve authentic invitations to adapt proposals or propose alternatives in an effort to build a collaborative process.

Whilst outright confrontation is usually counterproductive, the Approach does involve drawing attention to some of the nuclear weapon States most dangerous and escalatory behaviours and encouraging them to engage in discussion about these actions as a first step on the road towards disarmament. This is not about international attempts to micromanage nuclear arsenals. Rather it is about identifying specific risky policies and particular types of deployment with a view to open and respectful discussion. This might include, for example, the policy of launch-under-attack, which many believe presents the greatest risk of nuclear exchange arising from a false alarm on the basis that credible warnings of incoming long-range missiles create a use-them-or-lose-them situation.

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57 This commitment is expressed both in the NPT Treaty itself as well as in subsequent Review Conference agreements and consensus documents.
Stepping Stone 6: Discussion over the type of threat that cannot be deterred by non-nuclear means

The political leaderships of the nuclear weapon States and their deterrence communities focus upon the strategic deterrent relationships between them when making their decisions over nuclear weapons deployments. Yet the diplomatic disarmament community rarely discusses nuclear deterrence directly, except to assert or condemn it. There is little overlap or influence between the deterrence and the disarmament communities, and the main drivers behind the policies of nuclear weapon States are neglected within disarmament diplomacy. A deeper and more systematic exchange on deterrence strategies alongside their unintended consequences could be helpful in surfacing assumptions and differences of perspective that underlie many of the deepest disagreements within diplomatic discussions.

The nuclear weapon States have committed for the first time to have an event at the next Review Conference on their nuclear postures, building upon the Trump Administration’s explanations of its nuclear posture at side events at the 2018 NPT Preparatory Committee and subsequent UN First Committee. This is to be welcomed and the non-nuclear weapon States could use the occasion to probe further into some of the weaknesses in the thinking behind nuclear postures as well as the risks they bring. Equally, it may be an opportunity to explore the growing nuclear risks arising from emerging disruptive technologies.

At present the signs appear to show nuclear weapon States expanding the salience of nuclear deterrence to cover emerging non-nuclear strategic concerns that they have little credible response to, even when nuclear deterrence is next to irrelevant. This is inappropriate, dangerous, and undermines efforts to reduce salience that are at the heart of the disarmament project. It begs the question, if nuclear weapon States see no other option than threatening nuclear use against these rising threats, where does that leave the international community and those states without them?

Some non-nuclear weapon States are taking the initiative in raising questions about the management and stability of global strategic relations in the context of disruptive technologies. These conversations are directly relevant to disarmament diplomacy.

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59 The UK’s latest nuclear doctrine states that its negative security assurance to non-nuclear weapon States could be reviewed, “if the future threat of weapons of mass destruction, such as chemical and biological capabilities, or emerging technologies that could have a comparable impact, makes it necessary”. See Global Britain in a Competitive Age: the Integrated Review of Security, Defence, Development and Foreign Policy, Cabinet Office Policy Paper, HMG, March 2021, p. 77

60 See, for example, the German Federal Foreign Ministry’s initiative on Capturing Technology, Rethinking Arms Control, accessible online: https://rethinkingarmscontrol.de/ (last accessed 11 November 2021)
Stepping Stone 7: Attention on inclusion of a greater range of voices

It has become more widely accepted that exclusion of people from decision-making, particularly those most involved or impacted upon, is not only unfair but impoverishes the quality of debate and outcomes. Member states could consider giving a regular slot near the beginning of international discussions to those communities most affected, such as veterans of past nuclear tests and communities affected by them, as well as military strategists tasked with delivering nuclear deterrent capabilities. This would give an important additional practical dimension to conversations that can often feel distant. Many states were involved in the extensive discussions of the humanitarian impacts of nuclear weapons in 2013 and 2014.61 This was a valuable exercise in its own right, whatever one's views on nuclear deterrence and independent of any subsequent action associated with establishing the TPNW. Indeed, it is critical that decisions over nuclear posture are influenced by these considerations, alongside the growing science and policy around the management of broader existential risks and the complex linkages between these matters. Worsening climate change, ecosystem collapse, rising risks of extreme pandemics, developing bioweapon capabilities, the unpredictable emergence of disruptive technologies such as machine learning and new generations of cyber weapons, must all contribute to greater uncertainties over the stability and effectiveness of nuclear deterrence relationships.

61 Three international conferences were organized by the governments of Norway, Mexico and Austria to assess existing understanding of the humanitarian consequences of nuclear weapons.
Step 3: Proposals and Dialogue

Dialogue plus

Diplomacy is associated with dialogue and the careful search for agreement based upon common interests that brings benefits to all parties. In reality it can often be mired in cynical manipulation, short-termism, obfuscation and threat. Leaderships can appear self-referential, seeing diplomatic arenas as fields of battle in a limited zero-sum game and appealing to their domestic base. Self-interest is seen as not only acceptable, but the basis of diplomacy. To assume one’s adversaries are motivated by anything other than cynical manipulation for themselves is deemed naive. Even cosmopolitan conceptions of shared interest and governance are seen as idealistic.

