

# NUCLEAR WEAPONS **BAN** MONITOR 2023

TRACKING PROGRESS TOWARDS A WORLD WITHOUT NUCLEAR WEAPONS



Norwegian People's Aid



## ABOUT THE NUCLEAR WEAPONS BAN MONITOR

The Nuclear Weapons Ban Monitor is a research project managed by Norwegian People's Aid with contributions from a broad range of external experts and institutions, including the Federation of American Scientists and the Norwegian Academy of International Law. It tracks progress towards a world without nuclear weapons and highlights activities that stand between the international community and the fulfilment of the United Nations' long-standing goal of the elimination of nuclear weapons. In measuring this progress, the Nuclear Weapons Ban Monitor uses the Treaty on the Prohibition of Nuclear Weapons (TPNW) as the primary yardstick, because this Treaty codifies norms and actions that are needed to create and maintain a world free of nuclear weapons. The impact of the TPNW will be built gradually and will depend on how it is welcomed and used by each and every state.

The Nuclear Weapons Ban Monitor records progress in universalisation of the TPNW, but it also tracks gaps in adherence to all the other global treaties in the existing legal architecture for disarmament and non-proliferation of nuclear weapons and other weapons of mass destruction. This concerns, specifically: the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the nuclear-weapon-free-zone treaties, the Comprehensive Nuclear-Test-Ban Treaty (CTBT), Comprehensive Safeguards Agreements (CSA) and Additional Protocols (AP) with the International Atomic Energy Agency (IAEA), the Biological Weapons Convention (BWC), and the Chemical Weapons Convention (CWC). It also evaluates the nuclear-weapons-related policies and practices of each of the 197 states that can become party to these treaties. These are the 193 UN member states, the two UN observer states (the Holy See and the State of Palestine), and the two 'other' states (Cook Islands and Niue).

Finally, the Nuclear Weapons Ban Monitor sets out clear interpretations of each of the prohibitions and positive obligations of the TPNW and evaluates the extent to which the 197 states act in accordance with the Treaty. States parties and signatories are categorised as either 'compliant' or 'non-compliant' with the TPNW, whereas non-parties are categorised as either 'compatible' or 'non-compatible'.

State profiles for each of the 197 states can be viewed on the Nuclear Weapons Ban Monitor's website.

[www.banmonitor.org](http://www.banmonitor.org)

### THE TREATY ON THE PROHIBITION OF NUCLEAR WEAPONS (TPNW)

- The TPNW is the only legally binding global treaty that outlaws nuclear weapons.
- It was adopted on 7 July 2017 at a diplomatic conference established by the United Nations General Assembly. A total of 122 states, more than three-fifths of the world's total, voted in favour of the Treaty's adoption.
- The Treaty was opened for signature on 20 September 2017, and received its 50th ratification or accession on 24 October 2020, triggering entry into force on 22 January 2021.

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Comments, clarifications, and corrections are welcome. Please email the Nuclear Weapons Ban Monitor at: [banmonitor@npaid.org](mailto:banmonitor@npaid.org).

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**Cover photo: A woman wearing makeup to symbolise the atomic bomb victims during a rally commemorating the 78th anniversary of the United States' dropping of an atomic bomb on Hiroshima, in Los Angeles, 6 August 2023. (Photo by Ringo Chiu/SOPA Images/Sipa USA/NTB)**

# CONTENTS

<b>Key 2023 findings</b>	4
<b>1 The status of the TPNW in 2023</b>	6
<b>2 Compliance and compatibility in 2023 with the prohibitions of the TPNW</b>	14
The prohibition on development, production, manufacturing, and other acquisition	18
The prohibition on possession and stockpiling	24
The prohibition on testing	32
The prohibition on transfer	34
The prohibition on receiving transfer or control	36
The prohibition on use	38
The prohibition on threatening to use	42
The prohibition on assistance, encouragement, or inducement	44
<i>Complicity by umbrella states</i>	46
a) Endorsement of nuclear-weapons doctrines, policies, and statements	46
b) Participation in nuclear planning	48
c) Provision of capabilities in support of a nuclear posture	49
d) Participation in nuclear strike exercises and nuclear operations	50
e) Logistical and technical support to nuclear forces	51
f) Development, production, and maintenance of key components for nuclear weapons	52
g) Ownership in and other financial assistance to the nuclear-arms industry	52
<i>Complicity involving nuclear-armed states</i>	53
<i>Complicity by states with nuclear-free defence postures</i>	54
The prohibition on seeking or receiving assistance	56
The prohibition on allowing stationing, installation, or deployment	58
<b>3 Compliance and compatibility in 2023 with the positive obligations of the TPNW</b>	62
The obligation to submit a declaration	63
The obligation to have Safeguards Agreements and Additional Protocols with the IAEA	64
The obligation to eliminate nuclear weapons	68
The obligation to remove foreign nuclear weapons	72
The obligation to adopt national implementation measures	74
The obligation to assist victims and remediate affected territory	78
The obligation to cooperate with and assist other states parties	84
The obligation to promote universal adherence to the Treaty	88
<b>The text of the TPNW</b>	92
<b>Abbreviations and acronyms</b>	97

# KEY 2023 FINDINGS



The risk of the use of nuclear weapons was a profound concern in 2023 and remained an embedded feature of world politics. Nuclear weapons-related risks are not controllable, but subject to chance and luck. The nuclear weapons possessed by nine states are therefore a source of constant insecurity, and nuclear deterrence as a legitimate and necessary paradigm is deeply questionable. In an increasingly challenging international security context, a minority of 43 states embraced the security logic of nuclear deterrence in 2023, exposing the entire world to unacceptable risk.



In 2023, the Treaty on the Prohibition of Nuclear Weapons (TPNW) further embedded itself as the sole multilateral forum where states firmly demonstrate their rejection of nuclear deterrence and their will for nuclear disarmament, and cooperate on forging a path towards the elimination of nuclear weapons. The Treaty's Second Meeting of States Parties concluded in December 2023 with a declaration in which states parties promised that they 'will not stand by as spectators to increasing nuclear risks and the dangerous perpetuation of nuclear deterrence.'



Adherence to the TPNW—the youngest treaty in the legal architecture for disarmament and non-proliferation of weapons of mass destruction—continued to grow throughout 2023, albeit more slowly than in previous years. Two states—Bahamas and Djibouti—signed the Treaty during the year and one state—Sri Lanka—acceded.

## 49.2%

As of 31 December 2023, almost half of all states had committed to the TPNW. The Treaty had 69 states parties and a further 28 signatories that had not yet ratified. This means that a total of 97 states (or 49.2% of all states) had accepted binding obligations in international law under the TPNW. Only two more signatures or accessions were needed to pass the 50% threshold of support among all states.

## 69.5%

At the end of 2023, 100 states were neither party nor signatory to the TPNW. Of these, 40 support the TPNW by voting in favour of the annual UN General Assembly resolution on the TPNW. The overall number of TPNW supportive states was thus 137 (or 69.5%).



Support for the TPNW is high in all regions of the world apart from Europe. The Americas is the region with the highest share of states parties. More than 74% of the states in the region are already states parties to the Treaty. In Oceania, 62% of states are party to the TPNW.

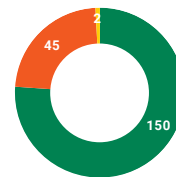


A minority of 43 states—the same number as the year before—were opposed to the TPNW in 2023. It is largely the nuclear-armed states and umbrella states that are opposed to the TPNW and stand in the way of agreement on nuclear disarmament. But also three states with nuclear-free defence postures—Micronesia, Monaco, and Ukraine—were opposed to the TPNW in 2023. Europe continues to be the region with the highest concentration of opposed states. A total of 70% of European states were opposed to the TPNW also in 2023.



As in previous years, some of the opposed states are more conflicted on the TPNW than others. NATO states Belgium, Germany, and Norway participated as observers at the Second Meeting of States Parties to the TPNW, and discussion on the merits of the Treaty is ongoing in these and several other opposed states.

A total of 17 states, spread across all regions of the world, were undecided on the TPNW in 2023.



150 of the world's states, or 76%, already abide by all of the prohibitive norms that the TPNW has established. But a sizeable minority of 45 states engaged in activities in 2023 that in different ways conflicted with the TPNW, while two states behaved in a manner that was of concern. Europe is the region with the most states with conduct not compatible with the Treaty and which stand between the international community and the fulfilment of the United Nations' long-standing goal of the elimination of nuclear weapons. A total of 32 states in Europe would have to make varying degrees of changes to their existing policies and practices to fulfil the obligations set forth in the TPNW.



All nine nuclear-armed states in 2023 continued to actively engage in the development and production of new nuclear warheads and/or delivery vehicles, in addition to upgrading their existing nuclear capabilities. Moreover, against the backdrop of rising global tensions, many nuclear-armed states are increasing the roles of nuclear weapons in their military doctrines. It is of further concern that several nuclear-armed states are placing increased emphasis on non-strategic (or so-called tactical) nuclear weapons in their nuclear doctrine.

At the beginning of 2024, it was estimated that the nine nuclear-armed states had a combined inventory of 12,347 nuclear warheads. This is, of course, incompatible with the TPNW's prohibition on possession and stockpiling of nuclear weapons. The total for early 2024 represents a decrease of 165 from the estimated 12,512 warheads a year earlier. This reduction was, however, due only to Russia and the United States dismantling a small number of previously retired nuclear weapons in the course of 2023. Of the total inventory of 12,347 warheads, approximately 2,762 have previously been retired and are awaiting dismantlement in Russia and the United States.



## 12,347



9,585

The global number of nuclear warheads available for use has been steadily increasing since 2017, when it reached an all-time low since the end of the Cold War of 9,272 warheads. China, India, North Korea, Pakistan, and Russia continued to expand their nuclear arsenals in 2023. At the beginning of 2024, the total number of nuclear warheads available for use had increased to 9,585. This was 313 more than in 2017, and the trend towards the expansion of stockpiles of warheads available for use is expected to continue.

2

The only two TPNW prohibitions that no state contravened in 2023 were the prohibitions on testing and use of nuclear weapons. The need to reject and roll back the policies and activities that contravene the other prohibitions is pressing, because this is all conduct that compounds the risks of new testing or use of nuclear weapons.

The estimated collective yield of the 9,558 nuclear warheads available for use is equal to more than 135,000 Hiroshima bombs.



Events in 2023 again showed that the conduct of each of the nine nuclear-armed states is incompatible with the TPNW's obligation to eliminate nuclear weapons. No nuclear disarmament initiatives are currently under consideration by these states, and the existing arms control architecture designed to constrain nuclear arsenals is under considerable stress.



Of the global total of warheads available for use in early 2024, an estimated total of 3,904 (more than 40%) were at all times deployed – on siloed or mobile missiles, on nuclear-powered ballistic missile submarines (SSBNs), and at bomber bases. Only China, France, Russia, the United Kingdom, and the United States are believed to currently deploy nuclear warheads. Russia's deployed nuclear forces increased from 1,674 in January 2023 to 1,710 in January 2024. For the first time, China is also believed to now deploy a small number of warheads on delivery vehicles in peacetime.



States parties and civil society met frequently in 2023 to advance implementation of the TPNW's Article 6 obligations to provide assistance to individuals affected by nuclear weapons use and testing and to remediate contaminated environments. At the Treaty's Second Meeting of States Parties in November–December 2023, Kazakhstan and New Zealand submitted reports about their national implementation measures, including initial assessments of harm to their territory and population, and national implementation plans. Fiji stated its intention to do so in the future.



Around 1,982 nuclear warheads—more than half of all deployed nuclear warheads—are deployed on nuclear-powered ballistic missile submarines (SSBNs). At all times, a significant number of nuclear warheads are carried through the world's oceans on SSBNs on active patrol, ready to be launched at short notice. The total firepower onboard a single SSBN can be larger than the entire arsenal of a lesser nuclear-armed country. For instance, the average destructive power of a single US Ohio-class SSBN is 19 MT – 1,266 Hiroshima-bomb equivalents. This is roughly twice the nuclear arsenals of India, Israel, and Pakistan combined.



As a result of the TPNW, interest in providing support to states affected by nuclear weapons use and testing continued to grow in 2023. The working group established by the First Meeting of States Parties to the TPNW on implementation of the Treaty's Articles 6 and 7 examined how to establish an international trust fund to support victim assistance and environmental remediation. At the Second Meeting of States Parties it was decided to hold focused discussions and then submit a report to the Third Meeting of States Parties 'with recommendations related to the feasibility of, and possible guidelines for, establishing an international trust fund for victim assistance and environmental remediation'. Outside TPNW meetings, the Treaty's states parties and signatories as well as several non-parties indicated their interest in supporting victim assistance and environmental remediation, including through UN General Assembly First Committee statements and a new dedicated resolution.



In 2023, Belarus was added as a new—sixth—state that engaged in conduct that was not compatible with the TPNW's prohibition on allowing stationing, installation, or deployment of nuclear weapons. While the presence of Russian nuclear weapons on Belarusian territory was not formally confirmed, it is clear that both countries took significant steps to advance a nuclear-sharing mission. NATO members Belgium, Germany, Italy, the Netherlands, and Türkiye continued to host a total of approximately 100 US B61 gravity nuclear bombs for NATO's nuclear sharing mission.



States parties and signatories alike demonstrated again in 2023 a strong commitment to the goal of universalisation of the TPNW. They took a broad range of actions to implement the obligation in the Treaty's Article 12 to encourage further states to sign, ratify, or accede. The Second Meeting of States Parties to the TPNW in 2023 adopted a declaration that made a special plea for adherence to the Treaty by members of nuclear-weapon-free zones (NWFZs), 'in recognition of the shared basis of such treaties and the TPNW'. There is great potential within the five multilateral NWFZs to increase the number of adherents to the TPNW. Combined, they have 104 members, but 47 (45%) of those states are not yet party to the TPNW.

All the world's 34 so-called umbrella states (states with arrangements of extended nuclear deterrence with one or more nuclear-armed states) continued in 2023 to aid and abet nuclear armament and therefore to fall foul of the TPNW's prohibition on assisting, encouraging, or inducing prohibited acts. This is laying bare the considerable degree of responsibility that umbrella states bear for the continued development and possession of nuclear weapons and the associated nuclear risks that the entire international community is forced to endure.



# THE STATUS OF THE TPNW IN 2023



The closing session of the Second Meeting of States Parties to the TPNW at the UN headquarters in New York on 1 December 2023. (Photo by Kyodo/NTB)

**The Treaty on the Prohibition of Nuclear Weapons (TPNW) further embedded itself in 2023 as the sole multilateral forum where states were cooperating on forging a path towards the elimination of nuclear weapons. At the close of the year, by committing to the TPNW, almost half of all states had firmly demonstrated their rejection of nuclear weapons and their political will for progress in nuclear disarmament. Only two more signatures or accessions were needed to pass the 50% threshold of support by all states.**

The year 2023 was again defined by contestation between nuclear deterrence and nuclear disarmament. In an increasingly challenging international security context, the East-West arms control framework continued to disintegrate and the significance of nuclear weapons in defence postures grew. Since 2020, three more states—Finland, North Macedonia, and Sweden<sup>1</sup>—have embraced nuclear deterrence, while long-time umbrella states now lean more towards the security logic of nuclear deterrence rather than disarmament in response to Russia's invasion of Ukraine in 2022.

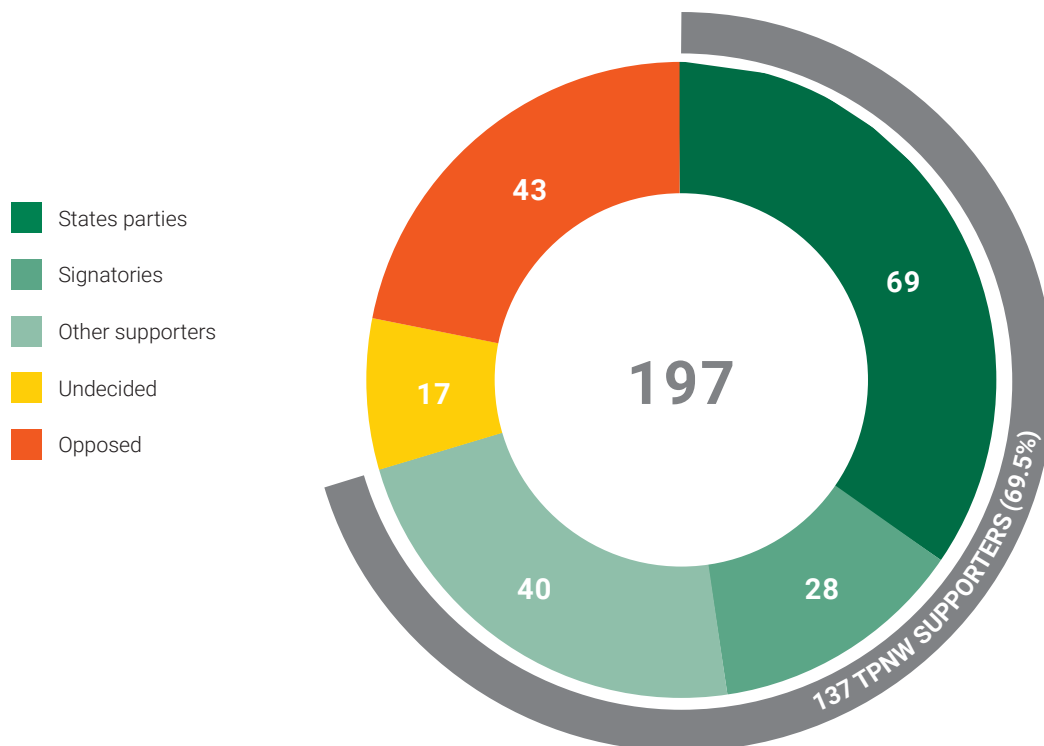
The Second Meeting of States Parties to the TPNW (2MSP), however, concluded in early December 2023 with a declaration 'to address the existential threat to humanity posed by nuclear weapons and to uphold our commitment to their prohibition and complete elimination'.<sup>2</sup> The declaration reiterated that: 'Far from preserving peace and security, nuclear weapons are used as instruments of policy, linked to coercion, intimidation and heightening of tensions. The renewed advocacy, insistence on and attempts to justify nuclear deterrence as a legitimate security doctrine gives false credence to the value of nuclear weapons for national security and dangerously increases the risk of horizontal and vertical nuclear proliferation.'<sup>3</sup>

1 Sweden acceded to NATO and became an umbrella state only on 7 March 2024, but had subscribed to NATO's nuclear doctrine also throughout 2023.

2 Revised draft declaration of the 2MSP: 'Our commitment to upholding the prohibition of nuclear weapons and averting their catastrophic consequences', TPNW doc. TPNW/MSP/2023/CRP.4/Rev.1, at: <https://bit.ly/3VFH2St>.

3 Ibid.

**Figure 1: Global distribution of support for the TPNW, as of 31.12.2023**



Congratulating the states parties for the successful conclusion of their 2MSP, the United Nations (UN) Under-Secretary-General and High Representative for Disarmament Affairs, Izumi Nakamitsu, stated that ‘in the current precarious security environment, the strong voice of commitment from this group of states to a world free of nuclear weapons is key.’<sup>4</sup>

Adherence to the TPNW continued to grow throughout 2023, albeit more slowly than in previous years. Two states—Bahamas and Djibouti—signed the Treaty and one state—Sri Lanka—acceded to it. As shown in Figure 1 above, the TPNW had 69 states parties<sup>5</sup> as of 31 December 2023, while 28 other states had signed but not yet ratified. This means that a total of 97 states<sup>6</sup> (or 49.2% of all states) had accepted binding obligations in international law under the TPNW. Only two more signatures or accessions were needed to pass the 50% mark of the 197 states that can adhere to the treaties in the legal architecture for weapons of mass destruction (WMD).<sup>7</sup>

Considerable progress towards ratification was also achieved in a number of signatory states in the course of the year, including in Brazil, Indonesia, Mozambique, Sierra Leone, and Sao Tome and Principe. The last of these states deposited its instrument of ratification on 15 January 2024. Equatorial Guinea also said in 2023 that it hoped to ratify and become a state party in 2024.<sup>8</sup>

### Other supporters

At the end of 2023, 100 states were neither party or signatory to the TPNW. On the basis of their most recent voting record on the TPNW in the UN General Assembly, the Nuclear Weapons Ban Monitor identified 40 of these 100 non-parties as ‘other supporters’. The overall number of TPNW supportive states was thus 137 (or 69.5%) as of 31 December 2023. This was two fewer than the year before.<sup>9</sup>

4 Izumi Nakamitsu on X: ‘I congratulate #TPNW States Parties for successful conclusion of #2MSP. In current precarious security environment, strong voice of commitment from this group of states to world free of nuclear weapons is key. We must find a way to return to disarmament - for our security.’

5 Of the 69 states parties, four—the Cook Islands, Mongolia, Niue, and Sri Lanka—have acceded to the Treaty while the 65 others have signed and ratified it.

6 Of the combined total of 97 states parties and signatories, 84 were among the 122 states that negotiated and adopted the TPNW at the diplomatic conference in the UN in 2017. Of the adopting states, therefore, 68.9% had by the end of 2023 proceeded to become either a state party or at least a signatory. In addition, 13 states that did not take part in the Treaty adoption in 2017 had also become a state party or a signatory: Barbados, Central African Republic, Comoros, the Cook Islands, Dominica, Libya, Maldives, Nauru, Nicaragua, Niger, Niue, Tuvalu, and Zambia.

7 Some treaties allow only UN member states to adhere (the obvious example being the UN Charter), but most treaties—including all of the multilateral treaties in the legal architecture for disarmament and non-proliferation of WMD—use the ‘all states’ formula. This currently allows a total of 197 states to adhere: the 193 UN Member States, the two UN observer states (Holy See and the State of Palestine), as well as two other states (Cook Islands and Niue).

8 Declaration of Equatorial Guinea at the UN General Assembly’s High-Level Plenary Meeting to Commemorate the International Day for the Total Elimination of Nuclear Weapons on 26 September 2023, at: <https://bit.ly/3xqPlll>.

9 The reduction in TPNW supportive states from 139 to 137 was due to South Sudan and the Republic of Moldova being moved from the other supporters category to undecided after having abstained on the vote on the UN General Assembly resolution on the TPNW in 2023.

While they have not yet signed or adhered to the Treaty, the group of ‘other supporters’ have expressed their support to the TPNW by voting in favour (and in some cases also co-sponsoring) the annual UN General Assembly resolution on the TPNW. First introduced in 2018, the resolution calls upon all states that have not yet done so to sign, ratify, or accede to the Treaty ‘at the earliest possible date’.<sup>10</sup> Several of the 40 other supporters have already started domestic processes to sign or accede to the TPNW, including Eswatini<sup>11</sup> and Suriname.<sup>12</sup> Eight other supporters—Andorra, Egypt, Guinea, Iraq, Morocco, Qatar, Tunisia, and Yemen—participated as observers at 2MSP.

Although signature and ratification is always possible under the TPNW, non-signatory states are especially encouraged to accede to the Treaty. This one-step process is the fastest way to become a state party to the Treaty and join the growing ranks of those who totally reject these weapons of mass murder.

### Opposed states

The number of states opposed to the TPNW remained at 43 in 2023. All nine nuclear-armed states were still unwilling to adhere to or even engage constructively with the TPNW, and accordingly voted against the annual UN General Assembly resolution. A further 30 of the 31 states that at the close of 2023 had arrangements of extended nuclear deterrence with the United States<sup>13</sup> (all apart from Australia) also voted ‘no’. So too did the then prospective NATO member Sweden and three states with nuclear-free defence postures: Micronesia, Monaco, and Ukraine. Ukraine was added to the group of opposed states in 2023 after having voted no on the annual resolution on the TPNW for the first time. Bosnia and Herzegovina went the other way and abstained for the first time instead of voting no as in previous years, and was moved from the opposed category to the undecided category. Australia ended its opposition to the TPNW already in 2022.

As in previous years, some of the opposed states are more conflicted on the TPNW than others. NATO states Belgium, Germany, and Norway participated as observers at 2MSP,<sup>14</sup> and discussion on the merits of the Treaty is ongoing in these and several other opposed states. Ahead of Spain’s general election in July 2023, the Sumar political party pledged to ‘lead international efforts to abolish nuclear weapons, promoting the ratification of the Treaty on the Prohibition of Nuclear Weapons’. Sumar became a member of a new coalition government formed in November 2023.<sup>15</sup> In the same month, the Foreign Affairs Committee of Italy’s Chamber of Deputies adopted a resolution committing the government to continue its evaluation of the TPNW and to consider observing the 2MSP, which it decided not to do.<sup>16</sup> In Canada, a parliamentary petition urged the government to ‘sign and commit to ratifying the TPNW’. In response, the Minister of Foreign Affairs, Mélanie Joly, said in September 2023: ‘Canada recognises that the entry into force of the [TPNW] reflects well-founded concerns about the slow pace of nuclear disarmament – concerns that Canada very much shares. While not a party to the TPNW, Canada has common ground with Treaty States and shares the ultimate goal of a world free from nuclear weapons.’<sup>17</sup> Canada did not send an observer delegation to 2MSP, but several Canadian parliamentarians attended in their individual capacity.

TABLE A: CRITERIA FOR TPNW SUPPORT CATEGORIES

Category	Criterion
<b>1 STATES PARTIES</b>	States that have either signed and ratified or acceded to the TPNW. <sup>18</sup>
<b>2 SIGNATORIES</b>	States that have signed the TPNW but not yet ratified it.
<b>3 OTHER SUPPORTERS</b>	States that are not in category 1 or 2 but whose most recent vote in the UN on the TPNW (the adoption of the Treaty on 7 July 2017 or on subsequent annual UN General Assembly resolutions on the TPNW) was ‘yes’.
<b>4 OPPOSED</b>	All states that are not in category 1 or 2 and whose most recent vote in the UN on the TPNW (the adoption of the Treaty on 7 July 2017 or on the subsequent annual UN General Assembly resolutions on the TPNW) was ‘no’.
<b>5 UNDECIDED</b>	All states that are not in category 1 or 2 and whose most recent vote in the UN on the TPNW (the adoption of the Treaty on 7 July 2017 or on the subsequent annual UN General Assembly resolutions on the TPNW) was an abstention, or which never participated in such a vote.

10 UN General Assembly Resolution 78/35, at: <https://shorturl.at/w8PEq>.

11 Permanent Mission of the Kingdom of Eswatini to the United Nations, ‘Statement by Mduduzi Mbingo First Secretary at the General Debate of the First Committee during the 78th session of the United Nations General Assembly (UNGA-78)’, New York, 10 October 2023, at: <https://bit.ly/3yWSsbn>.

12 Suriname is a member of the Caribbean Community (CARICOM), which announced in October 2023 that all of its member states were ‘either parties, signatories or in [the] process of acceding to the TPNW’. Statement at: <https://bit.ly/45MzyjQ>. Following the Bahamas’ signature on 19 September 2023, Suriname was the only Caribbean State yet to sign or accede to the TPNW.

13 As of the end of 2023, 31 umbrella states were allies of the United States: 1) the 28 non-nuclear-armed states that had a multilateral arrangement of extended nuclear deterrence through NATO: Albania, Belgium, Bulgaria, Canada, Croatia, Czechia, Denmark, Estonia, Finland, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Türkiye; and 2) three states—Australia, Japan, and South Korea—that have bilateral arrangements of nuclear deterrence with the United States.

14 ‘Report of the Second Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons’, Section IV, Attendance.

15 Sumar, ‘Un programa por ti. Elecciones Generales 23 de Julio 2023’, at: <https://bit.ly/3xi6YtU>.

16 Rete Italiana Pace e Disarmo, ‘With the Resolution passed in the Parliament, Italy has the opportunity to take concrete steps towards nuclear disarmament’, 13 July 2023, at: <https://bit.ly/4c2Lro4>.

17 Parliament of Canada, House of Commons, ‘e-447 (Foreign Affairs) Petition to the Government of Canada’, at: <https://bit.ly/3zb656R>.

18 In accordance with Article 15(2) of the TPNW, a state formally becomes party to the Treaty 90 days after it deposits its instrument of ratification or accession with the UN Secretary-General. For the purpose of this report, however, states are considered as parties from the date of their deposit.



## Undecided states

The total of undecided states at the end of 2023 was 17, with Bosnia and Herzegovina having been moved from the opposed category to the undecided category. The 17 undecided states are spread out across all continents, and include three umbrella states: Australia, which is an ally of the United States, and Armenia and Belarus—the only states with arrangements of extended nuclear deterrence with Russia. It should be noted that although Belarus meets the voting criteria set by the Nuclear Weapons Ban Monitor for inclusion in the undecided category with respect to the TPNW, its government most clearly demonstrated support for nuclear weapons in 2023.

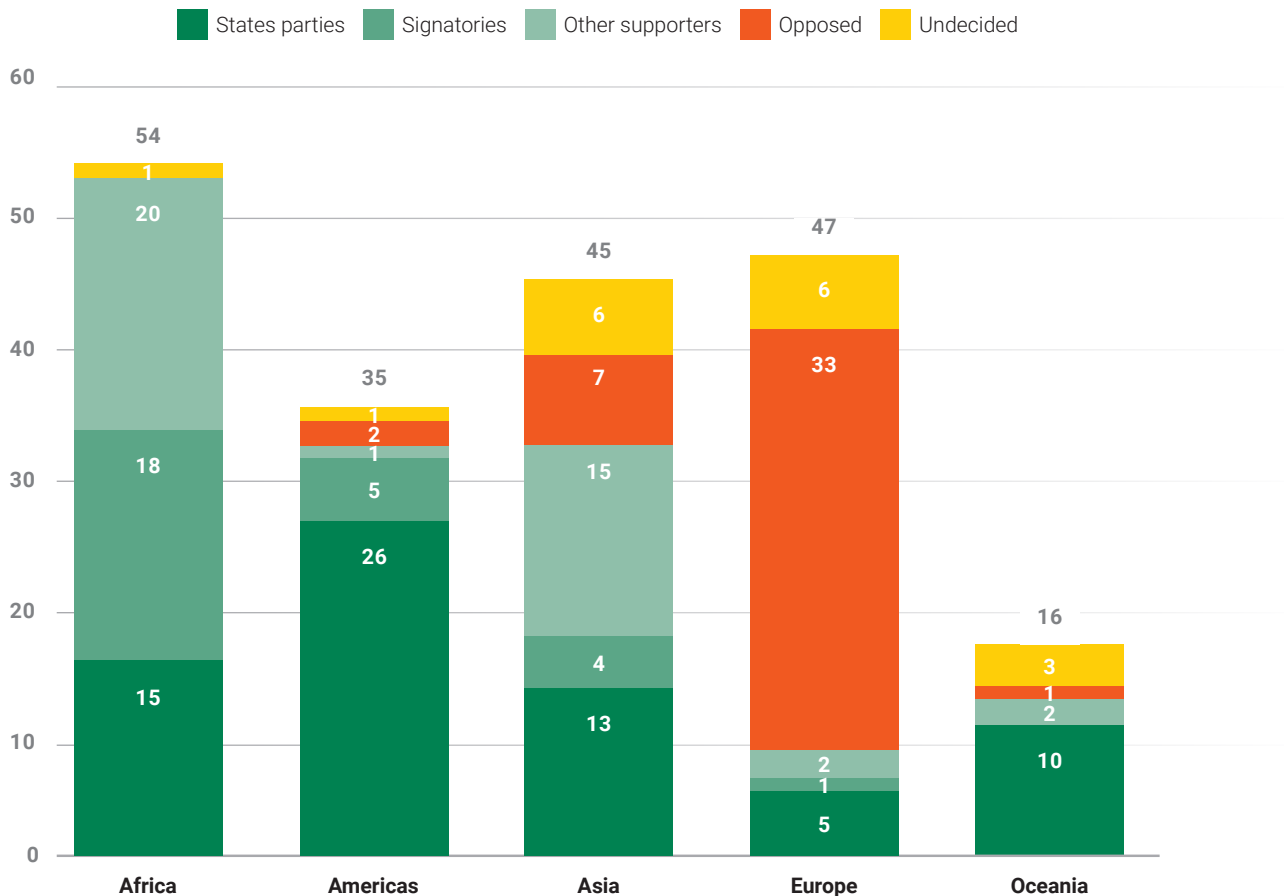
Of the undecided states, Armenia, Australia, Marshall Islands, Singapore, and Switzerland participated as observers at 2MSP. Australia's Minister for Foreign Affairs, Penny Wong, issued a media release on the decision to observe. This decision, she said, 'illustrates Australia's renewed commitment to a world without nuclear weapons.... Although Australia is not a State party to the TPNW, we share this goal with parties to the Treaty and are engaging constructively to identify realistic pathways for nuclear disarmament and to reduce the risks posed by nuclear weapons. Australia is considering the TPNW systematically and methodically as part of our ambitious agenda to advance nuclear non-proliferation and disarmament.'<sup>19</sup>

The criteria for the Nuclear Weapons Ban Monitor's categorisation of states by their position on the TPNW are explained in Table A opposite. For details about individual states, see the state profiles on [www.banmonitor.org](http://www.banmonitor.org).

## Regional distribution of support

Breaking down all states' positions on the TPNW by region, Figure 2 below shows that support for the TPNW is high in all regions of the world apart from Europe. Looking closer at the distribution of support within each region in Table B overleaf it is also clear that it is largely a minority consisting of nuclear-armed states and umbrella states that stand in the way of progress towards universalisation of the TPNW and agreement on nuclear disarmament, while continuing their nuclear weapons-based defence postures that expose all states to unacceptable risk. As discussed above, all but three of the total of forty-three states opposed to the TPNW in 2023 were nuclear-armed states or current or prospective umbrella states, and most were European umbrella states.

Figure 2: TPNW support by region, as of 31.12.2023



19 'Second Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons', Media Release, 26 November 2023, at: <https://bit.ly/3yXJhHl>.

In Africa, all states but one—South Sudan—formally supported the TPNW in 2023, either as states parties or signatories, or as other supporters. As mentioned above, South Sudan abstained on the annual UN General Assembly resolution on the TPNW in 2023 and was accordingly moved to the category ‘undecided’. The Americas is the region with the highest share of states parties. More than 74% of the states in the region are already states parties to the Treaty, while nuclear-armed United States and umbrella state Canada are the only opposed states in the region. In Oceania, too, the share of states parties is high, with 10 states parties (62%) among the 16 states in the region. Micronesia remains the only opposed state in this region, while umbrella state Australia along with the Marshall Islands and Tonga are undecided. In Asia, the five nuclear-armed states located in this region (China, India, Israel, North Korea, and Pakistan) were opposed to the TPNW also in 2023, together with US umbrella states Japan and the Republic of Korea (South Korea). Support for the TPNW, however, is relatively high also in Asia. A total of 32 of 45 states in the region (71%) are states parties, signatories, or other supporters.

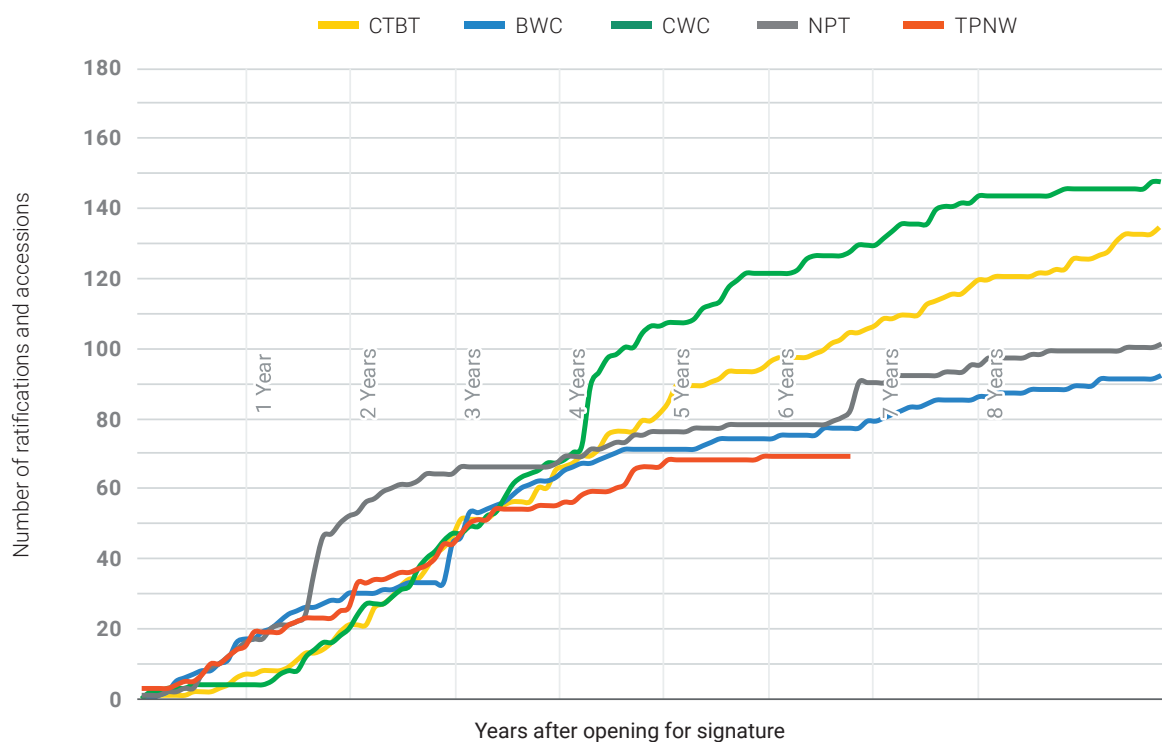
As already mentioned, Europe continues to be the region with the highest concentration of opposed states. A total of 33 of the 47 states (70%) in Europe were opposed to the TPNW also in 2023. The region has only five states parties: Austria, Holy See, Ireland, Malta, and San Marino; and one signatory: Liechtenstein.

### Speed of adherence across WMD treaties

With only one new accession (Sri Lanka), the TPNW’s speed of adherence was significantly slower in 2023 than in previous years. This can be explained, in part, by the fact that several signatory states that are working on their ratification process experience administrative challenges, parliamentary backlogs, or political turmoil. At exactly six years after it opened for signature on 20 September 2017, the TPNW had 69 ratifications and accessions. Over the same period of time following opening for signature, the Biological Weapons Convention (BWC) had obtained 74 ratifications and accessions, the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) 78, the Comprehensive Nuclear-Test-Ban Treaty (CTBT) 92, and the Chemical Weapons Convention (CWC) 121 ratifications and accessions.

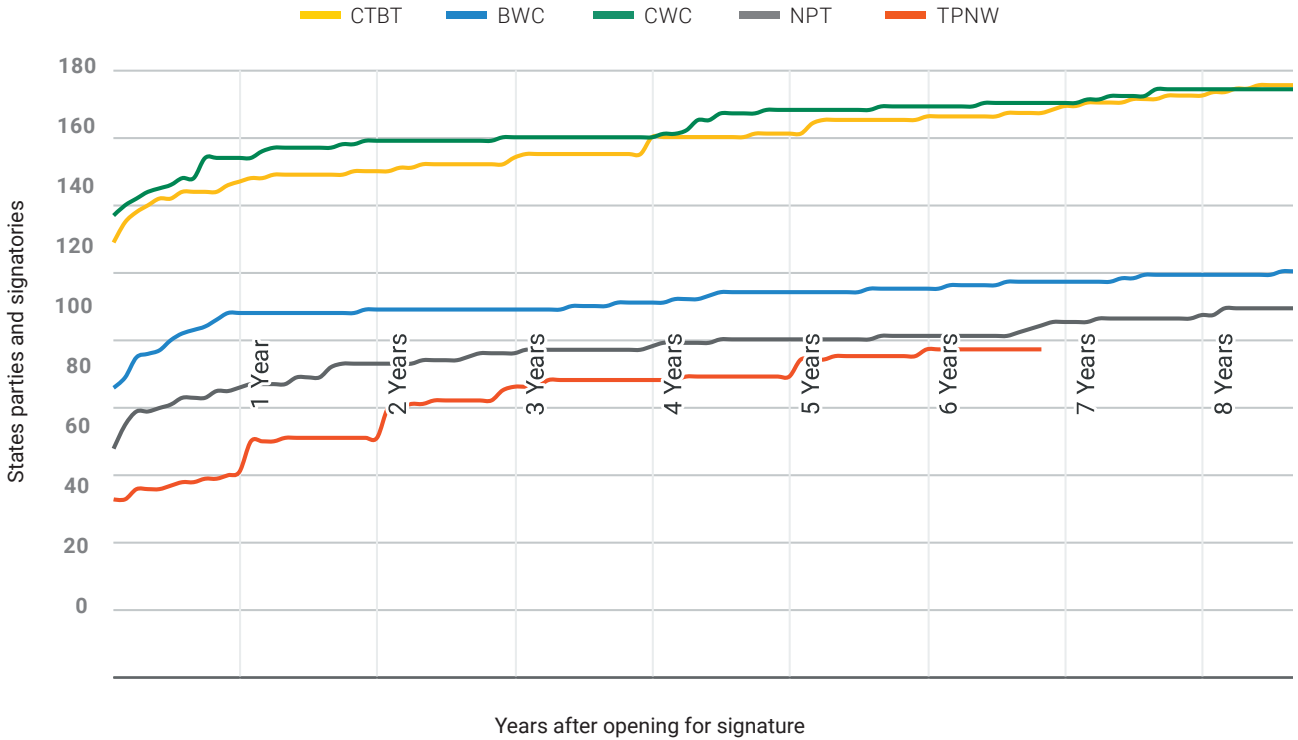
Figure 3 below shows the speed of ratification and accession of the TPNW relative to the other treaties in the legal architecture for WMD. As it shows, the TPNW fell behind the other treaties at approximately three-and-a-half years after opening for signature but then picked up more speed again after the COVID-19 pandemic before slowing down in 2023. It is clear however, that the TPNW until now at least has followed largely the same trajectory as the NPT and the BWC. The trajectories of the NPT and the BWC serve as a reminder that it took several years also for those treaties to accrue the authority that they have today.

Figure 3: Speed of ratification and accession – WMD treaties compared

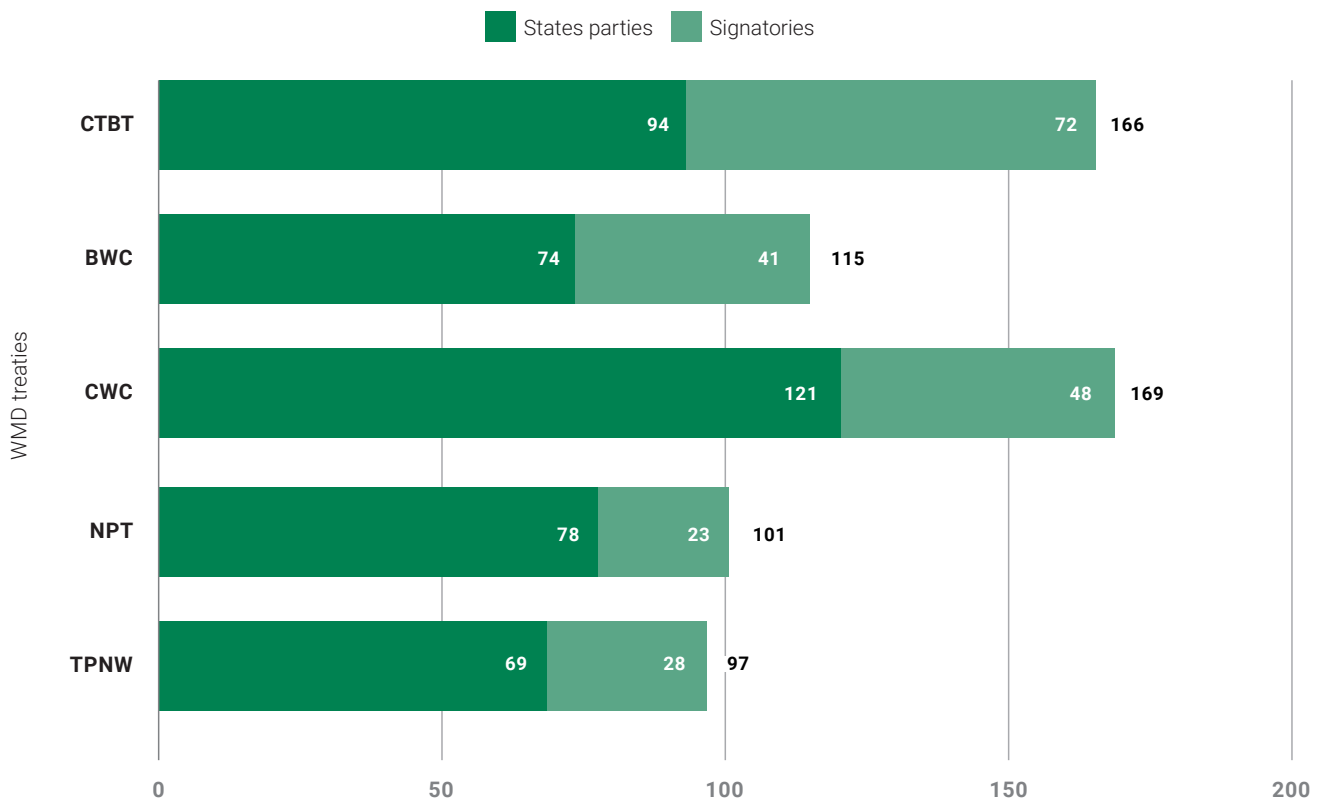


Looking at the number of states parties and signatories combined, as illustrated in Figures 4 and 5 below, it is also clear that the TPNW at present is not much behind the NPT at the equivalent point in time. The TPNW allows signature at any time, while the other four WMD treaties only allow accession after entry into force. At six years after entry into force, the NPT had a total of 101 states parties and signatories that had not yet ratified, while the TPNW had 97.

**Figure 4: States parties and signatories combined – WMD treaties compared**



**Figure 5: Status after 6 years – states parties and signatories combined**



### Level of adherence across WMD treaties

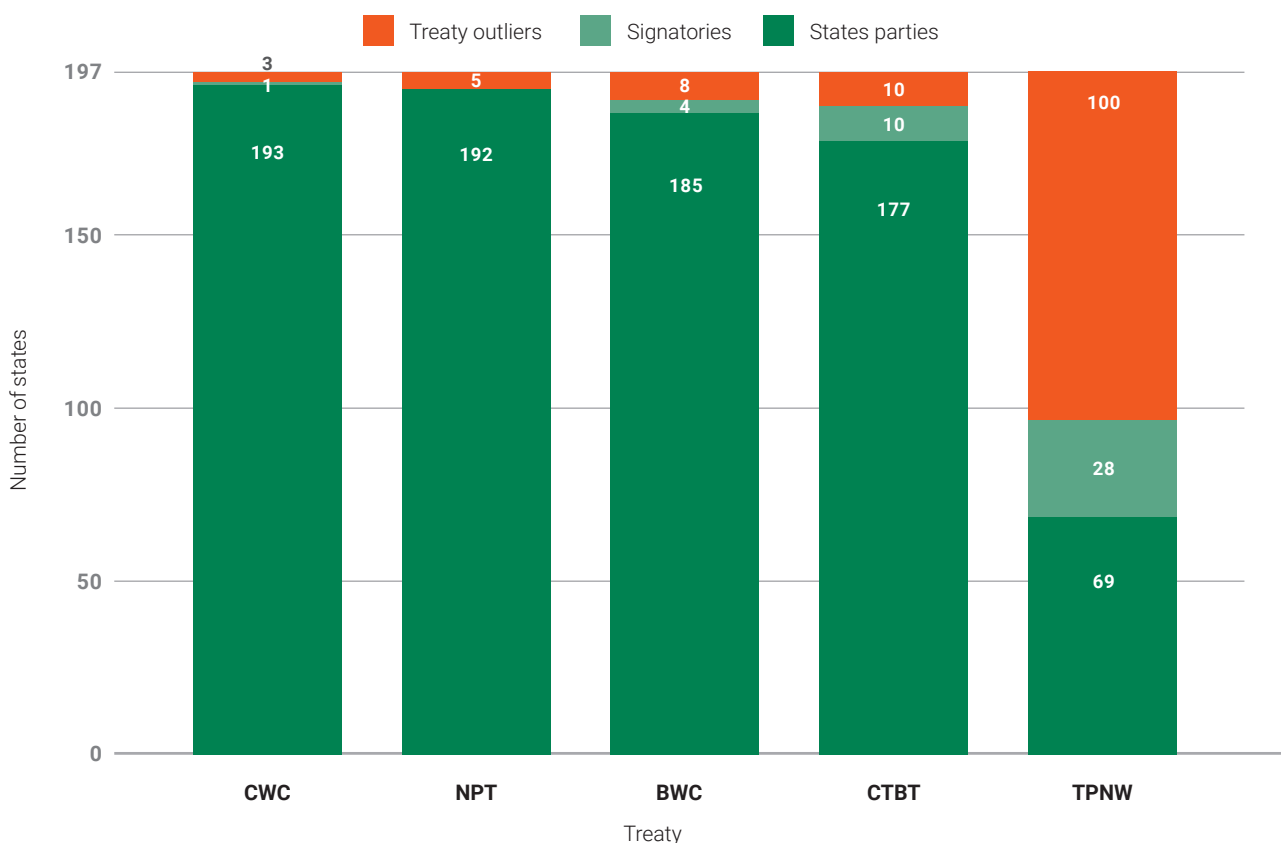
In building upon and contributing to the other multilateral WMD treaties, the TPNW has the potential to reinforce the legitimacy of the legal WMD architecture as a whole. This is exemplified by Sri Lanka, which in 2023 adhered to both the CTBT and the TPNW.

