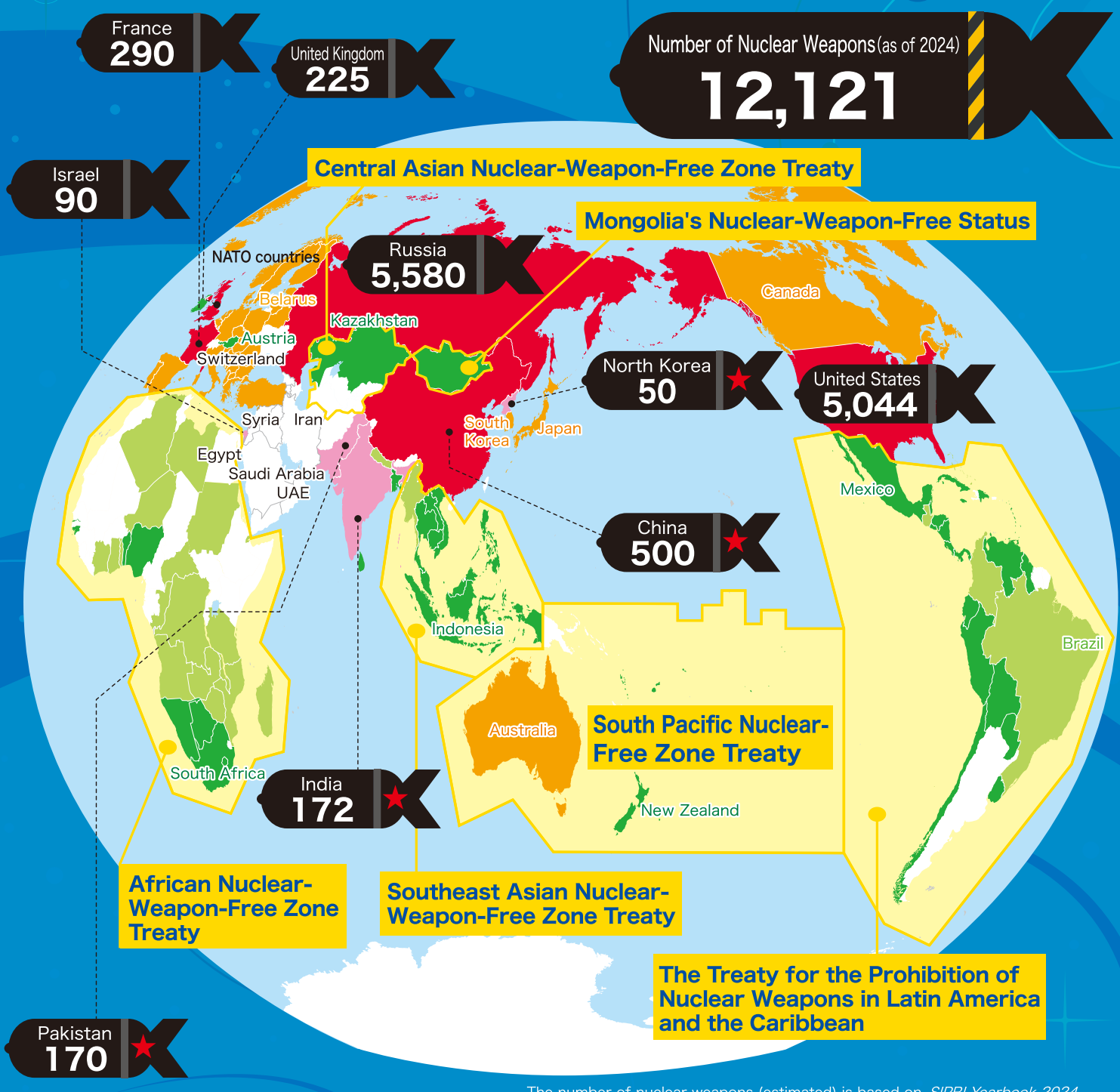
The Global Threat of Nuclear Weapons



The number of nuclear weapons (estimated) is based on *SIPRI Yearbook 2024*

Countries that have signed the TPNW: **94**

States Parties to the TPNW: **73**

Nuclear-weapon states (Note 1)

Other nuclear-armed states (Note 2)

Countries under nuclear umbrella

Nuclear-weapon-free zone

★ Countries that have increased the size of their nuclear arsenal

(Note 1) Five countries that are officially recognized for possessing nuclear weapons by the NPT
(Note 2) Countries other than nuclear-weapon states that (allegedly) possess nuclear weapons

The aim of this booklet, which is based on the contents of the *Hiroshima Report 2025 – Evaluation of Achievement in Nuclear Disarmament, Non-Proliferation and Nuclear Security in 2024*, is to provide a better understanding of the overall trends surrounding nuclear weapons.

International Framework for Nuclear Weapons

Nuclear Non-Proliferation Treaty (NPT)

The NPT was established on the premise that preventing the proliferation of nuclear weapons would lead to their eventual elimination. This was in response to the lack of progress in nuclear disarmament negotiations during the Cold War, along with the increasing number of countries seeking to acquire nuclear weapons or the potential to produce them. The NPT—with its three pillars of nuclear disarmament, nuclear non-proliferation, and the peaceful use of nuclear energy—is a cornerstone of the nuclear non-proliferation regime.

【Nuclear-Weapon States (NWS)/ Non-Nuclear-Weapon States (NNWS)】

The NPT divides the states parties into two groups: NWS and NNWS. The NPT recognizes the possession of nuclear weapons by NWS that "had manufactured and detonated a nuclear explosive device prior to 1 January 1967." The United States, Russia, the United Kingdom, France, and China are the NWS under the NPT. All other countries are considered NNWS.