Everyone experiences some kind of social, political and psychological reward from taking strong positions. These may include externalising blame on others, expressing our anger, feeling the righteousness of our beliefs and rallying support for them. As a result, conflict, even with poor odds of success, can be welcomed as an opportunity to express ourselves and find our purpose. Legacies of past conflicts can leave communities and states trapped in so-called drama triangles (in which participants cycle around the roles of victim, perpetrator and rescuer) that further drive conflict. We often believe such conflict is necessary to resolve disputes, and we institutionalise it across many arenas in life (such as democratic debate, in the courts, or generally asserting our interests). It is a tough call to seek the means to manage or neutralise these tendencies, but this is central to the Approach.

The Approach not only acknowledges that agreement and progress require effective communication and flexibility in positions, but further, that decisions are stronger, richer and more sustainable for the international community if they involve strong engagement from, and synthesis of, a variety of perspectives, especially those most invested in the status quo. Seeking out and engaging with diverse views is an antidote to the righteous group-think tendencies and confirmation bias that so often harms genuine dialogue and effective policy creation. No one person or state has a monopoly on the truth, which is dynamic, multi-faceted, with tensions, polarities and contradictions. When building support for policy development, initiatives need to involve invitations for open engagement without fixed outcomes.

Many of us may have strong and justifiable beliefs that global nuclear disarmament will improve security and cooperative behaviour amongst states, but we cannot be sure, and the pursuit of that belief in a dogged and inflexible manner will often trigger resistance. It is equally challenging to provide evidence that nuclear deterrence is effective. When the stakes are high, those able to bring change within the system or to resist it have a responsibility to act with some caution and humility.

All too often, common objectives and a deeper understanding of the shared wisdom within a variety of perspectives can be lost when we are prematurely drawn into conflicting positions by habit or design. For example, the principal reason many people focus on disarmament is because they believe this is the most effective, lasting, long-term solution to improving global security. Equally, those that believe states need to exercise effective deterrence against others do so because they believe this to be the best way to achieve security in an uncertain and uncontrollable world. The disagreement between these two positions should not be understated, yet to acknowledge the strengths and weaknesses of both can be an important

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Decisions are stronger, richer and more sustainable for the international community if they involve strong engagement from, and synthesis of, a variety of perspectives, especially those most invested in the status quo.

process in finding some degree of cooperation moving forward. The objective of security is shared. Advocates may have a greater capacity to understand and empathise with the other if the purpose of the exchange is to hear and understand the other rather than to be converted in their view.

International relations suffer from the tendency for States to invest intelligence and diplomatic resources into gathering intelligence on competitors but failing to exercise compassion rather than using it to gain an advantage. The actions of adversaries are often interpreted as malign, and conflicts with adversaries the default assumption, and then are self-fulfilling. Defence planners may, for example, be able to explain why an adversary might feel threatened or aggrieved, and still remain stuck in their judgement, label them as hardliner or malign if they have objectives that differ from their own and act to contain them in ways that exacerbate the conflict. We may understand the perception within Russia of encirclement and insecurity, yet still label President Putin a manipulative ‘hard man’ who only understands confrontation. We may be familiar with some of the injustices suffered by Iranians throughout the 20th century and the widespread perception across their political spectrum that Iran has been demonised, yet we continue to do just that. These and other countries engage in behaviour reasonably interpreted as reprehensible, both towards their adversaries and towards their own people. We need to understand the drivers and accept our own role in contributing to the situation, and acknowledge our own governments’ reprehensible behaviours. We do well when we draw states that challenge us into a process that involves patient attempts to develop mutual respect and genuine attempts to break the cycles of violence.

On the other hand, it is all too easy to take a naive position regarding the challenges of international governance in the context of sovereign states and strategic competition. Taking into account the standard practices of international diplomacy, the Approach focuses upon incremental steps. Trust and confidence take time to build up, and state representatives need to feel their concerns and priorities are heard and respected in the process, enabling them to witness the mutual benefits that can arise before they are willing to invest further in shared governance.
When we advocate for common values such as equity, justice, human rights and governance that is responsive to the views and interests of the wider public we need to do so from a place of openness and respect, understanding our own failings and drawing the other into dialogue in a manner that respects their expression of those values, even when we might disagree with them. This search for common ground in fundamental values lies at the heart of international society. Genuine and admirable attempts have been made in the last century to articulate and develop such values, formalised after World War II in the Charter of the United Nations and the Universal Declaration of Human Rights, and more recently in the UN’s Sustainable Development Goals for 2030. Recognition of the power of shared values is a critical lubricant in the machinery of international dialogue that is weakened most by cynicism or the view that there only exists self-interest.

Relating to those with most power

Even well justified positions and proposals will feel insensitive to those unconvinced. Protagonists will need to be drawn into an open, adaptive and enquiring exchange over modest incremental moves. Evolutionary transformations are more likely to be successful if they involve diverse stakeholders in their formulation, especially those that have the most power and potentially the most to lose in any transformation. With more invested in the status quo, they are also more likely to obstruct the exploration of radical shifts, so this is a difficult and dynamic balancing act, one that forms the essence of the Approach in its creative tension between vision and incremental movement.