The objective must be universal adherence to all of the components in this architecture, meaning that all states should be party to each and every one of them. Figure 6 below therefore highlights all gaps in adherence as of 31 December 2023 among the 197 states that may adhere to the WMD treaties. Where a state is not yet a state party to any of these five treaties, this is noted in its respective state profile on [www.banmonitor.org](http://www.banmonitor.org) along with a recommendation for urgent adherence.

In 2023, the CTBT gained two new states parties (Solomon Islands and Sri Lanka) and one signatory (Somalia), while Russia regrettably withdrew its ratification. The BWC gained one new state party (South Sudan). As mentioned above, the TPNW gained one new state party (Sri Lanka) and two signatories (Bahamas and Djibouti). For the CWC, the latest development was Palestine's accession in 2018. Palestine was also the most recent country to adhere to the NPT, in 2015.

The most ratified WMD treaty is the CWC, to which only four states are not yet party. One of the four have signed, and three are outliers.<sup>20</sup> The NPT has five outliers,<sup>21</sup> the BWC had four signatories and eight outliers at the end of 2023,<sup>22</sup> and the CTBT 9 signatories and 11 outliers.<sup>23</sup> As discussed above, as of the end of 2023, a total of 100 states were not yet states parties or at least signatories to the TPNW, the youngest treaty in the legal WMD architecture.

Figure 6: Gaps in adherence – WMD treaties compared, as of 31.12.2023



20 CWC: Israel has signed, while the three outliers are Egypt, North Korea, and South Sudan.  
 21 NPT: The five outliers are India, Israel, North Korea, Pakistan, and South Sudan. The Cook Islands and Niue have not adhered to the NPT in their own right, but New Zealand's ratification of the NPT included territorial application to both states, which remain bound by the Treaty's provisions.  
 22 BWC: The four signatories were Egypt, Haiti, Somalia, and Syria, and the eight outliers were Chad, Comoros, Djibouti, Eritrea, Israel, Kiribati, Micronesia, and Tuvalu.  
 23 CTBT: The ten signatories were China, Egypt, Iran, Israel, Nepal, Papua New Guinea, Russia, Somalia, United States, and Yemen. The ten outliers were Bhutan, India, Mauritius, North Korea, Pakistan, Palestine, Saudi Arabia, South Sudan, Syria, and Tonga.

**TABLE B: ALL STATES BY REGION AND THEIR POSITION ON THE TPNW**  
 Nuclear-armed states identified in red and underlined, and umbrella states in red.

Category	Asia	Europe	Africa	Americas	Oceania
<b>States parties</b> (69 states)	Bangladesh, Cambodia, Kazakhstan, Lao PDR, Malaysia, Maldives, Mongolia, Palestine, Philippines, Sri Lanka, Thailand, Timor-Leste, Viet Nam	Austria, Holy See, Ireland, Malta, San Marino	Benin, Botswana, Cabo Verde, Comoros, Congo, Côte d'Ivoire, DR Congo, Gambia, Guinea-Bissau, Lesotho, Malawi, Namibia, Nigeria, Seychelles, South Africa	Antigua and Barbuda, Belize, Bolivia, Chile, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, Uruguay, Venezuela	Cook Islands, Fiji, Kiribati, Nauru, New Zealand, Niue, Palau, Samoa, Tuvalu, Vanuatu
<b>Signatories</b> (28 states)	Brunei, Indonesia, Myanmar, Nepal	Liechtenstein	Algeria, Angola, Burkina Faso, Central African Republic, Equatorial Guinea, Ghana, Libya, Madagascar, Mozambique, Niger, Sao Tome and Principe, Sierra Leone, Sudan, Tanzania, Togo, Zambia, Zimbabwe	Bahamas, Barbados, Brazil, Colombia, Haiti	
<b>Other supporters</b> (40 states)	Afghanistan, Azerbaijan, Bahrain, Bhutan, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Turkmenistan, United Arab Emirates, Uzbekistan, Yemen	Andorra, Cyprus	Burundi, Cameroon, Chad, Egypt, Eritrea, Eswatini, Ethiopia, Gabon, Guinea, Kenya, Liberia, Mali, Mauritania, Mauritius, Morocco, Rwanda, Senegal, Somalia, Tunisia, Uganda	Suriname	Papua New Guinea, Solomon Islands
<b>Undecided</b> (17 states)	<u>Armenia</u> , Kyrgyzstan, Saudi Arabia, Singapore, Syria, Tajikistan	<u>Belarus</u> , Bosnia and Herzegovina, Georgia, Moldova, Serbia, Switzerland	South Sudan	Argentina	<u>Australia</u> , Marshall Islands, Tonga
<b>Opposed</b> (43 states)	<u>China</u> , <u>India</u> , <u>Israel</u> , Japan, <u>North Korea</u> , <u>Pakistan</u> , <u>South Korea</u>	<u>Albania</u> , Belgium, <u>Bulgaria</u> , Croatia, <u>Czechia</u> , Denmark, <u>Estonia</u> , Finland, <u>France</u> , Germany, Greece, Hungary, Iceland, Italy, <u>Latvia</u> , Lithuania, <u>Luxembourg</u> , Monaco, <u>Montenegro</u> , Netherlands, <u>North Macedonia</u> , Norway, Poland, Portugal, Romania, <u>Russia</u> , Slovakia, Slovenia, Spain, Sweden, <u>Türkiye</u> , Ukraine, <u>United Kingdom</u>		<u>Canada</u> , <u>United States</u>	Micronesia

# COMPLIANCE AND COMPATIBILITY IN 2023 WITH THE PROHIBITIONS OF THE TPNW



*In a window of a building in North Rhine Westphalia is a poster with the inscription 'Nuclear weapons are banned'. (Photo by Gottfried Czepluch, IMAGO/NTB)*

**The Nuclear Weapons Ban Monitor finds that 96 of the 97 states parties and signatories to the TPNW in 2023 were compliant with all of the Treaty's ten principal prohibitions. One state party—Kazakhstan—was found compliant with nine prohibitions and non-compliant with the tenth – the prohibition on assisting a prohibited activity. The conduct of 54 of the 100 non-parties was also fully compatible with all of the Treaty prohibitions, while 44 non-parties—the same as in 2022—engaged in conduct that was not compatible with one or more of the prohibitions. Non-parties Iran and Saudi Arabia were again recorded as states of concern.**

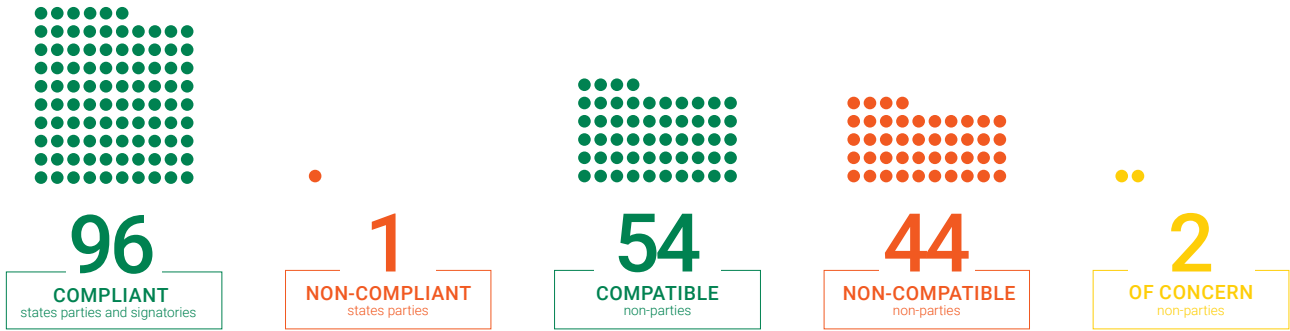
The Nuclear Weapons Ban Monitor assesses whether all 197 states that can adhere to the TPNW—regardless of whether they have consented to be bound by the Treaty—act in accordance with its prohibitions. On the basis of their policies and practices, states parties and signatories are categorised as either 'compliant' or 'non-compliant', whereas non-parties are categorised as either 'compatible' or 'non-compatible'. Where a state has been assessed to be 'of concern', this means that worrying developments in the state warrant close attention as a possible breach of the standards is on the horizon.

Every state may lawfully sign and ratify the TPNW, but those 54 states not yet party whose conduct is fully compatible with all of the prohibitions can adhere in the knowledge that they already meet its obligations without the need to make any changes to their existing policies and practices. States not party that engage in conduct that is not compatible with one or more of the prohibitions would have to make varying degrees of changes to their existing policies and practices to fulfil the obligations set forth in the Treaty.

Assessments of all states' compliance or compatibility with each of the prohibitions of the TPNW are detailed in ten separate subchapters below but the findings are summarised here.<sup>1</sup>

<sup>1</sup> Article 1(1)(e) of the TPNW contains eleven distinct prohibitions: To 1) develop, 2) test, 3) produce, 4) possess or stockpile, 5) use, 6) threaten to use, 7) transfer, 8) receive transfer or control, 9) assist, encourage or induce anyone to engage in prohibited activity, 10) seek or receive assistance to engage in prohibited activity, and 11) allow stationing, installation, or deployment of nuclear weapons. Given their close relationship, the Nuclear Weapons Ban Monitor considers the two distinct prohibitions on development and production of nuclear weapons together. For practical reasons, therefore, the Nuclear Weapons Ban Monitor discusses a total of ten principal prohibitions.

Figure 7: Compliance and compatibility with the prohibitions of the TPNW in 2023: Summary of findings across all states.



**96:** ALGERIA, ANGOLA, ANTIGUA AND BARBUDA, AUSTRIA, BAHAMAS, BANGLADESH, BARBADOS, BELIZE, BENIN, BOLIVIA, BOTSWANA, BRAZIL, BRUNEI, BURKINA FASO, CABO VERDE, CAMBODIA, CENTRAL AFRICAN REPUBLIC, CHILE, COLOMBIA, COMOROS, CONGO, COOK ISLANDS, COSTA RICA, COTE D’IVOIRE, CUBA, DJIBOUTI, DOMINICA, DOMINICAN REPUBLIC, DR CONGO, ECUADOR, EL SALVADOR, EQUATORIAL GUINEA, FIJI, GAMBIA, GHANA, GRENADA, GUATEMALA, GUINEA-BISSAU, GUYANA, HAITI, HOLY SEE, HONDURAS, INDONESIA, IRELAND, JAMAICA, KIRIBATI, LAO PDR, LESOTHO, LIBYA, LIECHTENSTEIN, MADAGASCAR, MALAWI, MALAYSIA, MALDIVES, MALTA, MEXICO, MONGOLIA, MOZAMBIQUE, MYANMAR, NAMIBIA, NAURU, NEPAL, NEW ZEALAND, NICARAGUA, NIGER, NIGERIA, NIUE, PALAU, PALESTINE, PANAMA, PARAGUAY, PERU, PHILIPPINES, SAINT KITTS AND NEVIS, SAINT LUCIA, SAINT VINCENT AND THE GRENADINES, SAMOA, SAN MARINO, SAO TOME AND PRINCIPE, SEYCHELLES, SIERRA LEONE, SOUTH AFRICA, SRI LANKA, SUDAN, TANZANIA, THAILAND, TIMOR-LESTE, TOGO, TRINIDAD AND TOBAGO, TUVALU, URUGUAY, VANUATU, VENEZUELA, VIET NAM, ZAMBIA, ZIMBABWE

**1:** KAZAKHSTAN

**54:** AFGHANISTAN, ANDORRA, ARGENTINA, AZERBAIJAN, BHRAIN, BHUTAN, BOSNIA AND HERZEGOVINA, BURUNDI, CAMEROON, CHAD, CYPRUS, EGYPT, ERITREA, ESWATINI, ETHIOPIA, GABON, GEORGIA, GUINEA, IRAQ, JORDAN, KENYA, KUWAIT, KYRGYZSTAN, LEBANON, LIBERIA, MALI, MAURITANIA, MAURITIUS, MICRONESIA, MOLDOVA, MONACO, MOROCCO, OMAN, PAPUA NEW GUINEA, QATAR, RWANDA, SENEGAL, SERBIA, SINGAPORE, SOLOMON ISLANDS, SOMALIA, SOUTH SUDAN, SURINAME, SWITZERLAND, SYRIA, TAJIKISTAN, TONGA, TUNISIA, TURKMENISTAN, UGANDA, UKRAINE, UNITED ARAB EMIRATES, UZBEKISTAN, YEMEN

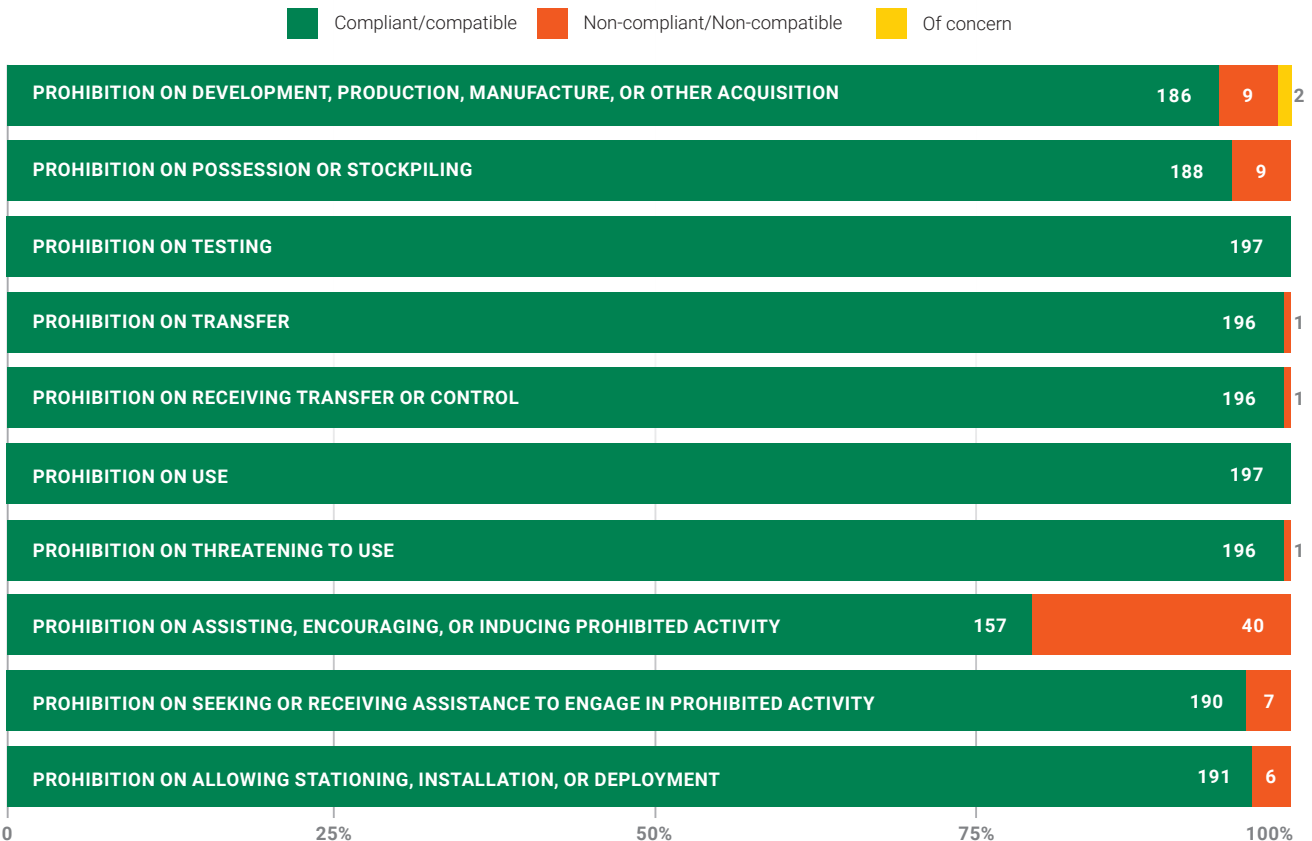
**44:** ALBANIA, ARMENIA, AUSTRALIA, BELARUS, BELGIUM, BULGARIA, CANADA, CHINA, CROATIA, CZECHIA, DENMARK, ESTONIA, FINLAND, FRANCE, GERMANY, GREECE, HUNGARY, ICELAND, INDIA, ISRAEL, ITALY, JAPAN, LATVIA, LITHUANIA, LUXEMBOURG, MARSHALL ISLANDS, MONTENEGRO, NETHERLANDS, NORTH KOREA, NORTH MACEDONIA, NORWAY, PAKISTAN, POLAND, PORTUGAL, ROMANIA, RUSSIA, SLOVAKIA, SLOVENIA, SOUTH KOREA, SPAIN, SWEDEN, TURKIYE, UNITED KINGDOM, UNITED STATES

**2:** IRAN, SAUDI ARABIA

**Compliance and compatibility by prohibition**

Figure 8 below and Table C overleaf disaggregate the Nuclear Weapons Ban Monitor’s findings for 2023 by each of the prohibitions. As they show, the large majority of states in the world already abide by all of the prohibitive norms that the TPNW has established. But a sizeable minority of states engage in a range of activities that in different ways stand between the international community and the fulfilment of the United Nations’ long-standing goal of the elimination of nuclear weapons. In fact, the only two TPNW norms that no state currently contravenes are the prohibitions on testing and use of nuclear weapons. This speaks volumes about the urgent need to reject and roll back the policies and activities that are conflicting with the other prohibitions, because this is conduct that compounds the risks of new testing or use of nuclear weapons.

Figure 8: Compliance and compatibility with the prohibitions of the TPNW in 2023: Summary of findings by prohibition



Most importantly, of course, in 2023 the conduct of the nine nuclear-armed states was again not compatible with the prohibition on developing, producing, manufacturing, or otherwise acquiring nuclear weapons, or with the prohibition on possessing or stockpiling them. But the addition to the nuclear order of the TPNW and its comprehensive set of prohibitions is also laying bare the considerable degree of responsibility that states with arrangements of extended nuclear deterrence with nuclear-armed states (the so-called ‘umbrella states’) bear for the continued development and possession of nuclear weapons and the associated nuclear risks that the entire international community is forced to endure.

In 2023, six umbrella states (one more than in 2022) engaged in conduct that was not compatible with the TPNW’s prohibition on allowing stationing, installation, or deployment of nuclear weapons. Two additional umbrella states sought assistance to be able to host nuclear weapons on their territory. Furthermore, all umbrella states continued to fall foul of the TPNW’s prohibition on assisting, encouraging, or inducing prohibited acts, which stood out also in 2023 as the one where the greatest number of states have policies and practices that are not compatible with the Treaty. The Nuclear Weapons Ban Monitor found that a total of 40 states in 2023 aided and abetted activities that are prohibited by the TPNW.

**THE TPNW AND NUCLEAR DETERRENCE**

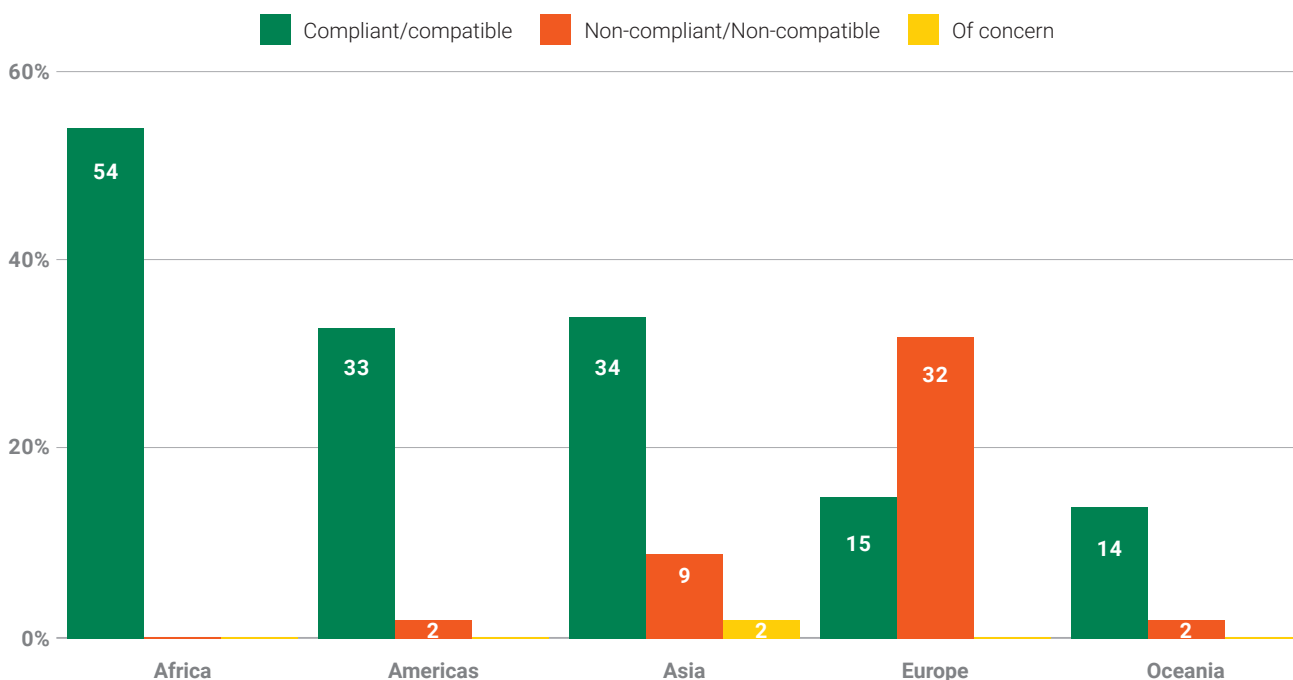
The TPNW does not explicitly prohibit or even mention ‘nuclear deterrence’. The reason for this is that deterrence is not a specific act or behaviour, but a psychological state that may or may not exist inside an adversary’s head. However, the TPNW prohibits a range of specific actions that are typically performed with the aim of fostering deterrence, including possessing nuclear weapons, hosting nuclear weapons, threatening to use nuclear weapons, or assisting or encouraging other states to engage in such behaviour. Crucially, these behaviours are prohibited irrespective of whether they succeed in fostering ‘deterrence’ in the minds of potential adversaries.

**Compliance and compatibility by region**

Figure 9 below and Table C opposite break down the compliance and compatibility findings for 2023 by region. As it shows, compliance and compatibility with the TPNW are generally high. As has been the case in every year since 2018, when the Nuclear Weapons Ban Monitor first began to assess compliance and compatibility with the TPNW, Europe is the region with the most states whose conduct conflicts with the Treaty. Of the global total of 45 states deemed non-compliant or non-compatible, 32 (71%) are in Europe – 3 nuclear-armed states (France, Russia, and United Kingdom) and 29 umbrella states.

In Asia, where 5 of the world’s nuclear-armed states are located, 9 of the total of 45 states were found to be non-compliant or non-compatible. In addition, the only two states listed as being ‘of concern’—Iran and Saudi Arabia—are both in Asia. They do not possess nuclear weapons, but both have latent nuclear breakout capabilities. In the Americas, only 2 states (Canada and the United States) of the 35 across the region engage in conduct which is not compatible with the Treaty. Among the 16 states in Oceania, Australia and the Marshall Islands are the only two states with policies and practices that are not fully compatible with the TPNW.

**Figure 9: Compliance and compatibility with the prohibitions of the TPNW in 2023: Summary of findings by regions**





**TABLE C: OVERVIEW OF STATES WITH POLICIES OR PRACTICES THAT IN 2023 WERE NON-COMPLIANT OR NON-COMPATIBLE WITH, OR OF CONCERN IN RELATION TO, ONE OR MORE OF THE TPNW'S PROHIBITIONS**

TPNW Article	Art 1(1)(a)	Art 1(1)(a)	Art 1(1)(a)	Art 1(1)(b)	Art 1(1)(c)	Art 1(1)(d)	Art 1(1)(d)	Art 1(1)(e)	Art 1(1)(f)	Art 1(1)(g)
Prohibition	Prohibition on development, production, manufacture, or other acquisition	Prohibition on possession or stockpiling	Prohibition on testing	Prohibition on transfer	Prohibition on receiving transfer or control	Prohibition on use	Prohibition on threatening to use	Prohibition on assisting, encouraging, or inducing prohibited activity	Prohibition on seeking or receiving assistance to engage in prohibited activity	Prohibition on allowing stationing, installation, or deployment
<b>ASIA</b>										
Armenia								Non-compatible		
China	Non-compatible	Non-compatible								
India	Non-compatible	Non-compatible								
Iran	Of concern									
Israel	Non-compatible	Non-compatible								
Japan								Non-compatible		
Kazakhstan								Non-compliant		
North Korea	Non-compatible	Non-compatible					Non-compatible			
Pakistan	Non-compatible	Non-compatible								
Saudi Arabia	Of concern									
South Korea								Non-compatible	Non-compatible	
<b>EUROPE</b>										
Albania								Non-compatible		
Belarus								Non-compatible	Non-compatible	Non-compatible
Belgium								Non-compatible		Non-compatible
Bulgaria								Non-compatible		
Croatia								Non-compatible		
Czechia								Non-compatible		
Denmark								Non-compatible		
Estonia								Non-compatible		
Finland								Non-compatible		
France	Non-compatible	Non-compatible						Non-compatible	Non-compatible	
Germany								Non-compatible		Non-compatible
Greece								Non-compatible		
Hungary								Non-compatible		
Iceland								Non-compatible		
Italy								Non-compatible		Non-compatible
Latvia								Non-compatible		
Lithuania								Non-compatible		
Luxembourg								Non-compatible		
Montenegro								Non-compatible		
Netherlands								Non-compatible		Non-compatible
North Macedonia								Non-compatible		
Norway								Non-compatible		
Poland								Non-compatible	Non-compatible	
Portugal								Non-compatible		
Romania								Non-compatible		
Russia	Non-compatible	Non-compatible						Non-compatible	Non-compatible	
Slovakia								Non-compatible		
Slovenia								Non-compatible		
Spain								Non-compatible		
Sweden								Non-compatible		
Türkiye								Non-compatible		Non-compatible
United Kingdom	Non-compatible	Non-compatible				Non-compatible		Non-compatible	Non-compatible	
<b>AMERICAS</b>										
Canada								Non-compatible		
United States	Non-compatible	Non-compatible		Non-compatible				Non-compatible	Non-compatible	
<b>OCEANIA</b>										
Australia								Non-compatible		
Marshall Islands								Non-compatible		
47 states	9 + 2 states	9 states	0 states	1 state	1 state	0 states	1 state	40 states	7 states	6 states

## THE PROHIBITION ON

# DEVELOPMENT, PRODUCTION, MANUFACTURING AND OTHER ACQUISITION



*In this photo released on 7 October 2023, the Russian Defense Minister Sergei Shoigu, centre, inspects the serial production of the fifth-generation Sarmat strategic missile system. (Photo by the Russian Defense Ministry Press Service via AP/NTB)*

**The nine nuclear-armed states continued to engage in conduct in 2023 that was not compatible with the TPNW's prohibition on developing, producing, manufacturing, or otherwise acquiring nuclear weapons. Two further states not party—Iran and Saudi Arabia—were again recorded as states of concern.**

Although most nuclear-armed states brand their ongoing development and production efforts as nuclear 'modernisation', their actions go well beyond simple maintenance and sustainment operations. In reality, every nuclear-armed state in 2023 continued to actively engage in the development and production of new nuclear warheads and/or delivery vehicles, in addition to upgrading their existing nuclear capabilities. Moreover, against the backdrop of rising global tensions, many nuclear-armed states are increasing the roles of nuclear weapons in their military doctrines, with some actively engaging in armed conflict and/or great power competition.

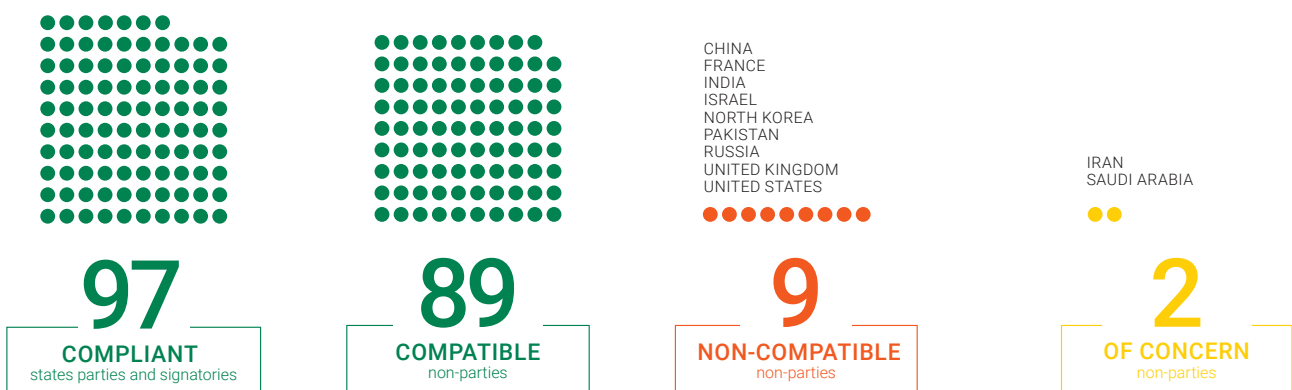
Nuclear modernisation is typically prompted by several interlocking factors. These include the long timelines of weapons development, the tremendous influence of corporate lobbyists on nuclear policy decisions, and the lack of arms control treaties keeping arsenals in check. Nuclear modernization is also an inherent feature of the 21st-century nuclear arms competition, as states continuously seek to negate their adversaries' advantages. Finally, a core driver of nuclear modernization is nuclear deterrence as a security ideology. Not only are nuclear risks increasing to levels not seen since the end of the Cold War, but nuclear-armed states are also becoming increasingly opaque about their nuclear forces. This is highly problematic, as ambiguity about nuclear stockpiles, deployments, and employment policies can lead to worst-case assumptions about how countries will develop or use nuclear weapons in the future. This exacerbates the arms race and increases the possibility of miscalculation, particularly during times of heightened nuclear tensions.

**ARTICLE 1(1)(a) - INTERPRETATION**

**Each State Party undertakes never under any circumstances to: 'Develop, [...] produce, manufacture, otherwise acquire [...] nuclear weapons or other nuclear explosive devices.'**

- ▶ The prohibited 'development' of a nuclear weapon or other nuclear explosive device encompasses any of the actions and activities intended to prepare for its production. This covers relevant research, computer modelling of weapons, and the testing of key components, as well as sub-critical testing (i.e. experiments simulating aspects of nuclear explosions using conventional explosives and without achieving uncontrolled nuclear chain reactions).
- ▶ The concepts of 'production' and 'manufacture' overlap significantly, covering the processes that are intended to lead to a completed, useable weapon or device. In general parlance, 'production' is a broader term than 'manufacture': manufacture describes the use of machinery to transform inputs into outputs. Taken together, these concepts encompass not only any factory processes, but also any improvisation or adaptation of a nuclear explosive device.
- ▶ The prohibition on 'otherwise acquiring' a nuclear weapon or other nuclear explosive device is a catch-all provision that encompasses any means of obtaining nuclear weapons or other nuclear explosive devices other than through production. This could be through import, lease, or borrowing from another source or, in theory, by recovering a lost nuclear weapon or capturing or stealing one. This prohibition overlaps with the one in Article 1(1)(c) on receiving the control over nuclear weapons or other nuclear explosive devices (discussed below).
- ▶ The prohibition on development, production, manufacturing, and acquisition also cover key components. It is widely accepted that the missile, rocket, or other munition, including both the container and any means of propulsion, are key components in a nuclear weapon. Test-launches of missiles designed to carry nuclear weapons are often used to validate particular systems or subcomponents and therefore constitute prohibited development of nuclear weapons. Delivery platforms such as bombers and submarines are not key components of nuclear weapons as such, and are not captured by the prohibitions in Article 1, although they may of course be integral to a nuclear-weapon system.
- ▶ Key components are also the fissile material (plutonium or highly enriched uranium) and the means of triggering the nuclear chain reaction. Production or procurement of fissile material constitutes prohibited development when this is done with the intent to produce nuclear weapons or other nuclear explosive devices. To research, produce, and use nuclear energy for peaceful purposes is permitted both under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the TPNW.
- ▶ Development and production of dual-use components, such as navigation or guidance systems, which could be used in both nuclear and conventional weapons, would only be prohibited under the TPNW when they were intended to be used in nuclear weapons.
- ▶ Under Article II of the NPT, a similar obligation is imposed not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, but this applies only to the non-nuclear-weapon states designated under the Treaty and does not prohibit the designated nuclear-weapon states from continuing to develop, produce, and manufacture nuclear weapons or other nuclear explosive devices.

**Figure 10: Compliance and compatibility in 2023 with the TPNW's prohibition on development, production, manufacturing, and other acquisition of nuclear weapons**



The Nuclear Weapons Ban Monitor collaborates with the Federation of American Scientists' Nuclear Information Project to estimate and analyse global nuclear forces. The following summary of the nine nuclear-armed states is intended to be a snapshot of each country's primary nuclear developments in 2023. It is not an exhaustive overview.<sup>1</sup>

<sup>1</sup> For more detailed overviews of each state's nuclear developments, see Federation of American Scientists, 'Status of World Nuclear Forces', at: <http://bit.ly/2B71Qcf>.



## RUSSIA

Russia is nearing completion of a decades-long effort to replace all of its Soviet-era strategic and non-strategic nuclear systems with more modern ones.

Despite a lack of successful test-launches, Russia appears to be very close to deploying its next-generation Sarmat intercontinental ballistic missile (ICBM), which will replace the remainder of Russia's Soviet-era ICBMs.<sup>2</sup> In December 2023, Russia also reportedly completed the rearmament of its second regiment of Avangard hypersonic glide vehicles.<sup>3</sup>

In 2023, Russia's seventh improved Borei-class nuclear-powered ballistic missile submarine (SSBN)—the Emperor Alexander III—was commissioned to the Pacific Fleet, with at least three more SSBNs under construction.<sup>4</sup> Russia is also nearing completion of a second special-purpose submarine that will be able to launch Poseidon nuclear torpedoes.<sup>5</sup> Russia has also continued to modernise its fleet of legacy strategic bombers.



## UNITED STATES

The United States is in the midst of a wide-ranging modernisation programme to upgrade or replace every nuclear warhead and delivery system in its nuclear arsenal. The cost of this programme could reach up to US\$2 trillion, and it is expected that this will serve to maintain nuclear weapons in the US nuclear arsenal through most of the remainder of this century.

In 2023, the United States' congressionally-appointed Strategic Posture Commission released its report, which called for urgent and sweeping modifications of the US nuclear arsenal, including increases to the planned number of Long-Range Standoff Weapons, B-21 strategic bombers, and Columbia-class SSBN, as well as possible uploads of additional warheads to deployed delivery systems.<sup>6</sup> In 2023, the Biden administration also announced that it would build a new gravity bomb—the B61-13—with a maximum yield estimated by the Federation of American Scientists to be 360 Kt.<sup>7</sup> While the B61-13 will not be deployed to Europe, at the close of 2023 the B61-12 was entering the US stockpile and preparations were being made for delivery to European bases.<sup>8</sup>

Notably, in recent years the expansion of China's nuclear arsenal and its growing economic and military power have been framed as a 'three-body problem', with particular emphasis on how the United States can deter both Russia and China in a tripolar nuclear relationship. While not yet official US policy, a prominent narrative emerged in 2023 that this could require an increase to the number of deployed US nuclear weapons and an expansion to the current modernisation programme of record.<sup>9</sup>



## CHINA

China's nuclear stockpile is expected to increase significantly in the next decade, although its arsenal is still expected to remain significantly smaller than that of either Russia or the United States. In 2023, China completed production and began operation of its new CFR-600 fast-breeder reactor, which could be used to increase China's plutonium stocks, thus potentially facilitating a significant growth of China's arsenal.<sup>10</sup>

In 2023, China continued rapid construction on all three of its new solid-fuel missile silo fields and additional liquid-fuel missile silos further south, totalling more than 350 new silos. In October 2023, the US Department of Defense assessed that China had 'loaded at least some ICBMs into these silos'.<sup>11</sup> China has also continued to build additional SSBNs, including Type 094s and next-generation Type 096s, and in 2023 continued to replace its shorter-range JL-2 submarine-launched ballistic missiles (SLBMs) with longer-range JL-3s on a rotational basis.<sup>12</sup>

2 M. Korda, and H. M. Kristensen, 'Upgrade Underway For Russian Silos To Receive New Sarmat ICBM', Federation of American Scientists, Strategic Security Blog, 19 October 2023, at: <https://bit.ly/3RojGhH>.

3 Krasnaya Zvezda, 'Стратегическая мощь России крепнет'. Interview with Col. Gen. Sergei V. Karakaev, 16 December 2023, available at: <https://bit.ly/3XjzUfU>.

4 Russian Federation, 'Ceremony for raising naval flags on nuclear-powered submarines Emperor Alexander III and Krasnoyarsk', 11 December 2023, at: <https://bit.ly/4bU8ZLR>.

5 TASS, 'Submarine force armed with Poseidon torpedoes to come into operation in Kamchatka in 2025', 3 April 2023, at: <https://bit.ly/4bW6gBA>.

6 'America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States', October 2023, at: <https://bit.ly/3KBnxUy>.

7 US Department of Defense, 'Department of Defense Announces Pursuit of B61 Gravity Bomb Variant', 27 October 2023, at: <https://bit.ly/3yVxv7n>.

8 'Fiscal Year 2024 Stockpile Stewardship and Management Plan', National Nuclear Security Administration, 27 November 2023, at: <https://bit.ly/3VqO0tk>.

9 US Strategic Posture Commission, 'America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States', 12 October 2023, at: <https://bit.ly/3KBnxUy>.

10 Y. Kobayashi, 'Is China's fast breeder reactor operational? There is a risk of accelerating nuclear arms expansion', SPF China Observer, 31 October 2023, at: <https://bit.ly/3Vb9jPi>; and H. Zhang, 'China started operation of its first CFR-600 breeder reactor', International Panel on Fissile Materials, 15 December 2023, at: <https://bit.ly/3VM6yFP>.

11 US Department of Defense, 'Military and Security Developments Involving the People's Republic of China 2023', Annual Report to Congress, Office of the Secretary of Defense, Washington, DC, 19 October 2023, p. 104.

12 A. Capaccio, 'China has put longer-range ICBMs on its nuclear subs, US says', *Bloomberg*, 19 November 2022; US Department of Defense, 'Military and Security Developments Involving the People's Republic of China 2023', p. 55.



## UNITED KINGDOM

The United Kingdom has committed to a comprehensive nuclear modernisation programme that includes replacing its SSBNs, re-entry bodies, and warheads. This programme is expected to keep nuclear weapons in the UK military arsenal until at least 2065. In 2023, the United Kingdom completed an upgrade of its warhead by transitioning to the US-supplied Mk4A re-entry body with enhanced targeting capability. It also continued to build its next generation of Dreadnought-class SSBNs. Construction of its third next-generation SSBN began in February 2023.<sup>13</sup> The UK also continued to advance its programme to construct a new warhead, which is based on the United States' planned W93 warhead.



## FRANCE

France is modernising both of its nuclear delivery systems – its SLBMs and air-launched cruise missiles (ALCMs). France's 'renovated' ALCMs reportedly entered into service in 2023.<sup>14</sup> France's new SNLE 3G SSBN programme will replace the country's current generation of nuclear-armed submarines, and is expected to keep nuclear weapons in the French arsenal until at least 2070. In April 2023, one of France's four SSBNs tested an M51 SLBM (likely indicating the completion of its upgrade to the M51.2 standard), and in November 2023, France conducted its first test-launch of the M51.3 SLBM, which is expected to enter into service in 2025.<sup>15</sup>



## ISRAEL

Israel is modernising its arsenal of land-based ballistic missiles and may be upgrading its plutonium and warhead production facility. In 2023, Israel continued its significant construction effort at its Dimona nuclear weapons facility, which is likely to be associated with a life-extension campaign. Israel also launched a sixth submarine, the first of which to apparently feature a vertical launch system within its sail.<sup>16</sup> This could potentially be used to carry dual-capable SLBMs.



## INDIA

India is in the midst of completing and operationalising its nascent nuclear triad, and is modernising its existing nuclear forces to place increased emphasis on prompt missile launches. In 2023, India conducted its first 'pre-induction' test of its Agni-P medium-range ballistic missile (MRBM), indicating that the 'next-generation' system will likely be deployed in the next few years following additional tests.<sup>17</sup> India's first intermediate-range ballistic missile (IRBM), the Agni-V, is also preparing for deployment. Unlike earlier versions of Agni missiles, both the Agni-V and the Agni-P will be deployed in new mobile canister systems, which will reduce the time required to launch the missiles in a crisis because they can be transported with the warhead installed. After years of delays, India's second SSBN (INS Arighat) was nearing completion and was likely to become operational in the course of 2024.<sup>18</sup> The submarine might be equipped with India's new K-4 SLBMs, which are nearing serial production.<sup>19</sup>



## PAKISTAN

Pakistan is in the process of building a nuclear triad, placing particular emphasis on developing several short-range, tactical nuclear-capable weapon systems specifically designed to deter large-scale conventional strikes against or incursions into Pakistani territory.

In 2023, Pakistan continued the development of its new dual-capable land-based ballistic missiles, and continued to pursue the capability to deliver multiple independently-targetable re-entry vehicles (MIRVs). It conducted its second test launch of its developmental MIRV-capable Ababeel MRBM.<sup>20</sup>

13 Mills, C., 'Replacing the UK's Strategic Nuclear Deterrent: Progress of the Dreadnought Class', Research Briefing no. 8010, House of Commons Library, London, 3 May 2023, p. 5.

14 J. Bellander, 'Hearing, behind closed doors, of Air Force General Stéphane Mille, Chief of Staff of the Air and Space Force, and Air Corps General Jérôme Bellanger, Commander of the Strategic Air Forces, on nuclear deterrence', Assemblée Nationale, 25 January 2023, at: <https://bit.ly/3VD5yUm>.

15 M. Belhamiti, 'Notice on Behalf of the Committee on National Defense and Armed Forces on the Draft Finance Bill for 2024 (No. 1680): Volume VII: Defense Forces Equipment – Deterrence', Assemblée Nationale, 26 October 2023, at: <https://bit.ly/4ekwRd6>; S. Lecornu, 'Premier tir d'essai réussi du missile balistique stratégique M51.3 ! Cette évolution pérennise la crédibilité de notre dissuasion nucléaire et démontre l'excellence de notre filière lanceur. Merci à @DGA, @CEA\_Officiel, @ArianeGroup et à tous les acteurs de ce tir réussi', Twitter, 18 November 2023, at: <https://bit.ly/3xbW0Gg>.

16 H. I. Sutton, 'Israel Launches New Submarine, First In World With Modern Missiles In Sail', Naval News, 14 August 2023, at: <https://bit.ly/4caKTW6>.

17 Press Information Bureau, "Agni Prime" ballistic missile successfully flight-tested by DRDO off Odisha coast', Indian Ministry of Defence, 8 June 2023, at: <https://bit.ly/3KERL9o>.

18 S. Gupta, 'Aircraft carrier INS Vikramaditya is back on high seas', *Hindustan Times*, 19 February 2023, at: <https://bit.ly/3RknPD2>.

19 R. Pandit, 'Arihant's N-capable missile "ready to roll"', *Times of India*, 14 December 2023, at: <https://bit.ly/3Rmd9nr>.

20 Radio Pakistan, 'Pakistan conducts successful flight test of Ababeel Weapon System', 18 October 2023, at: <https://bit.ly/3RIW25e>.

North Korea is simultaneously pursuing the development of tactical nuclear weapons for delivery by shorter-range, solid-fuel missiles, as well as the development of next-generation solid-fuel ICBMs.

In 2023, state media showed Kim Jong Un inspecting ten objects that he claimed were Hwasan-31 ‘tactical’ nuclear devices, although it is possible that they were mock-ups.<sup>21</sup> North Korea has indicated that it will likely use this common warhead for many of its newer tactical delivery systems that it tested throughout 2023, including short-range ballistic missiles (SRBMs) and cruise missiles.

In recent years, North Korea has also taken great strides with its ICBM force: in 2023, the country tested its three most advanced ICBMs—the Hwasong-15, Hwasong-17, and the solid-fuel Hwasong-18—and may have deployed all three missiles.<sup>22</sup> North Korea also appears to be developing an underwater weapon system, known as ‘Haeil’, which is reportedly designed to initiate a ‘super-scale radioactive tsunami’.<sup>23</sup>

In 2023, the International Atomic Energy Agency (IAEA) confirmed open-source reporting that North Korea’s new light-water reactor had reached criticality and was likely operational, which could enable North Korea to produce approximately 20 additional kilograms of weapons-grade plutonium each year – possibly foreshadowing significant future growth to North Korea’s nuclear arsenal.<sup>24</sup> It is possible that North Korea now possesses sufficient fissile material to produce up to 90 nuclear warheads, although it has likely only assembled fewer than that – potentially up to 50.

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## States of concern

The Nuclear Weapons Ban Monitor continues to list Iran and Saudi Arabia as states of concern in relation to the prohibition on developing, producing, manufacturing, or otherwise acquiring nuclear weapons. They do not possess nuclear weapons, but both have latent nuclear breakout capabilities. Therefore, in the event that either state intended to become party to the TPNW, possible compliance issues would need to be addressed by a meeting of states parties or review conference.

### *Iran*

Iran continued in 2023 to develop its nuclear programme and stockpile of enriched uranium, fuelling fears it intends to develop nuclear weapons. In the first half of 2023, Iran slowed its pace of enrichment and allowed the IAEA to resume limited monitoring activities.<sup>25</sup> But these steps were largely reversed in the latter months of 2023, and in December, the Agency reported that Iran had returned to its previous production rate of approximately 9 kg of uranium enriched to 60% uranium-235 per month.<sup>26</sup> In December 2023, the Biden administration’s nominee for Deputy Secretary of State announced during his confirmation hearing that a return to the Joint Comprehensive Plan of Action (JCPOA) is ‘just not on the table’.<sup>27</sup>

As of August 2023, the IAEA estimated that Iran possessed a stockpile of 535.8 kg of uranium (in UF<sub>6</sub> form – uranium hexafluoride) enriched up to 20% - an approximate 200 kg increase from the previous year. This represents approximately 21 ‘significant quantities’ of enriched uranium, which the IAEA describes as the ‘approximate amount of nuclear material for which the possibility of manufacturing a nuclear explosive device cannot be excluded.’ This is particularly worrisome, because very little additional work is required to enrich uranium from 20% purity to weapons-grade quality. Additionally, the IAEA estimated that Iran possessed 121.6 kg of uranium enriched up to 60% – more than double that of the previous year.<sup>28</sup> These developments have reduced Iran’s potential nuclear break-out time from around a year under the JCPOA to just a couple of months today.

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21 Korean Central News Agency, ‘Respected Comrade Kim Jong Un Guides Work for Mounting Nuclear Warheads on Ballistic Missiles’, KCNA Watch, 28 March 2023, at: <https://bit.ly/3RlZ5u>; United Nations Security Council, ‘Midterm report of the panel of experts submitted pursuant to Resolution 2680 (2023)’, UN doc. S/2023/656, 12 September 2023, at: <https://bit.ly/4ci3syn>.

22 DPRK Today, ‘ICBM Launching Drill Staged in DPRK’, KCNA Watch, 20 February 2023, at: <https://bit.ly/4cgFJ1C>; R. Sinmun, ‘Demonstration of Toughest Response Posture of DPRK’s Strategic Forces ICBM Hwasongpho-17 Launched’, KCNA Watch, 17 March 2023, at: <https://bit.ly/3ySJE6t>; Korean Central News Agency, ‘Clear Display of DPRK Strategic Forces’ Toughest Retaliation Will and Overwhelming Strength Launch Drill of ICBM Hwasongpho-18 Conducted’, KCNA Watch, 19 December 2023, at: <https://bit.ly/3VhziQU>.

23 Korean Central News Agency, ‘Important Weapon Test and Firing Drill Conducted in DPRK’, KCNA via KCNA Watch, 24 March 2023, at: <https://bit.ly/3VBLTUJ>.

24 R. Grossi, ‘IAEA Director General Statement on Recent Developments in the DPRK’s Nuclear Programme’, News item 147/2023, IAEA, 21 December 2023, at: <https://bit.ly/3Rivtht>; D. Albright, S. Burkhard, V. Cheng, and S. Faragasso, ‘North Korea’s ELWR: Finally Operational After a Long Delay’, Report, Institute for Science and International Security, 23 January 2024, at: <https://bit.ly/3x3qbj4>; S. Park and A. Puccioni, ‘North Korea’s Pursuit of an ELWR: Potential Power in Nuclear Ambitions?’, 38 North, 24 January 2024, at: <https://bit.ly/4eedKBB>.

25 IAEA, ‘Joint Statement by the Atomic Energy Organization of Iran (AEOI) and the International Atomic Energy Agency (IAEA)’, 4 March 2023, at: <https://bit.ly/3Vjp7j9>.

26 US Department of State, ‘Joint Statement on the Latest Iranian Nuclear Steps Reported by the IAEA’, 28 December 2023, at: <https://bit.ly/3VzrhMP>.