【Nuclear Disarmament】

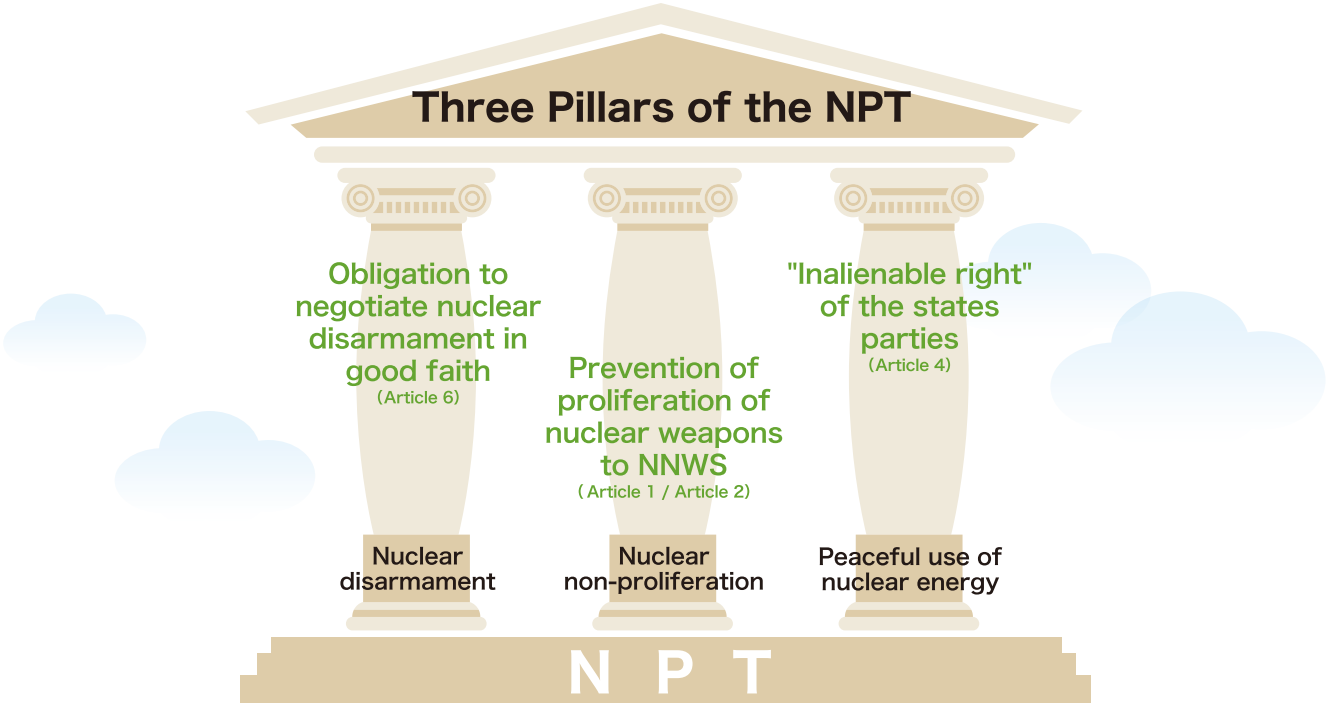
To alleviate the inequality of only five countries possessing nuclear weapons, the NPT obligates NWS to pursue negotiations in good faith on effective measures relating to nuclear disarmament.

【Nuclear Non-proliferation】

The NPT stipulates obligations for all states parties regarding nuclear non-proliferation. NNWS are prohibited from acquiring or possessing nuclear weapons. NWS are prohibited from transferring nuclear weapons to NNWS or assisting them in acquiring nuclear weapons.

【Peaceful Use of Nuclear Energy】

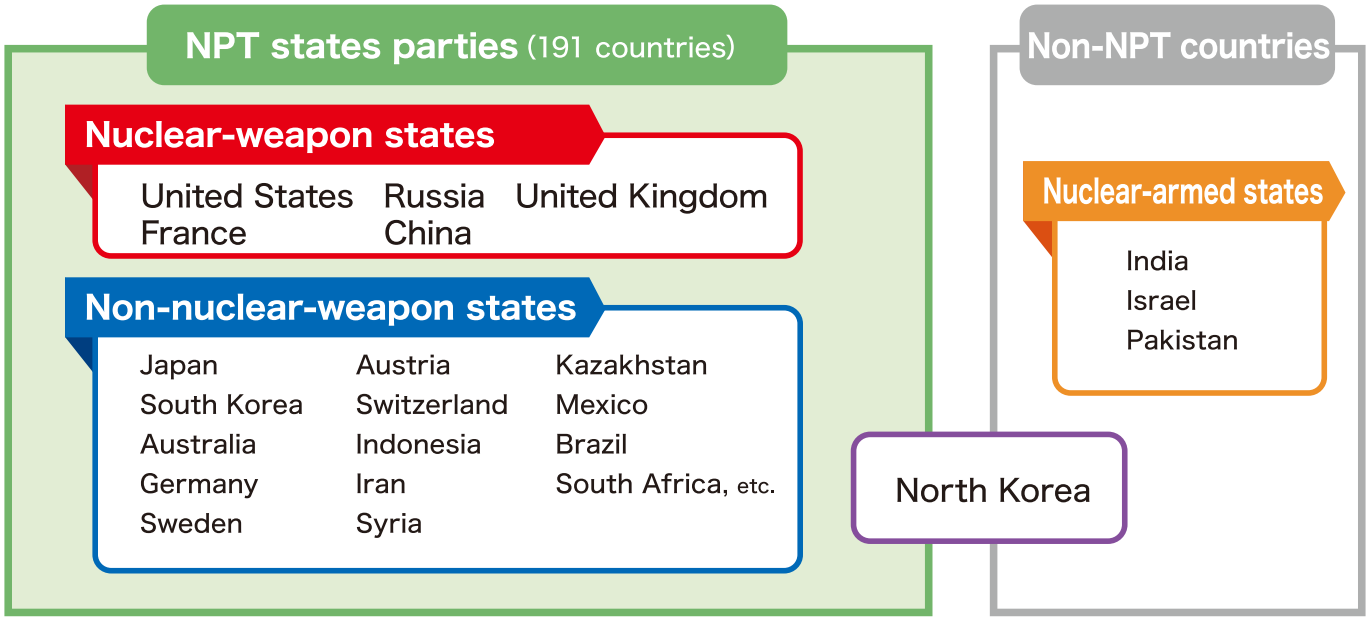
The NPT recognizes the peaceful use of nuclear energy (such as nuclear power plants for electricity supply) as the "inalienable right" of all states parties. By requiring NNWS to implement International Atomic Energy Agency (IAEA) safeguards (inspections and verification), nuclear non-proliferation and nuclear activities by non-nuclear weapons states are made compatible.