This is particularly clear in global nuclear diplomacy. Nuclear weapon States continue to sink major investment into their nuclear arsenals in the belief that this brings them greater security and influence in world affairs. Attempts to pressurise them into making steps they see as reducing their ability to defend their vital interests or surrender some of their influence drives them into their diplomatic bunkers and has limited influence at best. This is not a definitive reason to avoid such tactics, but rather to recognise their limited value and the risks involved in pursuing them.

Those who believe the nuclear weapon States do not need to be convinced might point to the TPNW. Those behind the campaign believe the Treaty is putting pressure on the deterrent strategies of nuclear weapon States and their allies. But as we have seen, when considering the nature of the Approach action process, the TPNW will not, by itself, bring disarmament. Putting too much faith in the TPNW will miss important opportunities for implementing existing commitments by the nuclear weapon States.
Stepping Stone 8: Political statements made by nuclear weapon States

Presidents Putin and Biden declared on 16th June 2021, that:

“Today, we reaffirm the principle that a nuclear war cannot be won and must never be fought. Consistent with these goals, the United States and Russia will embark together on an integrated bilateral Strategic Stability Dialogue... to lay the groundwork for future arms control and risk reduction measures.” 64

Less than two weeks later Presidents Xi and Putin reaffirmed a mutual legal no-first use commitment and not to target their strategic nuclear missiles. There is scope for other nuclear weapon States to join in such declarations, and for this statement to be transparently applicable worldwide (important as the June declaration was made in the context of the bilateral relationship).

This is an acknowledgement that nuclear weapons should never be intentionally used for war-fighting, and that there remains a need for some form of coordination between nuclear-armed adversaries to avoid the unthinkable. There was significant push-back over recent years within the defence establishments against making this statement, based upon a reluctance to close down options, a fear of signalling weaker resolve in nuclear deterrence, and a belief that such a statement could risk crisis escalation by encouraging doubt in the minds of aggressors that they may trigger a nuclear response. But acting from this logic would be to always resist any moves away from a full domination by nuclear threat. It ought not be controversial to state there are limits to the application of nuclear deterrence.

The statement by the Presidents is a first constructive step, and a discussion amongst the P5 around a multilateral shared statement along these lines would be appropriate, along with discussion around additional follow-on statements such as a declaration that nuclear weapons are exclusively a last resort and more unambiguously forsaking them for war-fighting. This would also be the basis for a discussion on those capabilities and elements of doctrine that lean more towards war-fighting than a more stand-off deterrent posture.

Stepping Stone 9: Discuss and implement measures that reduce nuclear risk

Managing and reducing nuclear risk is a critical activity, could help mitigate some of the drivers behind current modernisation efforts and might create space for further constructive disarmament steps. This features in the Stockholm Initiative agenda, and is reflected in the group’s paper drafted by the Swiss.\textsuperscript{65}

Recent analysis of nuclear risk reduction from UNIDIR suggests focusing on addressing four pathways to nuclear use: doctrinal; escalatory; unauthorised and accidental.\textsuperscript{66}

Measures to reduce risk of deliberate (doctrinal) use might include those that strengthen the nuclear taboo, declaratory policies that restrict the threat of use and reduced ambiguities in arsenals and doctrine. Developing mutual understanding of the underpinning of nuclear doctrine helps a great deal.

Escalatory risks are reduced when leaderships have a better understanding of cognitive bias and mistakes in crisis management. Trading best practice and finding opportunities for people to engage in international war gaming or other methods to explore scenarios and attitudes to use could also strengthen experience and deepen informed signalling practice and develop mutual crisis protocol.

It is also important to consider and plan for the moments after the first use of nuclear weapons with attention on the critical importance of avoiding an all-out exchange. Recent research on the extreme global climate impacts caused by even a limited exchange and the resulting darkening of the skies re-enforces the need for such planning whilst states continue to rely upon nuclear deterrence.\textsuperscript{67} This would assist in developing familiarity with tactics that dial down crises or raise the threshold of use. Greater military-to-military dialogue over doctrines and the thinking behind them, the development of a credible nuclear code of conduct and a common lexicon of practice and force posture will also help.

The big gain is to be had from political leaderships being sensitive to the strategic risks inherent in their postures, actions and international relationships, and their readiness to practice restraint. We need an honest international dialogue on how everyone can act to encourage restraint within the system. Codes of conduct or other means to develop a shared understanding of what constitutes standard responsible behaviour would be a major contribution to reducing risk.

The dangers of a launch-under-attack posture have already been mentioned. There have been numerous past examples of systems suffering instrument or human failure that highlight the dangers. Whilst there is no conceivable scenario today in which one side could confidently eradicate the other’s arsenal without suffering unacceptable damage from retaliation, there is a concern that


\textsuperscript{66} Edited by Wilfred Wan, ‘Nuclear Risk Reduction: Closing Pathways to Use’, UNIDIR, April 2020, available here: https://doi.org/10.37559/WMD/20/NRR/01 (last accessed 10 Nov 2021)

this may not always be the situation. Dialogue on this matter has so far been stymied by the fear of exposing vulnerabilities in command and control, or that existing arrangements are likely to be unpopular amongst the general public. The United States and Russia could contribute to nuclear risk reduction most significantly by reducing their launch readiness levels and by considering shifts in their force structure to favour systems that are less vulnerable to pre-emptive strike.