27 K. Campbell, Nomination Hearing, Senate Foreign Relations Committee, 7 December 2023, at: <https://bit.ly/4caH3Uo>.

28 ‘Verification and monitoring in the Islamic Republic of Iran in light of United Nations Security Council resolution 2231 (2015), Report by the Director General’, IAEA doc. GOV/2023/39, 4 September 2023, at: <https://bit.ly/4bdnPMB>, para. 50; ‘Verification and monitoring in the Islamic Republic of Iran in light of United Nations Security Council resolution 2231 (2015), Report by the Director General’, IAEA doc. GOV/2022/39, 7 September 2022, at: <https://bit.ly/3LbMdmU>, para. 51.

## Saudi Arabia

Saudi Arabia's Crown Prince reiterated in September 2023 that if Iran develops nuclear weapons, then so will Saudi Arabia.<sup>29</sup> Although Saudi Arabia's capabilities are much further behind Iran's, the country possesses a sizable stockpile of mineable uranium ore; has announced an intention to build several nuclear reactors across the country; and possesses several types of ballistic missiles that could be used to deliver nuclear warheads. Moreover, in 2023 Saudi Arabia announced an intention to pursue 'the entire nuclear fuel cycle',<sup>30</sup> and engaged in negotiations with the United States to pursue a uranium enrichment programme. These efforts prompted fierce resistance from the US Congress over proliferation concerns.<sup>31</sup>

While these factors do not necessarily indicate the country's interest in developing nuclear weapons at this time, Saudi Arabia's original Small Quantities Protocol (SQP) exempts the country from IAEA monitoring and inspections obligations, which increases ambiguity around the country's nuclear intentions and capabilities. As discussed on page 67, Saudi Arabia announced at the IAEA's General Conference in 2023 that it had decided to rescind its SQP and move to the implementation of a full-scope CSA.<sup>32</sup> At the time of writing, however, its original SQP was still operational.

## Fissile material

Production of fissile material intended for nuclear weapons appears to continue in India, Israel, North Korea, and Pakistan. Fissile material—plutonium (Pu) or highly enriched uranium (HEU)—is essential for nuclear weapons. Both military and civilian stocks of Pu and HEU must be secured and reduced (and further production limited) in order to achieve nuclear disarmament, halt proliferation of nuclear weapons, and ensure that terrorists do not acquire them. According to the International Panel on Fissile Materials (IPFM), the global stockpile of HEU was estimated to be 1,245 metric tonnes (MTS) at the beginning of 2023, which was approximately 50 MTS less than a year before. Most of this material (about 1,110 MTS of HEU) was either in weapons or available for use in weapons production.<sup>33</sup> The global stockpile of separated Pu was about 560 MTS, of which about 140 was in weapons or available for weapons.<sup>34</sup>

According to the IPFM, the amounts of fissile materials owned by the nuclear-armed states were as follows at the beginning of 2023:<sup>35</sup>

- Russia: 680 MTS HEU and 193 MTS Pu
- United States: 483 MTS HEU and 87.6 MTS Pu
- United Kingdom: 23 MTS HEU and 119.6 MTS Pu
- France: 29 MTS HEU and 98 MTS Pu
- China: 14 MTS HEU and 3 MTS Pu
- Pakistan: 5 MTS HEU and 0.54 MTS Pu
- India: 5 MTS HEU and 10 MTS Pu
- Israel: 0.3 MTS HEU and 0.9 MTS Pu
- North Korea: 0.7 MTS HEU and 0.04 MTS Pu

For information on amounts of civilian fissile materials owned by non-nuclear-armed states, see the respective state profiles on [www.banmonitor.org](http://www.banmonitor.org).

29 S. Fortinsky, 'Saudi crown prince on Iran acquiring nuclear weapons: "If they get one, we have to get one"', Thehill.com, 20 September 2023, at: <https://bit.ly/4b05Ad4>.

30 Reuters, 'Saudi Arabia plans to use domestic uranium for nuclear fuel', 11 January 2023, at: <https://bit.ly/3xacOgY>.

31 B. Ravid, 'Top nuclear experts urge Biden to not allow Saudi uranium enrichment in mega-deal', Axios, 21 September 2023, at: <https://bit.ly/3XhZnpZ>.

32 'Saudi Arabia plans tougher checks on its nuclear activities', Middle East Eye, 25 September 2023, at: <https://bit.ly/3VJk90B>.

33 International Panel on Fissile Materials, 'Fissile material stocks', at: <https://fissilematerials.org>.

34 Ibid.

35 Ibid.

# POSSESSION AND STOCKPILING



Senior Airman Jacob Deas, left, and Airman 1st Class Jonathan Marrs, right, secure the titanium shroud at the top of a Minuteman III intercontinental ballistic missile on 24 August 2023, at the Bravo 9 silo at Malmstrom Air Force Base in Montana, United States. After the shroud is secured, it is lifted off, revealing the black cone-shaped nuclear warhead inside. (Photo by John Turner/U.S. Air Force via AP/NTB)

**The Nuclear Weapons Ban Monitor collaborates with the Nuclear Information Project of the Federation of American Scientists to estimate and analyse global nuclear forces. At the beginning of 2024, the nine nuclear-armed states had a combined inventory of approximately 12,347 nuclear warheads, which is, of course, incompatible with the TPNW's prohibition on possession and stockpiling of nuclear weapons.**

The world's nuclear warhead inventories at the beginning of 2024 are summarised in Table D opposite and Figure 12 overleaf. It is estimated that 9,585 of the world's total inventory of warheads are available for use by the military, with an estimated collective yield equivalent to more than 135,000 Hiroshima bombs. The remaining 2,762 warheads had previously been retired and are awaiting dismantlement in Russia and the United States.

## ARTICLE 1(1)(a) – INTERPRETATION

**Each State Party undertakes never under any circumstances to: '[...] possess or stockpile nuclear weapons or other nuclear explosive devices.'**

- ▶ The prohibition on possession of any nuclear weapon or other nuclear explosive device under Article 1(1)(a) makes it illegal to have a nuclear weapon or other nuclear explosive device.
- ▶ Possession does not require ownership.
- ▶ One nuclear weapon or other form of nuclear explosive device is sufficient to constitute a stockpile.
- ▶ The prohibition on possession covers activities such as maintenance and deployment of nuclear weapons or other nuclear explosive devices. Indirectly, it also acts to render nuclear deterrence practices unlawful.



Figure 11: Compliance and compatibility in 2023 with the TPNW's prohibition on possession and stockpiling

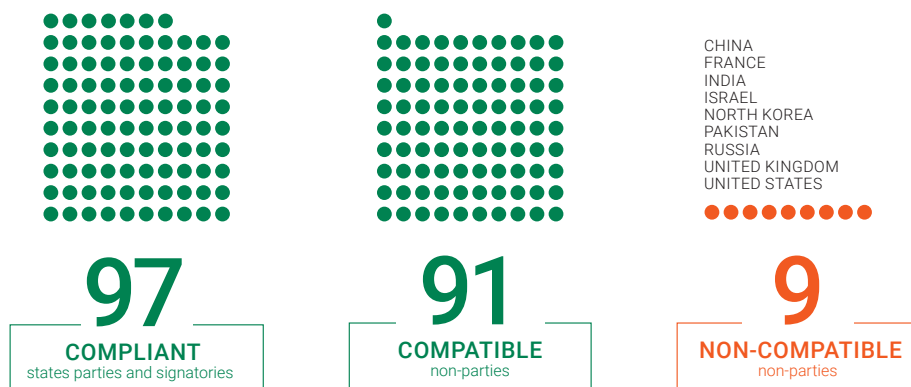


TABLE D: THE WORLD'S NUCLEAR WARHEAD INVENTORIES AT THE BEGINNING OF 2024 <sup>A</sup>										
	Russia	United States	China	France	United Kingdom	Pakistan	India	Israel	North Korea	Total
Total inventory of warheads	5,580 ↓	5,270 ↓	500 ↑	290	225	170 ↑	172 ↑	90	50 ↑	12,347 ↓
Retired warheads for dismantlement	1,200 ↓	1,562 ↓	0	0	0	0	0	0	0	2,762 ↓
Warheads available for use <sup>B</sup>	4,380 ↑ <sup>C</sup>	3,708	500 ↑	290	225	170 ↑	172 ↑	90	50 ↑	9,585 ↑
Deployed warheads <sup>D</sup>	1,710 ↑	1,770	24 ↑	280	120	0	0	0	0	3,904 ↑
Warheads in reserve	2,670 ↑	1,938	476 ↑	10	105	170	172 ↑	90	50 ↑	5,681 ↑
Estimated yield in megatons	957.4 MT	857.6 MT	150.5 MT	29 MT	22.5 MT	3.4 MT	4.4 MT	2.5 MT	4.6 MT	2,031.9 MT ↑
Hiroshima-bomb equivalents	63,825	57,173	10,033	1,933	1,500	226	294	165	307	135,456 ↑

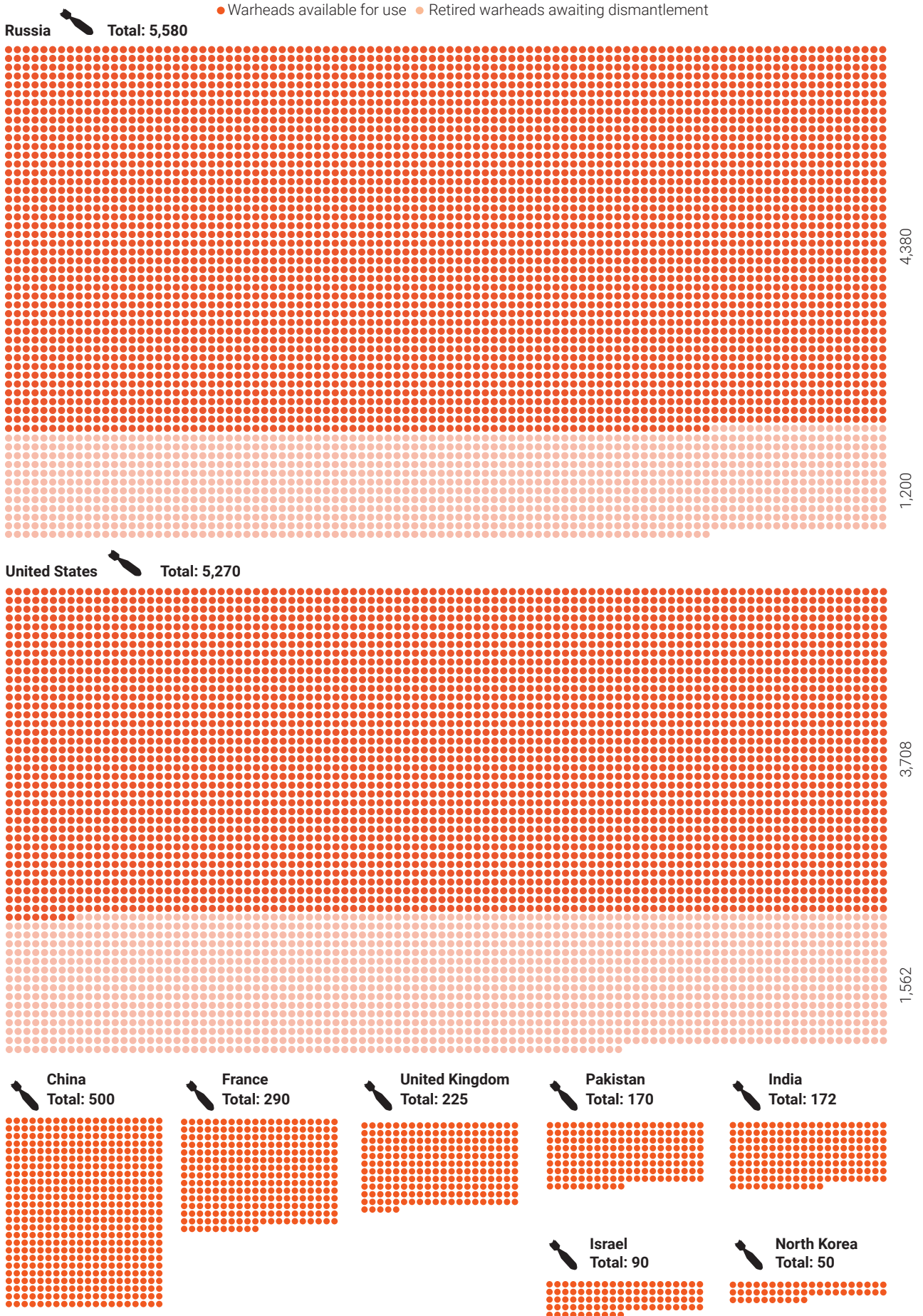
<sup>A</sup> Source: Nuclear Information Project, Federation of American Scientists. The arrows refer to general trends over the last few years. Red upwards arrows (↑) indicate increasing numbers, and green downward arrows (↓) indicate decreasing numbers. The estimates for the total global inventory, the US total inventory, and the US retired warheads for dismantlement are updated as of July 2024, after the US disclosure of the size of its stockpile and number of retired warheads.

<sup>B</sup> Includes both deployed warheads and warheads in reserve.

<sup>C</sup> Although Russia's number of warheads available for use is smaller than the previous year's number, this is due to a revision in assumptions regarding Russian non-strategic nuclear weapons and does not reflect a reduction in Russia's military stockpile. In reality, it is likely that Russia's stockpile of warheads available for use is increasing.

<sup>D</sup> Deployed warheads are either deployed on a delivery vehicle or at a base with delivery vehicles.

Figure 12: The world's nuclear warhead inventories at the beginning of 2024



Source: Federation of American Scientists, Status of World Nuclear Forces, <https://fas.org/initiative/status-world-nuclear-forces/>

The total inventory of warheads decreased by approximately 165 from 12,512 warheads in early 2023 to 12,347 in early 2024. This reduction was only, however, due to Russia and the United States dismantling a small number of previously retired nuclear weapons during the course of 2023. Indeed, that the total number of nuclear weapons in the world is slowly decreasing each year is almost entirely the result of dismantlement of retired warheads by these two states.

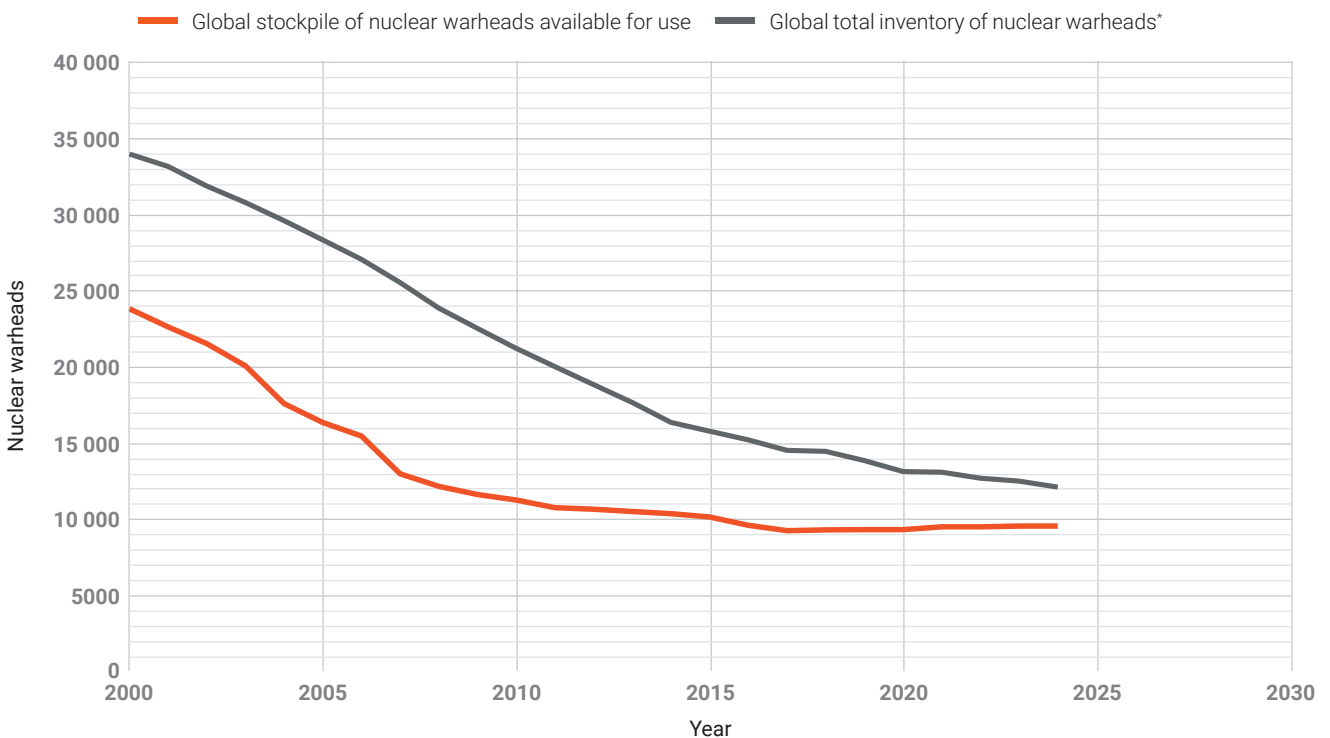
Scratching below the surface of the data produces a much bleaker picture: the global number of stockpiled nuclear weapons available for use has been steadily increasing since 2017, when it reached an all-time low of 9,272 warheads. China, India, North Korea, Pakistan, and Russia continued to expand their nuclear arsenals in 2023. At the beginning of 2024, the total number of nuclear warheads available for use had increased to 9,585,<sup>1</sup> 313 more than in 2017, a trend that is expected to continue. Meanwhile, the number of warheads dismantled each year appears to be decreasing. As demonstrated in Figure 13 below, this means we could soon reach a point where the total number of nuclear weapons in the world will actually increase for the first time since 1986.

Combined, the United States and Russia now possess approximately 88% of the world’s total inventory of nuclear weapons and 84% of the stockpiled warheads available for use by the military. These percentages have been shrinking over the past few years and are likely to continue to do so as other states increase their nuclear arsenals.

Estimates of nuclear warhead inventories can fluctuate from year to year depending on a variety of factors like routine maintenance, the changing pace of warhead retirement, and modernisation schedules. As a result, it is more appropriate to consider the general trends of each country’s inventory over several years. As mentioned above, China, India, North Korea, Pakistan, and Russia are all generally increasing the size of their nuclear stockpiles. In contrast, the stockpiles of France, Israel, and the United States are generally stable. The UK government in 2021 announced a significant increase to the upper limit of its warhead inventory compared with previous plans,<sup>2</sup> but there is no publicly available evidence to indicate that such an increase has begun.

Countries are increasingly—and unnecessarily— withholding information about their nuclear arsenals from their publics, allies, and adversaries. In particular, states that had previously been more transparent about their nuclear arsenals, including the United States and the United Kingdom, recently decided to no longer provide details of the sizes of their nuclear stockpiles or the numbers of warheads they have deployed. In 2022, in a reversal from the previous year, the

**Figure 13: The world’s total inventory of nuclear warheads compared with the number of stockpiled warheads available for use**



\* The total inventory of warheads includes both the warheads available for use and the retired warheads.

1 The total increase in nuclear warheads available for use was greater, but was offset in 2023 by a revision in assumptions regarding the existing number of non-strategic Russian nuclear weapons.  
 2 H.M. Kristensen and M. Korda, 'British Defense Review Ends Nuclear Reductions Era', Federation of American Scientists, 17 March 2021, at: <https://bit.ly/4erCTbU>.

Biden administration did not disclose the size of the US nuclear stockpile or the number of warheads dismantled. In 2023, the Biden administration again rejected two separate declassification requests asking for the same information.<sup>3</sup> In 2021, the UK government said it would no longer disclose how many warheads it deploys.<sup>4</sup> This trend of increased nuclear secrecy poses challenges for understanding trends in nuclear arsenals, undercutting efforts to increase transparency. As mentioned above, lack of clarity as to nuclear stockpiles, deployments, and employment policies can lead to worst-case assumptions about how states will develop or use nuclear weapons in the future, thereby exacerbating the arms race and increasing the possibility of miscalculation.

### Deployment and delivery systems

Of the global total of warheads available for use in early 2024, an estimated total of 3,904 (or more than 40%) were at all times deployed on delivery vehicles and at bases with delivery vehicles, while the remaining 5,681 warheads were held in reserve. As shown in Figures 14 and 15 opposite, only China, France, Russia, the United Kingdom, and the United States currently deploy nuclear warheads, meaning that the warheads are either uploaded to ballistic missiles or co-located with their respective launch platforms. These warheads are deployed on siloed and mobile missiles, at bomber bases, and on nuclear-powered ballistic missile submarines (SSBNs).

Russia's deployed nuclear forces increased from 1,674 in January 2023 to 1,710 in January 2024, which can be attributed to an increase in deployed intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs), both of which can carry several warheads. For the first time, China is also believed to now deploy a small number of warheads on its ICBMs and SSBNs in peacetime.<sup>5</sup>

It is believed that India, Israel, North Korea, and Pakistan keep all of their nuclear warheads in central storage during peacetime.

Around 1,982 nuclear warheads—more than 50% of the world's deployed nuclear warheads—are deployed on SSBNs. At all times, a significant number of nuclear warheads are carried through the world's oceans on SSBNs on active patrol, ready to be launched at short notice. Each of five nuclear-armed states—China, France, Russia, the United Kingdom, and the United States—now deploy at sea at all times at least one SSBN with the option of increasing the number during periods of heightened tension. For example, in response to Russia's invasion of Ukraine, France briefly practised deploying three SSBNs concurrently rather than just one.<sup>6</sup> As of January 2024, the United States was operating 14 SSBNs capable of carrying nuclear weapons while Russia was operating 12; China 6; the United Kingdom 4; France 4; and India 1 (with two more being fitted out at the time of writing). North Korea has one ballistic missile submarine (SSB) which is not thought to be operational. Russia also has attack submarines that can launch nuclear weapons, as does Israel.

Most SSBNs can carry a very large number of warheads because their missiles can deliver multiple independently targetable re-entry vehicles (MIRVs). This means that the total firepower onboard a single SSBN can be larger than the entire arsenal of a lesser nuclear-armed country. For instance, the average destructive power of a single US Ohio-class SSBN is estimated to be up to 19 MT, or 1,266 Hiroshima-bomb equivalents. This is roughly twice that of the entire combined nuclear arsenals of India, Pakistan, and Israel. The destructive power of a single Russian Borei-class SSBN is thought to be approximately 6.4 MT, or 427 Hiroshima-bomb equivalents, which is roughly equivalent to the entire combined nuclear arsenals of India and Pakistan.

In addition to submarines, the nine nuclear-armed states operate a wide variety of delivery vehicles from which they can launch nuclear weapons, including siloed and mobile missiles, heavy bombers, tactical aircraft, surface ships and naval aircraft, and defensive systems. These systems all have vastly different characteristics, and thus each nation generally operates a unique combination of delivery systems in accordance with its respective strategy.

Table E (see page 31) provides an overview of the diversity of nuclear-capable delivery vehicles in each nuclear-armed state's arsenal, and the breakdown of the number of nuclear warheads that are currently deployed on or in reserve for each category of delivery vehicle. Russia has by far the most types of nuclear-capable delivery systems.

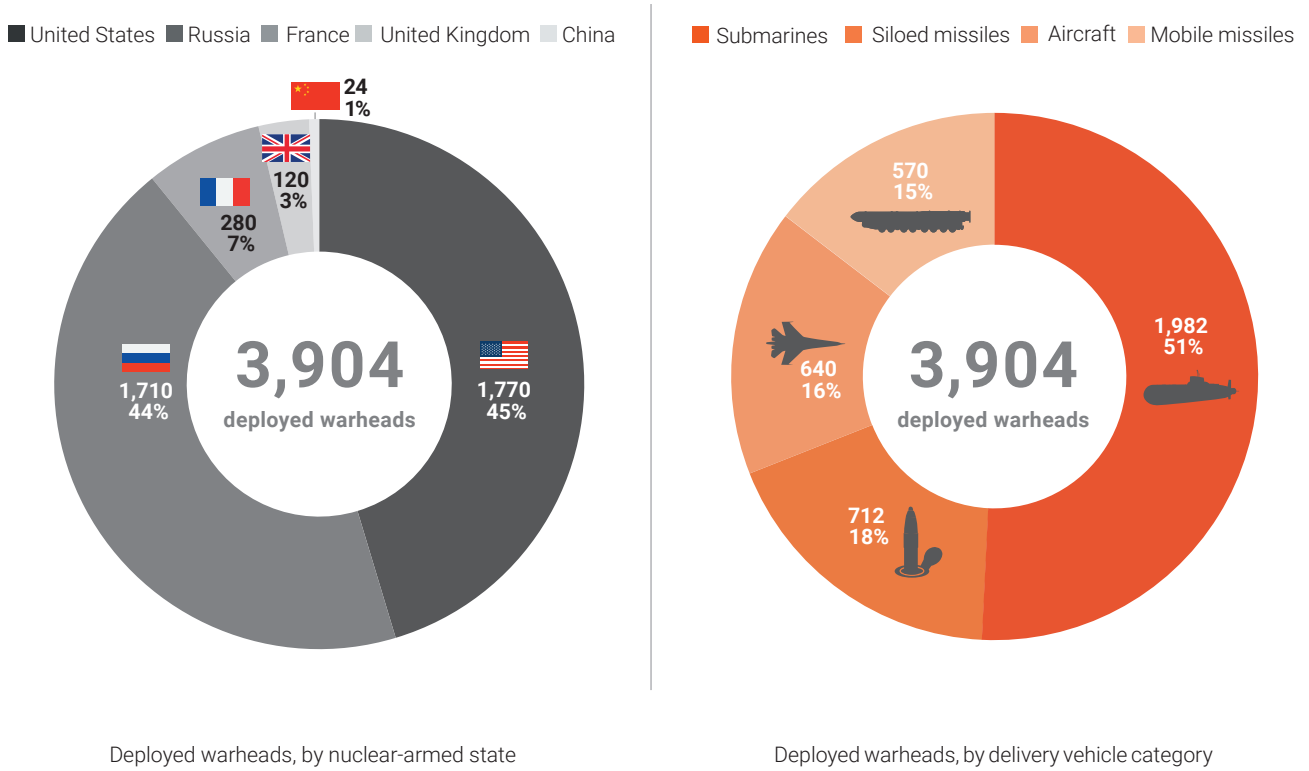
3 H. M. Kristensen, 'While Advocating Nuclear Transparency Abroad, Biden Administration Limits It At Home', Federation of American Scientists, Strategic Security Blog, 31 July 2023, at: <https://bit.ly/3xi1T3s>.

4 UK Government, 'Global Britain in a Competitive Age: The Integrated Review of Security, Defence, Development and Foreign Policy', 2 July 2021, at: <http://bit.ly/3mnbQYL>.

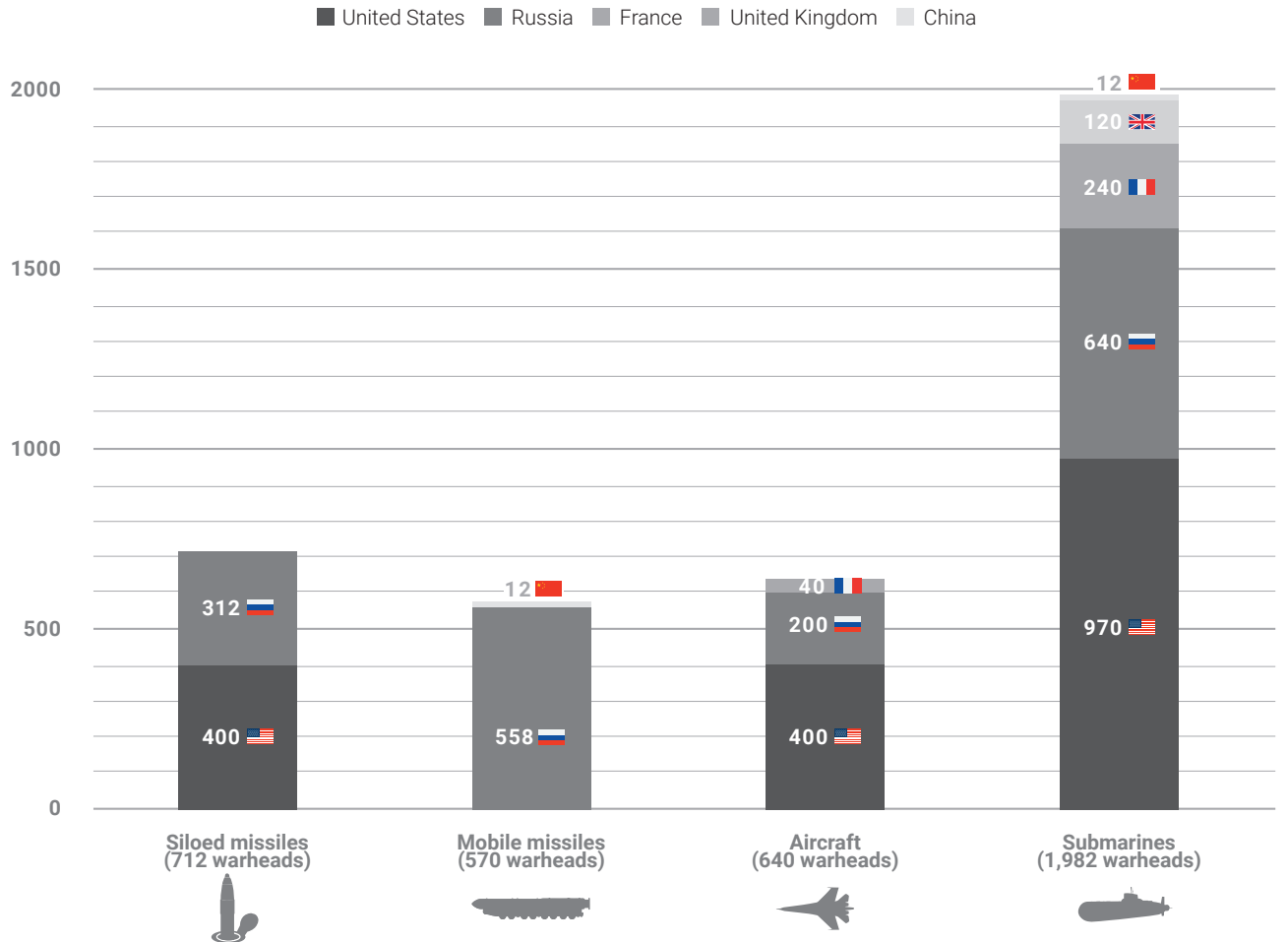
5 Department of Defense, 'Military and Security Developments Involving the People's Republic of China 2023', Annual Report To Congress, 19 October 2023, at: <https://bit.ly/3W5jJlc>.

6 S. Jézéquel, 'Pourquoi la France a-t-elle fait appareiller trois sous-marins nucléaires au départ de l'Île-Longue?', *Le Télégramme*, 21 March 2022, at: <http://bit.ly/41EJFVt>.

**Figure 14: Number of nuclear-warheads deployed – by nuclear-armed state and by category of delivery vehicle**



**Figure 15: Deployment of nuclear warheads, early 2024**



## Non-strategic nuclear weapons

Nuclear-armed states are generally moving away from megaton-level yields in favour of more accurate lower-yield warheads, although some analysts suggest that this could make nuclear weapons more 'usable', potentially lowering the threshold for nuclear use as a consequence.

North Korea, Pakistan, Russia, and the United States officially possess so-called 'tactical' or 'non-strategic' nuclear weapons that are intended to be used for shorter-range strike missions. There is, however, no universally accepted definition for what officially constitutes a tactical nuclear weapon, and a common misconception is that all such weapons have lower yields and shorter ranges. The reality is much less clear: tactical nuclear weapons can have a wide range of yields and ranges, and a shorter-range weapon might be considered 'non-strategic' in US and Russian arsenals but 'strategic' in French, Indian, and Pakistani arsenals. The United Kingdom is the only nuclear-armed state that does not have nuclear weapons that can be considered non-strategic.

Until recently, the United States was the only state believed to deploy non-strategic warheads in other countries. As discussed on page 58, however, Russia announced in 2023 that it deployed nuclear weapons in Belarus. The other nuclear-armed states are believed to keep their non-strategic warheads in central storage during peacetime.







Given Russia's invasion of Ukraine in 2022, Russia's sizable stockpile of non-strategic nuclear weapons is of particular concern. Russia possesses approximately 1,558 such weapons for use by naval, tactical air, and missile defence forces, as well as in the form of short and medium-range ballistic missiles. Tactical nuclear weapons are considered the most likely to be used if Russia ever decided to use nuclear weapons in the Ukraine war. Even the use of a lower-yield tactical nuclear weapon could immediately trigger a dramatic escalation of nuclear tensions and lead to a broader disaster.

It is of further concern that several nuclear-armed states are placing increased emphasis on non-strategic nuclear weapons in their nuclear doctrine. Russia has added several types of non-strategic nuclear weapons, and North Korea declared in 2021 that it would work to 'make nuclear weapons smaller and lighter for more tactical uses',<sup>7</sup> and it continued to develop and deploy those capabilities throughout 2023. Many analysts believe that this increased emphasis on nuclear warfighting could lower the nuclear threshold and increase the risk of nuclear use at the outset of a conflict.

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7 'On Report Made by Supreme Leader Kim Jong Un at Eighth Party Congress of WPK', National Committee on North Korea, 9 January 2021, at: <http://bit.ly/3ZhQ4oa>.

**TABLE E: NUCLEAR-WEAPON DELIVERY VEHICLES FIELDIED BY THE NUCLEAR-ARMED STATES AT THE BEGINNING OF 2024, AND THE NUMBER OF WARHEADS (WH) CURRENTLY DEPLOYED ON OR IN RESERVE FOR THEM.<sup>A</sup>**  
 The delivery vehicle categories currently deployed with nuclear warheads are highlighted.

	Siloed missiles 	Mobile missiles 	Aircraft 	Submarines 	Surface ships and naval aircraft 	Air/Coast/ Missile defence 
<b>Russia</b>	SS-18 ICBM SS-19 Mod 4 ICBM SS-27 Mod 1 ICBM SS-27 Mod 2 ICBM  Deployed: 312 wh Reserve: 194 wh	SS-27 Mod 1 ICBM SS-27 Mod 2 ICBM 9K720 Iskander SRBM 9M728 Iskander GLCM 9M729 GLCM  Deployed: 558 wh Reserve: 275 wh	Tu-160M1/M2 Tu-95MS/M Tu-22M3M Su-24M/M2 Su-34 Su-57 MiG-31K  Deployed: 200 wh Reserve: 720 wh	Delta-IV SSBN Borei/-A SSBN Various SSGNs Various SSNs  Deployed: 640 wh Reserve: 888 wh	A large range of surface ships and naval aircraft  Reserve: 248 wh	A-135 ABM SH-08 Gazelle SSC-1B Sepal S-300/400 SAM P-800 ASCM  Reserve: 345 wh
<b>United States</b>	Minuteman III ICBM  Deployed: 400 wh Reserve: 400 wh		B-2A B-52H F-15E F-16C/D  Deployed: 400 wh Reserve: 588 wh	Ohio-class SSBN  Deployed: 970 wh Reserve: 950 wh		
<b>China</b>	DF-5A/B ICBM DF-31-class ICBM  Reserve: 42 wh	DF-26 IRBM DF-31A/AG ICBM DF-41 ICBM  Deployed: 12 wh Reserve: 342 wh	H-6K/N  Reserve: 20 wh	Type 094 SSBN  Deployed: 12 wh Reserve: 72 wh		
<b>France</b>			Rafale BF3/4  Deployed: 40 wh	Le Triomphant-class SSBN  Deployed: 240 wh	Rafale MF3/4  Reserve: 10 wh	
<b>United Kingdom</b>				Vanguard-class SSBN  Deployed: 120 wh		
<b>Pakistan</b>		Abdali SRBM Ghaznavi SRBM Shaheen-I/A SRBM Shaheen-II MRBM Ghauri MRBM Nasr SRBM Babur/-1A GLCM  Reserve: 134 wh	Mirage III/V  Reserve: 36 wh			
<b>India</b>		Prithvi-II SRBM Agni-I SRBM Agni-II MRBM Agni-III IRBM Agni-IV IRBM  Reserve: 96 wh	Mirage 2000H Jaguar IS  Reserve: 48 wh	Arihant-class SSBN  Reserve: 24 wh	Sukanya-class  Reserve: 4 wh	
<b>Israel</b>		Jericho II MRBM Jericho III IRBM  Reserve: 50 wh	F-16I F-15  Reserve: 30 wh	Dolphin-I/II SSGN  Reserve: 10 wh		
<b>North Korea<sup>B</sup></b>		Hwasong-5/-6 SRBM Hwasong-11A/B/D SRBM KN25 SRBM Hwasong-7 MRBM Hwasong-9 MRBM Pukguksong-2 MRBM Hwasal-1/2 LACM Hwasong-12 IRBM Hwasong-15 ICBM Hwasong-17 ICBM Hwasong-18 ICBM  Reserve: 50 wh				
<b>Totals:</b>	Deployed: 712 wh Reserve: 636 wh Total: 1,348 wh	Deployed: 570 wh Reserve: 947 wh Total: 1,517 wh	Deployed: 640 wh Reserve: 1,442 wh Total: 2,083 wh	Deployed: 1,982 wh Reserve: 2,049 wh Total: 4,031 wh	Reserve: 262 wh Total: 262 wh	Reserve: 345 wh Total: 345 wh

<sup>A</sup> The table uses some national designations, and some US/NATO designations. It is possible that certain systems in the table are nearing retirement, or that they at the beginning of 2024 were nearing entry into the respective state's nuclear forces but not yet declared fully operational.

<sup>B</sup> It is uncertain which of North Korea's missiles are assigned nuclear weapons and which are operational. North Korea has several additional types of delivery systems, but only those assessed to be currently operational are listed in this table.

# THE PROHIBITION ON TESTING



In a fast-track hearing in the State Duma, the lower house of Russia's parliament, on 18 October 2023, lawmakers voted unanimously to withdraw Russia's ratification of the Comprehensive Nuclear-Test-Ban Treaty. (Photo by handout, Russia's State Duma/AFP/NTB)

**No state acted in contravention of the TPNW's prohibition on testing of nuclear weapons in 2023. That said, risks of a new nuclear test detonation were increasing at the time of writing. A nuclear test site in North Korea remained prepared to support a nuclear test, and China, Russia, and the United States have all been engaging in new construction at their respective testing sites and maintain at least some degree of readiness for possible future nuclear testing. In November 2023, Russia withdrew its ratification of the Comprehensive Nuclear-Test-Ban Treaty (CTBT).**

The most likely state to conduct a nuclear test detonation is North Korea, the only state to do so since 1998. Its last nuclear test detonation occurred in September 2017. Pyongyang subsequently announced a moratorium on nuclear testing in April 2018, ostensibly destroying its Punggye-ri test site the following month. But at the end of 2019, North Korea declared an end to its unilateral moratorium, with the change of position reaffirmed in January 2020.<sup>1</sup> At the end of April 2022, there were signs that North Korea was rebuilding tunnels at the site.<sup>2</sup> In mid-December 2022, the South Korean Prime Minister, Han Duck-soo, said publicly that the North was 'ready' to test a nuclear explosive device.<sup>3</sup> Warnings that it would do so in 2023 proved unfounded, however.

In March 2023, the International Atomic Energy Agency (IAEA) stated that the site at Punggye-ri remains prepared to support a nuclear test, that it continued to see indications of activity, and that 'the reopening of the nuclear test site is deeply troubling'.<sup>4</sup> A new nuclear test detonation by North Korea would violate UN Security Council resolutions and contravene the CTBT as well as, arguably, customary international law, in addition to being incompatible with Article 1(1)(a) of the TPNW.

1 K. Davenport and J. Masterson, 'North Korea Reiterates End to Test Moratorium', Arms Control Association, 30 January 2020, at: <https://bit.ly/3EWmha6>.

2 K. Tong-Hyung, 'Kim warns N. Korea could "pre-emptively" use nuclear weapons', *Associated Press*, 30 April 2022, at: <https://bit.ly/3hfkTJ8>.

3 H.-A. Smith, 'North Korea "ready" to test a nuclear weapon, claims South Korean PM Han Duck-soo', *Sky News*, 12 December 2022, at: <https://bit.ly/3HtU5Q9>.

4 'IAEA Director General's Introductory Statement to the Board of Governors', IAEA, 6 March 2023, at: <https://bit.ly/3Vj9FU4>.

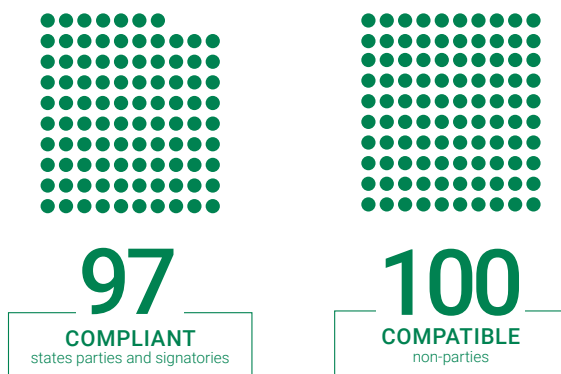


## ARTICLE 1(1)(A) – INTERPRETATION

**Each State Party undertakes never under any circumstances to ‘test ... nuclear weapons or other nuclear explosive devices’.**

- ▶ The prohibition on testing in Article 1(1)(a) of the TPNW bans the detonation of a nuclear weapon or other nuclear explosive device. It is therefore limited to explosive testing involving a nuclear chain reaction.
- ▶ All non-explosive forms of nuclear testing and the testing of missiles designed to carry nuclear warheads are outlawed by the prohibition on development in the TPNW.
- ▶ All explosive nuclear testing also contravenes the CTBT (a treaty not in force) and, arguably, customary international law.
- ▶ The preamble of the TPNW recognises ‘the vital importance’ of the CTBT and its verification regime as a core element of the nuclear disarmament and non-proliferation regime.
- ▶ The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) does not prohibit the testing of nuclear weapons by the five nuclear-weapon states.

**Figure 16: Compliance and compatibility in 2023 with the TPNW's prohibition on testing of nuclear weapons**



Another state that could be contemplating a nuclear test detonation is the Russian Federation. Russia, an Annex 2 state, ratified the CTBT in 2000. But in November 2023, Russia withdrew its ratification of the Treaty.<sup>5</sup> Speaking in February 2023, a few days before the first anniversary of the Russian invasion of Ukraine, President Vladimir Putin had pledged that Russia would resume nuclear testing should the United States do so first.<sup>6</sup> Since its withdrawal of ratification Moscow has reiterated that it will not resume nuclear testing unless Washington does so first. Russia has also expressed its intention to continue operating CTBT monitoring stations on its territory. On 5 October 2023, President Putin said: ‘I am not ready to tell you right now whether we need or do not need to carry out these tests. What we can do is act just as the United States does.’<sup>7</sup> The Soviet Union/Russia undertook its last known explosive test in 1990 but in 2023, analysts reported an expansion of the nation’s nuclear test site in Novaya Zemlya in the Arctic Ocean archipelago.<sup>8</sup>

Since the first nuclear test explosion in the United States on 16 July 1945, at least eight states have conducted a total of at least 2,050 nuclear test explosions at dozens of test sites around the world.<sup>9</sup> The United States conducted its last explosive tests in 1992, but in November 2017 the US government decided to shorten its testing readiness timeline from between 24 and 36 months to between 6 and 10 months ‘for a simple test’.<sup>10</sup> Commercial satellite imagery over the Nevada National Security Site shows that an underground facility—the U1a complex—was expanded greatly between 2018 and 2023.<sup>11</sup> The National Security Administration (NNSA), an arm of the US Department of Energy that oversees the site, says the laboratory is for conducting ‘subcritical’ nuclear experiments.<sup>12</sup>

China’s last explosive nuclear test was in July 1996, only a few months prior to the adoption of the CTBT by the UN General Assembly.<sup>13</sup> But new construction was reported in 2023 at China’s Lop Nur nuclear test site.<sup>14</sup>

5 B. Vitkine, ‘Russia withdraws from two arms treaties and tests a ballistic missile’, *Le Monde*, 9 November 2023, at: <https://bit.ly/4bfsHSs>.  
6 G. Faulconbridge and V. Soldatkin, ‘Putin delivers nuclear warning to the West over Ukraine’, *Reuters*, 21 February 2023, at: <http://bit.ly/3Z8gU1f>.  
7 S. Bugos and M. Giveh, ‘Russia Withdraws Ratification of Nuclear Test Ban Treaty’, Arms Control Association, 16 November 2023, at: <https://bit.ly/4be8n3P>.  
8 E. Cheung, B. Lendon and I. Watson, ‘Exclusive: Satellite images show increased activity at nuclear test sites in Russia, China and US’, *CNN*, 23 September 2023, at: <https://bit.ly/3ucf0l>.  
9 Arms Control Association, ‘The Nuclear Testing Tally’, Last reviewed August 2023, at: <https://bit.ly/34oa8yh>.  
10 Department of Energy, ‘Fiscal Year 2018, Stockpile Stewardship and Management Plan’ (November 2017), pp. 3–26.  
11 Cheung, Lendon and Watson, ‘Exclusive: Satellite images show increased activity at nuclear test sites in Russia, China and US’.  
12 NNSA, ‘Smaller experiments, bigger discoveries: How subcritical experiments enable smarter stockpile stewardship’, 20 September 2022, at: <https://bit.ly/48PrQ9B>.  
13 Government of China, ‘Statement on the Moratorium of Nuclear Tests’, *Xinhua*, 29 July 1996, via: <https://www.cnr.cn>; see Nuclear Threat Initiative (NTI), ‘China Nuclear Overview’, Fact Sheet, 29 April 2015, at: <https://bit.ly/33iByZ8>.  
14 Cheung, Lendon and Watson, ‘Exclusive: Satellite images show increased activity at nuclear test sites in Russia, China and US’.

# THE PROHIBITION ON TRANSFER



An unarmed Trident II (D5) missile launches from the US SSBN Rhode Island off the coast of Cape Canaveral on 9 May 2019. (Photo from Wikimedia Commons)

**As was the case the previous year, in 2023 one state not party—the United States—engaged in conduct that was not compatible with the TPNW's prohibition on transfer of nuclear weapons, by virtue of its export of key components to the United Kingdom's nuclear arsenal.**

The UK nuclear-weapon system is, in very large measure, imported from the United States. The United Kingdom leases its Trident II (D5) submarine-launched ballistic missiles (SLBMs) from the United States' missile inventory; the design for the UK's Holbrook nuclear warhead for its Trident missiles is partially based on the US W76 design; the Mk4A re-entry vehicle for the Holbrook warhead is imported from the United States; and key components of the UK's nuclear-powered ballistic missile submarines (SSBNs) (the Trident SLBM fire control system and missile compartment) are also imported from the United States.<sup>1</sup> These transfers of key components also violate the corresponding prohibition on transfer by nuclear-weapon states in Article 1 of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

UK officials have reportedly lobbied the US Congress to expedite the development of a new warhead, the W93, on which a replacement for the Holbrooke warhead would be based.<sup>2</sup> One commentator has suggested that over the course of 25 years of studies, engineering, and production, the W93 programme may cost up to US\$14 billion, with production of the first warheads expected between 2034 and 2036. But, Shane Ward observes, the United States' need for the W93 'is not as urgent as the timeline suggests.' Rather, the programme's urgency 'seems attributable to the United Kingdom's nuclear modernization efforts'.<sup>3</sup> Nevertheless, in December 2023, the US Congress authorised the National Nuclear Security Administration's (NNSA) requests for the controversial new W93 SLBM programme at US\$390 million.<sup>4</sup>

1 D. Plesch and J. Ainslie, 'Trident: Strategic Dependence & Sovereignty', Working Paper, School of Oriental and African Studies, London 2016, p. 10, at: <https://bit.ly/3sP6DZy>; S. Jones, 'A wonk's guide to the Trident nuclear deterrent', *The Financial Times*, 18 July 2018: at: <http://on.ft.com/30ShgDg>; and N. Ritchie, *A Nuclear Weapons-Free World? Britain, Trident and the Challenges Ahead*, Palgrave Macmillan, Basingstoke, 2012, chapter 6: 'A very special nuclear relationship'.

2 See J. Borger, 'UK lobbies US to support controversial new nuclear warheads', *The Guardian*, 1 August 2020, at: <http://bit.ly/3hRtqga>.

3 S. Ward, 'America's new multibillion-dollar nuclear warhead is a great deal for the British', *Bulletin of the Atomic Scientists*, 14 April 2022, at: <https://bit.ly/3VYt3oj>.

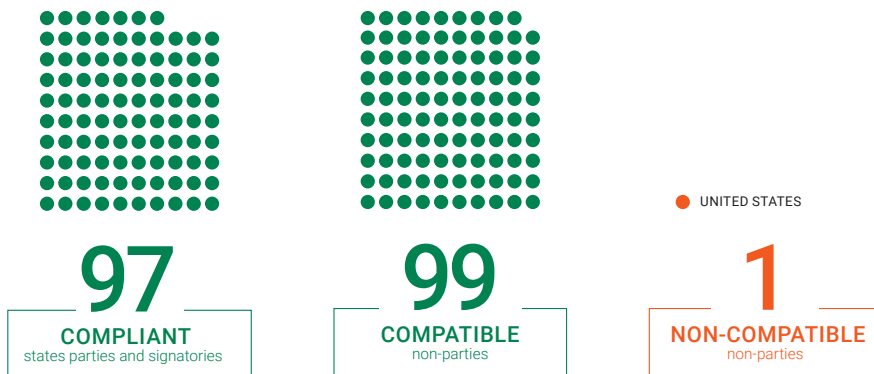
4 S. Bugos, 'Congress Endorses New Nuclear Weapon', *Arms Control Today*, January/February 2024, at: <https://bit.ly/3vVpU0q>.