Even after the establishment of the NPT in 1968 and its entry into force in 1970, some countries nevertheless continued their attempts to acquire nuclear weapons. Immediately after the end of the Cold War, South Africa eliminated its nuclear weapons and joined the NPT as a NNWS. However, India, Pakistan and Israel, which have (allegedly) possessed nuclear weapons since the Cold War era, have yet to join the NPT. These countries are called for joining the NPT as NNWS as soon as possible.

【NPT accession status】

＊One of the disarmament and non-proliferation treaties with the largest number of signatories in the world
＊Review conferences have been held every five years since the NPT's entry into force
＊The NPT was extended indefinitely in 1995



NPT Review Conference (RevCon)

The states parties to the NPT have held the RevCons every five years since the treaty entered into force. In the conference, they review how the parties have implemented the NPT, including nuclear disarmament and non-proliferation, and discuss measures and activities to be taken in the future. At the 10th NPT RevCon held in 2022, despite opposing opinions in discussions on nuclear disarmament between NWS and NNWS as well as among NWS, a draft final document was submitted. However, due to Russia's opposition over issues related to its aggression against Ukraine in the draft, the goal of the RevCon—adopting the final document—could not be achieved.

Column

North Korea acceded to the NPT in 1985. However, its clandestine nuclear program was subsequently revealed in 1993. In 2003, North Korea declared its withdrawal from the NPT, for the second time after the suspension of its notice of withdrawal in 1993. North Korea has aggressively pursued nuclear and missile development, conducting six nuclear tests and repeatedly testing various types of missiles, including intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs). Furthermore, North Korea argues that it will never renounce its nuclear forces.

Recent Developments in Nuclear Disarmament

New Strategic Arms Reduction Treaty (New START)

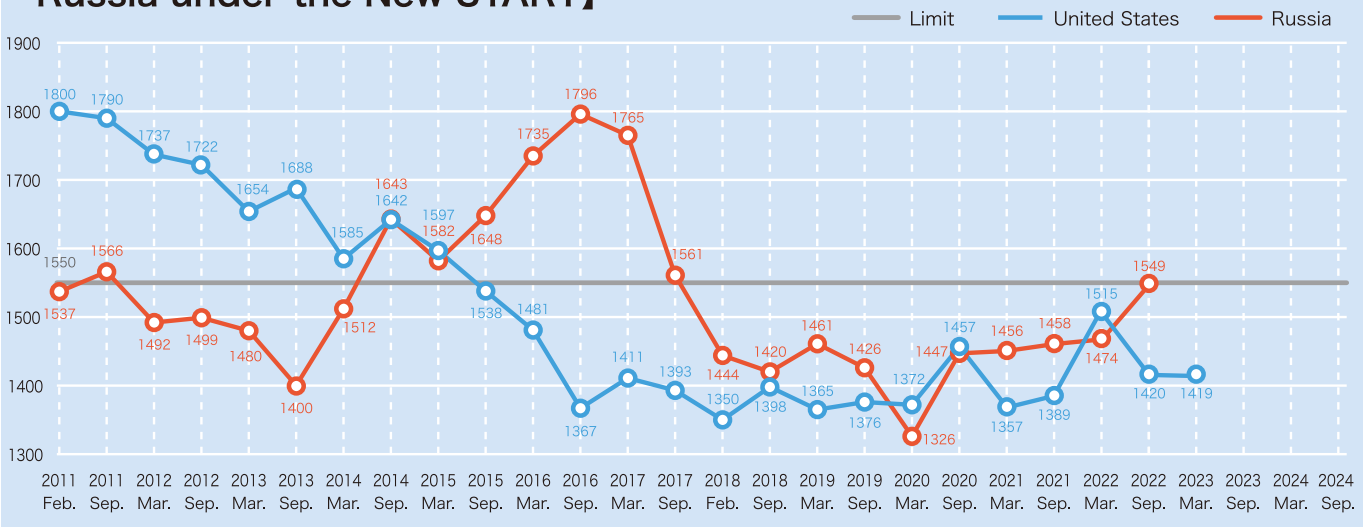
signed in April 2010, entered into force in February 2011

The New START stipulates reductions in both U.S. and Russian strategic nuclear warheads and their delivery vehicles, such as intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and strategic bombers. By February 2018, their number fell below the limit stipulated in the treaty. Compliance with the obligations to reduce strategic nuclear weapons is verified bilaterally through the exchange of data, as well as mutual on-site inspections and other means.

