What do we treasure?
This exhibition is designed to provide a forum for dialogue, a place where people can learn together, exchange views and share ideas and experiences in the quest for a better world. We invite you to bring this “passport to the future” with you as you walk through the exhibition. Please use it to write notes about what you treasure, what you feel and what actions you plan to take in and for the future.
The world is a single system connected over space and time. In recent decades, the reality of that interdependence—the degree to which we influence, impact and require each other—has become increasingly apparent. Likewise, the choices and actions of the present generation will impact people and the planet far into the future.

As we become more aware of our interdependence, we see that benefiting others means benefiting ourselves, and that harming others means harming ourselves. Just as we cannot obtain all the things we need without the cooperation of others, we cannot protect the things we treasure alone, in isolation, or in conflict with others. We cannot sacrifice the future to the present, or the present for the future.

Every action has an effect. These effects may be felt in ways and places we cannot imagine.

The desire to protect the things and people we love from harm is a primal human impulse. For thousands of years, this has driven us to build homes, weave clothing, plant and harvest crops...

This same desire—to protect those we value and love from other people—has also motivated the development of war-fighting technologies. Over the course of centuries, the destructive capability of weapons continued to escalate until it culminated, in 1945, in the development and use of nuclear weapons.
The Stockholm International Peace Research Institute (SIPRI) reports that there were approximately 15,000 nuclear warheads on Earth as of 2017. The longer these weapons continue to exist, the greater the likelihood they will be used. Any use of nuclear weapons will cause catastrophic humanitarian consequences—instantly killing vast numbers of people, incinerating population centers and disrupting the global climate.

Catastrophic humanitarian consequences

A pyramid of violence

Nuclear weapons—the most destructive by far of all our tools of war—are at the peak of a pyramid of violence. As the pyramid spreads downward it reaches into our daily lives. Conflict and mistrust between communities, crime, domestic violence and abuse—even the bitter comment—are all part of the larger culture of violence.

Our planet continues to be wracked by violent conflict. People around the world endure unacceptable burdens of poverty and hunger. Human rights violations and discrimination wound human bodies and hearts every day. Natural disasters can strike at any moment, instantly robbing people of their lives, undermining the foundations of entire societies. Economic crises create profound disruption in people’s lives, as do environmental degradation and the effects of climate change. The possibility of a deadly global pandemic remains a constant presence.

Freedom from fear, freedom from want

Of all the threats facing humankind, that posed by nuclear weapons is the most acute and catastrophic—and the most preventable.

No one is immune. Global threats impact us all.
The atomic bombings of Hiroshima and Nagasaki

On 6 August 1945, an American B-29 bomber dropped a nuclear bomb over the center of Hiroshima, Japan. It exploded about 600 meters above the city with a blast equivalent to about 16 thousand tons (kilotons) of high explosive TNT. Although that is only a fraction of the destructive power of today's nuclear weapons, by the end of 1945, tens of thousands had died from their injuries and radiation poisoning, bringing the total killed in Hiroshima within the year to perhaps 140,000.

Three days after the first bombing, on 9 August 1945, another B-29 dropped a second atomic bomb on Nagasaki, directly above the industrial city. The resulting explosion had a blast yield equivalent to 21 thousand tons (kilotons) of TNT. An estimated 70,000 people had died by the end of the year.

The threat posed by nuclear weapons is not a thing of the past—it is a threat we face today.

Many states are developing nuclear energy capacities that would make it relatively easy for them to build nuclear weapons should they decide to do so. The possibility that terrorist organizations will acquire such weapons is also real. The danger that these apocalyptic weapons will be used—by accident, or deliberately, in an act of madness—hangs over all of us.

World nuclear forces

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“The reason that I hate the atomic bomb is because of what it does to the dignity of human beings.”

— Tsutomu Yamaguchi

The only officially recognized survivor of both the Hiroshima and Nagasaki atomic bombings.

Everything you treasure could be reduced to ash in a moment.
In every culture, war has its rules and protocols. Among these is the idea that there is a difference between the conditions of war and peace, that wars should be ended in ways that make peace possible, that a distinction will be drawn between soldiers and civilians, that the destruction and death of war should be limited and contained.