## ARTICLE 1(1)(A) – INTERPRETATION

**Each State Party undertakes never under any circumstances to ‘transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly or indirectly.’**

- ▶ ‘Transfer’ means to transmit either possession or ownership. ‘Control’ means the power to use a nuclear weapon or nuclear explosive device.
- ▶ Since transfer is prohibited ‘to any recipient whatsoever’ and this is irrespective of whether it occurs ‘directly or indirectly’, it is also illegal to transmit possession or ownership to any other state or to any natural or ‘legal’ person (e.g. a company or organisation) of key components of any nuclear weapon or other nuclear explosive device. This applies whether the transmission occurs in separate instalments or via intermediaries or third parties, where there is knowledge they will be used to produce a nuclear weapon or other nuclear explosive device.
- ▶ Providing another state with sufficiently detailed technical information for a nuclear warhead or other nuclear explosive device to be developed, and in the knowledge that it will be so used, would also constitute indirect transfer under Article 1(1)(b) of the TPNW. This is in addition to assistance with development under Article 1(1)(e).
- ▶ Unlawful transfer does not necessarily involve payment or other form of ‘consideration’.
- ▶ Under Article 1 of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the five nuclear-weapon states parties have already committed never to transfer nuclear weapons ‘to any recipient whatsoever’, also whether this occurs ‘directly or indirectly’.
- ▶ The NPT does not include a corresponding prohibition on non-nuclear-weapon states to assist in a transfer of nuclear weapons or other nuclear explosive devices. This important lacuna is addressed by Article 1(1)(b) and (e) of the TPNW.

Figure 17: Compliance and compatibility in 2023 with the TPNW’s prohibition on transfer of nuclear weapons



A senior civil servant at the UK Ministry of Defence has previously told the British Parliament’s Select Committee of Defence that there is ‘a close realignment’ between the US W93 warhead and the new British warhead. He further explained that ‘[i]t’s not exactly the same warhead but ... there is a very close connection in design terms and production terms. So we are intimately involved in that.’<sup>5</sup> In January 2022, a US Department of Energy fact sheet on the W93 programme stated that it was ‘vital for continuing the United States’ longstanding support to the United Kingdom’.<sup>6</sup> These statements all imply that the UK’s replacement nuclear warhead is inextricably linked to the status of the US W93 programme, and that the degree of technical information-sharing will amount to indirect transfer under Article 1(1)(b) of the TPNW as well as under Article 1 of the NPT. The W93 is due to finish its Phase 2 ‘Feasibility Study and Design Options’ stage by October 2024, suggesting that W93 programme is running slightly ahead of the UK Replacement Warhead.<sup>7</sup>

As discussed under the section below on the parallel prohibition under the TPNW on receiving transfer or control of nuclear weapons, another potential compatibility issue concerns the US B61 nuclear bombs that are stored in Europe but remain under the command and control of the United States. If, in a future war, full control over any of the bombs should be transferred by the United States to another state for loading and use in their dual-capable NATO-designated aircraft, this would contravene the prohibition on transfer in Article 1(1)(b) of the TPNW, and also the prohibition on transfer in Article 1 of the NPT. The same would apply if Russia transferred control of nuclear weapons to Belarus.

5 House of Commons Select Committee on Defence, meeting with the UK Ministry of Defence, London, 8 December 2020, video available at: <https://bit.ly/40oy9f8>.

6 US Department of Energy, ‘W93/MK7 Acquisition Program’, Fact Sheet, National Nuclear Security Administration, January 2022, at: <https://bit.ly/3FQ5rN6>.

7 Nuclear Information Service (NIS), ‘Concept phase for UK Replacement Warhead begins’, 17 April 2023, at: <https://bit.ly/42ohV8h>.

# RECEIVING TRANSFER OR CONTROL



Unidentified UK Royal Navy Vanguard class nuclear Trident missile submarine (SSBN) photographed off Kirt, Firth of Clyde in Scotland on 11 July 2023. (Photo by Michael Leek, Scotland).

**As was the case the previous year, in 2023 one state not party—the United Kingdom—engaged in conduct that was not compatible with the TPNW's prohibition on receiving the transfer of or control over nuclear weapons. The United Kingdom leases Trident missiles and imports other key nuclear components from the United States.**

As discussed in the previous section, the transfers by the United States are not only prohibited by the TPNW, but are also highly questionable under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). The receipt of the transfers by the United Kingdom as a nuclear-weapon state, however, is not regulated by the NPT. This lacuna is addressed by Article 1(1)(c) of the TPNW, which does not permit any state to receive the transfer or control of nuclear weapons.

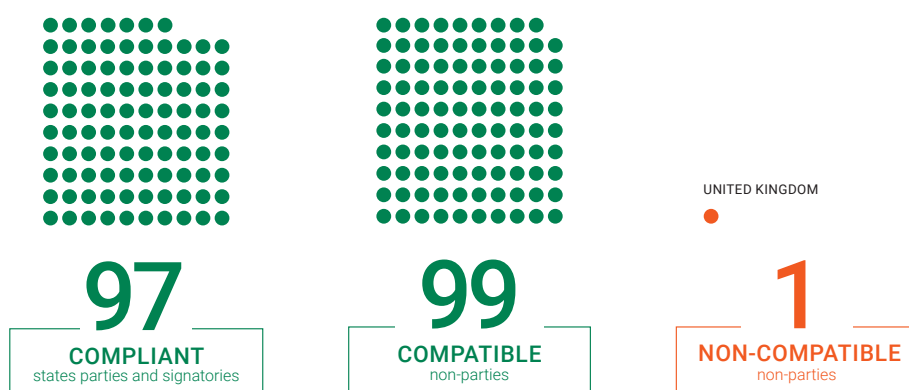
As also discussed above, the planned replacement for the United Kingdom's Holbrooke warhead will be based on the W93 warhead, which is being developed by the United States. If the United Kingdom receives from the United States comprehensive technical information, such as in the form of a design blueprint, and uses it for the development of its new warhead, this will amount to indirect receipt of transfer under the TPNW.

## ARTICLE 1(1)(C) – INTERPRETATION

**Each State Party undertakes never under any circumstances to ‘receive the transfer of or control over nuclear weapons or other nuclear explosive devices directly or indirectly.’**

- ▶ To ‘receive’ a nuclear weapon or other nuclear explosive device is to take possession or control over it. This broad notion does not require that ownership also pass to the recipient.
- ▶ The prohibition on indirect receipt covers accepting the key components of any nuclear weapon or other nuclear explosive device as well as an assembled version. This extends to transfers made through intermediaries.
- ▶ Receiving comprehensive technical information for the design of a nuclear warhead or other nuclear explosive device, with the intent of using it to develop a nuclear weapon or other nuclear explosive device, would also constitute indirect receipt of transfer under Article 1(1)(c) of the TPNW.
- ▶ Article 1(1)(c) follows a similarly worded provision in Article II of the NPT, but the corresponding prohibition in that Treaty applies only to those states that are designated as non-nuclear-weapon states and not also to the five states designated as nuclear-weapon states.

Figure 18: Compliance and compatibility in 2023 with the TPNW’s prohibition on receiving transfer or control of nuclear weapons



Another potential future compatibility issue under this prohibition concerns the US B61 nuclear bombs stored in Europe, and any Russian nuclear weapons stored in Belarus. Arrangements are reportedly in place for control over the US bombs to be given by the United States to the host states for loading and use on their dual-capable NATO-designated aircraft (DCA). If this were to occur such that the receiving state could use the weapons itself, this would contravene Article 1(1)(c) of the TPNW (and also the NPT).

This specific task division arrangement has therefore been much discussed, not least when the German Bundeswehr in 2008 handed out directives, in the form of a pocket card ('Taschenkarte'), stipulating that German soldiers were prohibited from using nuclear weapons under international law.<sup>1</sup> The directives have since been changed and the sentence in question omitted. For more information on umbrella states that allow the stationing of another state's nuclear weapons on their territory, see page 58.

The transfer of weapons from North Korea to Russia in 2023<sup>2</sup> appeared to concern missiles that were intended to deliver conventional warheads. Should that situation change, and the missiles are intended to deliver nuclear warheads, there could be a violation of the prohibition of receiving transfer of key components for nuclear weapons and there would certainly be a violation of the prohibition of assistance to the development of nuclear weapons.

1 See: O. Nassauer, 'Pilots practice delivering nuclear bombs. Tornado pilots between orders and international law' ['Piloten üben Atombomben-Abwurf. Tornado-Piloten zwischen Befehl und Völkerrecht'], Berlin Information-center for Transatlantic Security, 10 July 2008, at: <https://bit.ly/3rMOQSi>. The pocket card ('Taschenkarte') is the summary of the central service regulation 15/2 of the Bundeswehr, which was adapted in 2013 to no longer include this prohibition (and the resultant personal responsibility under international law).

2 See, e.g., S. Aziz, 'Canada lays new sanctions on Russia over North Korean weapons transfer', *Global News*, 21 May 2024, at: <https://bit.ly/3yEvANE>.

# THE PROHIBITION ON USE



People take part in an evacuation drill in the Okinawa Prefecture capital of Naha, southern Japan, on 21 January 2023, under a scenario that a ballistic missile was fired from an unspecified country. (Photo by Kyodo News/NTB)

**No state has contravened the TPNW's prohibition on the use of nuclear weapons. However, the risk of the use of nuclear weapons remained an embedded feature of world politics in 2023. The danger of an escalation of the war in Ukraine to nuclear use continued to be a profound concern, and nuclear tensions remained high on the Korean peninsula. The conflict between Hamas and Israel, the attacks by Iran and Israel on each other's territory, and hostilities between Hezbollah and Israel also raised concerns about a regional war with attendant risks of escalation to nuclear use.**

United Nations (UN) Secretary-General António Guterres said in February 2023 that 'We are at the highest risk in decades of a nuclear war that could start by accident or design'.<sup>1</sup> In a statement to the Hiroshima Peace Memorial, delivered by the UN's High Representative for Disarmament Affairs, Izumi Nakamitsu, he observed that 'The drums of nuclear war are beating once again; mistrust and division are on the rise.... The nuclear shadow that loomed over the Cold War has re-emerged. And some countries are recklessly rattling the nuclear sabre once again'.<sup>2</sup>

<sup>1</sup> United Nations, 'Secretary-General's briefing to the General Assembly on Priorities for 2023', 6 February 2023, at: <https://bit.ly/45gNobG>.

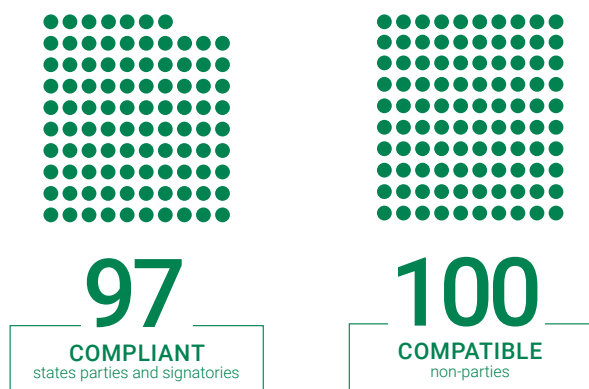
<sup>2</sup> United Nations, 'Secretary-General's message to the Hiroshima Peace Memorial on the 78th Anniversary of the Atomic Bombing of Hiroshima', 6 August 2023, at: <https://bit.ly/4ccxCdM>.

## ARTICLE 1(1)(D) – INTERPRETATION

*Each State Party undertakes never under any circumstances to: 'Use ... nuclear weapons or other nuclear explosive devices.'*

- ▶ Preventing use is a fundamental aim of the TPNW – unquestionably central to the Treaty's object and purpose.
- ▶ To use a nuclear weapon or other nuclear explosive device is to launch, release, deliver, or detonate it with hostile intent or for so-called 'peaceful' use, such as in civil engineering. Intent can be discerned from the circumstances and does not have to be publicly espoused.
- ▶ Possession or deployment of nuclear weapons for the purpose of 'deterrence' does not amount to their use under the TPNW but is covered by the prohibition on possession in Article 1(1)(a).
- ▶ The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) does not address the use of nuclear weapons in so far as it allows 'peaceful' detonation of nuclear explosive devices by nuclear-weapon states. The Comprehensive Nuclear-Test-Ban Treaty (CTBT), which prohibits all such 'peaceful' nuclear explosions, has not entered into force.
- ▶ Nuclear weapons have not been used since August 1945 when the United States dropped a nuclear weapon first on Hiroshima and then, three days later, on Nagasaki. Other nuclear explosive devices have not been used since some 150 such devices were detonated for 'peaceful' use (for civil engineering purposes) between the second half of the 1950s and the end of the 1980s by the erstwhile Soviet Union and the United States.

Figure 19: Compliance and compatibility in 2023 with the TPNW's prohibition on use of nuclear weapons



A number of public opinion polls in 2023 highlighted widespread fear of nuclear war and reluctance to support the use of nuclear weapons. An annual public opinion survey conducted in Japan and China in October asked respondents about the possibility of nuclear war for the first time. A total of 53% of Chinese respondents and 40% of Japanese respondents believed a nuclear war is possible in the near or not-too-distant future.<sup>3</sup> An opinion poll on nuclear winter awareness by the Centre for the Study of Existential Risk (CSER) at the University of Cambridge in February reported low public awareness of likely global 'nuclear winter' climate effects from mass nuclear detonations, but also a strong reluctance to support nuclear retaliation in response to a hypothetical Russian nuclear attack on Ukraine. Support for nuclear retaliation amongst voters for the parties for the US president and UK government in this particular exercise was a full one third lower among participants who were informed of the likely global climatic consequences.<sup>4</sup>

### Willingness to use

It is worth reminding that the TPNW's prohibition on the use of nuclear weapons is incompatible with the logic of nuclear deterrence as a security doctrine. Nuclear-armed states in general justify their possession of nuclear weapons in terms of nuclear deterrence. A credible willingness to wage nuclear war is baked into nuclear deterrence doctrine because there must be *some* risk of actual nuclear violence if a nuclear deterrent posture is going to have its intended effect.

The purpose of nuclear deterrence is to try and manage a conflict and its escalation by coercing an adversary to act in a particular way by doing or not doing specific things. The difficulty lies in determining how 'real' the readiness to use nuclear weapons is – i.e., whether there is a serious intent to follow through and actually use nuclear weapons if the conflict is perceived as getting out of control to the point of radically undermining the core interests of the state concerned. Is the adversary's intention to reinforce deterrence and the acceptable parameters of a conflict, or are its actions and statements a sign of desperation and indicative of serious planning to use nuclear weapons if the dynamics of a conflict do not change?

<sup>3</sup> Japan-China Joint Public Opinion Survey 2023, at: <https://bit.ly/45mt3Es>.

<sup>4</sup> Poll Report 3.0, cser.ac.uk, at: <https://bit.ly/45rgJ5F>.

This is very hard to determine because it means getting into the head of the leader of a nuclear-armed state who might not know themselves what they might do under what conditions. The US historian Timothy Snyder, for example, insisted in September 2023 that NATO must ignore Russian nuclear threats as a 'psychological operation' lacking in substance. Such attempts at 'nuclear blackmail' have been successfully resisted by Ukraine and now 'the nuclear bluff has largely worn itself out', he argued.<sup>5</sup> The problem, of course, is that Russia might not be bluffing.<sup>6</sup> Research by Lauren Sukin suggests that states like Russia and North Korea 'make threats when they actually feel threatened, and the more threatened they feel, the more likely it is they will act on those threats'.<sup>7</sup> Dismissing threats that are escalating in frequency and scope as 'cheap talk' can therefore be very dangerous.

Nevertheless, nuclear-armed states can try to manage or resolve a conflict in their favour by testing the seriousness of their opponent's nuclear threats whilst demonstrating through words and actions the seriousness of their own preparedness to use nuclear weapons. This can lead nuclear-armed states down a dangerous path of brinkmanship in which crisis-induced misperception, irrationality and chance increase the risk of nuclear use.

At NATO's 18th annual Conference on Arms Control, Disarmament and Weapons of Mass Destruction Non-Proliferation in April 2023, US Deputy Secretary of State Wendy Sherman warned that the United States and its NATO allies must remain alert for signs Russia might be preparing to use a nuclear weapon in a 'managed' escalation of the war in Ukraine.<sup>8</sup>

On 3 October 2023, Russia staged for the first time a nationwide civil defence exercise based on a simulated nuclear attack from the West across its eleven time zones.<sup>9</sup> Later in the month its armed forces rehearsed delivering a massive retaliatory nuclear strike against the West in its annual Grom, or Thunder, nuclear exercise. The exercise involved the test launch of a Yars intercontinental ballistic missile (ICBM) from a mobile launcher, a Sineva submarine-launched ballistic missile (SLBM) from the Delta IV-class nuclear submarine and launches of air-launched cruise missiles (ALCMs) by two Tu-95MS bombers.<sup>10</sup>

NATO also conducted its annual Steadfast Noon nuclear strike exercise in Europe over two weeks in October at the same time as Russia's Grom nuclear exercise. It involved 13 states and 60 aircraft practising the use of US nuclear weapons by dual-capable aircraft.<sup>11</sup>

### Increasingly risky

In October 2023, the USS Ronald Reagan aircraft carrier docked at Busan in South Korea as part of a shift in US posture to increase temporary deployments of major military assets to the region. The North Korean state news agency (KCNA) denounced it as 'undisguised military provocation driving the situation to the irrevocable catastrophic circumstances' that 'goes to prove that the US scheme for nuclear attack on [North Korea] and its implementation have reached the most serious phase of systematization and visualization and the outbreak of a nuclear war comes to the fore'. The statement continued to say that North Korea reserved the right to use nuclear weapons pre-emptively if 'it judged that the use of nuclear weapons against it is imminent'.<sup>12</sup>

A January 2023 US National Intelligence Estimate judged that 'North Korea most likely will continue to use its nuclear weapons status to support coercive diplomacy, and almost certainly will consider increasingly risky coercive actions as the quality and quantity of its nuclear and ballistic missile arsenal grows'.<sup>13</sup>

The armed conflict between Hamas in the Gaza Strip and Israel following the attack by Hamas on Israel on 7 October 2023 raised nuclear concerns in the region. In November, Israeli Heritage Minister Amihai Eliyahu from a far-right party in the coalition government, said during a radio interview that using a nuclear weapon would be 'one option' for dealing with Gaza, implying that Israel possesses nuclear weapons and would be prepared to use them – something the country has never admitted. He was subsequently suspended from the cabinet by Israeli Prime Minister Benjamin Netanyahu 'until further notice'.<sup>14</sup> Nevertheless, the unprecedented drone and missile attacks by Iran and Israel on each other's territory following Israel's strike on the Iranian consulate in Damascus, and Hezbollah's bombardment of northern Israel, have raised concerns about a regional war with attendant risks of escalation to nuclear use.

5 T. Snyder, 'The state of the war', Substack.com, 7 September 2023, at: <https://bit.ly/3Vzz7pJ>.

6 S. J. Cimbala and L. J. Korb, 'Putin's "bluff": a cautionary note about underestimating the possibility of nuclear escalation in Ukraine', Bulletin of the Atomic Scientists, 2 October 2023 at: <https://bit.ly/3KGCN2J>.

7 L. Sukin, 'Rattling the Nuclear Saber: What Russia's Nuclear Threats Really Mean', Carnegie Endowment for International Peace, 4 May 2023, at: <https://bit.ly/3KDyK0D>.

8 NATO, 'Remarks by NATO Secretary General Jens Stoltenberg at the 18th Annual NATO Conference on Arms Control, Disarmament and Weapons of Mass Destruction Non-Proliferation', 18 April 2023, at: <https://bit.ly/3ySYSZ3>.

9 M. B. Schneider, 'The October 2023 Russian Civil Defense Nuclear Exercise', RealClearDefense, 17 October 2023, at: <https://bit.ly/45o0tST>.

10 A. Osborn, 'Russia says it rehearsed delivering a massive retaliatory nuclear strike', Reuters, 17 October 2023, at: <https://bit.ly/4eiRgzf>.

11 NATO, 'NATO holds long-planned annual nuclear exercise', News, 13 October 2023, at: <https://bit.ly/3KEofAD>.

12 Korean Central News Agency of DPRK, 'KCNA Commentary on U.S. Deployment of Nuclear Strategic Assets', *GlobalSecurity.org*, 13 October 2023, at: <https://bit.ly/3VDG9Zx>.

13 National Intelligence Council, 'North Korea Scenarios For Leveraging Nuclear Weapons', June 2023, at: <https://bit.ly/3KCeN08>.

14 'Netanyahu Criticizes Minister Who Suggested "Option" of Dropping Nuclear Bomb on Gaza', *Haaretz*, 5 November 2023, at: <https://bit.ly/4bS3qNX>.



## Risks and humanitarian consequences

The view that nuclear deterrence provides security rests on an assumption that nuclear weapons-related risks can be known and that they can be controlled. However, evidence shows us that these risks are not knowable and not controllable, but subject to chance and luck.<sup>15</sup> Once we accept that luck plays a role in the outcome of nuclear crises, nuclear deterrence as a legitimate and necessary paradigm becomes deeply questionable. What remains is that nuclear weapons are a source of constant insecurity in themselves, to all of us. Nuclear weapons policies that are not based on a holistic and human-centred understanding of risks and consequences therefore increase the risks of miscalculations and endanger national and global security.

Knowledge about the risks and humanitarian impacts of nuclear weapons is therefore essential information that decision makers, policy makers and the media have a responsibility to actively seek and understand, but which all too often is ignored or even actively suppressed. The possible use of nuclear weapons is rarely discussed in terms of its humanitarian consequences in official documents and statements by nuclear-armed states and umbrella states. In a notable exception, the 2023 UK National Risk Register published in August included for the first time a short section on 'Nuclear Miscalculation not Involving the UK'. It said: 'The reasonable worst-case scenario for this risk involves a limited nuclear conflict between two states that does not involve the UK. The impacts in the affected region would be catastrophic, particularly in terms of numbers of casualties and fatalities. There would be famine as a result of the event (caused from the fallout and the impact on the climate affecting food production). This would increase demand for imported foods leading to a dramatic increase in the cost of basic and staple foods in the UK. The human and economic impact of the event would necessitate enormous long-term humanitarian assistance. There would be implications for UK businesses with direct or indirect ties to the affected region. British Nationals in the region would require support. There would be the potential for high levels of migration to the UK, increasing pressure on infrastructure.'<sup>16</sup>

The logic and morality of nuclear deterrence was in 2023 increasingly called into question as a result of the crucial work of a team led by Rutgers atmospheric scientist Lili Xia, which has brought together decades of research and reported that soot injected into the atmosphere by nuclear war would cause global food insecurity and famine. The team calculated that climatic effects of a one-week nuclear war between India and Pakistan involving 250 detonations could kill more than 2 billion people globally. In a simulated all-out nuclear war between Russia and the United States involving 4,400 detonations, the estimated global deaths from starvation would surpass five billion.<sup>17</sup> These effects of nuclear use on the climate have been a 'blind spot' in nuclear policy, argued Cameron Vega: 'The US government has persistently failed to consider the climate effects of nuclear weapons in its policies, ignoring studies that draw attention to the scientific reality of nuclear winter and the devastating famine that would follow. If policy will not acknowledge this risk, ethics should lead the way.'<sup>18</sup>

## Challenging nuclear deterrence

The Second Meeting of States Parties to the TPNW (2MSP) concluded in early December 2023 with a declaration in which states parties promised that they 'will not stand by as spectators to increasing nuclear risks and the dangerous perpetuation of nuclear deterrence.'<sup>19</sup> The declaration further said: 'Far from preserving peace and security, nuclear weapons are used as instruments of policy, linked to coercion, intimidation and heightening of tensions. The renewed advocacy, insistence on and attempts to justify nuclear deterrence as a legitimate security doctrine gives false credence to the value of nuclear weapons for national security and dangerously increases the risk of horizontal and vertical nuclear proliferation.'<sup>20</sup>

The 2MSP also decided to 'challenge the security paradigm based on nuclear deterrence' by highlighting and promoting new scientific evidence about the humanitarian consequences and risks of nuclear weapons and juxtaposing this with the risks and assumptions that are inherent in nuclear deterrence.<sup>21</sup> An intersessional consultative process on security concerns was established, which will be coordinated by Austria and which will submit a report to the Third Meeting of States Parties (3MSP) in March 2025 with a comprehensive set of arguments and recommendations.<sup>22</sup>

15 P. Pelopidas, *Repenser Les Choix Nucleaires* ("Rethinking Nuclear Weapons Choices"), Sciences-Po Press, Paris, 2022).

16 UK Government, National Risk Register 2023, London, at: <https://bit.ly/4eeo8t5>.

17 L. Xia, 'Global food insecurity and famine from reduced crop, marine fishery and livestock production due to climate disruption from nuclear war soot injection', *Nature Food*, Vol. 3, (2022), pp. 586–96, at: <https://bit.ly/3z4tsPs>.

18 C. Vega, 'The climate blind spot in nuclear weapons policy' *Bulletin of the Atomic Scientists*, 7 November 2023, at: <https://bit.ly/3VqYPvs>.

19 'Revised draft declaration of the second Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons: "Our commitment to upholding the prohibition of nuclear weapons and averting their catastrophic consequences", at: <https://bit.ly/3KYgeqx>.

20 Ibid.

21 'Decisions to be taken by the second Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons', TPNW/MSP/2023/CRP.3/Rev.1, 2MSP, 30 November 2023, at: <https://bit.ly/3TyeaJq>.

22 Ibid.

## THREATENING TO USE



In this undated photo provided on 21 August 2023 by the North Korean government, North Korean leader Kim Jong-un, right, observes what was said to be the test-firing of strategic cruise missiles. (Photo by the Korean Central News Agency/Korea News Agency/AP/NTB)

**The Nuclear Weapons Ban Monitor found that one State acted in contravention of the TPNW's prohibition on threatening to use nuclear weapons in 2023: North Korea. That is not to downplay the many nuclear threats articulated by various actors in Russia throughout the year, but they did not constitute threats to use under international law as they did not emanate from a person or an authority in a position to either direct or authorise the use of nuclear weapons.**

When North Korea in August 2023 fired two short-range ballistic missiles to simulate nuclear strikes on military targets in South Korea, state media said the tests were held as a 'warning' against the US deployment of strategic bombers to the region. The media referred to a statement issued by the North Korean army, that said: 'The drill is aimed to send a clear message to the enemies' who 'challenge us with such military threats as the deployment of strategic nuclear assets despite our repeated warnings.'<sup>1</sup>

Explicit threats to use nuclear weapons by the leader of a nuclear-armed state are rare. More often, threats are made by people close to but not in government. President Vladimir Putin and Foreign Minister Sergey Lavrov toned down their nuclear rhetoric in 2023, and the military leadership remained largely silent on the issue.<sup>2</sup> Multiple nuclear threats, however, were made in the context of the war in Ukraine by lower level Russian officials and media personalities, described by Steven Pifer as 'a cacophony of Russian voices' producing nuclear signals that were confusing and contradictory.<sup>3</sup> The alarming frequency of statements regarding use of nuclear weapons could of course be indicative of Putin's endorsement, but nonetheless they do not constitute threats to use under international law because they were not made by the leadership of the state. In August, for instance, Andrey Gurulyov, a former lieutenant general in the Russian army and now a member of the Duma, suggested using nuclear weapons against Ukrainian forces to halt their counter-offensive.<sup>4</sup> Former Russian president and now the deputy chairman of the Russian Security Council, Dmitry

1 G. Wright, 'North Korea says it simulated nuclear strike on South', *BBC*, 31 August 2023, at: <https://bit.ly/480EJjD>.

2 S. Pifer, 'Russia, nuclear threats, and nuclear signaling', *Brookings*, 13 October 2023, at: <https://bit.ly/3VkgC2p>.

3 *Ibid.*

4 'Russia Ramps Up Nuclear Threats Amid Ukraine's Counteroffensive Advances', *Newsweek*, 29 August 2023, at: <https://bit.ly/3KCm7JC>.

## ARTICLE 1(1)(D) – INTERPRETATION

**Each State Party undertakes never under any circumstances to ‘threaten to use nuclear weapons or other nuclear explosive devices’.**

- ▶ Article 1(1)(d) prohibits threatening to use a nuclear weapon or other nuclear explosive device at all times, and regardless of whether such use would itself be a violation of international law or in legitimate self-defence against foreign aggression. It is therefore broader in scope than the prohibition on threat of force in Article 2(4) of the UN Charter.
- ▶ To violate the TPNW, a threat of use must be credible in the circumstances. This means that the threat must emanate from a person or an authority in a position to either direct or authorise the use of a nuclear explosive device. Typically, therefore, such a threat would be made by a senior (and pertinent) government official or leading member of the ruling party in a nuclear-armed state.
- ▶ The narrow wording in Article 1(1)(d) of the TPNW with the active verb ‘threaten to use’ requires that any signalled intention by a state to use nuclear weapons be specific as to the target of threatened use.
- ▶ Prohibited threats may, however, be implicit as well as explicit. A stated threat does not, therefore, have to refer to use of nuclear weapons, although it would be more likely to violate the norm in the TPNW should it do so.
- ▶ In certain circumstances of tension, a show of force by means of missile testing, an explosive test of a nuclear weapon, a military exercise involving possible use of nuclear weapons, or a nuclear strike exercise, could amount to unlawfully threatening to use nuclear weapons under the TPNW (along with other violations of the Treaty).
- ▶ Policies of nuclear ‘deterrence’ rest on willingness to use nuclear weapons. Accordingly, reflecting the severity of the danger, some experts take the view that a practice of nuclear ‘deterrence’ in and of itself constitutes an unlawful threat of use of nuclear weapons. It is the view of the Nuclear Weapons Ban Monitor that the broader concept of nuclear deterrence, where the threat to use nuclear weapons is general and not specific in nature, is not sufficient in itself to constitute threatening to use under the TPNW. Deterrence practices are, however, illegal under the prohibition on possession and stockpiling.
- ▶ The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) does not prohibit the threat of use of nuclear weapons.

Figure 20: Compliance and compatibility in 2023 with the TPNW’s prohibition on threatening to use nuclear weapons



Medvedev, continued to claim that the escalation of the Ukraine war through Western supplies of advanced weapons would inevitably lead to ‘nuclear apocalypse’.<sup>5</sup> Furthermore, Sergey Karaganov, chair of Russia’s Council for Foreign and Defence Policy, called for the pre-emptive use of nuclear weapons in order to ‘shock’ the West into ending its support for Ukraine and reach an accommodation with Moscow.<sup>6</sup> But at the Valdai conference in October 2023, President Putin rejected his argument, reaffirming Russia’s established nuclear doctrine.<sup>7</sup> Moreover, Kremlin spokesperson Dmitry Peskov insisted in November 2023 that claims Moscow was preparing to use nuclear weapons were ‘absolutely insane’ and that Russia remained ‘extremely responsible and cautious’ about nuclear weapons.<sup>8</sup>

The International Campaign to Abolish Nuclear Weapons (ICAN) warns that aggressive nuclear rhetoric and threats are normalising the idea of using nuclear weapons and that it is vital to consistently and categorically condemn any and all threats to use nuclear weapons.<sup>9</sup> TPNW states parties and signatories such as Brazil, Indonesia, Mexico, and South Africa continued in 2023 to work to delegitimise nuclear weapons in forums like G20, and their efforts had an impact. The G20 New Delhi Leaders’ Declaration reiterated that the use and threat of use of nuclear weapons is ‘inadmissible’.<sup>10</sup>

5 ‘Western arms for Ukraine make ‘nuclear apocalypse’ more likely: Russia’s Medvedev’, *Reuters*, 23 May 2023, at: <https://bit.ly/3RpugFc>.  
6 S. Karaganov, ‘How to Prevent a Third World War’, *Russia in Global Affairs*, 26 September 2023, at: <https://bit.ly/45fXplE>.  
7 ‘Valdai International Discussion Club Meeting’, 5 October 2023, at: <https://bit.ly/3Rong2D>.  
8 E. Teslova, ‘‘Absolutely insane’’: Kremlin rejects claims Russia is ready to unleash nuclear war’, *AA*, at: <https://bit.ly/4cjAnD3>.  
9 ICAN briefing paper, ‘Why condemn threats to use nuclear weapons?’, October 2022, at: <https://bit.ly/4bRpzw7>.  
10 ‘G20 New Delhi Leaders’ Declaration’, New Delhi, 9-10 September 2023, at: <https://bit.ly/4elB9Bh>.

## THE PROHIBITION ON

# ASSISTANCE, ENCOURAGEMENT, OR INDUCEMENT



A nuclear explosion mushroom is painted on the helmet visor wrap of the pilot of this nuclear-capable F-16 from the Dutch 312 squadron, which participated in NATO's annual nuclear strike exercise Steadfast Noon in October 2023. The Dutch 312 squadron is tasked with delivery of the US B61-3/4 nuclear bombs stored at Volkel Air Base in the Netherlands. Over the next decade, the Dutch F-16s will be replaced by F-35As and the B61-3/4 bombs with the new B61-12. (Photo by Volkel Air Base, Royal Netherlands Air Force)

**The prohibition in Article 1(1)(e) on assistance, encouragement, or inducement of prohibited activities is the provision of the TPNW that is contravened by the greatest number of states. The year 2023 saw a total of 40 states aiding and abetting nuclear armament in multiple ways. In particular, it is the policies and practices of the world's so-called umbrella states that fall foul of this prohibition, shining a light on the significant role their complicity plays in perpetuating the idea that nuclear weapons are legitimate and necessary.**

The 40 states that in the Nuclear Weapons Ban Monitor's view assisted, encouraged, or induced activities prohibited by the TPNW in 2023 were 34 umbrella states,<sup>1</sup> four nuclear-armed states (France, Russia, United Kingdom, and United States), and two states with nuclear-free defence postures (TPNW state party Kazakhstan and non-party Marshall Islands). As shown in Figure 21 opposite, a total of 157 states, or 80% of all states—96 states parties and signatories and 61 non-parties—had policies and practices that were fully compatible with this provision of the TPNW.

The conduct in 2023 that conflicted with Article 1(1)(e) is discussed below. Note that the secrecy measures associated with many military practices mean that the following information is likely incomplete.

<sup>1</sup> Sweden acceded to NATO and became an umbrella state only on 7 March 2024, but subscribed to NATO's nuclear doctrine throughout 2023. For practical purposes, the Nuclear Weapons Ban Monitor includes Sweden in the total number of 34 umbrella states in its discussion in this section on compliance and compatibility in 2023 with the TPNW's prohibition of assistance, encouragement, and inducement. The 33 states that were umbrella states at the close of 2023 were the following: 1) two states—Armenia and Belarus—that have bilateral arrangements for extended nuclear deterrence with Russia; 2) three states—Australia, Japan, and South Korea—that have bilateral arrangements for extended nuclear deterrence with the United States; and 3) the 28 non-nuclear-armed states that had a multilateral arrangement for extended nuclear deterrence through NATO: Albania, Belgium, Bulgaria, Canada, Croatia, Czechia, Denmark, Estonia, Finland, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Türkiye.

## ARTICLE 1(1)(E)—INTERPRETATION

**Each State Party undertakes never under any circumstances to: 'Assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Treaty.'**

- ▶ Under this provision, a state party is precluded from assisting any other state, alliance, or international organisation, company, non-state actor, or individual to develop, test, produce, manufacture, otherwise acquire, possess, stockpile, transfer, deploy, receive, threaten to use, or use nuclear weapons or other nuclear explosive devices.
- ▶ States parties to the TPNW are allowed to participate in security alliances and military cooperation arrangements with nuclear-armed states—and may continue to carry out all planning, operations, exercises, and other military activities with them—so long as this does not involve nuclear weapons. Participation in nuclear-weapon-related military activities, however, would need to be discontinued.
- ▶ Other disarmament treaties contain a similarly worded prohibition, and there is an established understanding in international law of the concepts of assistance, encouragement, and inducement.
- ▶ Conduct by omission as well as act is covered by the prohibition. This is so, irrespective of the inclusion of the words 'in any way'.
- ▶ The effects of violating this prohibition are identical, regardless of which alternative has been violated. If an act is clearly assistance, it is not necessary to determine whether the act also constitutes encouragement, and vice versa.

## ASSISTANCE

- ▶ In order for conduct to constitute assistance, there must be a causal link between the conduct and a prohibited activity. In addition, the conduct must contribute significantly to this activity, although it does not need to be essential to its occurrence. Insignificant contributions would not constitute prohibited assistance. Inherent in the requirement that the contribution is significant is that the prohibited activity which is assisted must be ongoing or temporally proximate. This means that while the prohibited activity need not have happened or be ongoing, it cannot be only a theoretical possibility.
- ▶ The state must have acted with the knowledge that the conduct would, in the ordinary course of events, assist a prohibited activity. This effectively excludes temporally remote or incidental contributions.
- ▶ The forms of assistance that are unlawful can be, among others, financial (such as through economic assistance for nuclear-weapon production); technological (for example, by the export of equipment/components for such production); operational (for instance, by conventional military support for nuclear bombing); technical (through the provision of expert information); or human (such as by seconding nuclear scientists to assist in another state's nuclear-weapons programme).

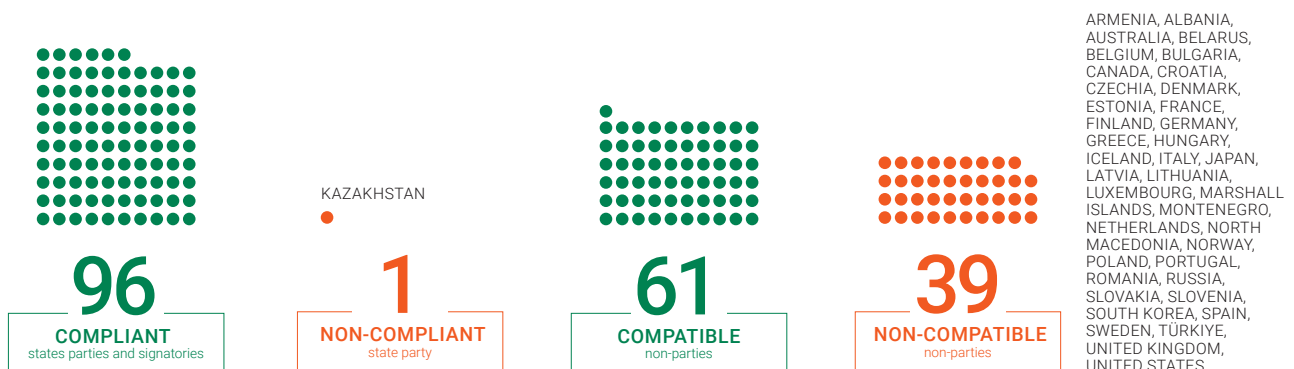
## ENCOURAGEMENT

- ▶ 'Encouraging' in the context of the TPNW means persuading or seeking to persuade any other state or any legal or natural person to carry out a prohibited activity or continue an ongoing violation of any of the other Article 1 prohibitions.
- ▶ The prohibited activity being encouraged does not need to materialise as it is the act of encouragement that is prohibited and not the result.
- ▶ Encouragement could take the form of verbal, written, material, or institutional support, whether from a government as such (for instance, through the adoption of a particular policy or document) or from pertinent senior government or military officials. Where such support has been given, the encouragement is understood to be ongoing until the point at which it is clearly withdrawn or effectively superseded by other events.

## INDUCEMENT

- ▶ Inducing a prohibited activity means offering someone something in exchange for the performance of that activity. Thus, inducing will always involve encouragement.

**Figure 21: Compliance and compatibility in 2023 with the TPNW's prohibition on assisting, encouraging, or inducing acts prohibited by the Treaty**



## COMPLICITY BY UMBRELLA STATES

For the purposes of this report, umbrella states are non-nuclear-armed states that maintain arrangements for extended nuclear deterrence with one or more nuclear allies, and that in so doing act as enablers of nuclear armament. While some of these states undoubtedly see nuclear weapons as irrelevant to their own national security, they all provide moral cover to the nuclear enterprise. By uncritically supporting the policy of extended nuclear deterrence, they allow pro-nuclear actors within the nuclear-armed states to push for costly nuclear modernisation programmes in the name of alliance solidarity and benevolent nuclear patronage.

All 34 umbrella states acted in contravention of Article 1(1)(e) of the TPNW in 2023 – but some in more ways than others. A breakdown of the conduct that the respective umbrella states would have to change should they wish to ensure compatibility with the Treaty is provided in Table F opposite and examined under subheadings a) to g) below. Each of the identified types of conduct amounts to assistance with or encouragement of one or more of the following prohibited activities under the TPNW: development, production, or possession of nuclear weapons.

### a) Endorsement of nuclear-weapons doctrines, policies, and statements

In 2023, all 34 umbrella states contravened Article 1(1)(e) of the TPNW by supporting specific nuclear-related doctrines, policies, and/or statements that amount to encouragement of possession of nuclear weapons. Through their continued endorsement of nuclear deterrence, umbrella states contribute to the resolve of nuclear-armed states to continuously maintain and further develop their nuclear capabilities. Nuclear-armed states often assert a need to ‘assure’ allies and fulfil ‘extended deterrence commitments’ as pretexts for their nuclear deployments, upgrades, and modernisation programmes.

NATO’s foundational document, the North Atlantic Treaty, does not mention nuclear weapons. However, every NATO member has supported possession and potential use of nuclear weapons through their endorsement of various other alliance documents, particularly the Strategic Concept, which was last updated in 2022.<sup>2</sup> None of the alliance’s members has so far rejected the possession or use, or even the first use, of nuclear weapons on its behalf. At the 2023 NATO summit meeting in Vilnius, member states adopted a communiqué that doubled down on nuclear deterrence.<sup>3</sup> In the view of the Nuclear Weapons Ban Monitor, endorsement of alliance documents advocating nuclear deterrence amounts to encouragement of possession of nuclear weapons. It does not, however, amount to encouragement of use, as that would require, for instance, a request for use of nuclear weapons in a specific context, or agreeing to rules of engagement allowing the use of nuclear weapons in a specific multinational operation.

Sweden, which was at the time not yet a NATO member, expressed in 2022 and again in 2023 its support for the alliance’s doctrine and strategic concept, including the potential use of nuclear weapons.<sup>4</sup> This too was at odds with the TPNW’s Article 1(1)(e) as it actively supported the possession of nuclear weapons by NATO members.

Three major non-NATO US allies (Australia, Japan, and South Korea) also encourage possession of nuclear weapons through explicit statements and/or official documents. For example, the governments of the United States and Japan

#### ALLIANCE MEMBERSHIP AND THE TPNW

- ▶ Non-nuclear-armed states may adhere to the TPNW and remain within an alliance with one or more nuclear-armed states as long as they explicitly distance themselves from specific statements or formulations in alliance documents that amount to encouragement of use or possession of nuclear arms.
- ▶ It could be argued that, for example, a NATO member may, without having to explicitly ‘override’ previous endorsement of extended nuclear deterrence, become compliant with the TPNW through the acts of signing and ratifying the Treaty. However, having adhered to the TPNW, such a state would be obliged to refrain from endorsing future NATO language supporting the retention and potential use of nuclear weapons. This could be done either by adjusting the current language or by the state clearly rejecting possession or use of nuclear weapons on its behalf, for instance through ‘footnotes’, an interpretive or declaratory statement, or other means of signaling disagreement with any endorsement of the potential use or possession of nuclear weapons.
- ▶ Such footnotes or statements could be simple and for instance phrased as follows: ‘State X does not support the possession or use of nuclear weapons or other nuclear explosive devices on its behalf and will not assist the development, possession, acquisition, or use of such weapons or devices in any way.’
- ▶ NATO members are not obliged to endorse every line of alliance language. Indeed, there is a tradition of member states ‘footnoting’ or otherwise distancing themselves from specific statements in alliance documents.

<sup>2</sup> NATO, ‘NATO 2022 Strategic Concept’, 29 June 2022.

<sup>3</sup> NATO, ‘Vilnius summit communiqué’, 11 July 2023, at: <https://bit.ly/47VKMSL>.

<sup>4</sup> SVT, ‘Kärnvapen på svensk mark splittrar politikerna’, 4 November 2022, at: <https://bit.ly/3HFIP3f>; SVT Nyheter, ‘Försvarsministern: Osannolikt med kärnvapen i Sverige’, 11 July 2023, at: <https://bit.ly/3Sfvum4>.

**TABLE F: UMBRELLA STATE CONDUCT IN 2023 THAT WAS NOT COMPATIBLE WITH ARTICLE 1(1)(E) OF THE TPNW**

	Endorsement of nuclear-weapons doctrines, policies and statements	Participation in nuclear planning	Provision of capabilities in support of a nuclear posture	Participation in nuclear strike exercises and nuclear operations	Logistical and technical support to nuclear forces	Development, production, and maintenance of key components for nuclear weapons	Ownership in and other financial assistance to the nuclear-arms industry
<b>UMBRELLA STATE</b>							
Armenia	Non-compatible						
Albania	Non-compatible	Non-compatible					
Australia	Non-compatible	Non-compatible					
Belarus	Non-compatible	Non-compatible	Non-compatible		Non-compatible	Non-compatible	Non-compatible
Belgium	Non-compatible	Non-compatible	Non-compatible	Non-compatible	Non-compatible		
Bulgaria	Non-compatible	Non-compatible					
Canada	Non-compatible	Non-compatible					
Croatia	Non-compatible	Non-compatible					
Czechia	Non-compatible	Non-compatible		Non-compatible			
Denmark	Non-compatible	Non-compatible					
Estonia	Non-compatible	Non-compatible					
Finland	Non-compatible	Non-compatible					
Germany	Non-compatible	Non-compatible	Non-compatible	Non-compatible	Non-compatible	Non-compatible	Non-compatible
Greece	Non-compatible	Non-compatible	Non-compatible	Non-compatible			
Hungary	Non-compatible	Non-compatible					
Iceland	Non-compatible	Non-compatible					
Italy	Non-compatible	Non-compatible	Non-compatible	Non-compatible	Non-compatible	Non-compatible	Non-compatible
Japan	Non-compatible	Non-compatible					
Latvia	Non-compatible	Non-compatible					
Lithuania	Non-compatible	Non-compatible		Non-compatible			
Luxembourg	Non-compatible	Non-compatible					
Montenegro	Non-compatible	Non-compatible					
Netherlands	Non-compatible	Non-compatible	Non-compatible	Non-compatible	Non-compatible	Non-compatible	
North Macedonia	Non-compatible	Non-compatible					
Norway	Non-compatible	Non-compatible					
Poland	Non-compatible	Non-compatible		Non-compatible			
Portugal	Non-compatible	Non-compatible					
Romania	Non-compatible	Non-compatible					
Slovakia	Non-compatible	Non-compatible					
Slovenia	Non-compatible	Non-compatible					
South Korea	Non-compatible	Non-compatible		Non-compatible	Non-compatible		
Spain	Non-compatible	Non-compatible				Non-compatible	Non-compatible
Sweden	Non-compatible						
Türkiye	Non-compatible	Non-compatible	Non-compatible		Non-compatible		

expressed through a joint statement in 2023 that they had ‘shared assessments of the regional security environment’ and collectively ‘reviewed Alliance conventional and U.S. nuclear capabilities contributing to regional deterrence’.<sup>5</sup>

Through the Washington Declaration released in April 2023, the United States and South Korea committed ‘to engage in deeper, cooperative decision-making on nuclear deterrence,’ and announced the establishment of a bilateral Nuclear Consultative Group to ‘strengthen extended deterrence, discuss nuclear and strategic planning, and manage the threat to the nonproliferation regime posed by the Democratic People’s Republic of Korea (DPRK).’ South Korea also recognised ‘the importance, necessity, and benefit of its enduring reliance on the U.S. nuclear deterrent’.<sup>6</sup>

With respect to Australia, a 2020 ‘strategic update’ from the Australian Ministry of Defence noted that ‘only the nuclear and conventional capabilities of the United States can offer effective deterrence against the possibility of nuclear threats against Australia.’<sup>7</sup> Australia’s 2024 National Defence Strategy maintains that ‘Australia’s best protection against the increasing risk of nuclear escalation is US extended nuclear deterrence and the pursuit of new avenues of arms control.’<sup>8</sup>

In addition to NATO, the Russian-led Collective Security Treaty Organization (CSTO) is understood by some observers as a ‘nuclear alliance’. In 2010, the CSTO’s Secretary-General suggested Russia had extended a ‘nuclear umbrella’ over all members of the alliance.<sup>9</sup> Yet, CSTO members do not appear to have adopted official documents stipulating a nuclear dimension to the alliance. On the contrary, three CSTO members have actively distanced themselves from nuclear deterrence. Through the 2006 Treaty of Semipalatinsk – the treaty establishing Central Asia as a nuclear-weapon-free zone (NWFZ) – Kazakhstan, Kyrgyzstan, and Tajikistan have committed never to ‘assist or encourage’ the development, manufacture, or possession of nuclear weapons.<sup>10</sup> Kazakhstan is also a state party to the TPNW.