The New START stipulates that its expiration date was on February 5, 2021, with a provision that it could be extended for up to five years. The United States and Russia held repeated discussions concerning the deadline and conditions for the extension, and shortly after the inauguration of the U.S. Biden administration, they agreed to an unconditional five-year extension.

However, in 2023, Russia decided to suspend its implementation. It announced that it would no longer accept on-site inspections nor conduct data exchange. As of December 2024, the implementation of the New START has not been restored.

【Number of deployed strategic (nuclear) warheads by the U.S. and Russia under the New START】



【Strategic (nuclear) forces of the U.S. and Russia under the New START】

As of September 2022

	Deployed strategic (nuclear) warheads	Deployed strategic (nuclear) delivery vehicles	Deployed and non-deployed strategic (nuclear) delivery vehicles and launchers
Limits	1,550	700	800
United States	1,420	659	800
Russia	1,549	540	759

Source : The U.S. Department of State

Recent Developments in Nuclear Disarmament

Intermediate-Range Nuclear Forces Treaty (INF Treaty)

signed in December 1987, entered into force in June 1988

The INF Treaty stipulates the total elimination of U.S. and Soviet ground-launched intermediate-range (500-5,500 km) missiles. Although limited to certain categories, it was a landmark treaty in which, for the first time, the two countries agreed to eliminate some of their nuclear forces.
Furthermore, the INF Treaty was the first treaty to stipulate on-site inspections between the United States and the Soviet Union.
By June 1991, the two countries had completed the dismantlement of a total of 2,700 missiles.
Since then, however, countries other than the United States and the Soviet Union/Russia have continued to acquire and bolster intermediate-range missiles. Particularly China and North Korea possess high levels of missile capabilities in both quantity and quality. In addition, since 2014, the United States has claimed that Russia had tested and deployed the 9M729 ground-launched cruise missile in violation of the INF Treaty.
Mentioning the reasons above, the United States withdrew from the treaty in August 2019, and Russia subsequently announced the suspension of the treaty's implementation. This effectively brought the INF Treaty to an end.

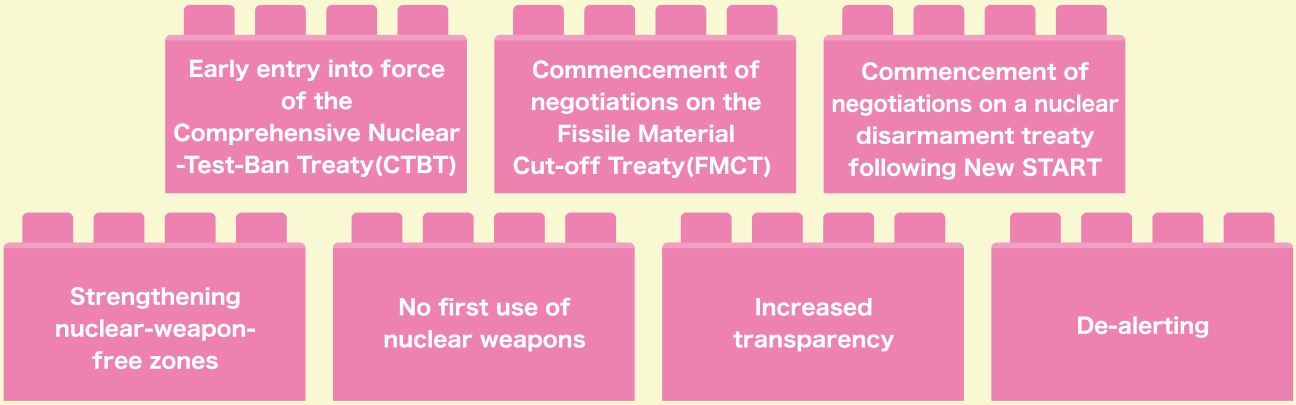
The struggle over nuclear arms reduction among the U.S., Russia and China

Until now, treaties stipulating the reduction of nuclear weapons have been concluded by the United States and the Soviet Union/Russia. In recent years, as China has emerged as a major power and its nuclear arsenal has expanded in both quality and quantity, the United States has called on China to join nuclear arms control talks. In response, China has reiterated that multilateral nuclear disarmament negotiations should be started only after the United States and Russia, which possess 90% of the world's nuclear weapons, would have substantially reduced their nuclear arsenals. The United States and Russia have also presented different arguments on how to proceed with nuclear disarmament following the New START.

Approaches to a World Without Nuclear Weapons

No country openly opposes the goal of a "world without nuclear weapons." Meanwhile, NWS and NNWS have proposed various approaches to achieving this goal. Effective measures to promote nuclear disarmament include the following.