Another example would be nuclear-tipped cruise missiles, that present the added danger of entanglement and ambiguity in crisis.68 The use of conventional cruise missiles is ubiquitous in modern warfare, so nuclear-tipped versions could be seen as extensions of conventional conflict, and distinguishing them from conventional missiles in warfare presents a major danger of escalation.

Another risk factor comes from emerging disruptive technologies that throw any stability into serious question. These include machine learning, highly effective detection and prompt-strike systems, stealth and dual-use delivery systems, missile defences and offensive cyberweapons. Risk reduction efforts would include attempts to protect and strengthen nuclear command and control facilities, and agreements not to target them, to refrain from developing systems that reduce confidence in strategic balances. Also, to maximise the opportunities new technologies can bring in efforts to stabilise strategic relationships, such as ubiquitous surveillance, artificial intelligence applied to tracking illicit transfers or deployments. These are challenging proposals; not least as strategic competitors are constantly seeking advantage over one another.

Other measures that ensure reliable and trustworthy crisis communications, such as dedicated hotlines, risk-reduction centres and data-sharing practices, joint early-warning centres, prenotification of missile tests and military exercises, can all contribute.

Further risk reduction measures might include, for example, dialogue between nuclear weapon States on the features of dangerous classes of weapons, postures and technologies that might endanger stable command and control, and specifically dual use delivery systems (such as cruise missiles) and the manner of their deployment that might be destabilising.

Non-nuclear weapon States could contribute by communicating which particular current practices present the most significant risks of nuclear exchange and are unacceptable to them. These might include policies of deliberate escalation or of nuclear use, those that are more susceptible to strategic miscommunication or miscalculation, and technical error. This is not to imply that other aspects of nuclear posture are acceptable, but rather to highlight the most egregious practices on the basis of risk. Non-nuclear weapon States could also contribute by understanding the resistance and offering suggestions in the spirit of open dialogue. Nuclear weapon States have grave responsibilities to cooperate by addressing each and every one of these areas, and to communicate their actions in this area to the wider international community in a manner that demonstrates their understanding of the accountability they are under.

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68 Two leading members of the Stockholm Initiative, Sweden and Switzerland, led an ongoing discussion around the dangers of nuclear cruise missiles in the United Nations and NPT contexts in the earlier years of this current NPT Review period. See, for example, a report from the Office for Disarmament Affairs on a side event at the 2016 First Committee (https://www.un.org/disarmament/update/nuclear-cruise-missiles/ (last accessed 10 Nov 2021)).
Step 4: Practical, incremental action

The Approach involves taking early practical steps that can be taken in the current context with the intention of building momentum. In complex environments, even very small steps can have unpredictable impacts upon other parts of the landscape that can then open up new challenges and opportunities. When first conceptualising the approach we used the analogy of climbing the mountain, as it was already one referenced by the Nuclear Security Project and the four statesmen Schultz, Perry, Kissinger and Nunn in their seminal letter to the Wall Street Journal in January 2007.69 They recalled the vision of a world free of nuclear weapons and the agenda that had built up of a step-by-step approach outlined in the consensus final documents of past NPT Review Conferences, subsequently developed in the 64 point action plan in 2010. When ascending the slopes a climber sees new opportunities and challenges as they gain height.

This is all very well, but recent history demonstrates that this is not a one-way process. Indeed, since the four published their letter we have seen the election of US President Barack Obama who supported the agenda, the subsequent deterioration of strategic relations, and decisions taken in every nuclear armed state to modernise their arsenals. Let us agree that even in this optimistic model, the assault on the summit is quite some way away, and we seem to have fallen down several crevasses. As a result, confidence in the step-by-step approach has been damaged.

As outlined in the earlier section on the nature of change, it may be more helpful to ditch the idea of a single peak and instead think about a landscape of peaks and valleys, and that to shift to another dynamic equilibrium takes larger nudges, or a series of small ones, because of the immunity to change. In terms of the Approach, we need to consider individual stepping stones in their own right, but it will take implementing a series of them, likely in a number of areas, to achieve sustained progress towards nuclear disarmament.

It is transparently the case that it will be the nuclear weapon States themselves that implement nuclear disarmament. It may be that this will happen after some kind of unpredictable external shock, a change of heart within government or a domestic power shift. If, on the other hand, nuclear disarmament is to come from diplomacy and improvements to global security, it will require constructive and voluntary steps by the nuclear weapon States, taken in good faith and with confidence. Disarmament proposals made in this context must be considered in relation to existing nuclear deterrence postures.

The Approach is more likely to be successful if all parties see the dialogue as a shared learning process that involves concrete implementation by the nuclear weapon States. The diagram below is a representation of a learning cycle involved in nuclear diplomacy and implementation, reflecting the fact that the changes themselves (to the right half of the diagram) will happen nationally within those states that possess nuclear weapons (See Figure 3).

Because of the complexities involved, we cannot expect to resolve the challenges we face quickly, but we can expect a commitment to engaging in dialogue with good will and a readiness to take modest steps that demonstrate that good will and respect for others within the community and that do not undermine national security or existing strategy.