The massive destructive force of nuclear weapons makes distinguishing between civilian and military targets impossible. The long-term impacts would undermine the social and ecological foundations of future generations of human society.

80km
Radioactive fallout spreads. Over time, many thousands will die from radiation, sickness and cancers.

10km
About half die from trauma and burns. Many succumb soon after to fires and radiation sickness.

5km
The vast majority of people die quickly from blast injuries, asphyxiation or (over weeks) radiation sickness.

3km
A radioactive fireball hotter than the sun and with the force of 100,000 tons of TNT kills everyone.

Effects of a 100-kiloton nuclear bomb
Source: Catastrophic Humanitarian Harm, 2012, ICAN

Civilian casualties of war
The history of war in the 20th century was a history of increasing disregard for these traditions. During World War I, 5% of the casualties were civilians. In World War II, 50% were. Today the proportion has reached 75% or more in internal conflicts.

“The right of belligerents to adopt means of injuring the enemy is not unlimited.”
—The Hague Conventions, 1899

Treaties banning inhumane weapons

2017
Nuclear Ban Treaty

2008
Cluster Munitions Treaty

1997
Landmine Treaty

1993
Poison Gas Protocol

1972
Biological Weapons Convention

1925
Chemical Weapons Convention

1868
St. Petersburg Declaration (the first formal agreement prohibiting the use of certain weapons in war)

In April 2010, International Committee of the Red Cross (ICRC) President Jakob Kellenberger issued a historic appeal regarding nuclear weapons. In his statement, Kellenberger stressed that the organization’s position on nuclear weapons must go beyond purely legal considerations.

“Cities Are Not Targets!”
—Mayors for Peace

States parties for the first time explicitly expressed “deep concern at the catastrophic humanitarian consequences of any use of nuclear weapons,” and reaffirmed “the need for all States at all times to comply with applicable international law, including international humanitarian law.”

In 1961, the United Nations General Assembly adopted a resolution declaring that “Any State using nuclear and thermo-nuclear weapons is to be considered as violating the Charter of the United Nations, as acting contrary to the laws of humanity and as committing a crime against mankind and civilization.”

In 1996, the International Court of Justice issued an advisory opinion stating that the use or threat of use of nuclear weapons would generally be contrary to the principles of international law.

In the final document of the Review Conference of the Nuclear Non-Proliferation Treaty in 2010, States parties for the first time explicitly expressed “deep concern at the catastrophic humanitarian consequences of any use of nuclear weapons,” and reaffirmed “the need for all States at all times to comply with applicable international law, including international humanitarian law.”

In 2017 the Treaty on the Prohibition of Nuclear Weapons (TPNW) was adopted at the UN. It prohibits a full range of nuclear-weapon-related activities, such as developing, testing, producing, manufacturing, acquiring, possessing or stockpiling nuclear weapons, as well as using or threatening to use these weapons.

In the view of the ICRC, preventing the use of nuclear weapons requires fulfillment of existing obligations to pursue negotiations aimed at prohibiting and completely eliminating such weapons through a legally binding international treaty.

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International Red Cross and Red Crescent Movement

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In November 2011, the Council of Delegates of the International Red Cross and Red Crescent Movement adopted a resolution titled “Working towards the elimination of nuclear weapons,” calling for activities to raise awareness of “the need for concrete actions leading to the prohibition of use and elimination of such weapons.”
“Nuclear weapons are the greatest environmental danger to the planet from humans, not global warming or ozone depletion.”

—Alan Robock

Climate scientist and author of "Climatic Consequences of Nuclear Conflict"

While the danger of war between the US and Russia has receded, the threat remains and the risks of nuclear war involving other countries have increased. Using South Asia as an example, experts have estimated that even a limited regional nuclear war involving 100 Hiroshima-sized nuclear weapons—less than 0.1% of the explosive yield of the global nuclear arsenal—would result in tens of millions of immediate deaths and unprecedented global climate disruption.

**Weapons production**

The process of producing nuclear weapons, from uranium mining through testing, has polluted vast amounts of soil and water at nuclear weapons facilities all over the world. Many of the substances released, including plutonium and uranium, remain hazardous for thousands, some for hundreds of thousands, of years.