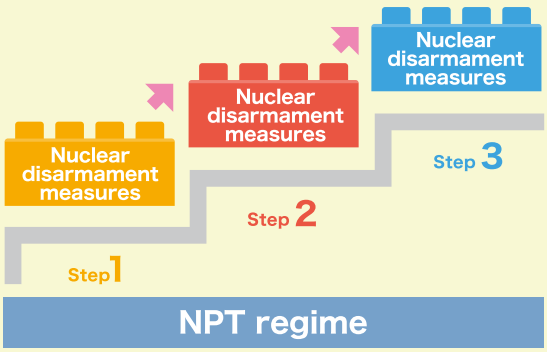
Examples of nuclear disarmament measures



(Image Diagram)

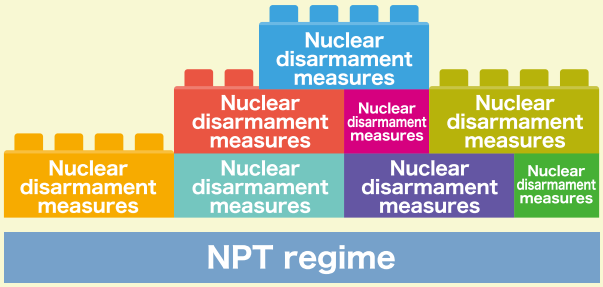
The five NWS—the United States, Russia, the United Kingdom, France, and China—have advocated a "step-by-step approach" in which these nuclear disarmament measures are accomplished one by one. NNWS that are allies and friends of the U.S., such as Japan, have emphasized the importance of a "progressive approach" in which NWS and NNWS cooperate to steadily advance nuclear disarmament measures. The essence of both approaches is that, based on the NPT regime, the most effective and pragmatic path toward a world without nuclear weapons is to consistently implement feasible measures while balancing nuclear disarmament and security.

Step-by-step approach



(Image Diagram)

Progressive Approach



(Image Diagram)

While more than 25 years have passed since the CTBT was concluded in 1996, it has yet to enter into force. Negotiations on an FMCT have not even begun. Since the mid-2010s, nuclear disarmament efforts have stagnated and, in some cases, even regressed. Against this backdrop, many NNWS and civil society actors have pushed for a new approach to nuclear disarmament, resulting in the adoption of the Treaty on the Prohibition of Nuclear Weapons.

Treaty on the Prohibition of Nuclear Weapons (TPNW)

The TPNW was adopted in July 2017 after gaining approval from 122 countries, following negotiations held at the United Nations, with the aim of establishing a legal norm banning nuclear weapons. The TPNW marks the first time in the history of nuclear disarmament that NNWS and civil society have actively led the process to adopt a treaty. The TPNW legally prohibits the development, testing, manufacturing, acquisition, possession, and use or threat of use of nuclear weapons by states parties.

【Signatures/Ratification】

Since it was opened for signature on September 20, 2017, the number of signatories/ratifying countries has steadily increased and the treaty entered into force on January 22, 2021, after reaching 50 ratifying countries on October 24, 2020. As of the end of 2024, the number of signatories was 94 and the number of states parties reached 73.

【Challenges】

All NWS and other nuclear-armed states, as well as NNWS allied with the United States ("nuclear umbrella states") including Japan, have not signed the TPNW. NWS oppose an immediate ban on nuclear weapons due to their respective national security reasons. "Nuclear umbrella states" also argue that nuclear disarmament should be pursued with the participation of NWS.

【Status of signatories and states parties to the TPNW】 (as of the end of 2024)

See world map on p. 1

Signatories (94 countries)

Brazil, etc.

States Parties (73 countries)

Austria
Indonesia
Kazakhstan
Mexico
New Zealand
South Africa,
etc.

Non-signatories

NWS

United States Russia United Kingdom
France China

NNWS

Japan	Sweden	Syria
South Korea	Switzerland	Egypt
Australia	Norway	Turkey, etc.
Germany	Iran	

Other nuclear-armed states

India Israel Pakistan

North Korea

Evaluation by the Hiroshima Report

The *Hiroshima Report 2025* studies, analyzes, and evaluates trends regarding nuclear issues among selected countries in 2024.

【Methodology】

Three areas—nuclear disarmament, nuclear non-proliferation and nuclear security—are studied, analyzed and evaluated, based on open source materials and other available information.

- Nuclear disarmament: Reduction and eventual elimination of nuclear warheads and their delivery vehicles, and creation of an environment conducive to such reduction and elimination.
  41 items (quantity of nuclear weapons, voting behavior at the UN General Assembly, etc.)
- Nuclear non-proliferation: Not increasing the number of countries possessing nuclear weapons; and cooperating in the peaceful use of nuclear materials.
  19 items (accession to the NPT, cooperation with the IAEA, etc.)
- Nuclear security: Prevention of terrorist activities using nuclear or other radiological materials.
  18 items (quantity of nuclear material, membership status in relevant conventions, etc.)

【Countries Evaluated】

- NWS under the NPT (5): U.S., Russia, U.K., France, China
- Nuclear-armed states outside the NPT (3): India, Israel, Pakistan
- NNWS (22 for nuclear disarmament and non-proliferation, 18 for nuclear security)
  :Japan, Germany, Austria, Iran, South Africa, etc.
- Other: North Korea

The following are the evaluation scores for the assessed countries quantifying the status of their efforts in each area. For NNWS, representative countries are selected.

For more information about the Hiroshima Report, read here (official website of Hiroshima for Global Peace)