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A Disarmament Implementation Cycle

**VISION**
Article 6: GCD & World free of nuclear weapons

**GOAL SETTING**
e.g. 2020 Action Plan

**COOPERATIVE INTERNATIONAL IMPLEMENTATION DESIGN**
Stepping Stones Proposals

**MULTILATERAL ARMS CONTROL & TREATIES**

**NATIONAL IMPLEMENTATION PLANS**
Nuclear Posture etc.

**NATIONAL IMPLEMENTATION**
Changes to deployments etc.

**REFLECTION & EVALUATION**

**NATIONAL REPORTING**
Standard reports to NPT meetings

**NATIONAL THREAT ASSESSMENTS**
Stepping Stone 10: Review of negative security assurances

One of the deepest disputes at the heart of the NPT is the sense of inequity whereby the nuclear weapon States justify their possession and deployment of nuclear weapons on the basis of their own security, whilst imposing a direct security cost upon the rest of the international community and demanding that it foreswear the perceived benefits they enjoy. Non-nuclear weapon States see the strengthening of negative security assurances (NSAs) as a modest and realistic acknowledgement by nuclear weapon States of their responsibility to reduce this negative impact on their security. The least they can do is promise not to threaten nuclear attack on those who don’t have nuclear weapons.

Non-nuclear weapon states are keen to negotiate a global treaty in which the nuclear weapon States guarantee they will never threaten or use nuclear weapons against them, and have attempted to drive such an objective forward in the Conference on Disarmament, without success. This is a valid goal, but will require stepping stones along the way that engage with nuclear weapon States from where they are today. All offer negative security assurances, but most have exceptions to these NSAs for what they believe are good reasons that attempt to minimise any limitation on the deterrence utility arising from their nuclear arsenal. In other words, defence ministries are reluctant to give up some dimensions of what they see as useful ambiguity or utility, even with non-nuclear weapon States. We can see this in the US and UK doctrinal exception to NSAs when non-nuclear attacks have strategic effect.

The Approach considers these NSA exceptions and invites nuclear weapon States to:

- more comprehensively and definitively outline their current NSAs and the exceptions to them;
- initiate more open reviews of their NSAs, unilaterally and multilaterally;
- add to the restrictions to use, for example by prohibiting nuclear compellence or intimidation of non-nuclear-weapon States;
- review the specific exceptions made to NSAs with a view to letting them go or being more specific on the reasoning;70 and
- urgently ratify outstanding protocols that include legally-binding negative security guarantees to member States of Nuclear Weapon Free Zones.

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70 For example, it ought to be seen as inappropriate for a Nuclear Weapon State to imply nuclear threat against a state without nuclear weapons to bring them back into compliance with a Treaty when there are more appropriate tools at hand. If they are concerned about the prospects of facing a state with a secret nuclear arsenal this should be the explicit exception, not compliance.
Step 5: Evaluate outcomes, adaptable as events unfold

The steps that are implemented not only have value in themselves, but their contribution can break the stasis and demonstrate future possibilities, improve the material and perceived environment for further movement in future, and build trust and confidence. Put another way, we are searching for improvements rather than solutions. And as we achieve them, further possible improvements will emerge. It is a feature of the process that transformation emerges in a non-linear and unpredictable manner.

Whilst it would be possible to map out a logical sequence of potential steps, the Approach does not involve a strategy in the conventional sense where steps are planned out in advance and then executed as other actors within the system come on board. There is instead an expectation that the plans and steps and even the vision itself will adapt and evolve as the situation unfolds. This requires that we recognise that we, individually and collectively, are not in control of outcomes, and that we are engaged in what is often termed a learning cycle. It means that we have to be more flexible with our personal or political attachments to particular outcomes.

Indeed, it can often be observed that it is the attempt to grip the situation and take control of a process that sets up or exacerbates the conflict that then spirals further out of control. People often think, for example, that the most effective negotiating strategy is first to build up one’s own bargaining position by accumulating assets or positions that can later be traded, or through sheer force of argument, and developing a hard reputation for inflexibility. Sometimes this strategy can drag out the start of serious negotiations for many years as antagonists square off against one another, issue threats and impose penalties. Such an approach deepens a culture of competition that harms cooperation and an open exploration of possibilities that serve the common interest. If, instead, we adopt an approach that is less about control and more about collective exploration with other stakeholders, some of whom we may perceive to have conflicting interests or perspectives, then unforeseen possibilities can open up.

This flexibility applies right from the beginning. The initial proposals include an explicit invitation to others who may have different roles and perspectives to adapt them. As already observed, this is important when those that have more power in the system and are invested in the status quo are also the ones responsible for actual implementation of any changes.