**Hanford Nuclear Reservation**

The Hanford Nuclear Reservation, located in the state of Washington, is one of the most contaminated sites in the United States. The Hanford site was created as part of the US government's efforts to develop an atomic bomb during World War II. The site stretches for 260 miles along the Columbia River and contains vast amounts of radioactive material. The cleanup process is estimated to cost over $120 billion.

“Models made by Russian and American scientists showed that a nuclear war would result in a nuclear winter that would be extremely destructive to all life on Earth; the knowledge of that was a great stimulus to us, to people of honor and morality, to act.”

—Mikhail S. Gorbachev

Former President of the Soviet Union (1989–91)

**Nuclear famine**

The smoke and dust from burning cities ignited by fewer than 100 nuclear explosions would create an artificial drop in global temperatures and名师 by blocking up to 10% of sunlight from reaching the Earth's surface. Sudden global cooling would shorten growing seasons and cause food shortages, thereby threatening food security worldwide. As many as one billion deaths would result from nuclear weapons-induced famine, and infectious disease epidemics and further conflict would inevitably follow.

“Since 2007, climate scientists who worked with the late Carl Sagan in the 1980s—Alan Robock, O. B. Toon, Michael Mills and their colleagues at Rutgers University and the University of Colorado at Boulder—have renewed efforts to estimate the climate effects of regional nuclear war. Their research shows the new reality of the threat posed by even a relatively "limited" nuclear war. Many individuals and environmental groups are committed to nuclear disarmament. For example, Friends of the Earth and Greenpeace have campaigned against the environmental effects of nuclear weapons development and testing around the world.”

—Opposing a new weapons plant

Protestors in Kansas City opposed the use of public funds to support expansion of a nuclear weapons plant. Instead, they proposed converting the bomb factory into a wind energy plant to make use of the area's abundant wind resources to create "green-collar" jobs that will last long into the future.

Fires resulting from a nuclear exchange between India and Pakistan would generate at least 5 billion kilograms of smoke. Calculations based on weather patterns for an average May 15 show that within 49 days soot particles would blanket the inhabited Earth, creating conditions of perpetual overcast.
“Next I was diagnosed as having malignant lymphomas. I had surgery, but the tumors continue to appear twice a year, every year.”
—Sueko Takada

Survivor of the atomic bombing of Nagasaki

Radiation damage
Ionizing radiation has high energy, and thus can chemically alter atoms it strikes. Living cells exposed to high doses of ionizing radiation are severely damaged. The resulting radiation sickness can kill people over the course of days, weeks or months. Production in the bone marrow of red blood cells, which carry oxygen, and white blood cells, which defend against infection, is very sensitive to radiation.

Radiation can also damage the DNA in living cells. The affected cells may die or be altered (causing mutations), and may in time become cancerous.

Thermal damage
The explosion also causes severe burns and eye injuries. The heat wave ignites fires that may combine into immense firestorms. Within these areas, even people in underground shelters will die from extreme heat or asphyxiation.

Eyes: High doses can trigger cataracts months later.
Thyroid: Hormone glands vulnerable to cancer. Radioactive iodine builds up in thyroid. Children most at risk.
Lungs: Vulnerable to DNA damage when radioactive material is breathed in.
Stomach: Vulnerable if radioactive material is swallowed.
Reproductive organs: High doses can cause sterility. Plutonium concentrates in the gonads, leading to birth defects and miscarriages.
Skin: High doses cause redness and burning.
Bone marrow: Radiation can lead to leukemias and other immune system diseases.

Since the atomic bombings of Hiroshima and Nagasaki, physicians, other health professionals and scientists have documented the horrifying medical and humanitarian consequences of nuclear weapons explosions—often based on firsthand experience of treating the victims.

International Physicians for the Prevention of Nuclear War (IPPNW) was founded by US and Soviet physicians in 1980. This global federation of physician experts, which was awarded the Nobel Peace Prize in 1985, came together to explain the medical and scientific facts of nuclear war to policy makers and the public, and to advocate the elimination of nuclear weapons—prevention—as the only possible “cure” for nuclear war.