〈Evaluation scores〉

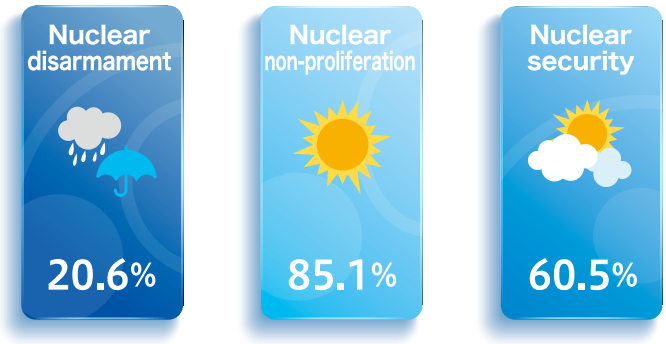
5 Nuclear-Weapon States

United States

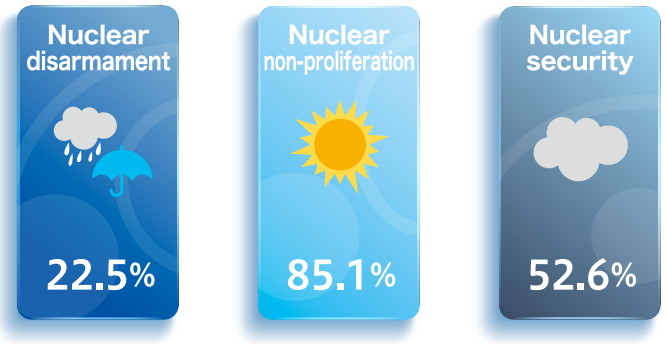
Russia

5 Nuclear-Weapon States

United Kingdom

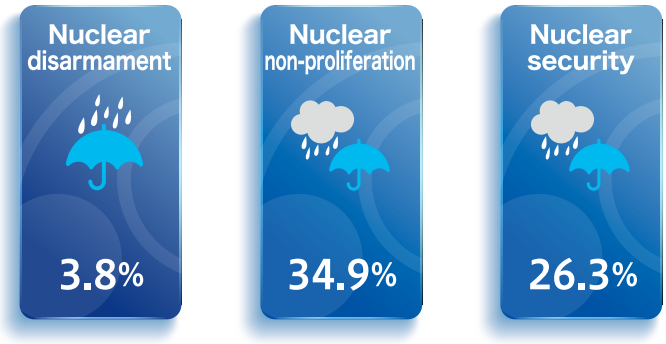


France

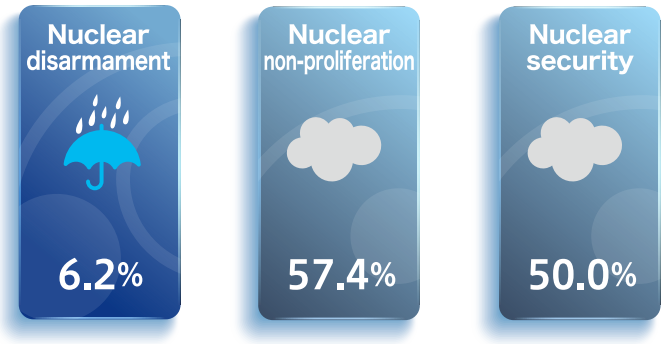


Other Nuclear-Armed States

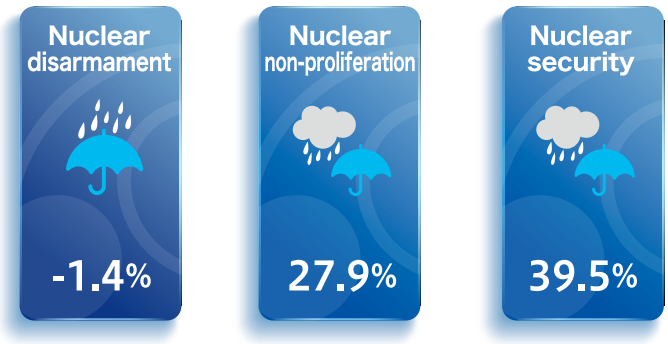
India



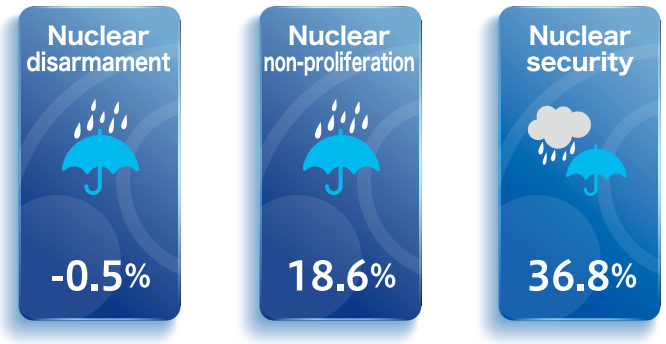
China



Israel

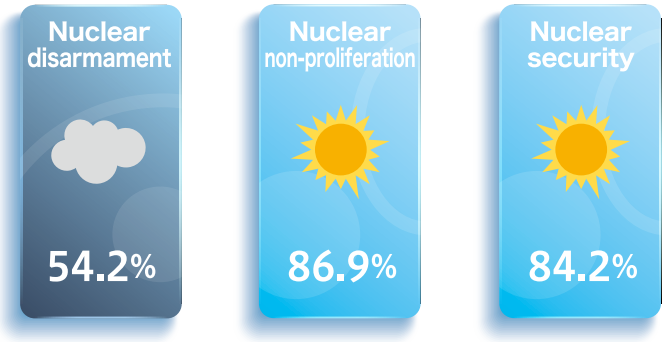


Pakistan

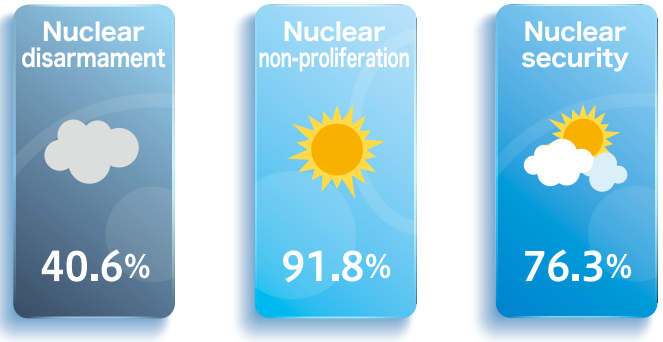


Non-Nuclear-Weapon States

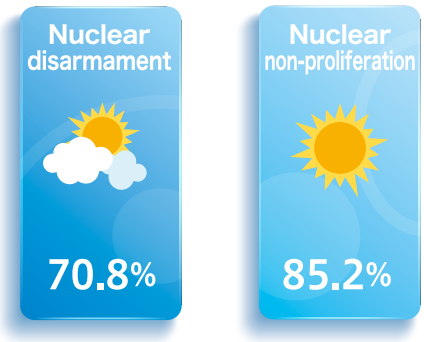
Japan



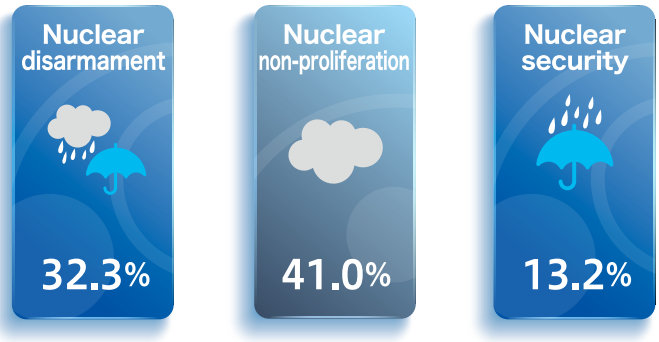
Germany



Austria

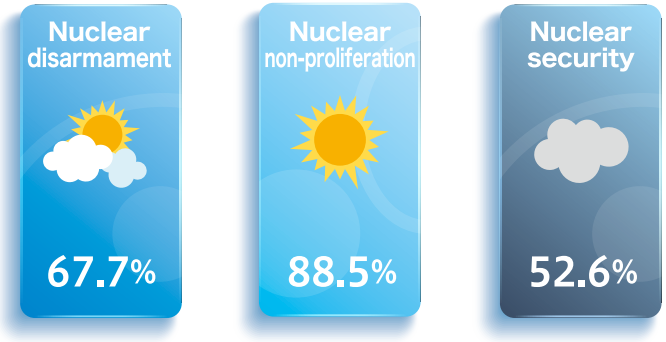


Iran

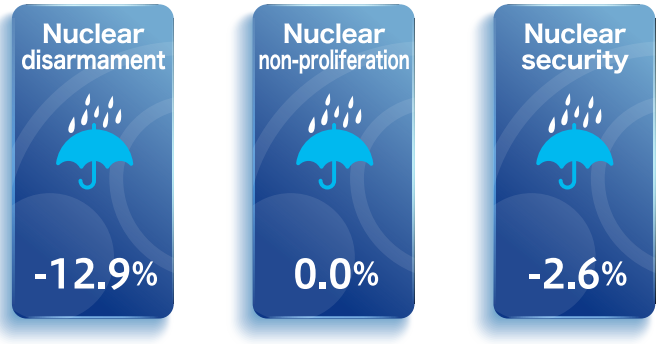


Other

South Africa



North Korea



Key Nuclear Issues in 2024

Nihon Hidankyo Nobel Peace Prize

On December 10, 2024, the Japan Confederation of A- and H-Bomb Sufferers Organizations (Nihon Hidankyo) was awarded the Nobel Peace Prize. In a statement, the Nobel Committee provided the following reasons for the award: "This grassroots movement of atomic bomb survivors from Hiroshima and Nagasaki, also known as Hibakusha, is receiving the Peace Prize for its efforts to achieve a world free of nuclear weapons and for demonstrating through witness testimony that nuclear weapons must never be used again."

Russia's Invasion and Nuclear Issues

Since the beginning of its full-scale invasion of Ukraine in February 2022, Russia has repeatedly made nuclear intimidation, instilling a strong sense of crisis in the international community that nuclear weapons might be used for the first time since the atomic bombings of Hiroshima and Nagasaki. Furthermore, the Russian attacks on and occupation of the Zaporizhzhia nuclear power plant—despite knowing it was still in operation—have highlighted a new challenge, namely the need to ensure the safety and security of nuclear facilities during an armed conflict.