Belarus, however, which is allied to Russia through the CSTO and the Union State, has on multiple occasions expressed support for nuclear deterrence – including through requests to host Russian nuclear weapons on Belarusian soil.<sup>11</sup> Armenia, the last CSTO member, has, to the Nuclear Weapons Ban Monitor’s knowledge, not explicitly endorsed the possession and potential use of nuclear weapons on its behalf. Armenia would, though, need to actively distance itself from nuclear deterrence in order to be considered fully compatible with Article 1(1)(e) of the TPNW, as fellow CSTO members Kazakhstan, Kyrgyzstan, and Tajikistan have already done through their adherence to the Treaty of Semipalatinsk, and in Kazakhstan’s case also to the TPNW. In June 2024, Armenia’s Prime Minister, Nikol Pashinyan, announced that Armenia would withdraw from the CSTO.<sup>12</sup>

## **b) Participation in nuclear planning**

Participation in nuclear strike planning entails an endorsement of the potential use of nuclear weapons in the future and thus an encouragement of the possession and development of nuclear weapons in the present. Participation in planning of temporally proximate use or threats to use nuclear weapons would amount to assistance with use or the threatening of use.

With the exception of France, all NATO allies are members of NATO’s Nuclear Planning Group (NPG),<sup>13</sup> the alliance’s senior body on nuclear strategy. While several non-nuclear allies maintain that participation in the NPG allows them to shape the nuclear-armed allies’ policies, there is little evidence that participation in the NPG translates into meaningful influence. A number of scholars have described the NPG as a ‘largely symbolic forum’ that exists primarily to ‘rubber stamp’ the policies of the alliance’s most powerful members.<sup>14</sup>

Japan and South Korea are for their part engaged in ‘extended deterrence dialogues’ with the United States, covering conventional as well as nuclear deterrence.<sup>15</sup> Japan and the United States met for an extended deterrence dialogue in Japan in December 2023.<sup>16</sup> South Korea, for its part, reportedly ‘reactivated’ its extended deterrence dialogue in 2022 after a few years without actual meetings. As mentioned above, South Korea and the United States announced a deal in April 2023 whereby the United States would involve Seoul more intimately in its nuclear planning, including by developing a Nuclear Consultative Group to discuss nuclear planning issues.<sup>17</sup> If Japan and South Korea were to adhere

5 US Department of State, ‘U.S.–Japan extended deterrence dialogue’, 7 December 2023, at: <https://bit.ly/3UieNZO>.

6 X. Aiying, ‘Korea, US adopt joint declaration, form nuclear consultative group’, Korean Culture and Information Service, May 2023, at: <https://bit.ly/3ue4ag0>.

7 Australian Department of Defence, ‘2020 Defence Strategic Update’, Canberra, July 2020, at: <https://bit.ly/45NDJfr>, para. 2.22. See also on the issue of Australia, Harvard Law School International Human Rights Clinic, ‘Australia and The Treaty on the Prohibition of Nuclear Weapons’, December 2018, at: <http://bit.ly/3lyHywZ>.

8 Australian Ministry of Defence, ‘National Defence Strategy’, 2024, at: <https://bit.ly/4bXOwpC>.

9 International Law and Policy Institute, ‘Under my Umbrella’, 2016, p. 8.

10 Treaty on a Nuclear-Weapon-Free Zone in Central Asia (adopted 2006, in force 2009), Art. 1(1)(c).

11 L. Kelly and A. Osborn, ‘Belarus starts taking delivery of Russian nuclear weapons’, Reuters, 14 June 2023, at: <https://reut.rs/3VXurJo>.

12 G. Gavin, ‘Armenia to quit Russia’s military alliance amid split with Putin’, Politico, 12 June 2024, at: <https://bit.ly/3Rmcr9Z>.

13 NATO, ‘Nuclear Planning Group’, 9 May 2022, at: <https://bit.ly/3elbgxa>.

14 M.A. Smith, *NATO in the First Decade After the Cold War*, Springer, Dordrecht, 2000, p. 29; Paul Buteux, *The Politics of Nuclear Consultation in NATO, 1965–1980*, Cambridge University Press, Cambridge, 1983, p. 143).

15 See, e.g., A. Kawasaki, ‘The Nuclear Ban Treaty – the Path Forward for North Korea, South Korea, Japan and the Region’, Global Partnership for the Prevention of Armed Conflict, September 2019, at: <http://bit.ly/2JLcmfT>.

16 Ministry of Foreign Affairs of Japan, ‘Japan-U.S. Extended Deterrence Dialogue’, 7 December 2023, at: <https://bit.ly/49d8o6o>.

17 BBC News, ‘US and South Korea agree key nuclear weapons deal’, 27 April 2023, at: <https://bit.ly/3QJ8xqv>.



to the TPNW, they would have to provide assurances that their respective 'extended deterrence dialogues' with the United States would not involve nuclear planning.

Australia is not involved in formal consultations on nuclear planning with the United States. However, Australia has in the past taken part in the senior leadership team for the US nuclear command and control exercise Global Thunder.<sup>18</sup> Deep involvement in the preparation and execution of such exercises is likely to amount to nuclear planning. Forms of nuclear planning may also be ongoing in other forums.

Belarus has accepted to host Russian nuclear weapons on its territory and has also taken part in nuclear strike exercises with Russia.<sup>19</sup> While Russia and Belarus do not appear to maintain any formal or dedicated consultation arrangement for nuclear planning, Belarus' hosting of nuclear weapons and participation in nuclear exercises necessitates a degree of nuclear planning.

### **c) Provision of capabilities in support of a nuclear posture**

In 2023, seven umbrella states maintained means of delivery specifically certified to carry nuclear weapons. Maintenance of these capabilities aided Russia and the United States in their respective deployment of nuclear weapons. The provision of nuclear-capable means of delivery thus amounted to assistance with the possession of nuclear weapons.

Belgium, Germany, Italy, and the Netherlands, as well as Türkiye and Greece (the latter two in a contingency role), contribute dual-capable aircraft (DCA) to NATO's nuclear mission and thus assist US possession of nuclear weapons.<sup>20</sup> In NATO, the arrangement whereby certain umbrella states provide DCAs is often referred to as 'nuclear sharing' and the DCA-contributing states are sometimes referred to as 'user nations'.<sup>21</sup> The aircraft in question have been specifically configured to carry nuclear weapons and have been assigned specific weapons and roles in the event the weapons are authorised for use. The aircraft have a clear nuclear role and constitute an integral and permanent part of NATO's nuclear forces.<sup>22</sup>

Belarus, for its part, started to provide DCAs in support of Russia's possession of nuclear weapons in 2023.<sup>23</sup> Belarus' readiness to modify and maintain these aircraft involved assisting Russian possession of nuclear weapons, in particular in their foreign-deployed role.

The provision by non-nuclear-armed states of other types of non-nuclear capabilities than DCAs in support of a nuclear posture could potentially also be considered assistance with possession of nuclear weapons. In many of these cases, however, the question of whether a practice or capability is problematic from the viewpoint of the TPNW would depend on the significance and context of the contribution in question. For more information on this, see the discussion below on participation in nuclear strike exercises and nuclear operations.

Certain practices and capabilities maintained by non-nuclear-armed states may not amount to assistance or encouragement in the here and now but could easily amount to assistance or encouragement in the future. This can be the situation, for instance, for intelligence and surveillance capabilities. If a state party to the TPNW were to engage in intelligence gathering and share it with a nuclear-armed state to knowingly identify targets for a temporally proximate use or threat to use nuclear weapons, this would amount to assisting use or threatening to use nuclear weapons. A case in point is Pine Gap, an intelligence facility built and funded by the United States outside Alice Springs in Australia and operated by the US National Reconnaissance Office. The facility is staffed by Australian and US personnel. One of the components of the facility is a Relay Ground Station in Pine Gap's western compound, whose Overhead Persistent Infra-Red (OPIR) sensors will detect the heat bloom of any intercontinental ballistic missiles (ICBMs) or submarine-launched ballistic missiles (SLBMs) launched against the United States. It provides early warning of an incoming attack but also indicates whether a nuclear missile launch site/launcher is empty (following firing) or not.<sup>24</sup>

If Australia were to adhere to the TPNW and the Relay Ground Station were nevertheless used to identify imminent targets for US nuclear weapons, this would violate the prohibition on assisting use or the threatening of use. (This would of course not be the case if the data were used to identify targets for conventional strikes or to alert a vulnerable target population.) Since such future use or threat to use nuclear weapons remains a theoretical possibility, the operations of the Relay Ground Station do not presently constitute assistance to use or threaten to use nuclear weapons. That being said, maintaining a capability and preparedness to identify targets for nuclear strikes runs counter to the object and

18 S. Losey, 'Global Thunder: Bombers practice for nuclear war', *Air Force Times*, 22 October 2020, at: <https://bit.ly/3VmYCJt>.

19 Al Jazeera, 'Russia and Belarus begin second stage of tactical nuclear weapons drill', 12 June 2024, at: <https://bit.ly/4b0dlKW>.

20 H. M. Kristensen, M. Korda, E. Johns, and M. Knight 'Nuclear weapons sharing, 2023', *Bulletin of the Atomic Scientists*, Vol. 79, No. 6 (2023), 393–406, at: <https://bit.ly/3VJjH25>.

21 Ibid. In addition to being user nations, Belgium, Germany, Italy, Netherlands, and Türkiye are also host nations. For more information on this, see page 58.

22 Kristensen, Korda, Johns, and Knight 'Nuclear weapons sharing, 2023'.

23 M. Korda and E. Johns, 'We know where Russian nuclear-capable aircraft will be hosted in Belarus. What's next?', *Bulletin of the Atomic Scientists*, 24 April 2023, at: <https://bit.ly/4bZ84tx>.

24 R. Tanter, 'Hope Becomes Law', *Journal for Peace and Nuclear Disarmament*, Vol. 4, No. 1 (2021).

purpose of the TPNW. To ensure compatibility with the TPNW, Australia should provide assurances that the Relay Ground Station's OPIR systems will not be used for nuclear targeting.

#### **d) Participation in nuclear strike exercises and nuclear operations**

The Nuclear Weapons Ban Monitor has identified eight umbrella states that participated in nuclear strike exercises in 2023, although the actual number might be higher. Several other nuclear operations also likely took place with the participation of umbrella states, but the Nuclear Weapons Ban Monitor has not been able to identify any certain cases with named umbrella states.

Nuclear strike exercises and nuclear operations are frequently conducted, in part, to build collective resolve to maintain a nuclear posture. Participation in such activities clearly implies an acceptance not only of the potential use of nuclear weapons in the future but also the continued possession of nuclear weapons by allied nuclear-armed states in the present. By extension, participation in nuclear strike exercises and nuclear operations represents an encouragement of possession of nuclear weapons under Article 1(1)(e) of the TPNW.

From 16 to 26 October 2023, NATO members carried out the annual 'Steadfast Noon' exercise. Steadfast Noon is a training activity set up to allow NATO members to practice the use of air-delivered nuclear weapons—including the US nuclear weapons deployed in Europe—and conventional support of nuclear strike missions. In 2023, Steadfast Noon was carried out primarily in airspace over Croatia, Italy, and the Mediterranean Sea. According to NATO, 13 members and up to 60 aircraft (nuclear-capable and conventional) were involved in the exercise.<sup>25</sup> Beyond the United States, the list of participants is not public. However, social media posts and flight map records confirm the participation of Belgium,<sup>26</sup> Czechia,<sup>27</sup> Germany,<sup>28</sup> Greece,<sup>29</sup> Italy,<sup>30</sup> Lithuania,<sup>31</sup> the Netherlands,<sup>32</sup> and Poland.<sup>33</sup> The four remaining participants are not known, but Türkiye, Denmark, and Hungary have taken part in recent years and likely also participated in 2023. Norwegian authorities confirmed in 2023 that Norway had never taken active part but that it had overseen the exercise as an observer for the second year in a row.<sup>34</sup>

Nuclear-armed states have in the past few years engaged in more overt communication about their nuclear strike exercises. This transparency is part of increased nuclear signalling to enemies. Hans M. Kristensen of the Federation of American Scientists commented in 2023 that: 'A few years ago, NATO officials couldn't even mention Steadfast Noon in public. Now we've seen multiple statements before, during, and after the exercise. This is not NATO feeling sorry about past secrecy but a new level of nuclear signaling in Europe.'<sup>35</sup>

From 11 to 18 April 2023, the United States carried out the 'Global Thunder' exercise, which 'successfully validated that nation's nuclear command, control, and operational procedures.' US authorities stated that the exercise provided 'opportunities for U.S. Strategic Command personnel and units to train with allied nations and partner organizations to strengthen integration and enhance the readiness, effectiveness, and safety of America's strategic deterrence force.'<sup>36</sup> US officials did not specify which allies had been involved. In the past, service members from Australia, Canada, Denmark, South Korea, and the United Kingdom have been involved.<sup>37</sup>

In 2024, Belarus took part in a major tactical nuclear weapon drill.<sup>38</sup> This participation clearly indicated an encouragement of Russian possession of nuclear weapons and continued practice of nuclear deterrence. However, there is no evidence in open sources of joint Belarusian-Russian operations having been carried out in 2023.

Beyond major nuclear strike exercises, nuclear-armed states frequently engage in other nuclear operations, including to enable training on management and use of nuclear weapons. According to the Federation of American Scientists, at least six NATO members—Czechia, Denmark, Hungary, Poland, and two other unknown states—participate in so-called 'Conventional Support to Nuclear Operations' (CSNO), alongside the states that also provide DCA.<sup>39</sup> If they or other umbrella states make a significant contribution in a clear CSNO role, this would amount to encouragement of possession of nuclear weapons. In most cases, however, information about the true nature of such operations (and the roles of the various umbrella states involved) is not available. Recent years have also seen an upswing in alliance

25 NATO, 'NATO holds long-planned annual nuclear exercise', 13 Oct. 2023, <https://bit.ly/45Pe9qq>.

26 See: <https://t.co/VxybOdX9K2>.

27 See: <https://t.co/PdkZPgC6ZZ>.

28 See: <https://t.co/BrmxflxWl2>.

29 See: <https://bit.ly/3VIQpoW>.

30 See: <https://t.co/VxybOdX9K2>.

31 Screen shot of flight track made by H.M. Kristensen of the Federation of American Scientists.

32 See: <https://t.co/qHA2UkNx8u>.

33 See: <https://t.co/o6fCXyVGos>.

34 T. Paust, 'Norge deltar som observatør i atomkriigsøvelse i Europa', Nettavisen, 25 October 2023, at: <https://bit.ly/3uatRy0>.

35 See: <https://bit.ly/4coM2QR>.

36 US Strategic Command Public Affairs, 'U.S. Strategic Command Concludes Exercise Global Thunder 2023', 20 April 2023, at: <https://bit.ly/49qL3yJ>.

37 US Strategic Command Public Affairs, 'U.S. Strategic Command Conducts Exercise Global Thunder, 29 October 2018, at: <https://bit.ly/3OBHNRN>.

38 Aljazeera, 'Russia and Belarus begin second stage of tactical nuclear weapons drill', 12 June 2024, at: <https://bit.ly/4b0dIKW>.

39 CSNO was previously known as SNOWCAT (Support of Nuclear Operations with Conventional Air Tactics) and can include also land- and sea-based capabilities. A broad array of conventional capabilities can be provided in support of nuclear operations.

activities that blur the line between nuclear and conventional cooperation. Furthermore, the dual capability of strategic bombers renders unequivocal legal assessment of allied conventional participation in joint manoeuvres with such assets difficult. Provided that the manoeuvres in question are not specifically 'nuclear', i.e. that the deployed strategic bombers are not practising for the management and use of nuclear weapons but are instead involved in conventional-weapon roles, participation by non-nuclear-armed states is not unlawful under the TPNW. That said, the deployment of strategic bombers often has a clear nuclear signalling effect.

The year 2023 saw a number of joint manoeuvres involving US strategic bombers and allied conventional fighter planes. While these joint manoeuvres were not necessarily cases of CSNO that directly conflicted with the prohibition on assistance or encouragement in Article 1(1)(e) of the TPNW, they nevertheless cast nuclear shadows. For example, in March 2023, a nuclear-capable US B-52 bomber took part in joint manoeuvres with allied fighter planes over Sweden and the Baltic area.<sup>40</sup> In late August, two nuclear-capable B-2A bombers deployed to Iceland to take part in collaborative training efforts with allies and partners across Europe.<sup>41</sup> In years past, Russian nuclear-capable strategic bombers have intermittently carried out joint manoeuvres or training exercises with Belarusian conventional fighters. As mentioned above, there is no evidence in open sources of joint operations in 2023. The reason is likely connected to the war in Ukraine, where Russia's strategic bombers have been heavily involved in conventional attacks against Ukraine.

The 2023 Washington Declaration stipulates among other things that the United States and South Korea 'will work to enable joint execution and planning for ROK conventional support to U.S. nuclear operations in a contingency and improve combined exercises and training activities on the application of nuclear deterrence on the Korean Peninsula'.<sup>42</sup> Japanese and South Korean aircraft have on several occasions over the course of 2023 and 2024 taken part in joint operations with US strategic bombers.<sup>43</sup>

#### **e) Logistical and technical support to nuclear forces**

Belgium, Germany, Italy, the Netherlands, and Türkiye continued in 2023 to provide logistical and security services at the bases where US nuclear weapons are deployed to their territory. This constitutes assistance with possession and stockpiling of nuclear weapons under Article 1(1)(e) the TPNW – as is the case also for Belarus under its new hosting agreement with Russia. Of course, these six states are also acting in conflict with Article 1(1)(g), which explicitly prohibits the hosting of another state's nuclear weapons, as discussed on page 58.

The provision of logistical and technical support to planes or submarines specifically designed to carry nuclear weapons would likely constitute assistance with possession of the weapons within the meaning of Article 1(1)(e) of the TPNW, provided that the support given is a 'significant' contribution. In July 2023, an Ohio class US nuclear-powered ballistic missile submarine (SSBN) made a three-day port call in South Korea. This reportedly followed conversations between the US and South Korean governments about how the supposed US nuclear umbrella over South Korea might be rendered more visible. In port in Busan, the SSBN presumably received logistical support from its South Korean hosts. This too is not compatible with the TPNW's prohibition on assistance, as the SSBN is specifically designed to carry nuclear weapons and as such there is no doubt that the purpose of its visit was nuclear signalling. The last time a US SSBN visited South Korea was in the 1980s.<sup>44</sup> Port visits by SSBNs are rare, as such submarines typically seek to remain undetected and untraceable while on patrol. It is particularly rare that they visit non-nuclear-armed states.

In the case of logistical and technical support for dual-use delivery vehicles, such as bombers or fighter-bombers, there will normally be no presumption of nuclear involvement. It will therefore be generally unproblematic for states parties to the TPNW that are allies or partners of nuclear-armed states to continue to host or provide logistical and technical support to those states' dual-use delivery vehicles. If the purpose of a mission or presence with a nuclear-armed state's dual-use delivery vehicle is clearly nuclear, however, the provision of logistical and technical support is likely to contravene the prohibition on assisting or encouraging prohibited activities. That said, due to secrecy measures, it will typically be difficult to determine if the purpose is nuclear or conventional.

Spain continued in 2023 to host US B-52 bombers at Morón Air Base.<sup>45</sup> Dual-capable US warplanes were also hosted in the United Kingdom.<sup>46</sup> In Australia, plans were put in motion in 2022 to upgrade Tindal airbase in the Northern Territory. This work was furthered in 2023. The upgrade, which is being funded by the United States, will allow the base to house up to six B-52s at a time.<sup>47</sup> In February 2023, responding to questions about whether the aircraft would have a nuclear

40 Yle, 'US B-52 bomber flies over Gulf of Finland, turns near Russian island', 12 March 2023, at: <https://bit.ly/4b5q4Bd>.

41 Scramble, 'USAF B-2 spirit bombers deploy to Iceland', 23 August 2023, <https://bit.ly/492WFXy>.

42 X. Aiyong, 'Korea, US adopt joint declaration, form nuclear consultative group', Korean Culture and Information Service, May 2023, at: <https://bit.ly/3ue4ag0>.

43 US Air Force Global Strike Command, 'U.S., Japan, Republic of Korea Conduct Third Trilateral Aerial Exercise', 2 April 2024, at: <https://bit.ly/3xga2Xp>.

44 H. Mongilio, 'USS Kentucky make port call in South Korea, first SSBN visit in 40 years', USNI News, 18 July 2023, at: <https://bit.ly/470kaD6>.

45 A. Nottingham, 'Bomber Task Force 23-2', U.S. Air Forces in Europe and Air Forces Africa, 10 March 2023, at: <https://bit.ly/3uCbNND>.

46 S. King, 'U.S. Integration at the Royal International Air Tattoo', 16 July 2023, at: <https://bit.ly/48cXo80>.

47 D. Hurst, 'US deployment of nuclear-capable B-52 bombers to Australia's north likely to fuel China tensions', *The Guardian*, 31 October 2022, at: <https://bit.ly/3Hl2xj4>.

role or possibly carry nuclear weapons, Australian government officials responded that the United States' maintained a 'policy of ambiguity' and that this policy would not be called into question by Australia.<sup>48</sup>

#### **f) Development, production, and maintenance of key components for nuclear weapons**

Also in 2023, umbrella states Belarus, Germany, Italy, the Netherlands, and Spain engaged in activities that were not compatible with the TPNW's prohibition on assistance by allowing companies within their jurisdiction to be involved in development, production, and/or maintenance of key components for nuclear weapons.

Belarus continued to assist Russia with development and production of nuclear weapons, through two Belarusian companies that provide launch capability for the Russian Topol-M intercontinental ballistic missile (ICBM). Minsk Automobile Plant manufactures the mobile launchers, and Volat (Minsk Wheel Tractor Plant Joint Stock Company) designed and continues to produce the MAZ-7917 specialised chassis system to carry the Topol missiles.<sup>49</sup>

Germany, the Netherlands, and Spain continued to assist France with development, production, and possession of nuclear weapons, as a result of Airbus Defence and Space's activities in the joint venture companies MBDA and ArianeGroup. MBDA produces France's current nuclear-tipped ASMPA air-launched cruise missiles (ALCMs) and takes part in the production of the next generation of longer-range ASN4G nuclear-tipped ALCMs.<sup>50</sup> ArianeGroup is the lead contractor for the ongoing maintenance and the modernization of France's M51 nuclear-armed submarine-launched ballistic missiles (SLBMs).<sup>51</sup> The international responsibility of Germany is engaged because Airbus Defence and Space is headquartered in Germany. The international responsibility of the Netherlands is engaged because Airbus Defence and Space's parent company Airbus, which considers that the work done by its subsidiaries is indivisible from the group,<sup>52</sup> is headquartered in the Netherlands. The international responsibility of Spain is engaged because Airbus' International Office is located in Spain.

Italy continued to assist France with the development and production of nuclear weapons because it allows the Italian company Leonardo (formerly Finmeccanica) to be involved in the abovementioned joint venture MBDA.<sup>53</sup>

#### **CORPORATE AND STATE RESPONSIBILITY**

- ▶ A company that develops, produces, or maintains key components (such as a ballistic missile) for a nuclear weapon or other nuclear explosive device, or which maintains nuclear weapons, would thereby engage the international responsibility of the state in which it is operating. Such a state party would be responsible for prohibited assistance under the TPNW (assistance to development, production, or possession, depending on the acts the company was performing).\*
- ▶ Depending on the circumstances, a parent company can also be legally responsible for the acts of its subsidiaries. The general position in domestic law is that a parent company is not liable where its subsidiary acts unlawfully. However, jurisprudence has established a number of exceptions to this general principle, allowing the 'veil of separate legal status [...] to be pierced'. Under international law, contravention of the provisions of a disarmament treaty or of customary disarmament law by a corporation would suffice to render the state or states responsible on whose territory that corporation committed the relevant act or acts.
- ▶ In addition, any company that is engaged in a joint venture that develops or produces key components for a nuclear weapon or other nuclear explosive device could thereby be engaging in prohibited assistance even if it does not itself contribute materially to the nuclear-weapon development or production. This is so wherever a company establishes a new body corporate, and is holding shares in that company. Under international law, the states on the territory of which the participating and shareholding companies are incorporated and/or have their headquarters or involved divisions or production facilities would be responsible for the acts of the joint venture where those do not comply with an international treaty or customary law on disarmament.

\* C. Murray et al., *The Law and Practice of International Trade*, 12th Edn, Sweet & Maxwell, 2012, §28-009.

#### **g) Ownership in and other financial assistance to the nuclear-arms industry**

The conduct in 2023 of umbrella states Belarus, Germany, Italy, and Spain was not compatible with the TPNW's prohibition on assistance because of their state ownerships in companies involved in the development, production, and maintenance of French nuclear weapons.

Belarus owns 100% of the two companies Minsk Automobile Plant and Volat, which as discussed in the section above produce key components for Russia's nuclear weapons.

48 M. Knott, 'US nuclear-armed bomber visits allowed under Australian treaty obligations', *Sydney Morning Herald*, 15 February 2023, at: <https://bit.ly/3OnFk46>.

49 Volat, 'Chassis for the Topol', accessed 12 February 2024, at: <https://bit.ly/3Sxw1jn>.

50 A. Muñoz, 'Risky Returns: Nuclear Weapon Producers and Their Financiers'.

51 Ibid.

52 J. Harrison, General Counsel, 'Letter from John Harrison, General Counsel, Airbus to Susi Snyder, Don't Bank on the Bomb Project Manager Regarding the Adoption of the UN Treaty on the Prohibition of Nuclear Weapons', 17 September 2018.

53 A. Muñoz, 'Risky Returns: Nuclear Weapon Producers and Their Financiers'.

The German and Spanish states both maintain significant ownership shares in Airbus,<sup>54</sup> which, through Airbus Defence and Space, has significant ownership shares in the joint venture companies MBDA and ArianeGroup.<sup>55</sup> As discussed in the section above, MBDA and ArianeGroup develop, produce, and maintain key components for France's nuclear weapons.

Italy has a significant ownership share in Leonardo (formerly Finmeccanica), which in turn has a significant ownership share in the abovementioned joint venture MBDA.<sup>56</sup>

More research is needed on direct state ownership in companies involved in the nuclear-arms enterprise. Such ownership appears to exist only for nuclear-armed states and certain umbrella states. Also in terms of private financial institutions' shareholding in and other financial assistance to the nuclear-arms industry, it is in the nuclear-armed states and umbrella states that we see the most activity. Most of the non-nuclear-armed states with financial institutions involved in the nuclear weapons enterprise are nuclear umbrella states, with Australia, Canada, Germany, Italy, Japan, and Spain standing out as some of the most active.

The Nuclear Weapons Ban Monitor calls upon all states parties to the TPNW to act to prevent and suppress any ownership of and financial assistance to the nuclear-arms industry and adopt clear national guidance embedded in domestic law for financial sector actors, whether public or private. Financial institutions benefit from guidance provided by governments on the ways to interpret norms and international law.

According to the 2023 ICAN/Pax report 'Moving Away from Mass Destruction', at least 109 financial institutions restrict investments in the companies involved in the development, production, or stockpiling of nuclear weapons.<sup>57</sup> The number of institutions excluding nuclear weapons producers from their investment portfolios has grown considerably in recent years, and many of the institutions that have decided to exclude nuclear-weapon producers have cited the TPNW as a motivation.

#### THE TPNW AND FINANCING

- ▶ All investment in the nuclear-arms enterprise runs counter to the object and purpose of the TPNW – which is to ensure that nuclear weapons are never again used under any circumstances.
- ▶ The TPNW does not explicitly prohibit the financing of nuclear-weapon programmes. The ordinary purchase of shares in a company involved in the development, production, or maintenance of nuclear arsenals is therefore not per se an illegal act under the TPNW. The prohibition on assistance in Article (1)(e), however, renders unlawful any significant or controlling shareholding in a company involved in the development, production, or maintenance of nuclear weapons.
- ▶ It is not possible to define what a significant ownership share is in terms of a fixed percentage of shares or votes, as this varies from market to market and company to company. To determine if a specific shareholder has significant influence on the management of a company, it is necessary to assess the ownership profile of the relevant company.
- ▶ The prohibition on assistance also renders unlawful direct funding of any of the prohibited activities listed in other subparagraphs of Article 1(1). If, for instance, funding in the form of an earmarked loan or credit line is provided to a company for the development, production or maintenance of nuclear weapons, this is unlawful assistance with the development, production, and possession of nuclear weapons.
- ▶ The prohibition on assistance encompasses not only state funding, but also private banks and other financial institutions as well as individuals.
- ▶ The Convention on Cluster Munitions (CCM) does not contain an explicit prohibition on financing, but that treaty's prohibition on assistance is widely considered to prohibit financing.
- ▶ Cuba issued a declaration upon joining the TPNW, stating that: 'The financing of any activity prohibited to a State Party under this Treaty is also a prohibited activity according to the provisions of Article 1(e).' (See: <https://bit.ly/3eB7UMm>.)

## COMPLICITY INVOLVING NUCLEAR-ARMED STATES

As discussed on page 56, 2023 saw Belarus acting in contravention of the TPNW's prohibition on seeking or receiving assistance to engage in a prohibited act. On numerous occasions, Belarusian officials as well as President Alexander Lukashenko made it clear that they were eager for Belarus to host Russian nuclear arms.<sup>58</sup> Russian leaders had previously suggested this was an option. The Nuclear Weapons Ban Monitor finds that the circle of inducement involving both Russian and Belarusian leaders amounted simultaneously to Russian encouragement of Belarusian hosting and

54 As of 31 December 2023, the largest shareholders in Airbus were the French state at 10.86% of the shares, the German state at 10.84%, and the Spanish state at 4.09%, respectively. The Articles of Association of Airbus prohibit any shareholder from holding an interest of more than 15% of the share capital or voting rights of the Company, acting alone or in concert with others. See: Airbus Annual Report 2023, at: <https://bit.ly/3VUPzkj>.

55 Ibid. Airbus Defence and Space has 37.5% of the shares in MBDA and 50% of the shares in ArianeGroup.

56 Italy owns 30.2% of the shares in Leonardo, which owns 25% of the shares in MBDA. See, <https://bit.ly/3Y4qja7> and <https://bit.ly/3jrKjEE>.

57 Pax/ICAN, 'Moving Away from Mass Destruction', July 2023, <https://bit.ly/3UAFsRJ>.

58 See, e.g., E. Liston, 'Belarus says it's willing to host Russian nuclear weapons to counter a perceived Western threat', *The New York Times*, 28 March 2023, at: <https://bit.ly/4bXrvDf>.

Belarusian seeking of assistance to engage in that activity. From the Russian perspective, Belarusian involvement in nuclear sharing provides opportunities to keep nuclear weapons in the headlines—it reminds adversarial populations that Russia has nuclear weapons—and helps legitimise Russia's aggressive nuclear posturing against the so-called West. Stationing nuclear weapons in Belarus may also be seen as the creation of a bargaining chip for potential use in future diplomatic deliberations with the United States and other Western nations. For Belarus, the hosting of Russian nuclear weapons provides a means of signalling loyalty to Moscow and, perhaps, a source of prestige and power for policymakers in Minsk.

As in previous years, the nuclear-armed states in NATO—France, the United Kingdom, and the United States—acted in contravention of this article by encouraging each other to continue to develop and possess nuclear weapons, through their endorsement of various alliance documents, and particularly the Strategic Concept.

The United Kingdom and France also continued to engage in close cooperation on maintenance of nuclear stockpiles, which amounts to prohibited (mutual) assistance with possession and stockpiling under the TPNW.<sup>59</sup> The two states' cooperation on stockpiling is supported by the 2010 Teutates Treaty to develop technologies for safe and effective maintenance of both states' nuclear stockpiles.<sup>60</sup>

US-French cooperation is conducted under a 1961 Mutual Defense Agreement, which permits limited cooperation on the operation of nuclear-weapon systems and amounts to (mutual) assistance with possession and stockpiling. Later amendments have enabled enhanced cooperation, notably on issues of safety, security, and reliability.<sup>61</sup>

As discussed above under the prohibitions on transfer and on receiving transfer or control of nuclear weapons or other nuclear explosive devices, the United Kingdom and the United States continue to engage in close cooperation on the United Kingdom's nuclear-weapons capability, including on the maintenance of Trident II SLBMs. The nature of the cooperation also amounts to US assistance with the United Kingdom's possession and development of nuclear weapons.

## COMPLICITY BY STATES WITH NUCLEAR-FREE DEFENCE POSTURES

The year 2023 also saw two states with nuclear-free defence postures, Kazakhstan and the Marshall Island, permit the testing of missiles designed to carry nuclear warheads on their respective territories. Allowing such testing is not consistent with the TPNW's prohibition on assistance with development and possession of nuclear weapons.

The Marshall Islands hosts a test site that regularly serves as the destination point for US test launches of nuclear-capable long-range missiles. The site in question is the Ronald Reagan range at Kwajalein Atoll, a military station established after the Second World War. The land on which the site is located is leased to the United States through a long-term agreement. It is not the testing site in and of itself that conflicts with the TPNW, but the United States' use of it to maintain and develop nuclear-weapon missile technology.

Having initially postponed ICBM testing due to the risk of escalation associated with the Russian invasion of Ukraine, the United States resumed ICBM testing in the fall of 2022. In 2023, the United States launched unarmed ICBMs towards Kwajalein Atoll in February, April, and September. A fourth and failed test launch was terminated mid-air on 1 November due to an anomaly.<sup>62</sup> Should the Marshall Islands decide to adhere to the TPNW, such testing would need to stop. Marshallese adherence to the TPNW could thus lead to friction with the United States, perhaps helping to explain the Marshall Islands' hesitancy about joining the Treaty. With its long history as a testing ground for US nuclear weapons, the Marshall Islands has been a strong supporter of nuclear disarmament and the campaign to end nuclear testing.

Like the Marshall Islands, Kazakhstan, which is a state party to the TPNW, also hosts a test site intermittently used as a destination point for ICBMs. The Sary-Shagan missile range was established by the Soviet government in 1956. In April 2023, Russian authorities declared that an unarmed ICBM had been launched toward Sary-Shagan. This was the first time in several years that the Sary-Shagan range had been used for this purpose. Some had speculated that the apparent drop in use of Sary-Shagan for the purposes of ICBM testing was a reflection of Kazakhstan's adherence to the TPNW. Indeed, Russian officials had complained that Russia lacked appropriate missile-testing ranges on its own territory, and the Russian government had initiated the building of a new site within Russia.

The government of Kazakhstan has maintained that the test did not constitute a breach with the TPNW. 'Taking into account that no nuclear weapons or nuclear explosive devices (or their indivisible parts) are being in any way placed,

59 See, e.g., P. Ricketts, 'National Security Relations with France after Brexit', Briefing Paper, RUSI, January 2018, at: <https://bit.ly/3gUNn7e>.

60 See, e.g., Nuclear Information Service, 'UK-France nuclear co-operation: The "Teutates" project. Presentation at Non-Proliferation Treaty PrepCom meeting, 23 April 2013', at: <https://bit.ly/3oSxxxv>.

61 See, e.g., C. Mohr, 'U.S. Secretly Helped France Develop Nuclear Weapons, an Expert Writes', *The New York Times*, 28 May 1989, at: <http://nyti.ms/2lcTB1c>.

62 Reuters, 'US Air Force blows up Minuteman III in test flight after post-launch anomaly', 1 November 2023, at: <https://bit.ly/3HFeOPX>.

tested, or utilized on the territory of Kazakhstan (including at certain military facilities rented to third parties in accordance with existing international agreements), Kazakhstan remains in full compliance with its obligations under the TPNW', the Kazakh embassy in Brussels wrote on 12 April.<sup>63</sup> The Nuclear Weapons Ban Monitor does not share this interpretation. We posit that ICBMs are dedicated nuclear-weapon delivery systems, and that allowing their testing constitutes assistance with the development and possession of functional nuclear arms. In international arms and disarmament law, the term 'development' is usually interpreted to have a broad meaning, encompassing 'a number of steps' aimed at 'creating a functioning weapon ready for production, stockpiling, and use, as distinct from permitted research.'<sup>64</sup> ICBM tests function to ensure that weapons are 'ready for use' and can thus be seen as an act of development.

The question then becomes whether Kazakhstan allowing Russia to use Sary-Shagan as a destination point for ICBM tests constitutes a 'significant' contribution to Russia's development of nuclear arms. This may be debated by some. At any rate, as a state committed to the goals of the TPNW and the Central-Asian NWFZ Treaty,<sup>65</sup> Kazakhstan should communicate its priorities to Russia and request that it abstain from using the Sary-Shagan site to test nuclear means of delivery.



*This photo dated 6 September 2023 was taken on Kwajalein Atoll in the Marshall Islands. It shows reentry of an unarmed US Minuteman III ICBM after a test launch. (Photo by POLARIS/NTB)*

63 See G. I. R. Hernández, 'Russian ICBM test raises questions for Kazakhstan', Arms Control Today, May 2023, at: <https://bit.ly/3SDIAuN>.

64 W. Krutzsch, 'Article I: General Obligations', in W. Krutzsch, E. Myjer, and R. Trapp (eds), *The Chemical Weapons Convention: A Commentary* (Oxford: Oxford University Press, 2014).

65 The Central-Asian NWFZ Treaty similarly obligates its member states not to 'assist' the development or manufacture of nuclear weapons.

## SEEKING OR RECEIVING ASSISTANCE



National flags of the United States and South Korea are displayed in front of a B-52H strategic bomber parked at a South Korean Air Force base at Cheongju Airport on 19 October 2023. The nuclear-weapons-capable B-52 bomber landed in South Korea on October 17 in a show of US support for longtime ally Seoul in the face of North Korean military threats. (Photo by Anthony Wallace/AFP/NTB)

**Seven states not party—Belarus, France, Poland, Russia, South Korea, the United Kingdom, and the United States—engaged in conduct in 2023 that was not compatible with the TPNW’s prohibition on seeking or receiving assistance to engage in a prohibited act.**

Belarus had initially sought assistance from Russia in 2021 for the stationing of Russian nuclear weapons on its territory.<sup>1</sup> This was followed in February 2022 with a referendum to allow the country to host nuclear weapons,<sup>2</sup> before the Russian assistance to host nuclear weapons was received in 2023. In March, Russian President Vladimir Putin announced that Belarusian combat aircraft had been equipped to carry nuclear weapons,<sup>3</sup> and that Moscow had transferred a dual-capable Iskander short-range missile system to Belarus.<sup>4</sup> In the same month Belarusian President Alexander Lukashenko stated that he had intensified talks with Putin about deploying nuclear weapons in the country, and claimed Belarus needed the weapons because Ukraine’s Western allies were planning a coup against him.<sup>5</sup> Then, in June, Lukashenko said Belarus had started taking delivery of Russian nuclear arms, which remain under Russian control. Six months later, he declared that the transfer of weapons had been completed.<sup>6</sup> This act is also not compatible with the prohibition in Article 1(1)(g) of the TPNW on allowing the stationing on its territory of foreign nuclear weapons, as discussed in the next section.

1 Statement of Belarus President Aleksander Lukashenko, text available at: <https://bit.ly/3tCbJKz>.

2 'Belarus approves hosting nuclear weapons, Russian forces permanently', *France24*, 28 February 2022, at: <https://bit.ly/3PpCiLK>.

3 S. Bugos, 'Russia prepares Belarus to host nuclear weapons', *Arms Control Today*, May 2023, <https://bit.ly/48110A1>.

4 I. Kottasova, L. Isaac, and A. Chernova, 'Lukashenko says Putin could deploy more powerful Russian nuclear weapons in Belarus', *CNN*, 31 March 2023, at: <https://bit.ly/4cnSk3f>.

5 *Ibid.*

6 AP, 'Belarus leader says Russian nuclear weapons shipments are completed, raising concern in the region', 26 December 2023, at: <https://bit.ly/3Ukid9K>.

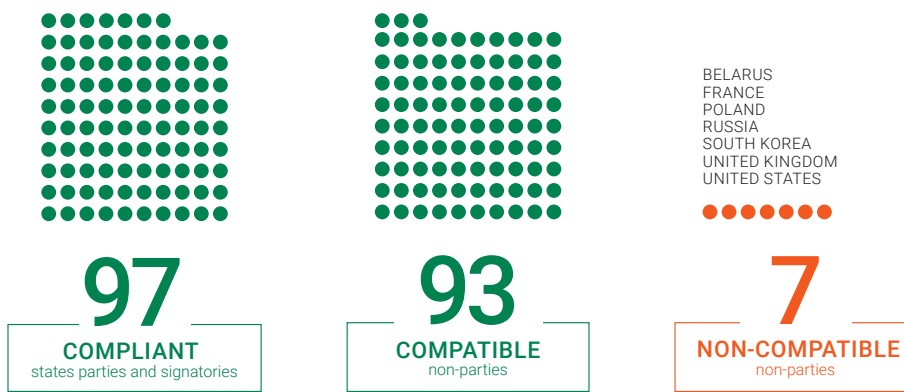


## ARTICLE 1(1)(F) – INTERPRETATION

**Each State Party undertakes never under any circumstances to: ‘seek or receive any assistance, in any way, from anyone to engage in any activity prohibited to a State Party under this Treaty.’**

- In contrast to Article 1(1)(e) of the TPNW, which prohibits states from assisting prohibited acts by others, Article 1(1)(f) prohibits states from seeking or receiving assistance to violate the Treaty themselves. It does not matter whether or not the assistance is actually received.
- This precludes any state party from asking any other state or any natural or legal person (i.e., a company) to help it develop, possess, stockpile, test, produce, use, transfer, or receive nuclear weapons or other nuclear explosive devices, including where it is sought that foreign nuclear weapons will be stationed or deployed to their territory.
- A similar prohibition, imposed only on non-nuclear-weapon states, is contained in Article II of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), though it applies only to manufacture: the undertaking is to ‘not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices’.

**Figure 22: Compliance and compatibility in 2023 with the TPNW’s prohibition on seeking or receiving assistance to engage in activities prohibited under the Treaty**



In June 2023, it was reported in the Polish press that Poland was seeking to receive US nuclear weapons stationed on its territory at Polish armed forces bases. Prime Minister Mateusz Morawiecki said that the request to NATO to participate in the Nuclear Sharing programme was in response to Russian deployment of tactical nuclear weapons in Belarus.<sup>7</sup> Poland’s vocal pursuit of nuclear sharing has political resonance domestically, with an October 2022 poll suggesting more than half the population would support the deployment of the US B61 nuclear-armed gravity bomb in their country.<sup>8</sup> At a press conference, the Polish prime minister said: ‘The final decision will depend on our American partners, NATO. We declare our willingness to act quickly in this regard.’<sup>9</sup>

South Korea’s government on its part continued in 2023 to push for discussions with the United States about ‘joint planning and execution’ of nuclear assets and for deployment of US nuclear weapons to counter the North Korean nuclear threat.<sup>10</sup> Adding leverage to its request, South Korea suggested that it could develop its own nuclear weapons.<sup>11</sup> Responding to this call, in April 2023, the United States and South Korea signed an agreement whereby the United States would periodically deploy nuclear-armed submarines to South Korea and involve Seoul more intimately in its nuclear planning.<sup>12</sup>

France, Russia, the United States, and the United Kingdom all continued to receive various forms of assistance in 2023 with development, production and possession of nuclear weapons. The applicable cases are described under the section above on the prohibition of assistance with prohibited activities (although with the focus on the parallel provision of assistance). As discussed in the section below, it was also reported in 2023 that the United States would be stationing nuclear weapons on UK territory (in the eastern English county of Suffolk) for the first time in more than 15 years (see page 60). It was not known, however, whether any action taken was the result of a request by the UK government.

7 J. Łukaszewski, ‘Morawiecki chce broni atomowej w Polsce’ (‘Morawiecki wants nuclear weapons in Poland’), *Wyborcza*, 30 June 2023, at: <https://bit.ly/3Vm6Q5P>.

8 IJSS, ‘Poland’s bid to participate in NATO nuclear sharing’, September 2023, at: <https://bit.ly/3Rub7St>.

9 Świat, ‘Mateusz Morawiecki po szczycie RE: Nie zgodziliśmy się na przyjęcie konkluzji ws. relokacji’ (‘Mateusz Morawiecki after the European Council summit: We did not agree to adopt conclusions on relocation’), *Polsatnews*, 30 June 2023, at: <https://bit.ly/4eh2tk6>.

10 NK News, ‘Yoon says Seoul could rapidly acquire nukes if North Korean threats increase’, 12 January 2023, at: <https://bit.ly/3KLmLEz>.

11 Hankyoreh, ‘S. Korean president raises eyebrows with seeming approval of Japan’s security strategy’, 12 January 2023, at: <https://bit.ly/3z5WwWY>.

12 BBC News, ‘US and South Korea agree key nuclear weapons deal’, 27 April 2023, at: <https://bit.ly/3OJ8xqv>.

# ALLOWING STATIONING, INSTALLATION, OR DEPLOYMENT



A woman holds a sign with a representation of Belarusian president Alexander Lukashenko with a nuclear missile during a rally in Warsaw, Poland on 26 April 2023. (Photo by Jaap Arriens/NurPhoto via Getty Images)

**In 2023, Belarus was added as a sixth state that engaged in conduct that was not compatible with the TPNW's prohibition on allowing stationing, installation, or deployment of nuclear weapons. While the presence of Russian nuclear weapons on Belarusian territory has not been confirmed, it is clear that both countries took significant steps to advance a nuclear-sharing mission. NATO members Belgium, Germany, Italy, the Netherlands, and Türkiye continued to host a total of approximately 100 US B61 gravity nuclear bombs for NATO's nuclear sharing mission.**

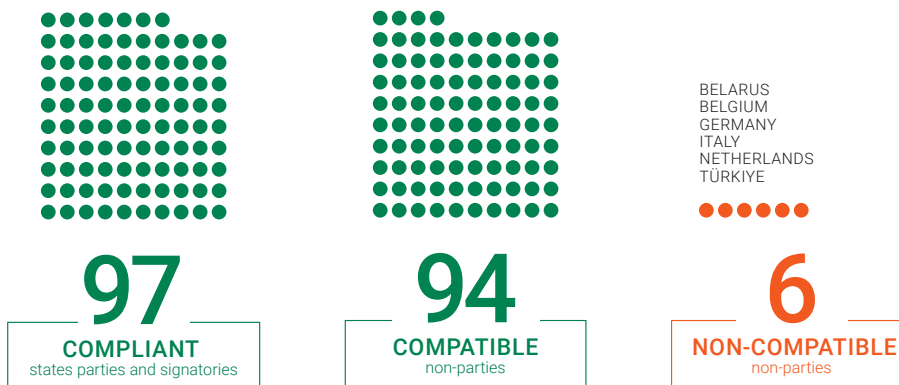
As shown in Figure 24 on page 61, forward-deployed US nuclear weapons are believed to be located at six air bases in Europe: Kleine Brogel in Belgium, Büchel in Germany, Aviano and Ghedi in Italy, Volkel in the Netherlands, and Incirlik in Türkiye. The nuclear-sharing relationships between the United States and its NATO allies were concluded prior to the establishment of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in 1968; however, the legality of these

## ARTICLE 1(1)(g) – INTERPRETATION

**Each State Party undertakes never under any circumstances to: ‘Allow any stationing, installation or deployment of any nuclear weapons or other nuclear explosive devices in its territory or at any place under its jurisdiction or control.’**

- ▶ This provision outlaws a particular form of assistance or encouragement of prohibited action: allowing any stationing, installation, or deployment of any nuclear weapons or other nuclear explosive devices in a state party’s territory or at any other place under its jurisdiction or control.
- ▶ The TPNW’s prohibition against such hosting of nuclear weapons applies at all times, including during escalating tension or armed conflict.
- ▶ The concept of jurisdiction refers primarily to a state’s sovereign territory, while control extends to areas that the state party occupies or otherwise controls extraterritorially. This is irrespective of the legality of this control under international law.
- ▶ Deployment is the broadest of the three types of prohibited conduct. A violation would not require any prolonged duration, agreement, or infrastructure. Thus, although transit of nuclear weapons is not explicitly prohibited by the TPNW, if movement into the sovereign territory of a state party is not swiftly followed by exit, this might amount to assistance and encouragement to possess nuclear weapons as well as a violation of 1(1)(g).
- ▶ The duration of stay necessary to constitute deployment would depend on the surrounding circumstances—a shorter stay would suffice at a moment of high tension—but in normal circumstances would probably require at least 72 hours to contravene the prohibition in Article 1(1)(g).
- ▶ The NPT does not formally prohibit the stationing of nuclear weapons on the territory of non-nuclear-weapon states by any of the five designated nuclear-weapon states as long as it retains control over their use at all times. Many states consider nuclear sharing to pose a significant challenge to broader nuclear non-proliferation efforts.

**Figure 23: Compliance and compatibility in 2023 with the TPNW’s prohibition on allowing stationing, installation, or deployment of nuclear weapons**



arrangements remain a source of international controversy and their deterrence value is often disputed.<sup>1</sup> The respective hosting arrangements are thought to be governed by classified bilateral agreements, known as ‘Service-Level Agreements’, between the United States and the respective host state. Nuclear weapons are also occasionally transported between locations for deployment, retirement, maintenance, or modification.