“A lethal dose of radiation can involve as little energy as the heat in a sip of hot coffee.”

Right:
Since the atomic bombings of Hiroshima and Nagasaki, physicians, other health professionals and scientists have documented the horrifying medical and humanitarian consequences of nuclear weapons explosions—often based on firsthand experience of treating the victims.

Left:
“A lethal dose of radiation can involve as little energy as the heat in a sip of hot coffee.”

“Nuclear weapons constitute the greatest immediate threat to the health and survival of mankind.”
—The World Health Organization (WHO), 1983

Blast damage
The blast from a nuclear explosion instantly kills people close to ground zero, from incineration, multiple injuries and high levels of radiation. Internal injuries such as lung injuries, ear damage and internal bleeding occur at much greater distances. Shattered glass, bricks, concrete and wood from destroyed buildings are hurled by the blast, and the people themselves are turned into missiles, killing and injuring more people.

The lethal area from the blast of an average strategic weapon of 1 megaton is likely to be over 100 square km.

Left: Many of those incinerated by the intense heat left behind only the shadow they cast at the moment of the blast. Nagasaki, 1945.
Don’t Bank on the Bomb

A report released in 2018 by the International Campaign to Abolish Nuclear Weapons (ICAN) identifies 329 banks, pension funds, insurance companies and asset managers in 24 countries with substantial investments in nuclear arms producers.

The study profiles the top 20 companies involved in the production of key components for the nuclear arsenals of France, India, the United Kingdom and the United States. Nuclear disarmament campaigners are appealing to financial institutions to stop investing in the nuclear arms industry. Some have already begun to do so.

The international Trade Union Confederation (ITUC) argues that money spent on nuclear weapons and militarism would be far better spent on creating decent work in socially useful sectors of the economy, and on tackling global poverty and climate change.

The International Peace Bureau (IPB) and the Institute of Policy Studies (IPS) are jointly organizing a Global Day of Action on Military Spending with the aim of promoting a common awareness of the problems occasioned by military expenditures, suggesting that instead such monies should be used to promote human development.

Economists for Peace and Security (EPS) works locally, regionally and internationally to reduce the military burden and to effect policy changes that can build a more just and peaceful future.

“The question is whether the country is earning a good return on its national-security ‘investment,’ for it is clearly an investment in peace and safety, as well perhaps in oil supply and exports. The bottom line is, probably not.”

—William Nordhaus
Sterling Professor of Economics, Yale University

“Excessive spending on weapons drains resources for sustainable development.”

—Antonio Guterres
Secretary-General of the United Nations

Despite renewed commitments by nations to achieve a nuclear-weapon-free world, all of the nuclear-armed powers continue to invest vast sums of money in these weapons. In 2011, they passed a new milestone by collectively spending more than $100 billion on their nuclear programs.

“The Economic Challenge

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“The production, testing, possession, deployment and use of nuclear weapons should be prohibited and recognized as crimes against humanity.”
—UN Human Rights Committee, 1984

Right to life
The protection of the right to life and bodily security are at the heart of the 1948 Universal Declaration of Human Rights. The very existence of weapons that have the potential to kill millions or even billions of people degrades the value of human life and dignity.

Secrecy
A study by the Stockholm International Peace Research Institute (SIPRI) and the Geneva Centre for the Democratic Control of Armed Forces (DCAF) in 2010 shows that whether a given nuclear-weapon state is democratic, quasi-authoritarian or a dictatorship does not determine the decisions it will take regarding nonproliferation, disarmament or potential use of its nuclear weapons. In short, secrecy in nuclear weapon governance persists even in generally open societies.

Democratic control
The potential use of nuclear-armed missiles is uniquely problematic. The flight time of long-range ballistic missiles is between 15 and 30 minutes, giving the political leadership of the targeted country only a few minutes to decide whether to launch a retaliatory strike. In the case of submarine-launched missiles, this decision window would be even shorter. This makes it impossible for the electorate to participate—either directly or through their chosen representatives—in the most momentous decision that will ever face their society.

Nuclear testing and minorities
Nuclear test explosions have often been conducted on the lands of indigenous and minority peoples, far away from those making the decisions. The affected populations have suffered a wide range of health issues, from birth defects to elevated rates of cancer. Their basic rights and freedoms have been sacrificed in the name of national security.