NPT•TPNW

The Second NPT Preparatory Committee was held in July-August 2024. While the five NWS failed to issue a joint statement, like in previous conferences, many NNWS were highly critical of the current state of nuclear disarmament, demonstrating once again the seriousness of the rift among NWS and NNWS. Regarding the TPNW, Indonesia ratified the treaty on September 24, 2024, officially becoming the 94th state party.

Stagnation in Nuclear Disarmament

As the international security environment has grown increasingly tense, NWS have reaffirmed their belief in the importance of nuclear deterrence, and continued to modernize their nuclear forces. Nuclear disarmament efforts continue to stagnate, or in some cases even regress. Russia suspended the implementation of the New START treaty and withdrew its ratification of the CTBT. Discussions on further nuclear weapons reductions between the United States and Russia following the New START treaty or multilateral discussions with other states including China have failed to progress. In 2024, Russia repeatedly rejected the possibility of discussing further nuclear weapons reductions with the United States or negotiating a new treaty to replace the New START Treaty, which is set to expire in February 2026. NNWS allied with NWS are also increasing their reliance on extended nuclear deterrence.

Nuclear Proliferation Concerns

With the aim of strengthening its nuclear deterrent capability, North Korea has continued to conduct frequent missile launch tests and drills and has also alluded to potential introduction of tactical nuclear weapons. Indirect negotiations between the United States and Iran to revive the Iranian nuclear deal have made no progress. In the meantime, Iran has even increased its stockpile of enriched uranium as well as enhanced the level of its enrichment.