The B61 bombs hosted under NATO nuclear sharing arrangements in Europe are assumed to have explosive yields ranging from an equivalent of 300 tons to 50 kilotons (Kt) of TNT for the B61-4, to 170 Kt for the B61-3. These older versions of the B61 will soon be replaced with the incoming B61-12, which has the same selectable yields as the B61-4.<sup>2</sup> Mass production of the B61-12 began in 2022, and the new bomb has formally entered the US nuclear stockpile.<sup>3</sup>

The bombs are stored in underground vaults at national airbases in the five European host nations and remain under US custody. In a scenario of use, the United States would authorise the release of these bombs, and European pilots would be tasked with delivering the US nuclear bombs to their targets using NATO dual-capable aircraft. The bases where the nuclear weapons are stored are currently being modernised, with upgraded storage vaults; new command, control, and communications systems; and improved security perimeters and arrangements.<sup>4</sup>

1 W. Alberque, *The NPT and the Origin of NATO’s Nuclear Sharing Arrangements*, IFRI, Paris, 2017, at: <https://bit.ly/3WgqxTH>.  
2 H. M. Kristensen and M. McKinzie, ‘Video Shows Earth-Penetrating Capability of B61-12 Nuclear Bomb’, *Strategic Security Blog*, Federation of American Scientists, 14 January 2016, at: <https://bit.ly/40hrwQ>.  
3 ‘Fiscal Year 2024 Stockpile Stewardship and Management Plan’, National Nuclear Security Administration, 27 November 2023, at: <https://bit.ly/3VqO0tk>.  
4 H. M. Kristensen, ‘NATO Steadfast Noon Exercise and Nuclear Modernization in Europe’, *Strategic Security Blog*, Federation of American Scientists, 17 October 2022, at: <https://bit.ly/3jgG1zR>.

## United Kingdom

Throughout 2022 and 2023, Pentagon budgetary documents indicated that US nuclear weapons could also soon return to UK soil for the first time in 15 years. In particular, these documents indicated the return of a 'potential surety mission'<sup>5</sup> and 'upcoming nuclear mission' at Lakenheath Air Base in Suffolk.<sup>6</sup> This does not necessarily indicate that nuclear weapons will be permanently hosted at Lakenheath in peacetime. Indeed, this would conflict with the NATO Secretary General's December 2021 statement that 'we have no plans of stationing any nuclear weapons in any other countries than we already have', as well as the head of NATO's Nuclear Policy Directorate, who said in September 2023 that she did not anticipate changes to the nuclear sharing arrangements, 'certainly not in the short term'.<sup>7</sup> However, these actions could allow the base to host US nuclear weapons in the future, potentially in the midst of nuclear crises or in the event that they are removed from Türkiye due to ongoing security concerns.<sup>8</sup>

## Belarus

In March 2023, Russian President Vladimir Putin declared that Russian nuclear weapons would be deployed to Belarus and justified the decision on the basis that the United States 'has been doing this for decades. They placed their tactical nuclear weapons on the territories of their allied countries, NATO countries, in Europe a long time ago'.<sup>9</sup> He rejected criticism from the West as hypocritical.<sup>10</sup> Also in March, Putin announced that Russia had re-equipped 10 Belarusian Su-25 aircraft with the ability to deliver nuclear weapons and had transferred dual-capable, road-mobile, short-range Iskander launchers to Belarus.<sup>11</sup> Training of Russian launch crews was apparently completed by April.<sup>12</sup> In June, Belarusian President Alexander Lukashenko said Belarus had started taking delivery of Russian nuclear arms, and in late December 2023, he said the shipments of nuclear weapons had been completed.<sup>13</sup>

Despite these statements, several unknowns still surround the status and logistical challenges of this deployment, and open sources have not provided conclusive visual evidence to suggest where Russian nuclear warheads and related personnel are deployed in Belarus, if indeed they are in the country at all. The Asipovichy depot is the most likely candidate for nuclear storage given new security features observed at the site via satellite imagery.<sup>14</sup>

There is no suggestion, however, that Belarus has been given custody of nuclear warheads. On the contrary, Russian spokespersons have insisted that warheads deployed in Belarus will remain under Russian jurisdiction and control, mirroring NATO practices.<sup>15</sup>

## Poland

In 2023, the Prime Minister of Poland announced his country's intention to pursue more direct participation in NATO's nuclear sharing initiatives. It is unclear whether such participation could include the hosting of B61 nuclear bombs or potentially equipping Polish aircraft with the capability to deliver these bombs – or possibly both.<sup>16</sup> Similarly to the storage of nuclear weapons on UK soil, however, these actions would be in conflict with recent NATO statements, as well as with the NATO-Russia Founding Act, which states that NATO has 'no intention, no plan, and no reason to establish nuclear weapon storage sites on the territory of [NATO members who joined the Alliance after 1997], whether through the construction of new nuclear storage facilities or the adaptation of old nuclear storage facilities'.<sup>17</sup>

## Finland and Sweden

In April 2023, Finland announced that as a new member of NATO, it would participate in NATO's Nuclear Planning Group and could potentially play a role in other aspects of NATO's nuclear sharing arrangements. It confirmed, however, that Finland would not permit the stationing of nuclear weapons on its territory in peacetime.<sup>18</sup> In February 2023, incoming NATO member Sweden announced that 'like the other Nordic countries, we do not foresee having nuclear weapons on our own territory in peacetime'.<sup>19</sup>

5 'Surety' is a term commonly used within the Department of Defense and Department of Energy to refer to the capability to keep nuclear weapons safe, secure, and under positive control. Office of the Under Secretary of Defense for Acquisition and Sustainment, 'Nuclear Matters Handbook', at: <https://bit.ly/3RpEdSU>.

6 M. Korda and H. M. Kristensen, 'Increasing Evidence That The US Air Force's Nuclear Mission May Be Returning To UK Soil', Strategic Security Blog, Federation of American Scientists, 28 August 2023, at: <https://bit.ly/3VSuJm1>; T. Diver, 'US to station nuclear weapons in UK to counter threat from Russia', *The Daily Telegraph*, 26 January 2024, at: <https://bit.ly/3RQVxkb>.

7 NATO, 'Keynote Interview with NATO Secretary General Jens Stoltenberg at Reuters Next Event', 1 December 2021, at: <https://bit.ly/3VKzaPH>; E. Kervinen, 'Nato's Head of Nuclear Weapons Policy: The Risk of Using Nuclear Weapons Has Increased, but Russia's Weapons are Still Largely in a Peacetime Position', *Helsingin Sanomat*, 30 September 2023, at: <https://bit.ly/4cmGSF6>.

8 H. M. Kristensen, 'Lakenheath Air Base Added to Nuclear Weapons Storage Site Upgrade', Strategic Security Blog, Federation of American Scientists, 11 April 2022, at: <https://bit.ly/3HXsBT2>.

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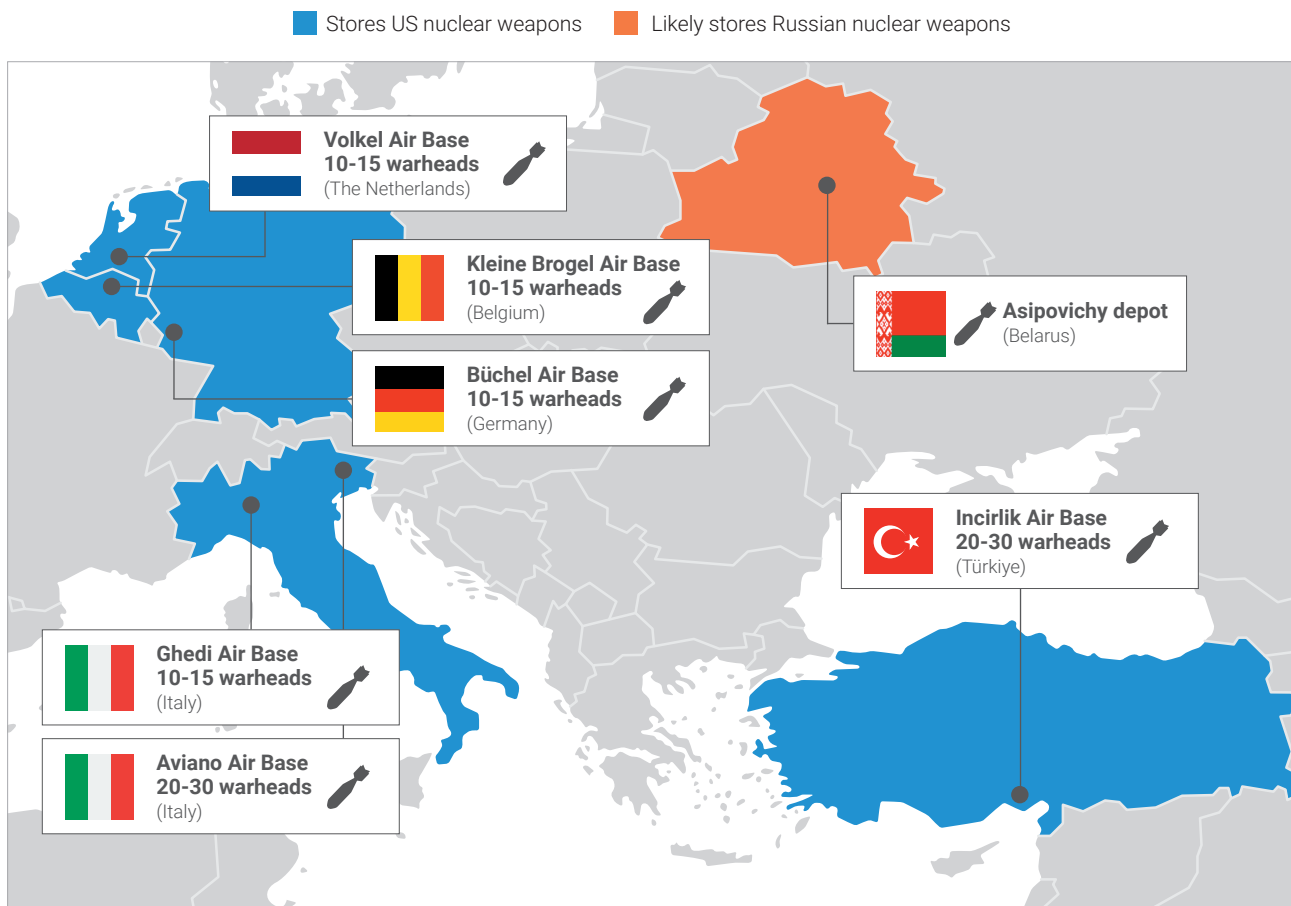
19 T. Billström, 'Statement of Foreign Policy 2023', Government Offices of Sweden, 15 February 2023, at: <https://bit.ly/4emvhr0>.

## South Korea

In recent years, there has been a strong resurgence of public support in South Korea for redeployment of US nuclear weapons or even a domestic nuclear-weapons programme.<sup>20</sup> In April 2023, the United States and South Korea signed The Washington Declaration, which established a potentially unparalleled degree of US-South Korea bilateral consultation concerning US nuclear policy, and declared that the United States would 'further enhance the regular visibility of strategic assets to the Korean Peninsula'.<sup>21</sup>

As part of this shift, the USS Kentucky nuclear-powered ballistic missile submarine (SSBN) arrived in Busan in July 2023 for a three-day visit, marking the first time that US nuclear weapons had entered South Korea since 1991.<sup>22</sup> At the time of writing, however, there were no indications that the United States is planning to redeploy its nuclear weapons to the Korean Peninsula.

Figure 24: Locations of known and likely foreign-deployed nuclear weapons in Europe, 2023



Source: Nuclear Information Project, Federation of American Scientists.

20 T. Dalton, K. Friedhoff, L. Kim, 'Thinking Nuclear: South Korean Attitudes on Nuclear Weapons', The Chicago Council on Global Affairs, 21 February 2022, at: <https://bit.ly/3lg43EB>.

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## COMPLIANCE AND COMPATIBILITY IN 2023 WITH THE POSITIVE OBLIGATIONS OF THE TPNW



Mays Swithwick of the International Campaign to Abolish Nuclear Weapons (ICAN) is seen in this photo holding up a copy of the TPNW on 28 November 2023, a Global Day of Action against nuclear weapons. (Photo by Darren Ornitz/ICAN)

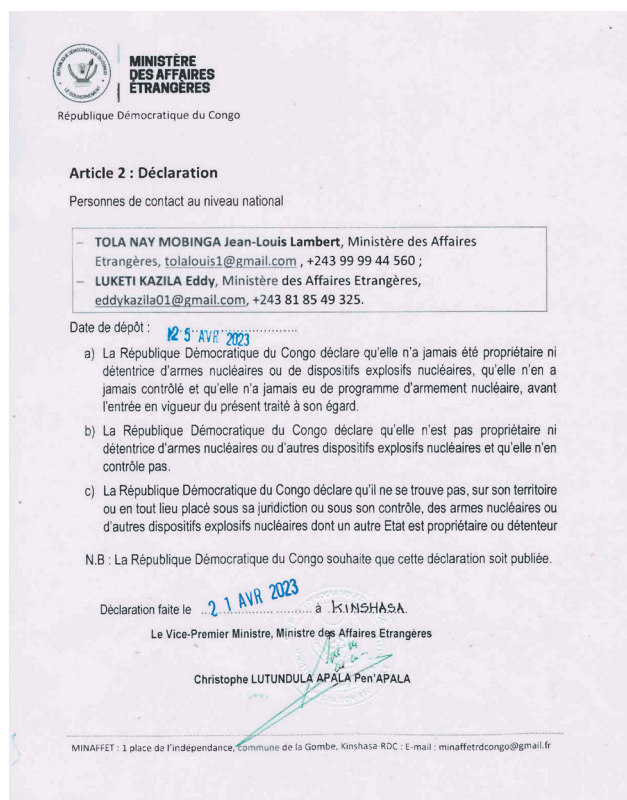
**In addition to its comprehensive prohibitions, the TPNW obligates its states parties to take a set of positive measures to implement the Treaty. In the sections that follow, these positive obligations are set out and explained and the level of compliance by states parties is assessed. Where relevant, the Nuclear Weapons Ban Monitor also reviews global observance by other states of the norms the TPNW's positive obligations seek to promote or establish in order to prevent and remediate harm inflicted by nuclear weapons.**

Positive obligations are key elements of all disarmament treaties. The parallel positive obligations in the Anti-Personnel Mine Ban Convention (APMBC) and the Convention on Cluster Munitions (CCM) have significantly enhanced their humanitarian impact. While much work remains to be done, the obligations in those treaties have led to a dramatic reduction in the stockpiles of banned weapons, clearance of wide swathes of contaminated land, vital support for victims, and an increase in international assistance from states parties as well as states not party. The positive obligations of the TPNW will similarly advance the Treaty's broader humanitarian and developmental goals.

Most of the positive obligations in the TPNW do not set out specific deadlines or criteria for the states parties to meet, but are rather long-term goals to work towards in good faith. Implementation is therefore in its early stages. Certain of the TPNW's positive obligations apply only to nuclear-armed states or states with foreign nuclear weapons on their territory, none of which has yet adhered to the Treaty.

# SUBMIT A DECLARATION

All but one of the 69 states parties to the TPNW at the end of 2023 had at the time of writing this report submitted the declaration required by Article 2 of the Treaty to the United Nations (UN) Secretary-General. The only outstanding declaration was that of Grenada, whose deadline to submit was in October 2022.



A copy of the declaration submitted by the Democratic Republic of the Congo under Article 2 of the TPNW to the UN Secretary-General.

The UN Secretary-General received four new Article 2 declarations during the course of 2023: from the Democratic Republic of Congo, the Dominican Republic, Malawi, and Timor-Leste.

Their declarations confirmed that they have never owned, possessed, or controlled nuclear weapons or other nuclear explosive devices, and that foreign nuclear weapons or other nuclear explosive devices are not located in their territory or in any other place under their jurisdiction or control.

The UN Office for Disarmament Affairs (UNODA) receives the declarations on behalf of the UN Secretary General and transmits them to the other states parties. It also posts the declarations on its website, at: <https://bit.ly/3RRFuCx>.

The state profiles of the Nuclear Weapons Ban Monitor record the dates that the declarations are received by the UN, or indicate if a state party has not yet submitted its declaration. The TPNW does not prescribe a standard form or format for the declarations, but the UNODA website for the Treaty contains model declarations in English, French, and Spanish prepared by the International Committee of the Red Cross.

## ARTICLE 2 – INTERPRETATION

- Article 2 of the TPNW imposes a duty on each state to submit a declaration to the UN Secretary-General within 30 days of becoming party to the Treaty. The declaration must clarify whether the state party has ever owned, possessed, or controlled nuclear weapons or other nuclear explosive devices. If it has, it must further declare whether it has already eliminated its nuclear-weapon programme, including by destroying or irreversibly converting all nuclear-weapons-related facilities, or whether it still owns, possesses, or controls any nuclear weapons or other nuclear explosive devices.
- Finally, the declaration must state whether foreign nuclear weapons or devices are located (stockpiled, stationed, deployed, or installed) either in the state party's territory or in any other place under its jurisdiction or control.
- The overwhelming majority of potential states parties are not nuclear-armed. Once the requisite Article 2 declaration has been submitted by a non-nuclear-armed state party, the only other reporting duties under the TPNW will be those to which it commits under an action plan adopted by a meeting of states parties.
- For potential states parties that formerly possessed or which currently possess nuclear weapons and for states that have foreign nuclear weapons on their territory or in any other place under their jurisdiction or control, Article 4 of the TPNW imposes a duty to submit a report to each meeting of states parties and each review conference on progress towards the implementation of its obligations under that article. This obligation persists until the obligations under Article 4 are fulfilled.

THE OBLIGATION TO

# HAVE SAFEGUARDS AGREEMENTS AND ADDITIONAL PROTOCOLS WITH THE IAEA



An IAEA employee changes the country plates at the speaker's podium from Iran to Saudi Arabia during the 67th IAEA General Conference in Vienna, Austria, 25 September 2023. (Photo by Christian Bruna, EPA/NTB)

**In 2023, one Comprehensive Safeguards Agreement (CSA) and two Additional Protocols (APs) were brought into force with the International Atomic Energy Agency (IAEA), and one AP was approved. All of this progress took place in states that were parties or signatories to the TPNW: Sao Tome and Principe brought into force a CSA and an AP on the same day; Bolivia brought into force its AP; and Nauru had an AP approved.**

At the close of 2023, 136 states, 72% of the global total of 188 non-nuclear-armed states had brought into force both a CSA and an AP, thus committing to the current 'gold standard' of safeguards. A total of 47 states (25% of the total) had a CSA in force but not yet an AP. Finally, five states did not yet have a CSA in force, and therefore also not an AP. Figure 25 opposite and Table G overleaf summarise the status at the end of 2023 of safeguards agreements among non-nuclear-armed states as a whole and among states parties to the TPNW.<sup>1</sup>

To support further progress in this area, the Nuclear Weapons Ban Monitor's state profiles on [www.banmonitor.org](http://www.banmonitor.org) contain information on all states' respective safeguards agreements or lack thereof, as well as recommended actions. States that have not brought into force both a CSA and an AP should do so as a matter of urgency. Furthermore, states that maintain an operative original Small Quantities Protocol (SQP) should upgrade to a modified SQP, or in those cases that no longer meet the criteria for scaled down safeguards, rescind it.

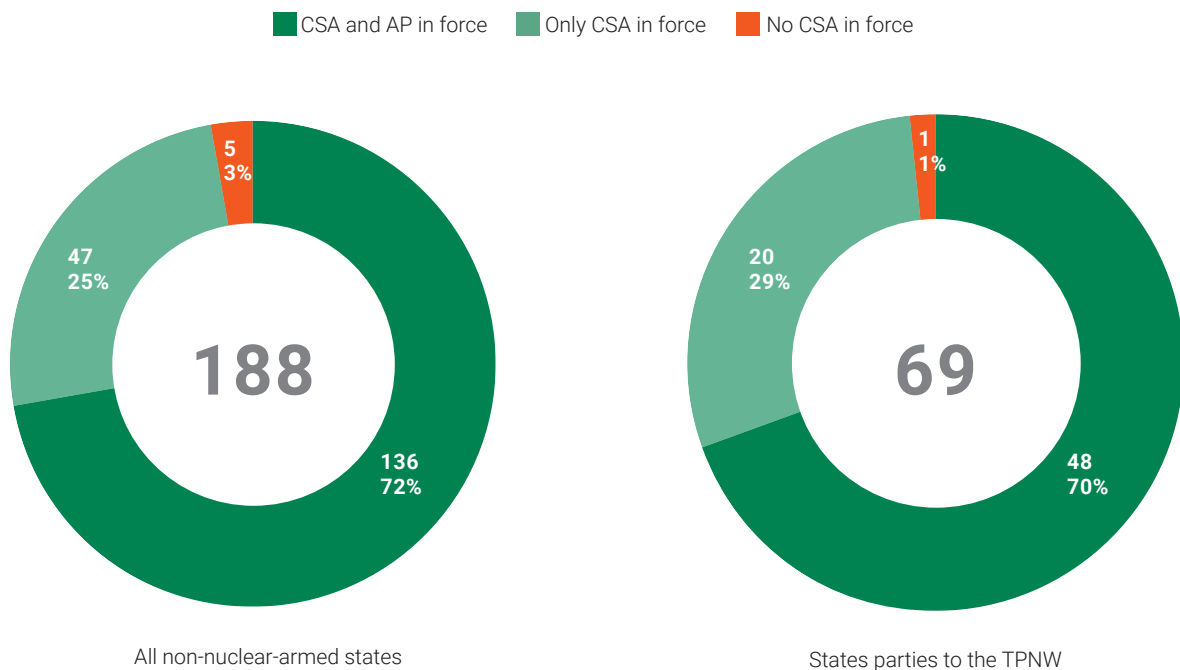
<sup>1</sup> Also with respect to safeguards agreements, the Nuclear Weapons Ban Monitor's methodology is to track the status of each of the 197 states that under the 'all states' formula can become parties to most global treaties, including the NPT and the TPNW. In some cases, the total figures in the Ban Monitor may differ from those of the IAEA because they include South Sudan (which is not a party to the NPT) and the Cook Islands and Niue (which have not adhered to the NPT in their own right, but remain bound by its provisions through New Zealand's ratification of the Treaty).



### ARTICLES 3(1), 3(2), 4(1), AND 4(3) – INTERPRETATION

- It is mandatory for all non-nuclear-armed states parties to the TPNW to maintain in force or to conclude and bring into force (and thereafter maintain) a Comprehensive Safeguards Agreement (CSA) with the IAEA. The TPNW specifies that the CSA must be based on the most recent CSA model in IAEA doc. INFCIRC 153 (Corrected). If a non-nuclear-armed state has not brought into force a CSA upon adhering to the TPNW, Article 3(2) stipulates that it must do so within a deadline of 18 months from the date of entry into force of the TPNW for the state in question.
- An Additional Protocol (AP) with the IAEA, or an instrument of equivalent or higher standard, is also mandatory for all non-nuclear-armed states parties that had one in force upon the entry into force of the TPNW on 22 January 2021.
- These are only minimum requirements, and the TPNW implicitly encourages states parties to adhere to the highest standard of safeguards. At present, this is the above-mentioned CSA and an AP.
- If a nuclear-armed state eliminates its nuclear-weapons programme and then adheres to the TPNW it will be obliged to conclude a safeguards agreement that provides 'credible assurance of the non-diversion of declared nuclear material from peaceful nuclear activities and of the absence of undeclared nuclear material or activities in that State Party as a whole'. (Article 4(1)). This formulation equates to, at least, a CSA and a full AP. This means that the state in question will have to upgrade its existing safeguards agreement to a CSA and the requisite AP. Negotiations on these safeguards must start within 180 days, with the resultant treaty entering into force within 18 months of the TPNW's entry into force for the state in question. These states must maintain, as a minimum, these safeguards, but may adopt more far-reaching safeguards in the future.
- If a nuclear-armed state adheres to the TPNW before eliminating its nuclear-weapons programme it will also be obliged to conclude a safeguards agreement that provides 'credible assurance of the non-diversion of declared nuclear material from peaceful nuclear activities and of the absence of undeclared nuclear material or activities in the State as a whole'. (Article 4(3)). Again, this formulation equates to, at least, a CSA and an AP. Negotiations on these safeguards are mandated to start no later than the completion of nuclear elimination, with the resultant treaty entering into force within 18 months. These states must maintain, as a minimum, these safeguards but may adopt further safeguards in the future. The Treaty does not specify safeguards that should be applied between entry into force and the completion of nuclear elimination for these states, but these may be agreed in the legally-binding, time-bound plan for the verified and irreversible elimination of these states' nuclear-weapons programmes that is required, and which includes the elimination or irreversible conversion of all nuclear-weapons-related facilities.

Figure 25: Status of safeguards agreements in non-nuclear-armed states, as of 31.12.2023<sup>2</sup>



<sup>2</sup> Source: IAEA, 'Status List: Conclusion of Safeguards Agreements, Additional Protocols and Small Quantities Protocols', as of 31 December 2023, at: <https://bit.ly/3298sXA>.

**TABLE G: STATUS OF SAFEGUARDS AGREEMENTS IN NON-NUCLEAR-ARMED STATES, AS OF 31.12.2023<sup>3</sup>**

136 states with a CSA and an AP in force	
Afghanistan, Albania, Andorra, Angola, <u>Antigua and Barbuda</u> , Armenia, Australia, <u>Austria</u> , Azerbaijan, Bahrain, <u>Bangladesh</u> , Belgium, <u>Benin</u> , <u>Bolivia</u> , Bosnia and Herzegovina, <u>Botswana</u> , Bulgaria, Burkina Faso, Burundi, <u>Cabo Verde</u> , <u>Cambodia</u> , Cameroon, Canada, Central African Republic, Chad, <u>Chile</u> , Colombia, <u>Comoros</u> , <u>Congo</u> , <u>Costa Rica</u> , <u>Cote d'Ivoire</u> , Croatia, <u>Cuba</u> , Cyprus, Czechia, Denmark, Djibouti, <u>Dominican Republic</u> , <u>DR Congo</u> , <u>Ecuador</u> , <u>El Salvador</u> , Eritrea, Estonia, Eswatini, Ethiopia, <u>Fiji</u> , Finland, Gabon, <u>Gambia</u> , Georgia, Germany, Ghana, Greece, <u>Guatemala</u> , <u>Guinea-Bissau</u> , Haiti, <u>Holy See</u> , <u>Honduras</u> , Hungary, Iceland, Indonesia, Iraq, <u>Ireland</u> , Italy, <u>Jamaica</u> , Japan, Jordan, <u>Kazakhstan</u> , Kenya, Kuwait, Kyrgyzstan, Latvia, <u>Lesotho</u> , Liberia, Libya, Liechtenstein, Lithuania, Luxembourg, Madagascar, <u>Malawi</u> , Mali, <u>Malta</u> , Marshall Islands, Mauritania, Mauritius, <u>Mexico</u> , Moldova, Monaco, <u>Mongolia</u> , Montenegro, Morocco, Mozambique, <u>Namibia</u> , Netherlands, <u>New Zealand</u> , <u>Nicaragua</u> , Niger, <u>Nigeria</u> , North Macedonia, Norway, <u>Palau</u> , <u>Panama</u> , <u>Paraguay</u> , <u>Peru</u> , <u>Philippines</u> , Poland, Portugal, Romania, Rwanda, <u>Saint Kitts and Nevis</u> , Sao Tome and Principe, Senegal, Serbia, <u>Seychelles</u> , Singapore, Slovakia, Slovenia, <u>South Africa</u> , South Korea, Spain, Sweden, Switzerland, Tajikistan, Tanzania, <u>Thailand</u> , Togo, Türkiye, Turkmenistan, Uganda, Ukraine, United Arab Emirates, <u>Uruguay</u> , Uzbekistan, <u>Vanuatu</u> , <u>Viet Nam</u> , Zimbabwe.	
47 states with only a CSA in force	
CSA in force, AP signed (10 states)	<b>Algeria</b> , <b>Belarus</b> , <b>Iran</b> , <u>Kiribati</u> , <u>Lao PDR</u> , <b>Malaysia</b> , Myanmar, Sierra Leone, Tunisia, Zambia.
CSA in force, AP approved (2 states)	<u>Nauru</u> , <u>Sri Lanka</u> .
CSA in force, no steps towards AP (35 states)	<b>Argentina</b> , Bahamas, Barbados, <u>Belize</u> , Bhutan, <b>Brazil</b> , Brunei, <u>Cook Islands</u> ,* <u>Dominica</u> , <b>Egypt</b> , <u>Grenada</u> , <u>Guyana</u> , Lebanon, <u>Maldives</u> , Micronesia, Nepal, <u>Niue</u> ,* Oman, <u>Palestine</u> , Papua New Guinea, Qatar, <u>Saint Lucia</u> , <u>Saint Vincent and the Grenadines</u> , <u>Samoa</u> , <u>San Marino</u> , <b>Saudi Arabia</b> , Solomon Islands, Sudan, Suriname, <b>Syria</b> , Tonga, <u>Trinidad and Tobago</u> , <u>Tuvalu</u> , <b>Venezuela</b> , Yemen.
5 states with no CSA in force	
CSA signed, AP signed (2 states)	<u>Timor-Leste</u> ,# <u>Guinea</u> .
CSA approved, no steps towards AP (1 state)	Equatorial Guinea.
No steps towards CSA (2 states)	Somalia, South Sudan.

\* New Zealand's CSA and Original SQP also apply to Cook Islands and Niue.

# 18-month deadline to bring into force a CSA under Article 3(2) of the TPNW.

States that are states parties to the TPNW are underlined. States shown in **bold** have nuclear facilities but have not brought into force an AP with the IAEA.

## Progress

Apart from South Sudan, all of the states that are still outliers either on the AP or on both the CSA and the AP are states parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). They therefore have a pre-existing obligation under that Treaty to conclude and bring into force a CSA that they have not yet fulfilled, or they have not yet acted upon the 2000 and 2010 NPT Review Conferences' recommendation to conclude and bring into force an AP as soon as possible.<sup>4</sup> The TPNW has now become an additional forum where diplomats, civil society, and the IAEA can advocate for universal application of both a CSA and an AP. The Treaty's safeguards provisions have already contributed to new momentum in safeguards actions. The International Campaign to Abolish Nuclear Weapons (ICAN), which is in dialogue with states that are preparing to sign, ratify or accede to the TPNW, reports that several such states simultaneously or in advance have initiated processes to fill any gaps with respect to safeguards agreements. Since the adoption of the Treaty in 2017 and through to the end of 2023, a total of eight APs and five CSAs had been brought into force with the IAEA by states that are either signatories or states parties to the TPNW: Benin, Guinea-Bissau, Cabo Verde, and Sao Tome and Principe have brought into force both a CSA and an AP; Bolivia, Honduras, Thailand, and Zimbabwe have each brought into force an AP, and Palestine has brought into force a CSA.

## Deadline states

Under the TPNW, it is mandatory for all non-nuclear-armed states parties to have a CSA. If a non-nuclear-armed state has not brought into force a CSA upon adhering to the TPNW, the Treaty's Article 3(2) stipulates that it must do so within a deadline of 18 months. Since the entry into force of the TPNW, this important deadline has thus far been applied to four states parties: Cabo Verde, Guinea Bissau, Palestine, and Timor-Leste. The first three have already brought into force their CSAs, whilst Timor-Leste is working to do so but missed its treaty-imposed deadline of 18 March 2024.

Thus, Article 3(2) of the TPNW has directly contributed to reducing the number of outliers on the CSA from nine at the end of 2021 to only five at the end of 2023, and to one of those five (Timor-Leste) already being under deadline. If any of the remaining four outliers also becomes a state party to the TPNW, it too will have to comply with the 18-month deadline to bring a CSA into force.

<sup>3</sup> Ibid.

<sup>4</sup> '2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons Final Document', Action 28, at: <https://bit.ly/34mNQwb>.

## Steps taken

While it is regrettable that not all of the world's 188 non-nuclear-armed states have yet brought into force both a CSA and an AP, it is positive that one quarter of the 47 states that have only brought a CSA into force have already taken steps towards an AP: ten states have signed an AP and need only to bring it into force, while two others (Nauru and Sri Lanka) have agreed upon texts for an AP which have also been approved by the Board of the IAEA. Similarly, of the five states that have not yet brought a CSA into force, two (Timor-Leste and Guinea) have already signed both a CSA and an AP and need only to bring them into force, and one (Equatorial Guinea) has an approved CSA. The only two non-nuclear-armed states in the world that have not taken any steps towards a CSA are Somalia and South Sudan. See Table G opposite for details.

## Nuclear facilities

The Nuclear Weapons Ban Monitor emphasises that it is in states with nuclear facilities<sup>5</sup> that it is most critical to have a strengthened safeguards system through both a CSA and an AP.<sup>6</sup> Information about whether or not a state has nuclear facilities is indicated in the Nuclear Weapons Ban Monitor's state profiles on [www.banmonitor.org](http://www.banmonitor.org). A total of 63 non-nuclear-armed states currently have nuclear facilities,<sup>7</sup> and of these, ten have not yet brought into force an AP with the IAEA. Two of these ten states are states parties to the TPNW: Malaysia and Venezuela. The other eight are Algeria (TPNW signatory), Argentina, Belarus, Brazil (TPNW signatory), Egypt, Iran, Saudi Arabia, and Syria. They are indicated in bold in Table G opposite. TPNW states parties Malaysia and TPNW signatory Algeria as well as Belarus and Iran have already signed an AP and need only to bring it into force. The remaining six states have not yet taken any steps towards an AP and should do so urgently: Argentina, Brazil (TPNW signatory), Egypt, Saudi Arabia, Syria, and Venezuela (TPNW state party).

## Small Quantities Protocols

At the close of 2023, 100 of the 188 non-nuclear-armed states had an operative SQP, which suspends some of the provisions of their CSA. Of these, 79 were modified SQPs while the other 21 states had not yet upgraded their SQP to the new standard and still retained original SQPs.

During the course of 2023, Nauru upgraded its SQP to a modified SQP, and Saudi Arabia announced at the IAEA's General Conference that it had decided to rescind its SQP and move to the implementation of a full-scope CSA.<sup>8</sup> Saudi Arabia's SQP has long been a cause for concern as the country has been preparing to launch a nuclear power programme. At the time of writing, its original SQP was still operational.

## Safeguards agreements in nuclear-armed states

The NPT's five nuclear-weapon-states (China, France, Russia, the United Kingdom and the United States) have concluded so-called 'voluntary offer' safeguards agreements, based on the CSA model, which involve safeguards only on certain nuclear material and facilities in their nuclear fuel cycle. They have also concluded limited APs to their voluntary offer agreements.

Three nuclear-armed states not party to the NPT (India, Israel, and Pakistan) have concluded item-specific safeguards agreements, which prohibit the use of specified items under safeguards for military purposes or the manufacture of nuclear explosive devices. India has concluded a limited AP to its item-specific agreement. North Korea had originally brought into force a CSA, but the IAEA's in-country verification activities ceased in April 2009.

As discussed above in the interpretation of the TPNW's safeguards requirements, upon adherence to the Treaty nuclear-armed states will have to, as a minimum, upgrade their existing safeguards agreements to a full CSA over all nuclear material and upgrade to, or conclude and bring into force, a full AP.

5 The IAEA Nuclear Safety and Security Glossary defines a 'nuclear facility' as a facility (including associated buildings and equipment) in which nuclear material is produced, processed, used, handled, stored or disposed of. See, 'IAEA Nuclear Safety and Security Glossary', 2022 (Interim) Edition, at: <https://bit.ly/3Dvysfw>.

6 J. Carlson, 'The Treaty on the Prohibition of Nuclear Weapons and the Safeguards Standard', Nuclear Threat Initiative, 2 December 2021, at: <https://bit.ly/3RsdxzJ>.

7 See Tables A42 (a) and (b) of 'IAEA Annual Report. Additional Annex Information'. The data are from 2022. The Nuclear Weapons Ban Monitor also includes Saudi Arabia as a state with nuclear facilities, as it has a research reactor close to operation.

8 Middle East Eye, 'Saudi Arabia plans tougher checks on its nuclear activities' 25 September 2023, at: <https://bit.ly/3VJk90B>.

# THE OBLIGATION TO ELIMINATE NUCLEAR WEAPONS



A woman holding up a sign during a protest on 30 November 2023 outside The United States Mission to the United Nations. The protesters called on the United States to be the first nuclear-armed state to respond to the global demand for nuclear disarmament and sign the TPNW. (Photo by Eric McGregor/Alamy/NTB)

**Events in 2023 again showed that the conduct of all the nine nuclear-armed states is incompatible with the TPNW's obligation to eliminate nuclear weapons. No nuclear disarmament initiatives are currently under consideration by these states, and the existing arms control architecture designed to constrain nuclear arsenals is under considerable stress.**

The five nuclear-weapon states parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)—China, France, Russia, the United Kingdom, and the United States—continued to fail to comply with the obligation under Article VI of the NPT to 'pursue negotiations in good faith' on nuclear disarmament. While all nuclear-armed states have expressed their support for nuclear disarmament,<sup>1</sup> they are not pursuing this goal. They argue that this process requires creating a suitable environment first.

The UN Secretary-General's work on the 2024 Summit of the Future<sup>2</sup> included the publication of 'A New Agenda for Peace' in July 2023. Action 1 to address strategic risks was: 'Eliminate nuclear weapons'. It urged states to 'Recommit urgently to the pursuit of a world free of nuclear weapons and reverse the erosion of international norms against the spread and use of nuclear weapons'.<sup>3</sup>

1 China, France, Russia, the United Kingdom, and the United States have agreed to an 'unequivocal undertaking' to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament, consonant with their obligations under Article VI of the NPT. Of the four other nuclear-armed states (all states not party to the NPT), India and Pakistan have longstanding and frequently referenced policies in favour of global nuclear disarmament, formulated in similar terms to those of the NPT nuclear-weapon states. (See, e.g., <https://bit.ly/3kNGBzG> and <https://bit.ly/360HhzU>). North Korea intermittently expresses support for a nuclear-weapon-free world and joins statements and policy documents of the Non-Aligned Movement (NAM) that call for nuclear disarmament. (See, e.g., <https://bit.ly/3fgKR9P>). Israel too is on record as supporting nuclear disarmament, although it does so in abstract terms since it does not officially acknowledge its own possession of nuclear weapons. (See, e.g., <https://bit.ly/333LKOa>).

2 'Summit of the Future', United Nations, 2024, at: <https://bit.ly/4b0zGx3>.

3 'A New Agenda for Peace', Our Common Agenda Policy Brief, United Nations, July 2023, at: <https://bit.ly/47RevGx>.

#### ARTICLE 4(1), (2), AND (6) – INTERPRETATION

- In accordance with Article 4(6) of the TPNW, the states parties are explicitly obligated to designate a ‘competent international authority or authorities’ to negotiate and verify the irreversible elimination of nuclear weapons programmes.
- The TPNW provides two pathways to the future adherence of nuclear-armed states: one for so-called destroy-and-join states (‘Article 4(1) states’) and a second for so-called join-and-destroy states (‘Article 4(2) states’).
- Article 4(1) obligates each nuclear-armed state that destroys its nuclear weapons and eliminates its nuclear-weapons programme before adhering to the TPNW, to cooperate with the ‘competent international authority’ that states parties will designate to verify nuclear disarmament, in order to ascertain that its nuclear-weapon programme has been irreversibly eliminated.
- Article 4(2) obligates those nuclear-armed states that decide to adhere to the Treaty before completing nuclear disarmament to immediately remove the weapons or devices from operational status and to destroy them as soon as possible but not later than the deadline of ten years determined by the First Meeting of States Parties in 2022. The process of destruction must be detailed in a legally-binding, time-bound plan that provides for the verified and irreversible elimination of that state party’s nuclear-weapons programme, including the elimination or irreversible conversion of all nuclear-weapons-related facilities. Such a state must submit a draft of the plan to the other states parties or to the competent international authority within 60 days of becoming a party. The plan must then be negotiated with this authority and submitted to the next meeting of states parties or review conference, whichever comes first, for approval.
- Article VI of the NPT requires that the states parties to the Treaty, including the five nuclear-weapon states parties ‘pursue negotiations in good faith’ on nuclear disarmament. The TPNW is one avenue by which any nuclear-armed state can effectively pursue nuclear disarmament.

In addition, in 2023 the High-Level Advisory Board on Effective Multilateralism (HLAB) established by the Secretary-General published its report, ‘A Breakthrough for People and Planet’. The report called for a date to be set ‘for total denuclearization, which must translate into a concrete vision of a world without nuclear weapons, and identifies concrete steps towards strengthening and accelerating denuclearization’, with clear intermediate time-bound benchmarks and agreed verification processes.<sup>4</sup>

#### Elimination of nuclear weapons

As shown on page 25, the global nuclear stockpile at the beginning of 2024 included approximately 12,347 nuclear weapons. This is a significant decrease from the peak of more than 70,000 weapons, reached in the middle of the 1980s. Most of the reductions, however, were completed in the 1990s when the United States dismantled about 1,400 weapons annually,<sup>5</sup> while Russia was doing likewise at a comparable rate. As shown in Figure 13 on page 27, the total number of nuclear weapons in the world is slowly decreasing each year, but the reduction rate has slowed down significantly in recent years and is maintained almost entirely by the dismantlement by the US and Russia of their decommissioned weapons.

Russia and the United States still have a considerable backlog of retired nuclear weapons. The dismantlement of these weapons will sustain the current gradual decrease of the number of weapons in the global stockpile. It is estimated that the United States dismantled fewer than 100 retired nuclear weapons in the course of 2023, and that its remaining number of retired warheads awaiting dismantlement was about 1,562 in January 2024.<sup>6</sup> According to the most recent official data on the dismantlement rate, the United States eliminated about 200 weapons annually in the years preceding 2021.<sup>7</sup> Although the US government has stopped releasing this information, it is likely that this rate has been maintained.<sup>8</sup>

Russia has never published data on its nuclear weapon stockpile. According to some estimates, it was dismantling as many as 2,000 warheads a year in the early 1990s. It was further estimated that the net reduction rate in the Russian stockpile was about 200–300 warheads a year in the late 2000s.<sup>9</sup> The Nuclear Information Project at the Federation of American Scientists estimate that Russia dismantled approximately 200 retired warheads in 2023, and that 1,200 weapons remained in its dismantling queue as of January 2023.<sup>10</sup>

The United Kingdom and France completed reductions of their nuclear arsenals in the 2000s. Neither country has made any additional commitment regarding reductions of their arsenals. The UK government in 2021 announced a significant increase to the upper limit of its warhead inventory, from 180 to 260 warheads.<sup>11</sup>

4 HLAB, ‘A Breakthrough for People and Planet’, 2023, at: <https://bit.ly/3xtOfvp>.

5 US Department of State, ‘Transparency in the U.S. Nuclear Weapons Stockpile’, 5 October 2021, at: <https://bit.ly/3X9uCn0>.

6 See page 25.

7 US Department of State, ‘Transparency in the U.S. Nuclear Weapons Stockpile’.

8 H. M. Kristensen, ‘While Advocating Nuclear Transparency Abroad, Biden Administration Limits It At Home’, Federation of American Scientists, 31 July 2023, at: <https://bit.ly/4aWXGkW>.

9 International Panel on Fissile Materials, Global Fissile Material Report 2007: Developing the Technical Basis for Policy Initiatives to Secure and Irreversibly Reduce Stocks of Nuclear Weapons and Fissile Materials, 2007, 62, at: <https://bit.ly/3VhQ1zy>.

10 See page 25.

11 H. M. Kristensen and M. Korda, ‘British Defense Review Ends Nuclear Reductions Era’, Federation of American Scientists, 17 March 2021, at: <https://bit.ly/4erCTbu>.

As discussed on page 27, China is believed to be in the process of increasing the size of its nuclear stockpile. Russia, while continuing to dismantle retired warheads, appears to be increasing the number of weapons available for use. North Korea, India, and Pakistan are also believed to add weapons to their arsenals, albeit at a much lower rate. Since 2017, this has brought about a steady increase in the global number of nuclear warheads available for use, which is expected to continue. All this suggests that the gradual decrease of the total number of nuclear weapons that was supported primarily by dismantling Russian and US Cold War arsenals could be reversed in the upcoming years.

## Arms control

The system of arms control agreements that for a long time constrained the growth of nuclear arsenals and facilitated nuclear disarmament has come under considerable stress. In February 2023, Russia formally suspended its participation in New START, the US-Russian nuclear arms control treaty that limited the number of deployed strategic weapons and delivery vehicles.<sup>12</sup> The treaty, which entered into force in 2011, will expire in February 2026. While announcing the suspension, the Russian government made a commitment to continue abiding by its limits and also to provide notifications about ballistic missile launches as required by a separate US-Soviet agreement concluded in 1988.<sup>13</sup>

The United States argued that the suspension is illegal and introduced a range of countermeasures aimed at compelling Russia to return to compliance.<sup>14</sup> These measures include the suspension of the biannual data exchanges, notifications, on-site inspections, and telemetry exchange. The United States also stopped publishing aggregate numbers of treaty-limited warheads and delivery vehicles. At the same time, the United States declared that it would continue to abide by the treaty limits and will do so as long as Russia does the same. It also committed to provide notifications of missile launches and large strategic exercises as required by other agreements.<sup>15</sup> Since the Treaty has been suspended and both parties stopped publishing the data on their strategic arsenals, the commitments to abide by the Treaty limits cannot be verified. It appears that both parties have followed their respective obligations in 2023 and are likely to continue to do so at least until the Treaty formally expires in February 2026. At the same time, the prospects for reaching an agreement that would limit the size of nuclear arsenals after that date appear to be extremely distant. In June 2023, the United States offered Russia and China to begin a discussion of nuclear risks and post-2026 arms control framework without preconditions.<sup>16</sup> Russia formally rejected the offer in December 2023, linking any nuclear talks with a broader set of security issues.<sup>17</sup>

China, on the other hand, appears to have responded to the offer. In November 2023 the United States and China held a meeting that discussed 'issues related to arms control and non-proliferation'.<sup>18</sup> Although the meeting did not bring any agreement and did not launch a formal consultation process, it was notable as it was the first time these states discussed arms control. While the United States and China continue to engage in dialogue focused on a range of bilateral issues, there are no indications it could result in specific arms control or disarmament agreements.

The only forum where nuclear-weapon states continue to discuss issues related to nuclear disarmament is the P5 group of NPT nuclear-weapon states. The United States has introduced a set of proposals designed to reduce nuclear risks for discussion by the group. Key among these are the formalisation of a missile launch notification regime and the establishment of dedicated crisis communication channels. While these initiatives can help reduce nuclear risks and can potentially create conditions for further progress, they do not directly contribute to nuclear disarmament.

## Nuclear disarmament verification

Even though the nuclear arms control and disarmament process has stalled, efforts to develop a framework for the verified elimination of nuclear weapons have continued. In 2023, the Group of Governmental Experts on nuclear disarmament verification released a consensus report that outlined principles that could guide the process.<sup>19</sup> Although the group did not examine nuclear disarmament in the TPNW context, it concluded that verification measures will be determined by specific obligations of a disarmament agreement. This conclusion is compatible with the understanding that TPNW verification arrangements can differ significantly from those of the disarmament agreements developed in an adversarial context.<sup>20</sup>

12 The decree signed by the President of Russia is at 'Федеральный закон от 28.02.2023 г. № 38-ФЗ', Президент России, 28 February 2023, at: <https://bit.ly/3VdQZoJ>.

13 'Foreign Ministry Statement in Connection with the Russian Federation Suspending the Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START)', Ministry of Foreign Affairs of the Russian Federation, 21 February 2023, at: <https://bit.ly/3VjSa1E>.

14 US Department of State, 'U.S. Countermeasures in Response to Russia's Violations of the New START Treaty', 1 June 2023, at: <https://bit.ly/3x9oNv6>.

15 'Remarks by National Security Advisor Jake Sullivan for the Arms Control Association (ACA) Annual Forum', Arms Control Association, 2 June 2023, at: <https://bit.ly/3x9EX7J>.

16 Ibid.

17 'Foreign Minister Sergey Lavrov's Statement and Answers to Media Questions during a News Conference on Russia's Foreign Policy Performance in 2023, Moscow, January 18, 2024', Ministry of Foreign Affairs of the Russian Federation, 18 January 2024, at: <https://bit.ly/4a1Jeky>.

18 US Department of State, 'Assistant Secretary Mallory Stewart's Meeting with the People's Republic of China's (PRC) Ministry of Foreign Affairs Director-General of Arms Control Sun Xiaobo', 7 November 2023, at: <https://bit.ly/45hycRC>; and Ministry of Foreign Affairs of the People's Republic of China, 'China and the United States Hold Consultations on Arms Control and Non-Proliferation', 8 November 2023, at: <https://bit.ly/45foP10>.

19 'Final Report of the Group of Governmental Experts to Further Consider Nuclear Disarmament Verification Issues', 23 June 2023, at: <https://bit.ly/3KH9P2t>.

20 S. Philippe and Z. Mian, 'The TPNW and nuclear disarmament verification: shifting the paradigm', Chap. 1 in P. Podvig (ed.), *Verifying Disarmament in the Treaty on the Prohibition of Nuclear Weapons*, UNIDIR, 2022, at: <https://bit.ly/3z1MFRS>.

This aspect of TPNW verification was further explored in the report of the Scientific Advisory Group to the Second Meeting of TPNW States Parties.<sup>21</sup> The report acknowledged the work on technical aspects of verification that has been achieved by nuclear-weapon states, often in cooperation with non-nuclear-weapon states. At the same time, it underscored the importance of developing approaches to verification that could take advantage of the unique nature of the TPNW. It can be assumed that a state joining the TPNW has made a voluntary commitment to full elimination of its nuclear weapon programme and that a high degree of cooperation with the verification process therefore can be expected.