“Disarmament is preeminently a humanitarian endeavor for the protection of the human rights of people and their survival. We have to see the campaign for nuclear disarmament as analogous to the campaigns such as those against slavery, for gender equality and for the abolition of child labor.”
—Jayantha Dhanapala
President of the Pugwash Conferences on Science and World Affairs, former UN Under-Secretary-General for Disarmament Affairs

In 2003, the International Council Meeting of Amnesty International passed a resolution declaring opposition to the use, possession, production and transfer of nuclear weapons, given their indiscriminate nature.

“As a result of the nuclear testing, all of these communities have suffered dislocation, in one form or another, from their indigenous way of life. Many have become internally displaced persons who are yet to find durable solutions and expressed that they feel like ‘nomads’ in their own country. Many have suffered long-term health effects.”
—Calin Georgescu
UN Special Rapporteur on the human rights obligations related to environmentally sound management and disposal of hazardous substances and waste
Nuclear accidents

In a nuclear reactor, uranium fuel undergoes a controlled fission chain reaction, generating great heat energy, which can be converted to electricity. Controlling this reaction is a complex technical task. If control is lost, the result is a nuclear meltdown, such as happened in the Three Mile Island (1979), Chernobyl (1986) and most recently Fukushima (2011) accidents, potentially releasing large quantities of radioactive pollution into the environment.

Nuclear waste

Nuclear reactors also produce plutonium, a fissile material, which can be chemically separated from the highly radioactive spent reactor fuel and used to build a nuclear weapon or radiological dispersal device (“dirty bomb”). A nation seeking nuclear weapons could build a reactor, claiming it was for civilian purposes, and then divert plutonium to weapons use. Such fissile materials could also be stolen by groups seeking to commit acts of terror.

Half-life of Plutonium

<table>
<thead>
<tr>
<th>Half-life</th>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>24,000 years</td>
<td>1987</td>
<td>Chernobyl accident</td>
</tr>
<tr>
<td>30,000 years</td>
<td>1979</td>
<td>Three Mile Island accident</td>
</tr>
<tr>
<td>60,000 years</td>
<td>1978</td>
<td>Reactor meltdown in Japan</td>
</tr>
<tr>
<td>80,000 years</td>
<td>1975</td>
<td>Reactor accident in France</td>
</tr>
<tr>
<td>100,000 years</td>
<td>1973</td>
<td>Reactor accident in Japan</td>
</tr>
</tbody>
</table>

Warning people away for 100,000 years

Every 10 or 20 years, someone wants to extract a mine that may have been buried for hundreds of years. The method of selection is that it is usually an activity that is dangerous for our present time and makes it impossible to continue with the necessary measures. The methodology is that we have to use the method of a long isolation period (1 million years) before we can start considering that the area is safe to use.

Onkalo

Onkalo is Finnish for “hiding place.” It is the name of a lake about 20 km northeast of Helsinki, where a 4.8-km-long network of tunnels is being excavated in the bedrock. Eventually, nuclear waste will be deposited here as a shield of 100 meters. Work on this enormous storage facility was begun in the 1970s and is expected to be completed in the 2050s. After the used fuel rods have been disposed of at the bottom of the tunnel, the opening will be sealed with multiple layers of steel and concrete.

The European security standard requires that nuclear waste be isolated from all living organisms for a minimum of 100,000 years. The US maximum isolation period is 1 million years. The human species as we know it today is believed to have existed for approximately 100,000 years. The oldest cave paintings date from about 30,000 years ago.

NPT regime

The 1968 Nuclear Non-Proliferation Treaty (NPT) commits countries already possessing nuclear weapons and weapons technology not to transfer them to other states; and the states which do not have nuclear weapons not to acquire them. The International Atomic Energy Agency (IAEA) is charged with verifying that the nonproliferation commitments are being fulfilled. On the other hand, there is no process or body under the NPT to implement or verify the disarmament commitment, which is also an integral part of the treaty.