The approach to adaptability is all the more powerful if we see the interactions we have as opportunities to learn more about the system and others’ wisdom as well as to adapt the proposals for action. This often requires us to be open to viewpoints that may appear diametrically opposed to our own. Some of us may, for example, feel a passionate commitment to see significant and early progress in global nuclear disarmament, and this is to be commended, but we also need to entertain the possibility that we could be wrong in our assessment of how and when this is best achieved. If we can hold this awareness with authenticity, it will encourage others with differing perspectives to engage more openly with us. A similar approach would serve those with different perspectives.
Stepping Stone 11: Sole purpose to no first use

Nuclear weapon States can only legally contemplate nuclear use if it were proportional to the threat, but all could be more explicit in what they believe this means in their nuclear posture. Whilst much of the international community sees merit in discussing moves towards no first use (NFU), there has been strong resistance to any such discussion amongst the nuclear weapon States (except China). The logic of NFU is that it does not affect second strike posture and therefore maintains any deterrence against nuclear attack, but often, in addition to the resistance to limiting freedom of action in scenarios where pre-emptive strikes are considered a possible option, the fear is that NFU talk might hint at weakness of resolve regarding nuclear use more generally, particularly to allies under the nuclear umbrella. However, it could be argued that NFU clarifies the purpose and utility of nuclear weapons and therefore strengthens its second-strike effect. In addition, retaining theoretical freedoms of action when the threat of nuclear use is not credible could be dangerous, does not deliver any appreciable marginal deterrence effect, and weakens legitimacy and international cohesion.

There are interim steps that could be taken prior to any unilateral or multilateral NFU declaration, such as a declaration of sole purpose (that the only reason for possessing nuclear weapons is to deter nuclear use or threat). President Joe Biden’s new Administration has been considering this
option during its Nuclear Posture Review, and Biden himself has already committed to it in principle in a speech in January 2017.\footnote{Vice President Joe Biden speech on Nuclear Security to the Carnegie Endowment for International Peace, January 11, 2017, available online here: https://carnegieendowment.org/2017/01/11/u.s.-vice-president-joe-biden-on-nuclear-security-event-5476 (last accessed 10 Nov 2021)} When considering the move, the new administration will be aware of the Obama administration’s experience in 2009 with allies, particularly those in East Asia. Japan opposed a change in declaratory policy believing it could communicate an undesirable lack of resolve in delivering the extended nuclear deterrent. There are signals that allies have been lobbying the administration already this year on the subject.\footnote{Allies lobby Biden to prevent shift to ‘no first use’ of nuclear arms | Financial Times 30 October 2021. Available: https://www.ft.com/content/8b95a60a-759b-4972-ae89-c8ffbb36878e (paywall, accessed 30 October 2021).} For this reason, any change is more likely to receive support from such allies if it were considered as part of a broader strategy to repair the credibility of broader US commitments to allies. There will also be resistance from within the Department of Defense, on the basis that there are credible first-use scenarios, particularly when adversaries are on the brink of nuclear use against the United States precipitating a pre-emptive move or when facing a regional adversary like North Korea in which a rapid destruction of its nuclear forces may be possible.

An NFU policy is criticised within nuclear weapon States for being a near-empty expression of intent in peacetime that cannot be relied upon by other states when the nuclear possessor feels under existential threat (the only time nuclear weapon use would be contemplated). Whilst this is a valid concern and may necessitate force planning and structure that accounts for potential reneging upon the guarantee, an NFU policy can have widespread and transparent impact in peacetime, including effects upon force structure, planning, training and exercises. When transparent, these activities can communicate signals of intent around NFU and other aspects of declaratory policy, which in turn can positively impact upon strategic relations. It may be that a global NFU agreement is some way off (a guide-star vision rather than a short-term objective), but a process whereby the nuclear weapon States commit to mutual exploration of what an NFU agreement might mean beyond the words, and how it can be reinforced in practice, perhaps with transparent force structure that backs up the policy, would build a useful culture of strategic dialogue.

Nuclear weapon States do need to ensure that their force posture is in line with their declaratory policy. At present China is the only NPT-recognised Nuclear Weapon State with an NFU policy, one that is seen by others as lacking credibility. The Chinese nuclear force structure, which mainly consists of short-range missiles which can only land on non-nuclear weapon states, appears inconsistent with its NFU and universal NSA policy, unless such policies cease to exist once nuclear weapons have been used.
No lack of ambition

The strongest criticism of the Stepping Stones Approach comes from some nuclear weapon abolitionists who see the nuclear weapon States as consistently acting in bad faith, and who see the only way forward being to build political pressure and strengthening what they see as a global taboo against the use and possession of nuclear weapons, or building an alternative reality that these States will eventually join. When the Stockholm Initiative emerged it was frequently put to me that it was a return to the discredited step-by-step approach that had led to inaction, and then the decision to take the alternative track to establishing the Treaty for the Prohibition of Nuclear Weapons (TPNW). Worse, some people have seen it as a misguided belief that the nuclear weapon States have ever been serious about considering moves away from nuclear deterrence, and that nuclear diplomacy is essentially a con trick.

In the eyes of those criticising the approach, it has been accused of weakening the influence of TPNW, partly because states choose it instead as an alternative, partly because it is seen as a distraction, and partly because it demands a level of respect for the nuclear weapon States and nuclear deterrence that they and it do not deserve.

This criticism appears to be based on the idea that there is only one way to achieve transformation. The reality is however, that the Approach itself is not opposed to radical change, does not lack ambition, and nor does it appease those that block progress. It does not demand sole allegiance and is compatible with parallel attempts to drive disarmament. As already explained, it is not opposed to the TPNW; indeed, the Stockholm Initiative involves member States of the TPNW.