The work on traditional verification approaches contributes to the framework for nuclear disarmament verification in several different ways. First, it develops tools and technologies that can potentially be used in the TPNW context. Then, it provides nuclear-weapon states with an opportunity to be involved in a disarmament verification process and to work together with non-weapon states. Among the multilateral initiatives in this area are the International Partnership on Nuclear Disarmament Verification (IPNDV) and the QUAD Nuclear Verification Partnership.<sup>22</sup> Another multinational verification project completed in 2023 was the verification experiment conducted by the UN Institute for Disarmament Research (UNIDIR) that tested approaches and technologies that can verify the absence of nuclear weapons.<sup>23</sup>

A separate area of verification-related research that received considerable attention in 2023 was the irreversibility of nuclear disarmament. The attention to this issue was drawn by the initiative of the governments of Norway and the United Kingdom that was introduced at the 2022 NPT Review Conference.<sup>24</sup> So far, most of the work in this area was done in the context of the traditional arms control and non-proliferation approaches to verification.<sup>25</sup> At the same time, irreversibility is an important concept for the TPNW as well since the Treaty requires irreversible elimination of nuclear weapons and nuclear weapon programmes. Progress in this area directly contributes to the goals of nuclear disarmament and some of the work has already contributed to better understanding of irreversibility in the TPNW context.<sup>26</sup>

## Second Meeting of States Parties to the TPNW

The First Meeting of States Parties to the TPNW (1MSP) created an informal working group on the implementation of Article 4 of the Treaty. In consultations with experts, the group developed a better understanding of the process that would guide disarmament in states joining the TPNW under the conditions of Articles 4(1) or 4(2). It also considered issues of designing verification arrangements that could be used in this process. The group has also identified several questions for further consideration and discussion with the Scientific Advisory Group established by 1MSP. These include the definition of a nuclear-weapons programme for the purposes of Article 4, the organisation of the verification process, and the approach to irreversibility of a nuclear weapons programme.<sup>27</sup>

The report of the Scientific Advisory Group presented at the Second Meeting of States Parties (2MSP) contained a discussion of some of the key issues that the Article 4 process will need to address. Most importantly, it considered the role of societal and institutional transformation that would accompany nuclear disarmament and the resulting change in the approach to verification. The report also addressed new disarmament verification tools and techniques, the relationship between disarmament and safeguards, and the question of nuclear-weapon delivery systems. It emphasised the importance of learning from past disarmament and verification initiatives and processes, engaging existing organisations, such as the International Atomic Energy Agency (IAEA) and the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), and building capacity in the field of verification.<sup>28</sup> To facilitate intersessional work the 2MSP established an informal working group, to be chaired by Malaysia and New Zealand that will further discuss the implementation of article 4 and the future designation of a competent international authority.<sup>29</sup> The Scientific Advisory Group will also continue to explore these issues. The work achieved thus far provides a solid foundation for the future studies.

Despite the lack of progress on the elimination of nuclear weapons and the real danger of nuclear-weapon states starting a new nuclear arms race, the work on the development of a framework for future nuclear disarmament continues. The research conducted thus far has shown that the TPNW offers a viable pathway toward the complete elimination of nuclear weapons.

21 'Report of the Scientific Advisory Group on the Status and Developments Regarding Nuclear Weapons, Nuclear Weapon Risks, the Humanitarian Consequences of Nuclear Weapons, Nuclear Disarmament and Related Issues (Enhanced Version)', Second Meeting of States Parties to the TPNW, 27 October 2023, at: <https://bit.ly/3RINUBX>, p. 30.

22 International Partnership for Nuclear Disarmament, 'IPNDV September 2023 Working Meeting, Budapest, Hungary', 8 September 2023, at: <https://bit.ly/3XiqK3Q>; and Quad Nuclear Verification Partnership, Ongoing Projects, 2023, at: <https://bit.ly/3Vyqx3>.

23 P. Podvig (ed.), Menzinger Verification Experiment: Verifying the Absence of Nuclear Weapons in the Field, UNIDIR, 2023, at: <https://bit.ly/3VycamC>.

24 'Irreversibility in the Context of the Treaty on the Non-Proliferation of Nuclear Weapons: Recommendations for the Tenth Review Conference of the Parties to the Treaty', Working Paper, Submitted by Norway and the United Kingdom, 8 November 2021, at: <https://bit.ly/4cvhVYf>.

25 H. Elbaitimy, 'Approaching Irreversibility in Global Nuclear Politics', *Journal for Peace and Nuclear Disarmament*, Vol. 6, No. 2 (3 July 2023), 199–217, at: <https://bit.ly/3XmWgwG>.

26 N. Ritchie, 'Irreversibility and Nuclear Disarmament: Unmaking Nuclear Weapon Complexes', *Journal for Peace and Nuclear Disarmament*, Vol. 6, No. 2 (2023), 1–26, at: <https://bit.ly/3VADnFA>.

27 'Report of the Co-Chairs of the Informal Working Group on the Implementation of Article 4', 2MSP, 26 October 2023, at: <https://bit.ly/3Vxk3ZH>.

28 'Report of the TPNW Scientific Advisory Group', 29–35.

29 'Report of the Second Meeting of States Parties to the TPNW', 2MSP, 13 December 2023, Annex II, at: <https://bit.ly/4baLkG5>.

THE OBLIGATION TO

# REMOVE FOREIGN NUCLEAR WEAPONS



Activists block the entrance to Volkel Air Base in the Netherlands on 7 August 2023, in a protest against nuclear weapons. (Photo by Rob Engelaar, ANP/NTB)

**Within 90 days after becoming a state party to the TPNW, Belarus, Belgium, Germany, Italy, the Netherlands, and Türkiye would each be obliged to ensure the removal of the foreign nuclear weapons that they currently host on their territory.**

In the case of Belgium, Germany, Italy, the Netherlands, and Türkiye, this concerns the total of 100 US nuclear bombs stationed in US Air Force bases on their territories. In the case of Belarus, which became the sixth state to host foreign



#### ARTICLE 4(4) – INTERPRETATION

- Under Article 4(4), any state party with foreign nuclear weapons in its territory or in any other place under its jurisdiction or control is obligated to ensure their prompt removal as soon as possible but not later than a deadline to be determined by the First Meeting of States Parties.
- The First Meeting of States Parties in 2022 agreed upon a deadline of a maximum of 90 days for such removal, which is a binding rule upon all states parties.
- Upon removal, the territorial state party is required to submit a declaration of full compliance to the Secretary-General of the United Nations.

nuclear weapons on its soil in the second half of 2023, the number, types and location of deployed Russian nuclear weapons is uncertain. ‘We have missiles and bombs that we have received from Russia’, Belarus President Alexander Lukashenko said in June in an interview with the Rossiya-1 Russian state TV channel. ‘The bombs are three times more powerful than those (dropped on) Hiroshima and Nagasaki’, he stated.<sup>1</sup>

Over the years, there have been several attempts by European policymakers to have the remaining nuclear weapons removed from their respective territory. Numerous non-governmental organisations have continued to advocate for removal and in Belgium, Germany, and the Netherlands several political initiatives, involving parliamentary debates and motions, have also sought to achieve the removal of nuclear weapons.

In four of the five NATO host states—excluding Türkiye—public opinion polls have in the past continuously shown clear support for withdrawal of the nuclear weapons on their soil.<sup>2</sup> In 2022, however, poll results in Germany shifted after the Russian invasion of Ukraine. In May and June that year, a poll with over 1,300 respondents was conducted, where 52% were in favour of keeping US nuclear weapons on German soil, including 12% of respondents wanting modernisation and reinforcement.<sup>3</sup> No new poll results were published in 2023 for any of the hosting nations.

A total of at least 19 states are believed to have previously hosted foreign nuclear weapons, in some cases even without their knowledge.<sup>4</sup>

For more information on the ongoing deployment of nuclear weapons in Europe, see pages 58 to 61.

1 L. Kelly and A. Osborn, ‘Belarus starts taking delivery of Russian nuclear weapons’, *Reuters*, 14 June 2023, at: <https://bit.ly/3SAYeac>.  
2 See, e.g., International Campaign to Abolish Nuclear Weapons (ICAN), ‘Polls: Public Opinion in EU Host States Firmly Opposes Nuclear Weapons’, 25 October 2020, at: <https://bit.ly/3nVmEeN>.  
3 ‘For the First Time, Majority in Favour of Keeping Nuclear Weapons’, *Tagesschau*, 2 June 2022, at: <https://bit.ly/3RJYqSq>.  
4 Belgium, Canada, Czechoslovakia, Cuba, Cyprus, Denmark (Greenland), France, East Germany and West Germany, Greece, Hungary, Iceland, Italy, Mongolia, Morocco, Netherlands, Philippines, Poland, South Korea, Singapore, Spain, Taiwan, Türkiye, United Kingdom. The figure does not include territories that during the relevant period were under the direct jurisdiction or administration of a nuclear-armed state (Guam, Okinawa, and the Marshall Islands). Sources: H. M. Kristensen, ‘Where the Bombs Are’, *Federation of American Scientists*, 9 November 2006; M. Fuhrmann and T. S. Sechser, ‘Appendices for “Signalling Alliance Commitments”’, 6 April 2014; R. S. Norris, W. M. Arkin, and W. Burr, ‘Where they Were’, *Bulletin of the Atomic Scientists*, Vol. 55, No. 6 (1999); and E. N. Rózsa and A. Péczelli, ‘Nuclear Attitudes in Central Europe’, *EU Non-Proliferation Consortium*, No. 42 (2015).

THE OBLIGATION TO

# ADOPT NATIONAL IMPLEMENTATION MEASURES



*All states parties to the TPNW are obliged to adopt national implementation measures, including the imposition of penal sanctions, to prevent and suppress any prohibited activity. (Illustration photo by nampix/Shutterstock/NTB)*

**No state party is known to have adopted new national implementing measures in its domestic law in 2023 to give effect to the TPNW's core prohibitions. Only states parties Ireland and Niue have thus far adopted national legislation specific to the TPNW, while some states parties are in the process of developing such a law. Many other states parties, however, had in place comprehensive existing legislation that addresses some or all of the obligations under the TPNW already before adhering to the Treaty.**

Very few states parties have adopted a specific law to give effect to their obligations under the TPNW. Many states parties, especially those whose domestic legal order is monist in nature, have noted that ratified treaties become part of the law of the land. Others note that their existing criminal law effectively covers the prohibitions in Article 1 of the TPNW. Nonetheless, each state party is encouraged to develop detailed legislation either specific to the TPNW or which includes its prohibitions in a broader law. In particular, new national legislation should be adopted by each state party to the TPNW that does not yet have in place laws to criminalise the acts prohibited by the Treaty and, where necessary, to implement its positive obligations.

Most non-nuclear-armed states are already today implementing most of the core prohibitions of the TPNW. As illustrated by Table H opposite, this is because they pursue nuclear-weapon-free defence postures and are states parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the Comprehensive Nuclear-Test-Ban Treaty (CTBT), and the nuclear-weapon-free zone (NWFZ) treaties,<sup>1</sup> and because they have brought into force safeguards agreements with the International Atomic Energy Agency (IAEA). Typically, therefore, they already have in place appropriate national

<sup>1</sup> Treaty of Tlatelolco (1967 Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean); Treaty of Rarotonga (1985 South Pacific Nuclear Free Zone Treaty); Treaty of Bangkok (1995 Treaty on the Southeast Asia Nuclear Weapon-Free Zone); Treaty of Pelindaba (1996 African Nuclear-Weapon-Free Zone Treaty); and Treaty of Semipalatinsk (2006 Treaty on a Nuclear-Weapon-Free Zone in Central Asia).

## ARTICLE 5 – INTERPRETATION

- Article 5 of the TPNW obligates every state party to take ‘the necessary measures’ to implement its obligations under the Treaty.
- Paragraph 2 of Article 5 stipulates that the duty to implement the Treaty nationally includes the taking of ‘all appropriate legal, administrative and other measures, including the imposition of penal sanctions, to prevent and suppress’ any prohibited activity. It concerns any such prohibited activity whether it is undertaken by natural or legal persons under its jurisdiction or control or on territory under its jurisdiction or control.
- Appropriate criminal legislation should cover at the least all of the core prohibitions set forth in Article 1 of the Treaty.
- The International Committee of the Red Cross (ICRC) has developed and published a model law for common-law states which can serve as a valuable basis for states parties to the TPNW to draft and enact such legislation (at: <http://bit.ly/3faEDXV>).
- The CTBT and the CWC also require national implementation measures, but there is no such obligation in the NPT or the NWFZ treaties.

measures, including legislation that addresses all or at least some of the core obligations under the TPNW. Accordingly, the adoption of new national legislation to implement the TPNW may not be necessary.

Crucially, however, all states parties to the TPNW have to establish whether their existing national laws would make it illegal for a national or any other person under their jurisdiction or control to develop, produce, possess, control, transfer, or use nuclear weapons, or to assist any other person or entity to do so, and whether they could prosecute them. If the answer is a clear yes, they have the required national legislation. In most states, engaging in conduct prohibited by the TPNW would ordinarily be a crime even if it is not specifically outlawed, because the handling of dangerous substances (which would encompass nuclear material) is prohibited.

To the knowledge of the Nuclear Weapons Ban Monitor, only states parties Ireland and Niue have adopted national legislation specifically to implement the TPNW. Ireland adopted its Prohibition of Nuclear Weapons Act in 2019.<sup>2</sup> The list of offences in Section 2 of the Act reflects Article 1(1) of the TPNW and an offence may be committed by both an individual and a company.<sup>3</sup>

Niue adopted its Prohibition of Nuclear Weapons Act in 2021. The Act is explicitly aimed at giving effect to the TPNW. The law defines ‘nuclear explosive device’ as an explosive device ‘whose harmful effects result primarily from uncontrolled

**TABLE H: NUCLEAR WEAPONS-RELATED PROHIBITIONS, ACROSS TREATIES**

Prohibition	TPNW	NPT	CTBT	Bangkok	Pelindaba	Rarotonga	Tlatelolco	Semipalatinsk	CSA/AP
Develop, produce	Dark	Dark	Light	Dark	Dark	Dark	Dark	Dark	Dark
Possess, stockpile	Dark	Dark	Light	Dark	Dark	Dark	Dark	Dark	Light
Test	Dark	Light	Dark	Dark	Dark	Dark	Dark	Dark	Light
Transfer	Dark	Light	Light	Light	Light	Light	Light	Light	Light
Receive transfer	Dark	Dark	Light	Dark	Dark	Dark	Dark	Dark	Light
Use	Dark	Light	Light	Dark	Light	Light	Dark	Light	Light
Threaten to use	Dark	Light	Light	Light	Light	Light	Light	Light	Light
Assist, encourage, induce	Dark	Light	Light	Dark	Dark	Dark	Dark	Dark	Dark
Allow stationing	Dark	Light	Light	Dark	Dark	Dark	Dark	Dark	Light

<sup>2</sup> The Act, which was signed into law by the Irish president in December 2019, is entitled an ‘Act to give effect to the Treaty on the Prohibition of Nuclear Weapons done at New York on 7 July 2017 and for those purposes to provide for offences relating to acts prohibited by that Treaty; and to provide for related matters’.

<sup>3</sup> Section 6(1) of Ireland’s 2019 Prohibition of Nuclear Weapons Act stipulates that where an offence under the Act is committed by a company (‘body corporate’) and where an officer of the company consented to or was guilty of wilful neglect, both the human and legal person is guilty of an offence.

nuclear chain reactions' and a nuclear weapon is a weaponised nuclear explosive device.<sup>4</sup> The prohibitions in Article 1 of the TPNW are effectively implemented in Section 6 of the Law, including the prohibitions on assistance or encouragement. Assistance is defined as aiding or abetting prohibited conduct, while encouraging pertains to urging, demanding, or inciting prohibited conduct where the person has influence over whether that conduct will actually occur.<sup>5</sup>

In the case of Viet Nam, a law addressing all weapons of mass destruction was adopted in 2019.<sup>6</sup>

### Examples of existing legislation

TPNW states parties Austria, Mongolia, and New Zealand are examples of states that when adhering to the TPNW already had in place comprehensive existing legislation that addresses some or all of the obligations under the Treaty. The 1987 New Zealand Nuclear Free Zone, Disarmament, and Arms Control Act prohibits the manufacture, acquisition, possession, or taking control over any nuclear explosive device as well as the transport on land or inland waters or internal waters and deployment of any nuclear explosive device in the New Zealand Nuclear Free Zone.<sup>7</sup>

Austria's 1999 Federal Act for a Non-Nuclear Austria stipulates that: 'Nuclear weapons must not be manufactured, stored, transported, tested, or used in Austria. Facilities for stationing nuclear weapons must not be set up.'<sup>8</sup>

Mongolia adopted a Law on its nuclear-weapon-free status in 2000.<sup>9</sup> Article 4 of the Law prohibits any natural or legal person or any foreign state from involvement in the development, manufacture, acquisition, possession, or control over nuclear weapons, their stationing or transportation, or their testing or use anywhere on Mongolian territory.

A number of other states parties and signatories to the TPNW have criminal provisions in their domestic laws on terrorism that implement the Treaty. TPNW signatory the Bahamas, for instance, incorporated the following provisions in its 2018 Anti-Terrorism Act:

'A person commits an offence who

- (a) knowingly causes or attempts to cause a nuclear weapons explosion;
- (b) develops or produces or participates in the development or production of a nuclear weapon;
- (c) has a nuclear weapon in his possession;
- (d) participates in the transfer of a nuclear weapon; or
- (e) engages in military preparations or in preparation of a military nature intending to use or threaten to use a nuclear weapon.<sup>10</sup>

These offences occur wherever in the world they are committed.

A similar law exists in state party Grenada from 2012.<sup>11</sup> TPNW signatory Indonesia also contains provisions on nuclear material in its terrorism legislation. Where a person is engaged in an unlawful importation of nuclear material there is no need to prove an intent to engage in terrorism.<sup>12</sup>

### National law under development

Also in Mexico, existing provisions of the criminal law largely address the prohibitions established in the TPNW, but Mexico is elaborating a comprehensive 'Non-proliferation Law', which will include complementary provisions on the implementation of the TPNW.<sup>13</sup> As of the end of 2023, however, the law had not yet been adopted.

4 Section 3(1), Niue 2021 Prohibition of Nuclear Weapons Act, Act No. 353 of 2021.

5 Ibid.

6 Government of Viet Nam, Decree on Preventing and Countering Proliferation of Weapons of Mass Destruction, Decree No. 81/2019/ND-CP, Hanoi, 11 November 2019.

7 Sections 4–6, 1987 New Zealand Nuclear Free Zone, Disarmament, and Arms Control Act.

8 S. 1, Federal Constitutional Act for a Nonnuclear Austria, 1999.

9 Law of Mongolia on its nuclear-weapon-free status, adopted on 3 February 2000.

10 S. 8(1), Bahamas 2018 Anti-Terrorism Act. The Act was amended in 2019 to extend the prohibition on use to use 'or proliferation'. (S. 5, 2019 Anti-Terrorism (Amendment) Act.) Unusually, the Act defines a nuclear weapon as a weapon that contains nuclear material as defined in Article 1(a) of the 1979 Convention on the Physical Protection of Nuclear Material. Therein, nuclear material 'means plutonium except that with isotopic concentration exceeding 60% in plutonium-238; uranium-233; uranium enriched in the isotope 235 or 233; uranium containing the mixture of isotopes as occurring in nature other than in the form of ore or ore-residue; any material containing one or more of the foregoing'. This definition would include a radiological dispersion device as well as a nuclear weapon.

11 S. 6(1), Grenada 2012 Terrorism Act. The Act further stipulates that 'a person participates in the development or production of a nuclear weapon if he does any act which (a) facilitates the development by another of the capability to produce or use a nuclear weapon; or (b) facilitates the making by another of a nuclear weapon knowing or having reason to believe that his act has or will have that effect.' S. 6(2), 2012 Terrorism Act.

12 Art. 10(A)(2), Law No. 5 of 2018 on Amendment to Law No. 15 of 2003 on Stipulation of Government Regulation in Lieu of Law No. 1 of 2002 on Eradication of Criminal Acts of Terrorism to become a Law.

13 Email to Grethe Lauglo Østern from María Antonieta Jáquez Huacuja, Coordinator for disarmament, non-proliferation and arms control, Mexican Ministry of Foreign Affairs, 18 February 2022.

Saint Kitts and Nevis informed the Nuclear Weapons Ban Monitor in 2021 that it intends to adopt specific implementing legislation on the TPNW.<sup>14</sup> Currently, many of the Treaty's prohibitions are effectively covered by the nation's 2002 Anti-Terrorism Act.<sup>15</sup> But the new legislation will also cover the TPNW's positive obligations, which are not addressed by existing laws in force.<sup>16</sup>

The Gambia has also stated that it intends to take measures to give effect to the TPNW at domestic level. The Gambia already has 'a self-imposed moratorium on the development, production, use, transfer of nuclear material (e.g. uranium) and provision of assistance to the development, production, transfer or use of nuclear weapons or their key components'.<sup>17</sup>

### **Administrative measures**

Beyond the adoption of national legislation, other measures, including of an administrative nature, need to be taken to implement the TPNW. Clear instructions should for instance be given to a state party's diplomats to promote adherence to the Treaty among other states. Preparation may also be needed within government for how to respond to requests for international cooperation and assistance from other states parties.

In particular, clear instructions should be given to the administrators of the national health system to ensure the provision of assistance to any victims of nuclear-weapons use or testing who are resident in each state party. For some states, there may also be a need for national measures to enable environmental remediation of affected land.

Algeria, which had signed but not yet ratified the TPNW at the time of writing, issued a prime ministerial decree in May 2021 that created and mandated a National Agency for the rehabilitation of the former French nuclear test sites in the south of Algeria. The Agency is empowered to contract and manage rehabilitation works and to seek national and international assistance for these operations.<sup>18</sup>

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14 Attachment to email to the Nuclear Weapons Ban Monitor from Michael Penny, Senior Foreign Service Officer, Security and Legal Matters, Ministry of Foreign Affairs and Aviation of Saint Kitts and Nevis, Basseterre, 13 November 2021, para. 2.

15 Saint Christopher and Nevis 2002 Anti-Terrorism Act (Act No. 21 of 2002).

16 Attachment to email to the Ban Monitor from Michael Penny, Ministry of Foreign Affairs and Aviation of Saint Kitts and Nevis, 13 November 2021, para. 8.

17 Response to Nuclear Weapons Ban Monitor Questionnaire by The Gambia, 1 December 2021, paras. 1 and 2.

18 Decree No. 21-243 of 31 May 2021 on the creation, organisation, and functioning of the National Agency for the Rehabilitation of the Former French Nuclear Test Sites in the South of Algeria.

THE OBLIGATION TO

# ASSIST VICTIMS AND REMEDIATE AFFECTED TERRITORY



Inhabitants of Bakaka village in Tamana, Kiribati receive free medical services from a Chinese medical team that visited remote Kiribati islands in 2023. (Photo: Handout via Xinhua/NTB)

**States parties and civil society met frequently in 2023 to advance implementation of the TPNW's Article 6 obligations to provide assistance to individuals affected by nuclear-weapons use and testing and to remediate contaminated environments. At the Treaty's Second Meeting of States Parties (2MSP) in November–December 2023, Kazakhstan and New Zealand submitted reports about their national implementation measures, including initial assessments of harm to their territory and population, and national implementation plans. Fiji stated its intention to do so in the future.**

More than 2,000 nuclear weapons were used or tested in 16 modern-day nations over the span of decades, leaving a devastating and lasting legacy, constituting a 'limited nuclear war', according to one scholar.<sup>1</sup> The TPNW is the first international legal instrument that seeks to address the harm caused to people and places by decades of nuclear weapons use and testing.

TPNW states parties articulated the initial steps to implement Article 6 and 7 obligations in the Vienna Action Plan, adopted in June 2022 at the First Meeting of States Parties (1MSP). The Vienna Action Plan included 14 actions dedicated to implementing Articles 6 and 7: Actions 19–32. At the 1MSP, states parties also created a working group on victim assistance, environmental remediation, international cooperation and assistance 'to coordinate and take forward the intersessional work' co-chaired by two TPNW states parties where nuclear weapons were tested: Kazakhstan and Kiribati.<sup>2</sup> In the intersessional period, the working group focused on Vienna Action Plan commitments 27–32, on

<sup>1</sup> R. Jacobs, *Nuclear Bodies: The Global Hibakusha*, Yale University Press, New Haven, 2022.

<sup>2</sup> 'Decision 4: Intersessional Structure for the implementation of the Treaty' in Report of the First Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons', UN doc. TPNW/MSP/2022/6, Annex III.

## ARTICLE 6 – INTERPRETATION

- To address the ongoing suffering inflicted by the use and testing of nuclear weapons, Article 6(1) of the TPNW obligates each state party to provide 'adequate' assistance to individuals under its jurisdiction who are affected by the use or testing of nuclear weapons. Article 6(2) obligates states parties to take 'necessary and appropriate measures' towards the remediation of any areas in territory under their jurisdiction or control that have been contaminated as a result of activities related to the testing or use of nuclear weapons or other nuclear explosive devices.
- Article 6 should be read in tandem with Article 7 which requires all states parties to cooperate on implementation of the Treaty, and all states parties in a position to do so to 'provide technical, material and financial assistance' to affected states parties, which will help them fulfil their victim assistance and environmental remediation obligations.

## ARTICLE 6(1) - VICTIM ASSISTANCE

- It is not required that the harm be caused by the state under whose jurisdiction they fall or that it occurred within that territory.
- Assistance includes, but is not limited to, medical care, rehabilitation, and psychological support, as well as support for social and economic inclusion.
- Assistance under Article 6(1) must be provided in accordance with applicable international human rights and humanitarian law. The paragraph requires that assistance in all cases must be age- and gender-sensitive and provided to all on the basis of need 'without discrimination'. The duty of non-discrimination ensures that states parties do not adversely distinguish among recipients based on the basis of sex, race, religion, sexual orientation, disability, political opinion, or other status identified in international human rights law. (See: Art. 2(1), International Covenant on Civil and Political Rights, and Art. 5(2), Convention on the Rights of Persons with Disabilities, as well as the disarmament law precedent in Art. 5(2)(e), Convention on Cluster Munitions.)
- Because addressing the human impacts of nuclear weapons is a complex and long-term humanitarian task, the TPNW facilitates the process by creating a framework of shared responsibility for victim assistance (as well as environmental remediation, discussed in the next section). The framework enables those who are willing to start addressing these issues to act together now. Affected states parties bear the primary responsibility for implementation as this protects their sovereignty and follows the precedent of international human rights law and humanitarian disarmament law. But other states parties in a position to do so are required to provide international cooperation and assistance to help affected states parties meet their victim assistance (and environmental remediation) obligations.
- To make victim assistance more manageable, Article 6(1) can also be understood to allow affected states parties to realise some of their obligations, particularly those related to economic, social, and cultural rights, progressively. International human rights law requires a state to take steps to achieve those rights 'to the maximum of its available resources', while recognising that full realisation may be a gradual process. (See: Art. 2(1), International Covenant on Economic, Social and Cultural Rights.)

## ARTICLE 6(2) - ENVIRONMENTAL REMEDIATION

- Given that nuclear fallout causes significant levels of contamination that spread across time and space, the TPNW recognises that environmental remediation is a long-term commitment. It is typically difficult, and often impossible, to return areas affected by nuclear weapons to their pre-detonation condition. Accordingly, Article 6(2) stipulates that affected states parties must take 'necessary and appropriate measures towards the environmental remediation of [contaminated] areas'. Although they may never achieve complete remediation, they must work in good faith towards that goal.
- Certain interim activities, such as risk education, marking of contaminated areas, and national planning, can be accomplished in the near term. An essential step in each case is for a state party to conduct an environmental remediation needs assessment.

## ARTICLE 6(3)

- Article 6(3) makes clear that the TPNW's victim assistance and environmental remediation obligations do not preclude affected states parties or individuals from seeking redress or assistance through other means, such as judicial measures or bilateral treaties with states not party.

developing voluntary reporting guidelines, discussing the feasibility of and proposing guidelines for an international trust fund, and national implementation measures, including initial assessments of harm in affected states and national implementation plans and the provision of international cooperation and assistance.<sup>3</sup> The informal working group met seven times in 2023, with more than 30 states parties, the International Committee of the Red Cross (ICRC), and the International Campaign to Abolish Nuclear Weapons (ICAN) joining the discussions.<sup>4</sup>

At the 2MSP, all states parties adopted decisions to take forward the work into the next intersessional period. In their statements, several dozen states highlighted the ongoing humanitarian impacts of nuclear weapons use and testing and the need to address these impacts by working with affected communities.<sup>5</sup>

<sup>3</sup> 'Report of the Co-Chairs of the informal working group on victim assistance, environmental remediation, international cooperation and assistance (Kazakhstan and Kiribati)', UN doc. TPNW/MSP/2023/3, para. 3.

<sup>4</sup> E. Minor, 'Progress and next steps towards addressing nuclear harm through the TPNW', Article 36, December 2023, at: <https://bit.ly/3xmMEYl> p. 3.

<sup>5</sup> 'Statements' in 'Treaty on the Prohibition of Nuclear Weapons – Second Meeting of States Parties' United Nations Office for Disarmament Affairs, 2023, at: <https://bit.ly/4comrHW>.

## Action 19: Stakeholder engagement and inclusion

Throughout the intersessional period, states parties made an effort to implement Action 19 of the Vienna Action Plan, namely: to engage with relevant stakeholders, including civil society, affected communities, indigenous peoples, and youth; and to closely consult with, actively involve, and disseminate information to, affected communities. All meetings of the informal working group were open to ICAN, and co-chairs held a consultation specifically for members of affected communities on 10 March 2023, inviting civil society and affected community representatives to make presentations and comment on draft documents.<sup>6</sup>

## Actions 27 and 28: Voluntary reporting guidelines

At the 2MSP, states parties adopted, on a provisional basis, voluntary reporting guidelines and a voluntary reporting format, with specific guidelines and forms for victim assistance, environmental remediation and international cooperation and assistance.<sup>7</sup> In the intersessional period, the meetings of the working group included an active discussion among states and civil society on guidelines, including on how reporting could be made non-burdensome and accessible.<sup>8,9</sup>

## Actions 30 and 31: National implementation measures

Throughout the intersessional meetings, states and civil society reviewed and discussed relevant new research and heard expert presentations about the needs of affected communities, environmental contamination and recommendations for national implementation plans, including in TPNW states parties and signatories: Algeria, Kazakhstan, and Kiribati; and in states not party: Japan, the Marshall Islands, and the United Kingdom. According to the co-chairs of the working group, these discussions 'increased knowledge of the situation in several affected States, the current responses and planning and the needs to be addressed.'<sup>10</sup>

The co-chairs of the informal working group on victim assistance, environmental remediation and international cooperation and assistance in their report to the 2MSP encouraged 'affected states parties to build on their initial assessments and complete and/or further develop and begin to implement their national plans regarding victim assistance and environmental remediation'.<sup>11</sup>

Kazakhstan and New Zealand's reports to 2MSP included initial assessments of the impact of nuclear testing on their respective territories and populations, along with national implementation plans to address the personal and environmental harm, while Fiji stated its intention to submit a similar national report in the future.



## KAZAKHSTAN

### Environmental contamination and remediation

Kazakhstan's report details its efforts since 1992 to clear the former Semipalatinsk nuclear test site of 'the consequences of nuclear military activities that took place before 1991'.<sup>12</sup> Kazakhstan undertook a comprehensive environmental survey of the Semipalatinsk test site in 2008–21, surveying all of its territory and implementing a physical protection system at certain facilities.<sup>13</sup> As a result of the survey, Kazakhstan concluded that radioactive contamination was localised and not present throughout the entire former test site.<sup>14</sup> Other studies by Kazakhstan and independent experts in the 1950s–1990s on radioactive contamination of areas surrounding the test site found that while radioactive caesium (Cs-137) levels were on par with the global average, plutonium (Pu-239 and Pu-240) levels were much higher.<sup>15</sup> 'The radiological and ecological situation in the territories adjacent to the Semipalatinsk test site is currently being determined and will be further determined in the future by the level of accumulation of radionuclides, primarily Pu and Am [Americium]', the report adds.<sup>16</sup>

### Assessment of harm to the population and victim assistance

Kazakhstan assesses that about 1.5 million people are affected by nuclear testing, including the descendants of those directly exposed.<sup>17</sup> Kazakhstan and international researchers have carried out many studies to assess the medical impacts of the population being exposed to ionising radiation, including one in 2018 that assesses the impact both for

6 '10 March 2023' in 'Article 6 & 7 Informal Working Group Meetings,' ICAN, at: <https://bit.ly/3XqEQ2p>.

7 'Decision 3: Voluntary Reporting on articles 6 and 7' in 'Report of the second Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons,' UN doc. TPNW/MSP/2023/14; 'Report of the Co-Chairs of the informal working group on victim assistance, environmental remediation, international cooperation and assistance (Kazakhstan and Kiribati),' UN doc. TPNW/MSP/2023/3, paras. 18–26 (guidelines) and Annex (forms).

8 '23 May 2023' in 'Article 6 & 7 Informal Working Group Meetings,' ICAN, at: <https://bit.ly/4cjae78>.

9 International Human Rights Clinic, 'Reporting Guidelines for Articles 6 and 7 of the Treaty on the Prohibition of Nuclear Weapons: Precedent and Recommendations,' Harvard Law School, May 2023, at: <https://bit.ly/4ckTQ6a>.

10 'Report of the Co-Chairs of the informal working group on victim assistance, environmental remediation, international cooperation and assistance (Kazakhstan and Kiribati),' UN doc. TPNW/MSP/2023/3, para. 7.

11 'Report of the Co-Chairs of the informal working group on victim assistance, environmental remediation, international cooperation and assistance (Kazakhstan and Kiribati),' UN doc. TPNW/MSP/2023/3, para. 11.

12 'Assessments of the consequences of nuclear tests on the territory of Kazakhstan: Report submitted by Kazakhstan,' UN doc. TPNW/MSP/2023/10, para. 7.

13 Ibid, paras. 8–10.

14 Ibid, para. 12.

15 Ibid, paras. 16–22.

16 Ibid, para. 22.

17 Ibid, para. 24.



populations living in 'affected territories' and those in other parts of Kazakhstan.<sup>18</sup> The 2018 study found higher rates of cancer, circulatory system diseases, and mortality rates in populations from the affected areas than from other parts of Kazakhstan.<sup>19</sup> The report also noted that medical specialists found 'medical and psychological tensions associated with prolonged stressful exposure to radiation, which leads to the formation of radiation-related anxiety, radiophobia and an increase in social anxiety'.<sup>20</sup>

In 1992, Kazakhstan adopted the Law of the Republic of Kazakhstan No. 1787-XII on the social protection of citizens who suffered from nuclear tests at the Semipalatinsk nuclear test site, which divides affected territories into zones of risk based on calculated accumulated doses of radiation exposure over the entire period of testing in Kazakhstan.<sup>21</sup> Under the law, one-time cash payments are provided to current and former residents of these zones, with the amount depending on the location and duration of residence, and affected individuals are entitled to medical screening and assistance.<sup>22</sup> More than 1.1 million citizens have received payments, according to the report.<sup>23</sup> In addition, those living and working in affected areas are entitled to 'additional remuneration and additional annual paid leave' and women have additional pregnancy and childbirth leave.<sup>24</sup> Children of victims are entitled to social benefits under some conditions.<sup>25</sup> Persons with related disabilities and family members of the deceased are also entitled to some allowances.<sup>26</sup> Other laws that provide assistance for victims of nuclear testing include: 'legislative acts on pensions, disability-related social benefits, social protection measures for persons with disabilities, special social services and services for veterans'.<sup>27</sup>

Kazakhstan maintains a 'State Scientific Automated Medical Register' to maintain records of victims and their descendants. Since 1991, Kazakhstan has funded a number of scientific programmes to better understand the impacts of nuclear weapons testing on its population and the environment and radiation risks.<sup>28</sup>

In 2023, Kazakhstan adopted a new law on the establishment of the Semipalatinsk zone of nuclear safety, which requires the following measures, and includes funding through 2027: 'Differentiation of excessively contaminated and relatively clean lands of the Semipalatinsk test site; Creation of conditions for the transfer of relatively clean lands into public domain; Restriction of access to excessively contaminated lands; Rehabilitation of lands; Continuous monitoring and radiological and ecological research'.<sup>29</sup>



## NEW ZEALAND

New Zealand used Voluntary Reporting Form A to report on its initial assessment of harm from nuclear use and testing to its population and its national plan for implementation of victim assistance.<sup>30</sup> On the effects of nuclear weapons use or testing, New Zealand reported on: data on individuals affected by use or testing of nuclear weapons; types of harm experienced; needs reported; methodology of assessment; the extent of assessment and further assessment needed; and the criteria used to determine who is an affected individual.

Specifically, New Zealand reported that it has six populations affected by nuclear weapons use or testing: 1) veterans stationed in Japan near Hiroshima in 1946–49; 2) veterans of the Royal New Zealand Air Force who took part in monitoring radioactivity from Britain's first nuclear test in Australia in 1952; 3) New Zealand Defence Force personnel who attended 1956 and 1957 British nuclear tests in Australia as observers; 4) veterans who observed 1957 and 1958 US nuclear tests in Nevada and the Marshall Islands; 5) veterans who witnessed British thermonuclear testing in 1957 and 1958 in Kiribati; and 6) New Zealanders participating in a 1973 protest against nuclear testing at Mururoa Atoll in French Polynesia and two frigates deployed there for two nuclear tests.<sup>31</sup> Types of harm experienced by these populations include various forms of cancer and mental health disorders, although not all populations have reported suffering from illnesses linked to exposure to ionising radiation.<sup>32</sup>

Needs reported include: 'Treatment and rehabilitation; impairment compensation; income support; help to keep independent in the home; support for children (education and pension) and dependants'.<sup>33</sup> New Zealand reported that it reviews scientific literature regularly, including one conducted in 2023, to determine the effects of nuclear weapons testing in general and says that Veterans' Affairs New Zealand obtains medical reports to assess support needed for

18 Ibid, paras. 26–28.

19 Ibid, paras. 29–31.

20 Ibid, para. 34.

21 Ibid, paras. 35–37.

22 Ibid, paras. 42, 48.

23 Ibid, para. 43.

24 Ibid, para. 44.

25 Ibid, para. 45.

26 Ibid, paras. 46–47.

27 Ibid, para. 41.

28 Ibid, para. 52.

29 Ibid, paras. 53–54.

30 'Voluntary report on articles 6 and 7 of the Treaty: Report submitted by New Zealand', UN doc. TPNW/MSP/2023/11.

31 Ibid, pp. 3–6.

32 Ibid.

33 Ibid, p. 3.

individual veterans.<sup>34</sup> New Zealand requires that veterans have the relevant service details and that they suffer from any of the conditions relating to exposure to ionising radiation listed in regulation 12 of the Veterans' Support Regulations 2014 to be eligible for provision of support and services.<sup>35</sup> Veterans may also be eligible for general assistance under the Veterans' Support Act 2014 (previously the War Pensions Act 1954) and the Veterans' Support Regulations 2014.<sup>36</sup>

With respect to its national assistance framework, New Zealand also reported on national plans for victim assistance, national laws and practices related to victim assistance, and the status and progress of victim assistance measures. New Zealand said there are no specific plans for nuclear test veterans, which are covered by the Veterans' Support Act 2014 and the Veterans' Support Regulations 2014.<sup>37</sup> 'Specific services and support for children of veterans of Operation Grapple were decided on by Cabinet decisions of 2001/02', it stated.<sup>38</sup>

Victim assistance measures include the following: funding for treatment; rehabilitation; family counselling; Veterans' Independence Programme; support for children; income compensation; and specific support and services for children of Operation Grapple veterans which includes 'family psychological counselling, genetic counselling and genetic testing, and out-of-pocket health expenses for accepted conditions'.<sup>39</sup>

Finally, New Zealand included some information on its efforts to involve affected communities, including Indigenous Peoples, and other stakeholders at all stages of the victim assistance process, in accordance with Vienna Action Plan Action 19.<sup>40</sup>



Fiji did not submit a national report, but a working paper was submitted to 2MSP by ICAN on behalf of the Fiji Kirisimasi Island Veterans Association and the Returned Soldiers and Ex-servicemen's association of Fiji.<sup>41</sup> The working paper described the Fiji veteran population exposed to nuclear testing and included recommendations for victim assistance to be provided to the nuclear-test veteran population in Fiji, including an outreach programme, hospital development, medical assistance and rehabilitation, genetic counselling and research, training for local doctors, community integration and support, establishing an independent office responsible for facilitating assistance, and compensation to nuclear testing veterans and international assistance for overseas veterans.

Fiji stated in the debate on Articles 6 and 7 at the 2MSP that it planned 'to use the voluntary reporting guidelines as a basis for our ongoing close collaboration with the Civil Society Organisation and Veterans Association on verification assessment and reporting for future Meetings of the State Party'.<sup>42</sup>

### Developments in states not party to the TPNW

In August 2023, the governing party in Australia, the Labor party, adopted a policy platform in which it agreed to consider 'steps that can be taken with respect to further assistance for affected communities and further environmental remediation in relation to the British atomic tests that occurred on Australian territory, consistent with Article 6 of the Ban Treaty, and considering further collaboration and assistance to Pacific Island communities affected by nuclear testing in the Pacific, consistent with Article 7 of the Ban Treaty'.<sup>43</sup> Furthermore, on 7 September 2023, the French Polynesian Assembly unanimously passed a resolution in support of the TPNW and its provisions on victim assistance and environmental remediation.<sup>44</sup>

### Actions 49 and 50: Age- and gender- sensitive approach

Chile, serving as Gender Focal Point, convened discussions with states parties and civil society in March and July to advance work on Vienna Action Plan Actions 49 and 50, on adopting an age- and gender-sensitive approach to victim assistance and environmental remediation and international cooperation and assistance. Presentations to the informal working group meeting in March included research on the disproportionate impact of ionising radiation on women and girls and recommendations from gender-sensitive guidelines for victim assistance developed for the Anti-Personnel Mine Ban Treaty, the Convention on Cluster Munitions, and the Convention on the Rights for Persons with Disabilities.<sup>45</sup>

34 Ibid.

35 Ibid.

36 Ibid.

37 Ibid, p. 7.

38 Ibid.

39 Ibid, p. 7-9.

40 Ibid, p. 9-10.

41 'Positive Obligation Framework: Forgotten stories of Fiji Veterans exposure to Nuclear Testing on Kiritimati Island', UN doc. TPNW/MSP/2023/NGO/27, 30 November 2023.

42 Statement by Fiji, TPNW 2MSP, New York, 30 November 2023, at: <https://bit.ly/3KKjbuw>.

43 'Media Release: Labor Re-commits to Signing Nuclear Weapons Ban', ICAN Australia, 18 August 2023, at: <https://bit.ly/3Xxl1BE>.

44 'Proposition de résolution relative au soutien de l'assemblée de la Polynésie française au Traité sur l'interdiction des armes nucléaires', Assemblée de la Polynésie Française, 7 September 2023, at: <https://bit.ly/3xbAykW>.

45 '21 March 2023', in 'Gender and Nuclear Weapons Meetings', ICAN, at: <https://bit.ly/3VUpNNv>.

In July, presenters encouraged states to consider the gendered impacts of nuclear harm beyond physical injuries, including those caused by radiation, to factor in intergenerational impacts and to implement gender- and age- sensitive health care, respectively.<sup>46</sup>

### **Assessing global needs**

There is still much to learn about how individuals positioned or living closest to test sites have been affected by the radionuclides emitted by the detonation of nuclear explosive devices. This is despite the fact that nuclear test explosions are without doubt the largest ever human source of radioactive contamination and exposure. The relative lack of hard data on the needs for assistance and remediation of contaminated land as a result of nuclear testing led Norwegian People's Aid (NPA) to commission a series of expert reports beginning in late 2023. The aim is to elaborate, in three successive stages of action, a global needs assessment as a result of nuclear testing.

The foundational, multidisciplinary study is collating and analysing best available knowledge of the impacts of nuclear testing and the efforts undertaken or needed to address those impacts. It looks at the range of consequences—physical, psychological, social, economic, and environmental—engendered by nuclear testing in some of the most affected countries,<sup>47</sup> identifying how national authorities and affected communities can best be supported to ensure safety, promote development, and further justice and accountability.<sup>48</sup> At the time of writing, the result of the first stage of the programme—A Framework Study for Assessing Needs for Victim Assistance and Environmental Remediation from Nuclear-Weapons Testing—remained ongoing. The detailed report was expected to be published by the end of 2024. The following are some of the provisional findings from the study.

Past atmospheric nuclear tests have exposed, and continue to expose, every person on earth to radioactive fallout. Over time, total excess deaths from cancer as a result of past atmospheric testing will amount to at least two million. Radiation may cause direct damage to DNA or cause indirect damage through the production of highly reactive chemicals. DNA damage from radiation can have various outcomes, including cell death (especially at high doses) and induction of cancer, and it can result in DNA changes which are transmissible to subsequent generations.

But radiation risk is not uniform across a population. The risk is highest in very young children and declines gradually with age. Girls and women are more susceptible to harm from radiation than are boys and men. The use of 'Reference Man' for purposes of calculation of radiation exposure and harm means that its use as a sole reference point results in systematic underestimation of radiological danger and harm for children and for females of all ages. It is not yet known for sure why biological sex is a factor in the outcome of radiation exposure. One hypothesis is that female bodies have a higher percentage of reproductive tissue than do male bodies.

Despite the physical consequences, many nuclear test-impacted communities still struggle to access health care. Oncological services are often expensive and rarely available in the economically-marginalised zones where nuclear testing occurred. For example, individuals with cancer in the Marshall Islands must travel to Hawaii, the Philippines, or Taiwan to get treatment. In many instances, formerly inhabited areas remain contaminated and unsuitable for human habitation decades after the nuclear explosions. Insufficient knowledge about the accumulation of radioactivity in the environment and especially in the food chain highlights the ongoing challenges posed by nuclear contamination. While further studies on radioactive effects have to be carried out, it is already clear from those that already exist that any new nuclear weapon testing, particularly in the atmosphere, would produce further long-term consequences.

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46 '14 July 2023', in 'Gender and Nuclear Weapons Meetings', ICAN, at: <https://bit.ly/3XpVSxt>.

47 Seven case studies address nuclear testing and their effects in, respectively, Algeria; Australia; Mā'ohi Nui (French Polynesia); Kazakhstan and Novaya Zemlya in the Russian Federation; Kiribati; the Marshall Islands; and the United States.

48 The term 'nuclear colonialism' has entered the English language to denote how Indigenous communities were considered sacrificial pawns in the development of nuclear weapons.

# COOPERATE WITH AND ASSIST OTHER STATES PARTIES



Councillor Zhangeldy Syrymbet from Kazakhstan's Mission to the United Nations in New York photographed at the 2MSP of the TPNW. Throughout 2023, Kazakhstan, together with Kiribati, took on a leading role in advancing cooperation on implementation of the TPNW's obligations to assist victims and remediate contaminated environments. (Photo by Darren Ornitz, ICAN)

**Interest in providing support to states affected by nuclear weapons use and testing continued to grow in 2023. The working group established by the First Meeting of States Parties to the TPNW (1MSP) on implementation of the Treaty's Articles 6 and 7 examined how to establish an international trust fund to support victim assistance and environmental remediation. Outside TPNW meetings, the Treaty's states parties and signatories as well as several non-parties indicated their interest in victim assistance and environmental remediation, including through UN General Assembly First Committee statements and a new dedicated resolution.**

The working group on victim assistance, environmental remediation, and international cooperation and assistance that was established by the 1MSP 'to coordinate and take forward the intersessional work' was co-chaired by Kazakhstan and Kiribati.<sup>1</sup> The group continued discussions on an international trust fund in 2023, which had been initiated a year earlier, in four meetings in January, February, and March. The meetings included expert presentations from government agencies, civil society, and affected communities, including one from an international legal expert on precedents set by the structure and implementation of ten international trust funds, as well as discussion among states and civil society.<sup>2</sup> States and civil society also submitted written comments on their views on the feasibility of and guidelines

<sup>1</sup> 'Decision 4: Intersessional Structure for the implementation of the Treaty' in Report of the First Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons', UN doc. TPNW/MSP/2022/6, Annex III.

<sup>2</sup> 'Article 6 & 7 Informal Working Group Meetings,' International Campaign to Abolish Nuclear Weapons, at: <https://bit.ly/4bZsmmm>; International Human Rights Clinic, 'Designing A Trust Fund for the Treaty on the Prohibition of Nuclear Weapons: Precedents and Proposals,' Harvard Law School, January 2023, at: <https://bit.ly/3lll9jE>; 'Report of the Co-Chairs of the informal working group on victim assistance, environmental remediation, international cooperation and assistance (Kazakhstan and Kiribati)', UN doc. TPNW/MSP/2023/3, para. 30.