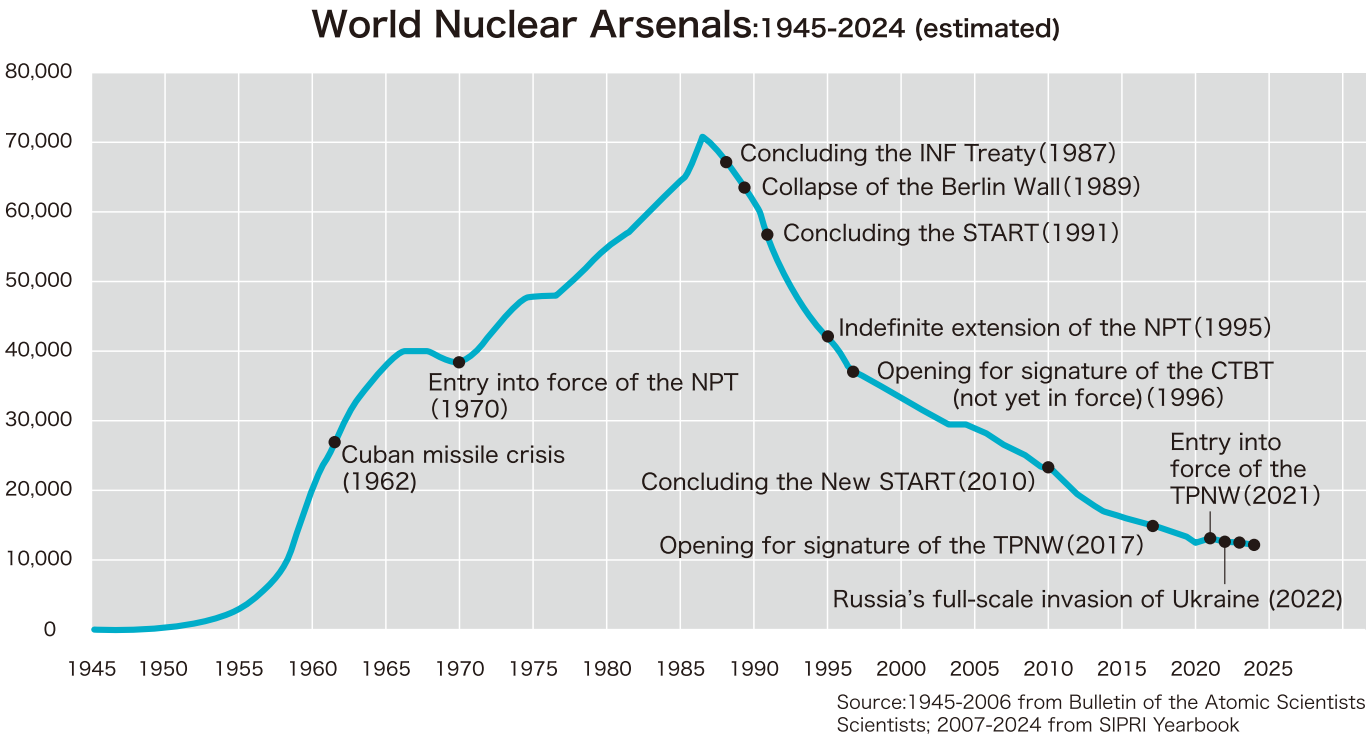
Civil Society

At the NPT Preparatory Committee and various other fora, many countries, NGOs and other actors emphasized the importance of disarmament and non-proliferation education, diversity and inclusion (including gender), further participation of civil society, and increased opportunities for more people—especially the younger generation and leaders—to learn firsthand the realities of nuclear weapon use.

Nuclear Weapons in the World

In July 1945, the United States conducted the world's first successful nuclear test, and the following month atomic bombs were dropped on Hiroshima (August 6) and Nagasaki (August 9). Since then, nuclear weapons have not been used in actual warfare for over 75 years. Nevertheless, the United States, Russia, the United Kingdom, France, China, India, and Pakistan currently possess nuclear weapons, and Israel is widely believed to possess them as well. Furthermore, in the 2000s, North Korea conducted nuclear tests, and has publicly stated that it possesses nuclear weapons.

During the Cold War, when the nuclear arms race between the United States and the Soviet Union was at its peak, there were as many as 70,000 nuclear weapons on the Earth. The number has been reduced with the end of the Cold War. However, an estimated 12,121 nuclear weapons still exist in 2024. The pace of reduction of such weapons has slowed in recent years. Rather, the pace of China's nuclear buildup has accelerated, and India and Pakistan are estimated to have increased at a rate of about 10 warheads per year over the past several years. North Korea's nuclear arsenal is also highly likely to be increasing.



Source:1945-2006 from Bulletin of the Atomic Scientists Scientists; 2007-2024 from SIPRI Yearbook

In addition, all NWS/other nuclear-armed states continue to modernize their nuclear weapons and their delivery vehicles, such as missiles. Some of them have conducted subcritical experiments and computer simulation that do not involve nuclear explosions, and in some cases even nuclear test explosions.

As international and regional security environments become increasingly unstable, NWS/other nuclear-armed states consider that nuclear deterrence is essential for ensuring their respective national security, and re-emphasize the role of nuclear weapons. In order to achieve a "world without nuclear weapons," it is necessary to improve the international and regional security environment, and reduce the role of nuclear weapons.

At the same time, given that the use of nuclear weapons would have devastating humanitarian consequences, it is important to convey the reality of the atomic bombings, and to establish a norm that nuclear weapons must be eliminated.

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