The SSA recognises that the international community has important building blocks in its existing agreements, particularly the 13-step agenda agreed at the 2000 Review Conference, and then the 64-point Action Plan agreed in 2010. These were not lightly arrived at and make up a considerable agenda for future action. In the words of one Swedish diplomat central to the approach, we have agreed the menu.

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73 Many of the criticisms cited here have been voiced by many people in many meetings attended by the author, convened to discuss progress within the NPT, the TPNW and the Stockholm Initiative, such as the launch side event at the 2019 NPT Preparatory Committee. They are also informed by diverse private discussions with representatives of the anti-nuclear movement.
75 See Egeland above, and this is an opinion frequently put to me privately.
we now need to cook the food and eat it. The principal disappointments have been in the lack of implementation, not the ambition of the agenda. It would be irresponsible to forget the commitments made in a simplistic and binary demand for abolition. Rather, action needs activity at various levels, from public communication to hard-headed negotiation.

The Approach itself is neutral regarding any particular level of ambition. If the manner in which it is executed is judged to lack ambition, then an appropriate response would be to call for dialling it up rather than abandoning it. The attempt to understand the constraints that everyone is operating under is not a weakness but is essential for effective change. Every step that is implemented is an opportunity to improve security and the relationships between states, opening up opportunities for further steps.

The Appeal of the SSA: Dropping the idea that NWS could cave under pressure

There are good reasons to believe that the nuclear weapon States have at times been acting in bad faith when leaders talk about disarmament and enter into agreements at NPT Review Conferences only to backtrack or fail to implement commitments. They never seriously considered letting go of the practice of nuclear deterrence even as the Cold War came to an end and strategic relations had been conducive to such a move. Why should we trust any forthcoming statements from such leaderships? Exaggerating the degree of agreement in nuclear weapon politics is to legitimise the current status quo.

The Approach does not require us to abandon criticism or trust blindly that the nuclear weapon States mean all they say, nor even to trust any strong degree of agreement. Indeed, it is the lack of agreement and the polarisation of positions that drives the Approach. Rather, it is about believing that people and states can be open to engaging in processes in which they and their principal concerns are treated with respect, but in which they can be open to others’ perspectives. In other words it involves treating them as possible negotiating partners, because if the alternative is a battle of power all lose, but particularly those with less of it. The nuclear weapon States acknowledge that they need to reduce the salience of their nuclear weapons but have little idea how to go about it. Creating a more engaging atmosphere in which open discussions include those people deeply committed to making rapid progress are more likely to shift opinions than those where there is a pro-deterrence group-think from the start, or those where there is little constructive engagement beyond stating positions. When nuclear weapon States make commitments to move in constructive directions the Approach is about attempting to translate these commitments into concrete proposals for action, and challenging them to move first where the freedom of action is greatest in the first instance. When the nuclear weapon States guard their freedom to threaten nuclear retaliation against states without nuclear weapons when it suits them, it is about confronting them, highlighting the implications of those practices and working with them to tighten them up so that the interests of the international community and the dynamic moves to reduce salience are respected.

Pressure is a problematic tactic when power is so transparently concentrated in the hands of nuclear armed states and their allies. Their attachment to deterrence is not brittle or fragile. Pressurising them to change deepens their defensiveness and entrenches push-back, as well as damaging the agenda agreed upon. In contrast, the Approach takes concerns over the current security environment at face value because it is inescapably true that they contribute to the blockages to nuclear disarmament, even as they

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78 This position is articulated by Kjølv Egeland, 'Nuclear Weapons and Adversarial Politics: Bursting the Abolitionist "Consensus"', Journal for Peace and Nuclear Disarmament, Vol 4, issue 1, 2021 available online here: https://www.tandfonline.com/doi/full/10.1080/25751654.2021.1922801 (last accessed 10 Nov 2021)
By involving non-nuclear weapon States, the Approach implies recognition that whilst they may not directly practice nuclear deterrence they are important and active stakeholders in the disarmament process, and deserve a voice and a seat at the table.

are not the full story. It draws the nuclear weapon States into a collaborative process that expands upon the credible incentives for them to engage, reduces the risks arising from their nuclear postures and strengthens the chances of progress on nuclear disarmament. This is a collective responsibility for all states.

Abandoning the tactic of shame

Some believe in the possibility of shaming the nuclear weapon States into taking action, and that the Approach undermines this shame by accepting them where they are before attempting to move them on. Shaming plays an important role in many cultures as a punishment to encourage members of society to abide by certain rules. Indeed, some consider this to have been central to the creation of culture in the first place, a role that appears to have received a boost in the wake of the Covid-19 pandemic.

Shaming can only be effective when there is some degree of agreement on the nature of the transgressions involved. When this is not present, shaming hardens positions, destroys dialogue, and takes away the opportunities for collective movement. The nuclear weapon States and their allies may not make up a majority of states by number, but that makes little to no difference to their political calculations and the strategic imperatives that drive their decisions.