## ARTICLE 7 – INTERPRETATION

- The obligations in the TPNW's Article 6 to assist victims and remediate the environment should be read in conjunction with Article 7 of the Treaty.
- Article 7(1) obligates each state party to the TPNW to cooperate with other states parties to 'facilitate the implementation' of the Treaty, and Article 7(2) grants all states parties 'the right to seek and receive assistance, where feasible'. In addition, under paragraph 3 of Article 7 each state party 'in a position to do so' is required to provide technical, material, and financial assistance to states parties affected by nuclear-weapon use or testing.
- Article 7(6) of the TPNW provides that any state party that has used or tested nuclear weapons or any other nuclear explosive devices 'shall have a responsibility to provide adequate assistance' to affected states parties for victim assistance and environmental remediation. This responsibility is without prejudice to any other duty or obligation the state may have under international law. This provision was especially important to affected states during the drafting of the Treaty; they argued that user and testing states should be both legally and morally responsible for their actions.
- International and non-governmental organisations also have a role to play. As referenced in Article 7(5) of the TPNW, assistance may be provided through the United Nations, the International Red Cross and Red Crescent Movement, civil society groups, or other organisations.
- While most of Article 7 is directed at supporting victim assistance and environmental remediation, assistance can also be provided in relation to other obligations of the Treaty, such as the development of national implementation legislation or destruction of nuclear-weapons stockpiles.

for such a fund. The co-chairs of the informal working group reported to the Second Meeting of States Parties to the TPNW (2MSP) that several states and civil society 'expressed a strong interest in the topic of a voluntary trust fund and its potential to help address the needs of affected communities' in the intersessional process.<sup>3</sup>

At 2MSP, states parties further decided to hold focused discussions and submit a report to the Third Meeting of States Parties (3MSP) 'with recommendations related to the feasibility of, and possible guidelines for, establishing an international trust fund for victim assistance and environmental remediation, with the aim of examining the establishment of such a trust fund at the third Meeting of States Parties as a priority.'<sup>4</sup>

In their statements to 2MSP, dozens of states highlighted the ongoing humanitarian impacts of nuclear weapons use and testing and the need to address them, including by working inclusively with affected communities.<sup>5</sup>

### Other forums

Victim assistance and environmental remediation also received increased attention at other international nuclear disarmament and non-proliferation forums in 2023 due to the efforts of TPNW states parties, including at the UN General Assembly and at the Preparatory Committee meeting of the NPT.

At the 2023 UN General Assembly, two resolutions were passed in support of victim assistance, environmental remediation, and international cooperation and assistance. In the Assembly's First Committee, Kazakhstan and Kiribati tabled a new resolution entitled 'Addressing the legacy of nuclear weapons: providing victim assistance and environmental remediation to Member States affected by the use or testing of nuclear weapons', which passed with the support of 171 states, of whom 41 co-sponsored the resolution.<sup>6</sup> The resolution encourages further international cooperation to assist victims and to study and remediate environments contaminated by the use and testing of nuclear weapons, including through bilateral, regional and multilateral frameworks, such as relevant treaties.<sup>7</sup>

In addition, in the 2023 UN General Assembly, Kazakhstan put forward its triennial resolution, introduced since 1997, entitled 'International cooperation and coordination for the human and ecological rehabilitation and economic development of the Semipalatinsk region of Kazakhstan' in the Second Committee, which was approved by consensus, with 85 states acting as co-sponsors.<sup>8</sup> The UN Secretary-General submitted a report on the current status of the human and ecological rehabilitation in Semipalatinsk to accompany this resolution.<sup>9</sup> The 2023 Preparatory Committee of the

3 'Report of the Co-Chairs of the informal working group on victim assistance, environmental remediation, international cooperation and assistance (Kazakhstan and Kiribati)', UN doc. TPNW/MSP/2023/3, para. 30.

4 'Decision 4: International trust fund for victim assistance and environmental remediation' in 'Report of the second Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons', UN doc. TPNW/MSP/2023/14.

5 'Statements' in 'Treaty on the Prohibition of Nuclear Weapons - Second Meeting of States Parties' United Nations Office for Disarmament Affairs, 2023, at: <https://bit.ly/4comrHW>.

6 'Assessments of the consequences of nuclear tests on the territory of Kazakhstan: Report submitted by Kazakhstan', UN doc. TPNW/MSP/2023/10, para. 67.

7 'Addressing the legacy of nuclear weapons: providing victim assistance and environmental remediation to Member States affected by the use or testing of nuclear weapons', UN doc. A/C.1/78/L.52.

8 'Assessments of the consequences of nuclear tests on the territory of Kazakhstan: Report submitted by Kazakhstan', UN doc. TPNW/MSP/2023/10, para. 64.

9 'International cooperation and coordination for the human and ecological rehabilitation and economic development of the Semipalatinsk region of Kazakhstan: Report of the Secretary-General', UN doc. A/78/312.

NPT also addressed victim assistance, environmental remediation, and international cooperation and assistance. Kazakhstan and Kiribati submitted a joint working paper on the topic and delivered a statement.<sup>10</sup>

### Interested non-parties

Some states not party to the TPNW have expressed interest in engaging with international cooperation and assistance on the implementation of Article 6 at the abovementioned international forums and in national contexts.

At the First Committee, Australia, on behalf of Bulgaria, Canada, Croatia, Czechia, Estonia, Finland, Germany, Greece, Hungary, Iceland, Italy, Japan, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Republic of Korea, Romania, Slovak Republic, Slovenia, Sweden, and Turkey, stated that: 'We also welcome the increased attention on the needs of communities affected by nuclear use or testing and recognize the importance of international cooperation in addressing the harm that nuclear use and testing has caused.'<sup>11</sup> In its national capacity, Germany stated at the 2023 First Committee that it 'wants to engage in dialogue and co-operation on victims assistance and environmental remediation from the long-term damages of nuclear testing' and 'with respect to the long-term damages of nuclear testing, Germany will foster engagement regarding the provision of victims' assistance and environmental remediation.'<sup>12</sup> In a national statement, Switzerland stated it would 'follow with interest discussions about the humanitarian consequences of nuclear weapons as well as proposals on victim assistance and environmental remediation'.<sup>13</sup>

In July 2023, the Italian parliament passed a resolution calling on the government to 'continue to evaluate ... possible actions to approximate some of the contents of the Treaty on the Prohibition of Nuclear Weapons (TPNW), in particular with regard to "Victim Assistance and Environmental Remediation", as provided for in Article 6 of the same Treaty.'<sup>14</sup> In August 2023, the governing party in Australia, the Labor party, adopted a policy platform in which it agreed to consider 'steps that can be taken with respect to further assistance for affected communities and further environmental remediation in relation to the British atomic tests that occurred on Australian territory, consistent with Article 6 of the Ban Treaty, and considering further collaboration and assistance to Pacific Island communities affected by nuclear testing in the Pacific, consistent with Article 7 of the Ban Treaty.'<sup>15</sup> Furthermore, on 7 September 2023, the French Polynesian Assembly unanimously passed a resolution in support of the TPNW and its provisions on victim assistance and environmental remediation.<sup>16</sup>

### International support

While the developments described above are important, there is still little evidence of tangible international support for victim assistance or environmental remediation, whether by states parties or non-parties to the TPNW. International support enhances the ability of affected states to take meaningful ownership of their own situation and build capacity to address it. The Nuclear Weapons Ban Monitor encourages affected states parties to the TPNW to submit voluntary reports to 3MSP in 2025 to provide information on their needs and donor states to report on international assistance they provide in return.

Assistance can come in a variety of forms. For example, donor states parties can provide: technical support in the form of medical, scientific, or environmental expertise or implementation experience from other frameworks; material support, such as health care or remediation equipment; or financial support to fund affected states' victim assistance and environmental remediation programmes. Assistance can also come in the form of the release of official information and documents regarding nuclear testing and fallout monitoring.

### Other treaties

Significant evidence exists in other disarmament treaties of the effectiveness of an obligation to cooperate and assist. Comparable provisions in the Anti-Personnel Mine Ban Convention (APMBC) and the Convention on Cluster Munitions (CCM), for example, have generated extensive international assistance from both states parties and donors outside of the treaties to so-called mine action (clearance of landmines, cluster munition remnants and other explosive remnants of war, risk education, victim assistance, and capacity building).

10 Kazakhstan and Kiribati (2023), 'Addressing the Past Use and Testing of Nuclear Weapons', Working paper to the 2023 NPT Prep Com, UN doc. NPT/CONF.2026/PC.I/WP.27.

11 Statement by Australia, UNGA First Committee, New York, 16 October 2023, at: <https://bit.ly/3xrGLZS>.

12 Statements by Germany, UNGA First Committee, New York, 5 October 2023, at: <https://bit.ly/4ckhdNa>; and 13 October 2023, at: <https://bit.ly/3RvDdMW>.

13 Statement by Switzerland, UNGA First Committee, New York, 16 October 2023, at: <https://bit.ly/4cpLdHl>.

14 'With the Resolution passed in the Parliament, Italy has the opportunity to take concrete steps towards nuclear disarmament', Rete Italiana Pace e Disarmo, 13 July 2023, at: <https://bit.ly/45mNvEY>.

15 'Media Release: Labor Re-commits to Signing Nuclear Weapons Ban', ICAN Australia, 18 August 2023, at: <https://bit.ly/3XxL1BE>.

16 'Proposition de résolution relative au soutien de l'assemblée de la Polynésie française au Traité sur l'interdiction des armes nucléaires', Assemblée de la Polynésie Française, 7 September 2023, at: <https://bit.ly/3xbAykW>.

Data recorded by the Landmine and Cluster Munition Monitor show that, in 2022, global support for mine action totaled US\$913.5 million. Seventeen affected states contributed a combined total of \$115.1 million to their own national mine action programs, representing 13% of global funding, and thirty-five donors provided \$798.4 million in international support to mine action. This international funding was provided by a wide range of states parties to the APMBC and the CCM, in addition to four states not party, one other area, the EU, and four other institutions. The biggest donor in 2022, however, was the United States, which is not party to either Treaty, with a total contribution of \$310.2 million, representing 39% of all international support.<sup>17</sup>

Historically, states parties to the APMBC and the CCM have been a stable and consistent contributor to mine action, despite variations in budget allocations and changes in situations or contexts observed over the past decade. Their support accounted for almost half (49%) of all international funding provided for mine action in 2018–2022, with a combined contribution of \$1.5 billion. Also over the five-year period, the United States was the biggest donor to mine action, with US\$1.1 billion. This represented 35% of all international support during the five-year period.<sup>18</sup>

While donor funding is used for national activities, implementation is often carried out by an array of partner institutions, non-governmental organisations (NGOs), trust funds, and UN agencies.

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<sup>17</sup> International Campaign to Ban Landmines, 'Landmine Monitor 2023', at: <https://bit.ly/3L0d0CR>.

<sup>18</sup> Ibid.

# THE OBLIGATION TO PROMOTE UNIVERSAL ADHERENCE TO THE TREATY



Group photo at the African Regional Seminar on the Universalisation of the TPNW, which took place in Pretoria, South Africa, on 30–31 January 2023. The seminar was co-organised by the Department of International Relations and Cooperation of South Africa (DIRCO), the International Campaign to Abolish Nuclear Weapons (ICAN), and the International Committee of the Red Cross (ICRC), with the participation of delegates representing 37 African states, as well as civil society organisations and academia. (Photo by Cornel van Heerden, ICAN)

**States parties and signatories alike demonstrated again in 2023 a strong commitment to the goal of universalisation of the TPNW. They took a broad range of actions to implement the obligation in the Treaty's Article 12 to encourage further states to sign, ratify, or accede.**

The Second Meeting of States Parties to the TPNW (2MSP) in November 2023 adopted a declaration that noted the progress achieved in universalising the Treaty since the First Meeting of States Parties (1MSP) in June 2022, with seven new signatures, three ratifications, and one accession in this period.<sup>1</sup> The states parties pledged to continue pursuing universalisation as a priority and expressed their resolute commitment to this goal.

In addition to renewing their call 'for all States that have not yet done so to sign and ratify or accede to the Treaty without delay', TPNW states parties made a special plea for adherence to the Treaty by members of nuclear-weapon-free zones (NWFZs), 'in recognition of the shared basis of such treaties and the TPNW'. There is indeed great potential within the five multilateral NWFZs<sup>2</sup> to increase the number of adherents to the TPNW. Combined, they have 104 members,<sup>3</sup> but 47 (45%) of those states, are not yet party to the TPNW. Of those 47 members, 21 have already signed the TPNW and

1 Revised draft declaration of the 2MSP: 'Our commitment to upholding the prohibition of nuclear weapons and averting their catastrophic consequences', TPNW doc. TPNW/MSP/2023/CRP.4/Rev.1, at: <https://bit.ly/3VFH2St>.

2 Treaty of Tlatelolco (1967 Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean); Treaty of Rarotonga (1985 South Pacific Nuclear Free Zone Treaty); Treaty of Bangkok (1995 Treaty on the Southeast Asia Nuclear Weapon-Free Zone); Treaty of Pelindaba (1996 African Nuclear-Weapon-Free Zone Treaty); and Treaty of Semipalatinsk (2006 Treaty on a Nuclear-Weapon-Free Zone in Central Asia).

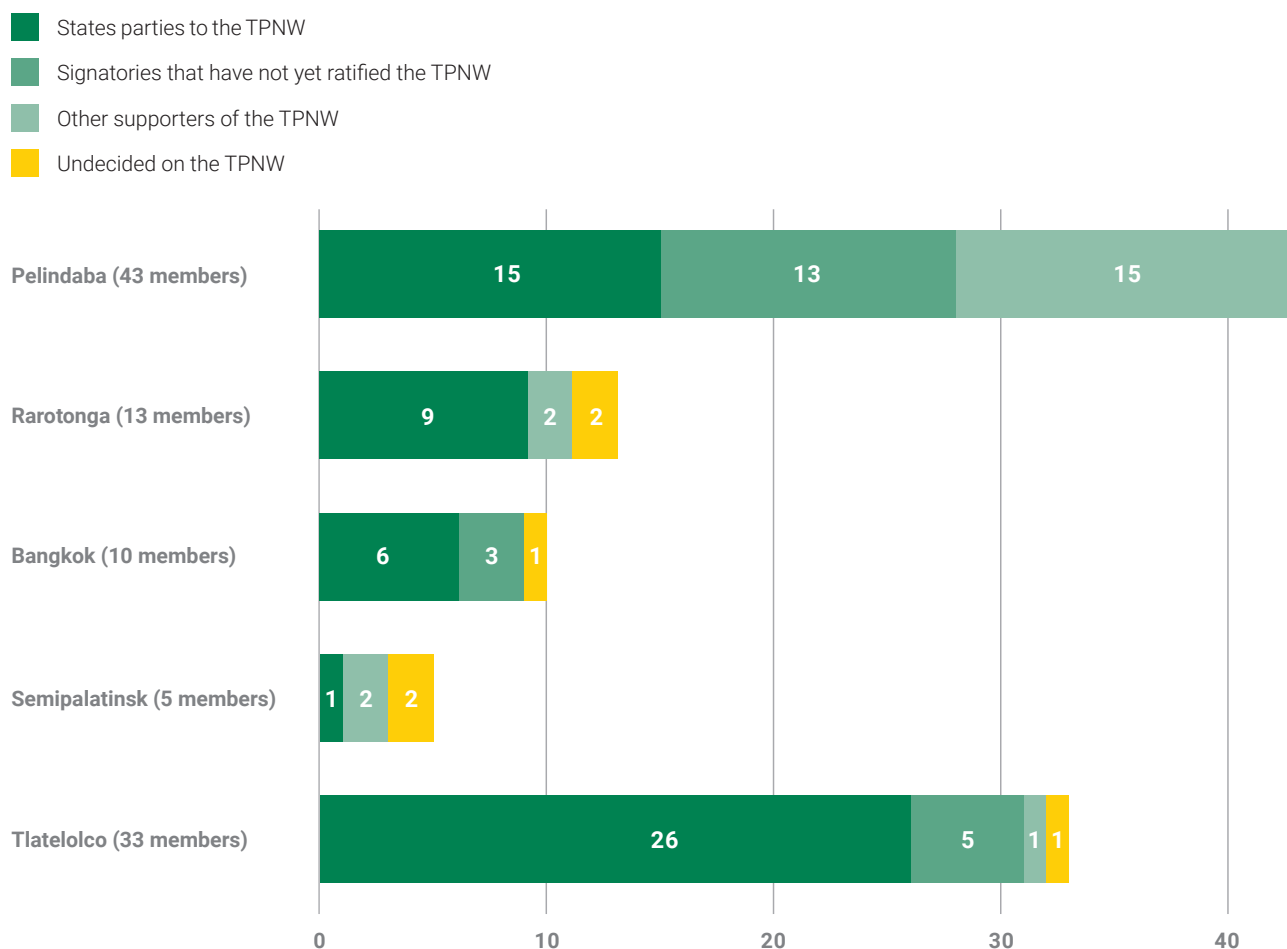
3 The five NWFZ Treaties cover a total of 114 states, of which 104 are states parties. The Treaty of Pelindaba has 10 signatories that have not yet ratified it. The UN has also recognised one additional country, Mongolia, as having nuclear-weapon-free status.



### ARTICLE 12 – INTERPRETATION

- This provision obligates each state party to encourage states not party to sign, ratify, or accede to the TPNW, ‘with the goal of universal adherence’.
- The manner and frequency of the actions to be taken are not set out in the provision and are therefore left to the discretion of the state party. That said, any state party that sought to discourage adherence to the TPNW by a state not party would be in violation of this obligation.

**Figure 26: Members of NWFZs disaggregated by their status under the TPNW, as of 31.12.2023**



need only to ratify it. They should be encouraged by fellow NWFZ members to do so urgently. In addition, a total of 20 members are categorised by the Nuclear Weapons Ban Monitor as ‘other supporters’ of the TPNW and 6 members as ‘undecided’.<sup>4</sup> These 26 states, which account for exactly 25% of the combined members of the five NWFZs, constitute a significant and immediate potential for new signatories or acceders to the TPNW. An overview of the membership in the five NWFZs disaggregated by their status under the TPNW as of the end of 2023 is included in Figure 26 above. Table I overleaf also lists the members of NWFZs that are encouraged to take action to ratify, sign, or accede to the TPNW.

In the course of 2023, states parties took a wide range of actions to fulfil their obligations under Article 12 of the TPNW. In these efforts, they were guided by the Vienna Action Plan of 2022, which listed 14 actions to advance universalisation, including diplomatic démarches and outreach visits to the capitals of non-parties and technical support for signatory states to complete their domestic ratification processes.

An informal working group on TPNW universalisation was established at 1MSP and played an important role in facilitating activities in this area in 2023. The initial co-chairs of the group, Malaysia and South Africa, submitted a report

<sup>4</sup> The criteria for the Nuclear Weapons Ban Monitor’s categorisation of states by their position on the TPNW are explained in Table A on page 8.

**TABLE I: MEMBERS OF NWFZ TREATIES AND THE TPNW, AS OF 31.12.2023**

NWFZ	NWFZ members that are already states parties to the TPNW.	NWFZ members that have signed the TPNW and should ratify the Treaty.	NWFZ members that should sign or accede to the TPNW.
<b>Pelindaba</b>	Benin, Botswana, Cabo Verde, Comoros, Congo, Cote d'Ivoire, DR Congo, Gambia, Guinea-Bissau, Lesotho, Malawi, Namibia, Nigeria, Seychelles, and South Africa.	Algeria, Angola, Burkina Faso, Equatorial Guinea, Ghana, Libya, Madagascar, Mozambique, Niger, Tanzania, Togo, Zambia, and Zimbabwe.	Burundi, Cameroon, Chad, Eswatini, Ethiopia, Gabon, Guinea, Kenya, Mali, Mauritania, Mauritius, Morocco, Rwanda, Senegal, and Tunisia (other supporters).
<b>Rarotonga</b>	Cook Islands, Fiji, Kiribati, Nauru, New Zealand, Niue, Samoa, Tuvalu, and Vanuatu.		Australia and Tonga (undecided), Papua New Guinea and Solomon Islands (other supporters).
<b>Bangkok</b>	Cambodia, Lao PDR, Malaysia, Philippines, Thailand, and Viet Nam.	Brunei, Indonesia, and Myanmar.	Singapore (undecided).
<b>Semipalatinsk</b>	Kazakhstan.		Kyrgyzstan and Tajikistan (undecided), Turkmenistan and Uzbekistan (other supporters).
<b>Tlatelolco</b>	Antigua and Barbuda, Belize, Bolivia, Chile, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and Grenadines, Trinidad and Tobago, Uruguay, and Venezuela.	Brazil, Barbados, Haiti, Colombia, and Bahamas.	Argentina (undecided), Suriname (other supporter).
<b>Totals</b>	<b>57 states</b>	<b>21 states</b>	<b>26 states</b>

to the 2MSP outlining universalisation efforts undertaken in the intersessional period.<sup>5</sup> Uruguay and South Africa will serve as co-chairs leading up to the Third Meeting of States Parties (3MSP) in 2025.<sup>6</sup>

A particular highlight for the year was the African regional seminar on TPNW universalisation in Pretoria in January 2023, co-organised by the South African Department of International Relations and Cooperation, the International Campaign to Abolish Nuclear Weapons, and the International Committee of the Red Cross.<sup>7</sup> Delegates representing 37 African states, including many that are not yet states parties, attended the seminar and contributed to the discussions. In an opening address, South Africa's Deputy Minister for International Relations and Cooperation, Alvin Botes, called on all African states 'to sign and ratify the TPNW at the earliest possible opportunity and thus reassert Africa's leadership in nuclear disarmament'.<sup>8</sup>

Another important contribution towards the implementation of Article 12 was the Central Asian conference on the humanitarian consequences of nuclear weapons in Astana in August 2023.<sup>9</sup> Co-organised by the Kazakh Ministry of Foreign Affairs and civil society, the meeting brought together all states from the region in an effort to enhance understanding of the TPNW and promote its universalisation. The chair's summary noted that the Central Asian nuclear-weapon-free zone treaty (Treaty of Semipalatinsk) 'contains many similar prohibitions to those of the TPNW'.<sup>10</sup>

As Malaysia remarked during the 2MSP in November 2023, many of the actions to implement Article 12 were on a small scale and did not involve significant budgets. Still, they helped to raise awareness about the Treaty and generate momentum for its universalisation. Such actions included breakfast meetings with prospective signatories and states parties, briefings to regional groupings at the United Nations in New York and Geneva, and informal outreach to colleagues from non-parties.

<sup>5</sup> 'Report of the Co-Chairs of the informal working group on universalization (Malaysia and South Africa)', TPNW/MSP/2023/2, at: <https://undocs.org/en/TPNW/MSP/2023/2>.

<sup>6</sup> 'Decision 1: Intersessional Structure for the implementation of the Treaty' in Report of the First Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons', UN doc. TPNW/MSP/2023/CRP.3/Rev.1, at: <https://bit.ly/3TyeaJq>.

<sup>7</sup> 'African Regional Seminar on the Universalisation of the TPNW', Pretoria, 30-31 January 2023, at: <https://bit.ly/3VEbFry>.

<sup>8</sup> ICAN, 'African states meet in South Africa to discuss Nuclear Ban Treaty, 30 January 2023, at: <https://bit.ly/3VBW6Ag>.

<sup>9</sup> ICAN, 'Kazakhstan hosts Conference on Humanitarian Consequences of Nuclear Weapons and Central Asian Nuclear-Weapon-Free Zone', 29 August 2023, at: <https://bit.ly/3KCOcjW>.

<sup>10</sup> 'Chair's Summary Regional Conference on the Humanitarian Consequences of Nuclear Weapons and Nuclear-Weapon-Free Zone in Central Asia', Astana, 29 August 2023, at: <https://bit.ly/3VkzCml>.

Throughout 2023, TPNW states parties made numerous public appeals, individually and collectively, for universalisation of the Treaty in different forums. At the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) preparatory committee meeting in Vienna in August 2023, for example, they jointly urged all states to sign and ratify the TPNW, or—pending such action—‘to engage cooperatively and constructively with TPNW states parties’.<sup>11</sup> They issued the same appeal in the First Committee of the UN General Assembly in October 2023.<sup>12</sup>

Similarly, the African group renewed its call for ‘all members of the international community, especially nuclear-weapon states and those under the so-called nuclear umbrella, to seize the opportunity to sign and ratify the [TPNW] at an early date and to pursue the goal of a nuclear-weapons-free world’.<sup>13</sup> Members of the Caribbean Community also appealed for ‘all states that have not done so to join the Treaty without delay’, describing it as ‘a fundamental step towards the irreversible, transparent and verifiable elimination of nuclear weapons’.<sup>14</sup>

In addition to using international forums to promote universalisation, TPNW states parties raised the treaty on a regional basis. For example, it featured prominently at a general conference of states parties to the Latin American and Caribbean NWFZ (Treaty of Tlatelolco) in Guatemala in November 2023,<sup>15</sup> and Cabo Verde ensured that the TPNW was included in a ministerial declaration by members of the Zone of Peace and Cooperation of the South Atlantic in April 2023.<sup>16</sup>

A record number of states (79) co-sponsored the annual resolution on the TPNW in the First Committee in 2023, reflecting the strong global commitment to universalisation.<sup>17</sup> In addition to calling upon ‘all States that have not yet done so to sign, ratify, accept, approve or accede to the Treaty at the earliest possible date’, the resolution urged ‘those States in a position to do so to promote adherence to the Treaty through bilateral, subregional, regional and multilateral contacts, outreach and other means’. One hundred and twenty-three states—almost two thirds of all UN members—voted in favour of the resolution in the General Assembly in December 2023.<sup>18</sup>

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11 ‘Joint statement to the First PrepCom’, 2 August 2023, at: <https://bit.ly/4aYCoU2>.

12 ‘Joint statement by TPNW states parties and signatory states for the thematic cluster on “Nuclear Weapons” 78 UNGA – First Committee’, New York 13 October 2023, at: <https://bit.ly/4caXCfT>.

13 Statement on behalf of the African Group by His Excellency Tijjani Muhammad-Bande, Permanent Representative of Nigeria to the United Nations and Chair of the African Group for the month of October 2023 at the 78th Session of the United Nations General Assembly, First Committee General Debate on all the disarmament and international security agenda items’, New York, 3 October 2023, at: <https://bit.ly/3yNClr9>.

14 Statement on UNWebTV, at: <https://bit.ly/4ejy9oj>.

15 GNews, ‘Guatemala Hosted the OPANAL General Conference’, 6 November 2023, at: <https://bit.ly/3z5kf9B>.

16 ‘Eight Ministerial Meeting of the Zone of Peace and Cooperation of the South Atlantic, Mindelo Declaration’, 18 April 2023, at: <https://bit.ly/3KA9leL>.

17 General and complete disarmament. Report of the First Committee’, A/78/409, at: <https://www.undocs.org/A/78/409>.

18 UN General Assembly Resolution 78/35, adopted on 4 December 2023 by 123 votes to 43, with 17 abstentions.

# THE TEXT OF THE TPNW

## **Treaty on the Prohibition of Nuclear Weapons**

*The States Parties to this Treaty,*

*Determined* to contribute to the realization of the purposes and principles of the Charter of the United Nations,

*Deeply concerned* about the catastrophic humanitarian consequences that would result from any use of nuclear weapons, and recognizing the consequent need to completely eliminate such weapons, which remains the only way to guarantee that nuclear weapons are never used again under any circumstances,

*Mindful* of the risks posed by the continued existence of nuclear weapons, including from any nuclear-weapon detonation by accident, miscalculation or design, and emphasizing that these risks concern the security of all humanity, and that all States share the responsibility to prevent any use of nuclear weapons,

*Cognizant* that the catastrophic consequences of nuclear weapons cannot be adequately addressed, transcend national borders, pose grave implications for human survival, the environment, socioeconomic development, the global economy, food security and the health of current and future generations, and have a disproportionate impact on women and girls, including as a result of ionizing radiation,

*Acknowledging* the ethical imperatives for nuclear disarmament and the urgency of achieving and maintaining a nuclear-weapon-free world, which is a global public good of the highest order, serving both national and collective security interests,

*Mindful* of the unacceptable suffering of and harm caused to the victims of the use of nuclear weapons (hibakusha), as well as of those affected by the testing of nuclear weapons,

*Recognizing* the disproportionate impact of nuclear-weapon activities on indigenous peoples,

*Reaffirming* the need for all States at all times to comply with applicable international law, including international humanitarian law and international human rights law,

*Basing* themselves on the principles and rules of international humanitarian law, in particular the principle that the right of parties to an armed conflict to choose methods or means of warfare is not unlimited, the rule of distinction, the prohibition against indiscriminate attacks, the rules on proportionality and precautions in attack, the prohibition on the use of weapons of a nature to cause superfluous injury or unnecessary suffering, and the rules for the protection of the natural environment,

*Considering* that any use of nuclear weapons would be contrary to the rules of international law applicable in armed conflict, in particular the principles and rules of international humanitarian law,

*Reaffirming* that any use of nuclear weapons would also be abhorrent to the principles of humanity and the dictates of public conscience,

*Recalling* that, in accordance with the Charter of the United Nations, States must refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations, and that the establishment and maintenance of international peace and security are to be promoted with the least diversion for armaments of the world's human and economic resources,

*Recalling* also the first resolution of the General Assembly of the United Nations, adopted on 24 January 1946, and subsequent resolutions which call for the elimination of nuclear weapons,

*Concerned* by the slow pace of nuclear disarmament, the continued reliance on nuclear weapons in military and security concepts, doctrines and policies, and the waste of economic and human resources on programmes for the production, maintenance and modernization of nuclear weapons,

*Recognizing* that a legally binding prohibition of nuclear weapons constitutes an important contribution towards the achievement and maintenance of a world free of nuclear weapons, including the irreversible, verifiable and transparent elimination of nuclear weapons, and determined to act towards that end,

*Determined* to act with a view to achieving effective progress towards general and complete disarmament under strict and effective international control,

*Reaffirming* that there exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control,

*Reaffirming* also that the full and effective implementation of the Treaty on the Non-Proliferation of Nuclear Weapons, which serves as the cornerstone of the nuclear disarmament and non-proliferation regime, has a vital role to play in promoting international peace and security,

*Recognizing* the vital importance of the Comprehensive Nuclear-Test-Ban Treaty and its verification regime as a core element of the nuclear disarmament and non-proliferation regime,

*Reaffirming* the conviction that the establishment of the internationally recognized nuclear-weapon-free zones on the basis of arrangements freely arrived at among the States of the region concerned enhances global and regional peace and security, strengthens the nuclear non-proliferation regime and contributes towards realizing the objective of nuclear disarmament,

*Emphasizing* that nothing in this Treaty shall be interpreted as affecting the inalienable right of its States Parties to develop research, production and use of nuclear energy for peaceful purposes without discrimination,

*Recognizing* that the equal, full and effective participation of both women and men is an essential factor for the promotion and attainment of sustainable peace and security, and committed to supporting and strengthening the effective participation of women in nuclear disarmament,

*Recognizing* also the importance of peace and disarmament education in all its aspects and of raising awareness of the risks and consequences of nuclear weapons for current and future generations, and committed to the dissemination of the principles and norms of this Treaty,

*Stressing* the role of public conscience in the furthering of the principles of humanity as evidenced by the call for the total elimination of nuclear weapons, and recognizing the efforts to that end undertaken by the United Nations, the International Red Cross and Red Crescent Movement, other international and regional organizations, non-governmental organizations, religious leaders, parliamentarians, academics and the hibakusha,

*Have agreed as follows:*

## **ARTICLE 1 PROHIBITIONS**

1. Each State Party undertakes never under any circumstances to:
  - (a) Develop, test, produce, manufacture, otherwise acquire, possess or stockpile nuclear weapons or other nuclear explosive devices;
  - (b) Transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly or indirectly;
  - (c) Receive the transfer of or control over nuclear weapons or other nuclear explosive devices directly or indirectly;
  - (d) Use or threaten to use nuclear weapons or other nuclear explosive devices;
  - (e) Assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Treaty;
  - (f) Seek or receive any assistance, in any way, from anyone to engage in any activity prohibited to a State Party under this Treaty;
  - (g) Allow any stationing, installation or deployment of any nuclear weapons or other nuclear explosive devices in its territory or at any place under its jurisdiction or control.

## **ARTICLE 2 DECLARATIONS**

1. Each State Party shall submit to the Secretary-General of the United Nations, not later than 30 days after this Treaty enters into force for that State Party, a declaration in which it shall:
  - (a) Declare whether it owned, possessed or controlled nuclear weapons or nuclear explosive devices and eliminated its nuclear-weapon programme, including the elimination or irreversible conversion of all nuclear-weapons-related facilities, prior to the entry into force of this Treaty for that State Party;
  - (b) Notwithstanding Article 1 (a), declare whether it owns, possesses or controls any nuclear weapons or other nuclear explosive devices;
  - (c) Notwithstanding Article 1 (g), declare whether there are any nuclear weapons or other nuclear explosive devices in its territory or in any place under its jurisdiction or control that are owned, possessed or controlled by another State.
2. The Secretary-General of the United Nations shall transmit all such declarations received to the States Parties.

## **ARTICLE 3 SAFEGUARDS**

1. Each State Party to which Article 4, paragraph 1 or 2, does not apply shall, at a minimum, maintain its International Atomic Energy Agency safeguards obligations in force at the time of entry into force of this Treaty, without prejudice to any additional relevant instruments that it may adopt in the future.
2. Each State Party to which Article 4, paragraph 1 or 2, does not apply that has not yet done so shall conclude with the International Atomic Energy Agency and bring into force a comprehensive safeguards agreement (INFCIRC/153 (Corrected)). Negotiation of such agreement shall commence within 180 days from the entry into force of this Treaty for that State Party. The agreement shall enter into force no later than 18 months from the entry into force of this Treaty for that State Party. Each State Party shall thereafter maintain such obligations, without prejudice to any additional relevant instruments that it may adopt in the future.

## **ARTICLE 4 TOWARDS THE TOTAL ELIMINATION OF NUCLEAR WEAPONS**

1. Each State Party that after 7 July 2017 owned, possessed or controlled nuclear weapons or other nuclear explosive

devices and eliminated its nuclear-weapon programme, including the elimination or irreversible conversion of all nuclear-weapons-related facilities, prior to the entry into force of this Treaty for it, shall cooperate with the competent international authority designated pursuant to paragraph 6 of this Article for the purpose of verifying the irreversible elimination of its nuclear-weapon programme. The competent international authority shall report to the States Parties. Such a State Party shall conclude a safeguards agreement with the International Atomic Energy Agency sufficient to provide credible assurance of the non-diversion of declared nuclear material from peaceful nuclear activities and of the absence of undeclared nuclear material or activities in that State Party as a whole. Negotiation of such agreement shall commence within 180 days from the entry into force of this Treaty for that State Party. The agreement shall enter into force no later than 18 months from the entry into force of this Treaty for that State Party. That State Party shall thereafter, at a minimum, maintain these safeguards obligations, without prejudice to any additional relevant instruments that it may adopt in the future.

2. Notwithstanding Article 1 (a), each State Party that owns, possesses or controls nuclear weapons or other nuclear explosive devices shall immediately remove them from operational status, and destroy them as soon as possible but not later than a deadline to be determined by the first meeting of States Parties, in accordance with a legally binding, time-bound plan for the verified and irreversible elimination of that State Party's nuclear-weapon programme, including the elimination or irreversible conversion of all nuclear-weapons-related facilities. The State Party, no later than 60 days after the entry into force of this Treaty for that State Party, shall submit this plan to the States Parties or to a competent international authority designated by the States Parties. The plan shall then be negotiated with the competent international authority, which shall submit it to the subsequent meeting of States Parties or review conference, whichever comes first, for approval in accordance with its rules of procedure.
3. A State Party to which paragraph 2 above applies shall conclude a safeguards agreement with the International Atomic Energy Agency sufficient to provide credible assurance of the non-diversion of declared nuclear material from peaceful nuclear activities and of the absence of undeclared nuclear material or activities in the State as a whole. Negotiation of such agreement shall commence no later than the date upon which implementation of the plan referred to in paragraph 2 is completed. The agreement shall enter into force no later than 18 months after the date of initiation of negotiations. That State Party shall thereafter, at a minimum, maintain these safeguards obligations, without prejudice to any additional relevant instruments that it may adopt in the future. Following the entry into force of the agreement referred to in this paragraph, the State Party shall submit to the Secretary-General of the United Nations a final declaration that it has fulfilled its obligations under this Article.
4. Notwithstanding Article 1 (b) and (g), each State Party that has any nuclear weapons or other nuclear explosive devices in its territory or in any place under its jurisdiction or control that are owned, possessed or controlled by another State shall ensure the prompt removal of such weapons, as soon as possible but not later than a deadline to be determined by the first meeting of States Parties. Upon the removal of such weapons or other explosive devices, that State Party shall submit to the Secretary-General of the United Nations a declaration that it has fulfilled its obligations under this Article.
5. Each State Party to which this Article applies shall submit a report to each meeting of States Parties and each review conference on the progress made towards the implementation of its obligations under this Article, until such time as they are fulfilled.
6. The States Parties shall designate a competent international authority or authorities to negotiate and verify the irreversible elimination of nuclear-weapons programmes, including the elimination or irreversible conversion of all nuclear-weapons-related facilities in accordance with paragraphs 1, 2 and 3 of this Article. In the event that such a designation has not been made prior to the entry into force of this Treaty for a State

Party to which paragraph 1 or 2 of this Article applies, the Secretary-General of the United Nations shall convene an extraordinary meeting of States Parties to take any decisions that may be required.

## **ARTICLE 5 NATIONAL IMPLEMENTATION**

1. Each State Party shall adopt the necessary measures to implement its obligations under this Treaty.
2. Each State Party shall take all appropriate legal, administrative and other measures, including the imposition of penal sanctions, to prevent and suppress any activity prohibited to a State Party under this Treaty undertaken by persons or on territory under its jurisdiction or control.

## **ARTICLE 6 VICTIM ASSISTANCE AND ENVIRONMENTAL REMIEDIATION**

1. Each State Party shall, with respect to individuals under its jurisdiction who are affected by the use or testing of nuclear weapons, in accordance with applicable international humanitarian and human rights law, adequately provide age- and gender-sensitive assistance, without discrimination, including medical care, rehabilitation and psychological support, as well as provide for their social and economic inclusion.
2. Each State Party, with respect to areas under its jurisdiction or control contaminated as a result of activities related to the testing or use of nuclear weapons or other nuclear explosive devices, shall take necessary and appropriate measures towards the environmental remediation of areas so contaminated.
3. The obligations under paragraphs 1 and 2 above shall be without prejudice to the duties and obligations of any other States under international law or bilateral agreements.

## **ARTICLE 7 INTERNATIONAL COOPERATION AND ASSISTANCE**

1. Each State Party shall cooperate with other States Parties to facilitate the implementation of this Treaty.
2. In fulfilling its obligations under this Treaty, each State Party shall have the right to seek and receive assistance, where feasible, from other States Parties.
3. Each State Party in a position to do so shall provide technical, material and financial assistance to States Parties affected by nuclear-weapons use or testing, to further the implementation of this Treaty.
4. Each State Party in a position to do so shall provide assistance for the victims of the use or testing of nuclear weapons or other nuclear explosive devices.
5. Assistance under this Article may be provided, inter alia, through the United Nations system, international, regional or national organizations or institutions, non-governmental organizations or institutions, the International Committee of the Red Cross, the International Federation of Red Cross and Red Crescent Societies, or national Red Cross and Red Crescent Societies, or on a bilateral basis.
6. Without prejudice to any other duty or obligation that it may have under international law, a State Party that has used or tested nuclear weapons or any other nuclear explosive devices shall have a responsibility to provide adequate assistance to affected States Parties, for the purpose of victim assistance and environmental remediation.

## **ARTICLE 8 MEETING OF STATES PARTIES**

1. The States Parties shall meet regularly in order to consider and, where necessary, take decisions in respect of any matter with regard to the application or implementation of this Treaty, in accordance with its relevant provisions, and on further measures for nuclear disarmament, including:
  - (a) The implementation and status of this Treaty;
  - (b) Measures for the verified, time-bound and irreversible

elimination of nuclear-weapon programmes, including additional protocols to this Treaty;

- (c) Any other matters pursuant to and consistent with the provisions of this Treaty.
2. The first meeting of States Parties shall be convened by the Secretary-General of the United Nations within one year of the entry into force of this Treaty. Further meetings of States Parties shall be convened by the Secretary-General of the United Nations on a biennial basis, unless otherwise agreed by the States Parties. The meeting of States Parties shall adopt its rules of procedure at its first session. Pending their adoption, the rules of procedure of the United Nations conference to negotiate a legally binding instrument to prohibit nuclear weapons, leading towards their total elimination, shall apply.
  3. Extraordinary meetings of States Parties shall be convened, as may be deemed necessary, by the Secretary-General of the United Nations, at the written request of any State Party provided that this request is supported by at least one third of the States Parties.
  4. After a period of five years following the entry into force of this Treaty, the Secretary-General of the United Nations shall convene a conference to review the operation of the Treaty and the progress in achieving the purposes of the Treaty. The Secretary-General of the United Nations shall convene further review conferences at intervals of six years with the same objective, unless otherwise agreed by the States Parties.
  5. States not party to this Treaty, as well as the relevant entities of the United Nations system, other relevant international organizations or institutions, regional organizations, the International Committee of the Red Cross, the International Federation of Red Cross and Red Crescent Societies and relevant non-governmental organizations, shall be invited to attend the meetings of States Parties and the review conferences as observers.

## **ARTICLE 9 COSTS**

1. The costs of the meetings of States Parties, the review conferences and the extraordinary meetings of States Parties shall be borne by the States Parties and States not party to this Treaty participating therein as observers, in accordance with the United Nations scale of assessment adjusted appropriately.
2. The costs incurred by the Secretary-General of the United Nations in the circulation of declarations under Article 2, reports under Article 4 and proposed amendments under Article 10 of this Treaty shall be borne by the States Parties in accordance with the United Nations scale of assessment adjusted appropriately.
3. The cost related to the implementation of verification measures required under Article 4 as well as the costs related to the destruction of nuclear weapons or other nuclear explosive devices, and the elimination of nuclear-weapon programmes, including the elimination or conversion of all nuclear-weapons-related facilities, should be borne by the States Parties to which they apply.

## **ARTICLE 10 AMENDMENTS**

1. At any time after the entry into force of this Treaty, any State Party may propose amendments to the Treaty. The text of a proposed amendment shall be communicated to the Secretary-General of the United Nations, who shall circulate it to all States Parties and shall seek their views on whether to consider the proposal. If a majority of the States Parties notify the Secretary-General of the United Nations no later than 90 days after its circulation that they support further consideration of the proposal, the proposal shall be considered at the next meeting of States Parties or review conference, whichever comes first.
2. A meeting of States Parties or a review conference may agree upon amendments which shall be adopted by a positive vote of a majority of two thirds of the States Parties. The Depositary shall communicate any adopted amendment to all States Parties.

3. The amendment shall enter into force for each State Party that deposits its instrument of ratification or acceptance of the amendment 90 days following the deposit of such instruments of ratification or acceptance by a majority of the States Parties at the time of adoption. Thereafter, it shall enter into force for any other State Party 90 days following the deposit of its instrument of ratification or acceptance of the amendment.

#### **ARTICLE 11 SETTLEMENT OF DISPUTES**

1. When a dispute arises between two or more States Parties relating to the interpretation or application of this Treaty, the parties concerned shall consult together with a view to the settlement of the dispute by negotiation or by other peaceful means of the parties' choice in accordance with Article 33 of the Charter of the United Nations.
2. The meeting of States Parties may contribute to the settlement of the dispute, including by offering its good offices, calling upon the States Parties concerned to start the settlement procedure of their choice and recommending a time limit for any agreed procedure, in accordance with the relevant provisions of this Treaty and the Charter of the United Nations.

#### **ARTICLE 12 UNIVERSALITY**

Each State Party shall encourage States not party to this Treaty to sign, ratify, accept, approve or accede to the Treaty, with the goal of universal adherence of all States to the Treaty.

#### **ARTICLE 13 SIGNATURE**

This Treaty shall be open for signature to all States at United Nations Headquarters in New York as from 20 September 2017.

#### **ARTICLE 14 RATIFICATION, ACCEPTANCE, APPROVAL OR ACCESSION**

This Treaty shall be subject to ratification, acceptance or approval by signatory States. The Treaty shall be open for accession.

#### **ARTICLE 15 ENTRY INTO FORCE**

1. This Treaty shall enter into force 90 days after the fiftieth instrument of ratification, acceptance, approval or accession has been deposited.
2. For any State that deposits its instrument of ratification, acceptance, approval or accession after the date of the deposit of the fiftieth instrument of ratification, acceptance, approval or accession, this Treaty shall enter into force 90 days after the date on which that State has deposited its instrument of ratification, acceptance, approval or accession.

#### **ARTICLE 16 RESERVATIONS**

The Articles of this Treaty shall not be subject to reservations.

#### **ARTICLE 17 DURATION AND WITHDRAWAL**

1. This Treaty shall be of unlimited duration.
2. Each State Party shall, in exercising its national sovereignty, have the right to withdraw from this Treaty if it decides that extraordinary events related to the subject matter of the Treaty have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to the Depositary. Such notice shall include a statement of the extraordinary events that it regards as having jeopardized its supreme interests.
3. Such withdrawal shall only take effect 12 months after the date of the receipt of the notification of withdrawal by the Depositary. If, however, on the expiry of that 12-month period, the withdrawing State Party is a party to an armed conflict, the State Party shall continue to be bound by the obligations of this Treaty and of any additional protocols until it is no longer party to an armed conflict.

#### **ARTICLE 18 RELATIONSHIP WITH OTHER AGREEMENTS**

The implementation of this Treaty shall not prejudice obligations undertaken by States Parties with regard to existing international agreements, to which they are party, where those obligations are consistent with the Treaty.

#### **ARTICLE 19 DEPOSITARY**

The Secretary-General of the United Nations is hereby designated as the Depositary of this Treaty.

#### **ARTICLE 20 AUTHENTIC TEXTS**

The Arabic, Chinese, English, French, Russian and Spanish texts of this Treaty shall be equally authentic.

DONE at New York, this seventh day of July, two thousand and seventeen.

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# ABBREVIATIONS AND ACRONYMS

1MSP	First Meeting of States Parties to the TPNW	MIRV	Multiple independently targetable re-entry vehicle
2MSP	Second Meeting of States Parties to the TPNW	MRBM	Medium-range ballistic missile
3MSP	Third Meeting of States Parties to the TPNW	MT	Megatons
ALBM	Air-launched ballistic missile	MTS	Metric tonnes
ALCM	Air-launched cruise missile	NAM	Non-Aligned Movement
ASCM	Anti-ship cruise missile	NATO	North Atlantic Treaty Organization
AP	Additional Protocol	New START	New Strategic Arms Reduction Treaty
APMBC	Anti-Personnel Mine Ban Convention	NPA	Norwegian People's Aid
BWC	Biological Weapons Convention	NNSA	National Nuclear Security Administration
CARICOM	Caribbean Community	NPT	Treaty on the Non-Proliferation of Nuclear Weapons
CCM	Convention on Cluster Munitions	NWFZ	Nuclear-weapon-free zone
Cs	Caesium	OPIR	Overhead Persistent Infra-Red
CSA	Comprehensive Safeguards Agreement	P5	Power 5 (the five permanent, and nuclear-armed, members of the United Nations Security Council: China, France, Russia, the United Kingdom, and the United States)
CSER	Centre for the Study of Existential Risk	Pu	Plutonium
CSNO	Conventional support to nuclear operations	ROK	Republic of Korea (South Korea)
CSTO	Collective Security Treaty Organization	SAM	Surface-to-air missile
CTBT	Comprehensive Nuclear-Test-Ban Treaty	SLBM	Submarine-launched ballistic missile
CTBTO	Comprehensive Nuclear-Test-Ban Treaty Organization	SLCM	Submarine-launched cruise missile
CWC	Chemical Weapons Convention	SQP	Small Quantities Protocol
DCA	Dual-capable aircraft	SRBM	Short-range ballistic missile
DPRK	Democratic People's Republic of Korea (North Korea)	SSB	Submersible ship, ballistic missile
DR Congo	Democratic Republic of the Congo	SSBN	Submersible ship, ballistic missile, nuclear-powered
GLCM	Ground-launched cruise missile	SSGN	Submersible ship, guided missile, nuclear-powered
HEU	Highly enriched uranium	START	Strategic Arms Reduction Treaty
HLAB	High-Level Advisory Board on Effective Multilateralism	TNT	Trinitrotoluene
IAEA	International Atomic Energy Agency	TPNW	Treaty on the Prohibition of Nuclear Weapons
ICAN	International Campaign to Abolish Nuclear Weapons	UF6	Uranium hexafluoride
ICBM	Intercontinental ballistic missile	UK	United Kingdom
ILPI	International Law and Policy Institute	UN	United Nations
INFCIRC	Information Circular	UNIDIR	United Nations Institute for Disarmament Research
IPFM	International Panel on Fissile Materials	UNODA	United Nations Office for Disarmament Affairs
IPNDV	International Partnership on Nuclear Disarmament Verification	US	United States
IRBM	Intermediate-range ballistic missile	Wh	Warheads
JCPOA	Joint Comprehensive Plan of Action	WMD	Weapon of mass destruction
Kt	Kilotons		
LACM	Land-attack cruise missile		
Lao PDR	Lao People's Democratic Republic		



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