No compromise

It certainly appears that proposals made using the Approach need to be mild if they are to be acceptable to the nuclear weapon States as openings for dialogue. Even then, they may be rejected out of hand, and when alternatives are proposed these can appear hollow or weak. Many people believe that nuclear deterrence is so abhorrent that engagement that involves any degree of acceptance (Step 2 in the process) confers too much legitimacy to the practice and weakens opposition. In this perspective, there is only

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proposition and opposition, and any attempts to find improvements or common ground with nuclear
weapon States and their apologists is to misunderstand the nature of the dispute.81

The positional, principled approach focused on the need for complete nuclear disarmament through
abolition has a strong internal logic but it offers little hope of change. It fails to account for the reasons
why states might feel compelled to engage in nuclear deterrence, and the fact that those states and the
officials responsible will need to be involved in any progress. It generally assumes that adversaries have
little good will and cannot be trusted. Such an attitude is indeed self-fulfilling, as one’s protagonist meets
you in escalating distrust.

In contrast to the perception, the Approach is not about compromise nor relinquishing one’s own
perspective, but rather about practicing inclusive dialogue in order to surface and implement
improvements when perspectives diverge. This requires us to be open, realising that we may not have full
wisdom in the situation and can learn from each other’s perspectives in finding improvements in the mix.
When we engage in this manner, it shows respect to the other and gives them an incentive to engage more
openly too. This sometimes takes time to build trust and habit.

Inclusion in arms control and disarmament

The traditional position of the nuclear weapon States is that the contribution of the non-nuclear weapon
States to disarmament is in non-proliferation (to reassure of their intent by extensive reporting and
accepting intrusive verification), and to refrain from aggressive military action. Otherwise, they are best to
let the possessors get on with the tough arms control negotiations. Multilateral nuclear disarmament is
already complex and fraught with technical and political challenges without other states sticking their oar
in. This attitude has tempered recently, and the nuclear weapon States have engaged certain groups of
non-nuclear weapon States (such as members of the Non-Proliferation and Disarmament Initiative and of
the Stockholm Initiative) in the margins of their P5 Process, but their involvement tends to be minimal.

The Approach involves non-nuclear weapon States taking much of the initiative by suggesting proposals as
part of the broader dialogue agenda. This expands some of the negotiating process to more parties,
though there is nothing to stop the nuclear weapon States engaging with each other in bilateral and
plurilateral parallel processes. By involving non-nuclear weapon States, the Approach implies recognition
that whilst they may not directly practice nuclear deterrence they are important and active stakeholders in
the disarmament process, and deserve a voice and a seat at the table.

In welcoming them to the table on occasion, the nuclear weapon States can dial down the level of
animosity often experienced at NPT meetings. Because NPT meetings are treated as declaring, reporting
and assessing events, with the main action elsewhere, they can attract and deepen the sense of
powerlessness amongst the non-nuclear weapon States. Drawing them into a process that promises real
engagement would help.

81 See Kjølv Egeland, ‘Nuclear Weapons and Adversarial Politics’, above.
The Stepping Stones Approach forms the basis of the sixteen-nation Stockholm Initiative formed in 2019, and made up of a broad cross-section of influential non-nuclear weapon States.

The formation of the Initiative by Sweden alone has been a major achievement in the context of a nuclear diplomatic situation that had been characterised by rancour and pessimism, frustration and hopelessness in this NPT Review cycle. It is the first time in a generation that such a group of states has met regularly at Foreign Minister level to discuss nuclear disarmament. This has sent signals to the rest of the international community of the priority given to the need for progress by these sixteen governments.

Whilst it is too early to point to any concrete successes, its efforts have been received positively by the nuclear weapon States and much of the international community, injecting some positivity into nuclear diplomacy in the run up to the NPT Review Conference currently planned for January 2022. When applied to nuclear disarmament diplomacy, the Approach offers the chance of realistic and achievable steps that account for the obstacles to progress. It offers the nuclear weapon States the chance to be better understood, to explain the complexities they face, and their understanding of the responsibilities all states have to uphold the disarmament and non-proliferation regime.

The Approach is relevant to everyone involved in complex political change and who wants to have an impact. When applying it you will experience a paradigm shift in your engagement. It may be that you hit significant obstacles, face negotiating partners who show no sign of engaging seriously, fall into disagreements and conflicts that show no signs of resolution. It draws people of diverse perspectives into collaborative processes in which they start to build ladders for each other out of the collective traps they find themselves in. In this manner it offers the best chance for resolution, with techniques that work.

The development of the Approach has been heavily influenced by a hard and complex personal journey over 35 years. It has been a privilege to work with the Swedes in developing it, and it is my privilege to lay out its features and story in this report.
The Approach is relevant to everyone involved in complex political change and who wants to have an impact. When applying it you will experience a paradigm shift in your engagement.
The Stepping Stones Approach

The Approach is a pragmatic and adaptable political strategy. It has been formulated to raise the chances of successful implementation of policy in highly contested environments by actively involving diverse perspectives in the design, evolution and execution of policy. It puts the search for common ground across the international community at the heart of disarmament diplomacy. It involves an attempt to understand and empathise with others holding very different perspectives, seeing one’s own within the broader ecosystem of viewpoints, and accepting that outcomes could look somewhat different to the original ideas we may have when starting the process.

By establishing room for incremental improvement without demanding radical change in the early stages, it builds trust and confidence, and changes the understanding and calculus of all parties over time. It does not need all stakeholders in the system to be signed up to the approach for it to achieve progress, but does require a cohesive and aligned core group to follow its adaptive method.