The NPT also guarantees all states the right to the nonmilitary use of nuclear energy. Repeated attempts have been made, primarily in the framework of the IAEA, to study the possibility of establishing international centers to manage the nuclear fuel chain so that peaceful uses of nuclear energy remain peaceful. Thus far, international control of the nuclear fuel chain has not moved significantly toward realization.

Securing nuclear materials

There is an accelerating effort, based on international cooperation, to move existing stocks of highly enriched uranium (HEU) and other materials to more secure locations or to “down blend” this to low-enriched uranium (LEU) which cannot be used in weapons. There remains an estimated 20 tons of HEU in non-nuclear-weapon states. In November 2010, the United States worked with Kazakhstan to move 10 tons of HEU to a more secure cask storage facility, in the east of the country.

Alternative, sustainable energy

Alternative energy refers to such energy sources as biomass, wind, solar, geothermal, hydro, wave and tidal energy technologies. These sources have the advantage that they do not produce large volumes of climate-altering emissions or leave a legacy of long-lasting radioactive waste.

“Go back to the surface and take better care of the world than we did. Good luck.”
—Berit Lundqvist

Swedish nuclear expert, responding to a question about what advice she would have for humans who, in the distant future, have entered a deep underground storage site for nuclear waste

“Nuclear-energy systems should be deployed that, by design, avoid the use of materials that may be applied directly to making nuclear weapons.”
—Mohamed ElBaradei

Former General Director of the International Atomic Energy Agency (IAEA)
In the 20th century, discoveries in physics regarding the essential nature of energy and matter offered new understanding of the universe we inhabit. At the same time, they made possible the unleashing of forces of previously unimaginable ferocity. The Manhattan Project, which culminated in the destruction of the two cities of Hiroshima and Nagasaki in 1945, represented a new level of collaboration between scientific and military interests. There was now a direct link from basic scientific research to its application in producing devastation on an unprecedented scale.

**Manhattan Project**

In August 1945, motivated by fear that Nazi Germany would develop a weapon based on newly discovered principles of atomic physics, the United States and its allies launched the Manhattan Project, which brought together many of the world’s leading scientists to develop an atomic bomb.

- **1932**: The atom is split by British physicists John Cockcroft and Ernest Walton.
- **1934**: Albert Einstein and Leó Szilárd write to President Franklin Roosevelt suggesting the US should start researching an atomic weapon.
- **1939**: The first nuclear fission is achieved by Enrico Fermi of Italy.
- **1940**: Roosevelt gives the go-ahead for the development of an atomic weapon and Albert Einstein theorizes the relationship of mass and energy (E=mc²), leading to the development of nuclear energy.
- **1941**: The first radioactive elements, radium and polonium, discovered by Pierre and Marie Curie.
- **1942**: The Manhattan Project, which culminated in the destruction of the two cities of Hiroshima and Nagasaki in 1945, represented a new level of collaboration between scientific and military interests. There was now a direct line from basic scientific research to its application in producing devastation on an unprecedented scale.

**Pugwash Conferences**

The Pugwash Conferences on Science and World Affairs is an international organization that brings together scholars and public figures to work toward reducing the danger of armed conflict and to seek solutions to global security threats. The inaugural gathering of the group was held in July 1957 and was attended by 22 scientists, including those from the US, the Soviet Union, Japan, China and France.

**International Monitoring System (IMS)**

The International Monitoring System (IMS) is a worldwide network of observational technology that will help to verify compliance with and detect violations of the CTBT. When complete, the IMS will consist of 337 monitoring facilities. It will be complemented by an intrusive on-site inspection regime applicable once the treaty has entered into force. The CTBTO’s experts are confident that their system can aid in the detection and identification of nuclear explosions anywhere on the planet.

**Technological expertise**

Although physically ridding the world of nuclear weapons is a prerequisite to freeing humanity from the nuclear threat, the nuclear technologies that have been invented will remain. Experts capable of dealing with such sensitive technologies will have a key role in the processes and verification of disarmament and in eliminating and safeguarding fissile materials. They will also be required for nuclear safety and security even after the last nuclear weapon has been decommissioned.

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**Above left:** Derelict ruins of a building in Hiroshima. **Above right:** Mushroom cloud of the first atomic bomb to be dropped. **Below:** Alfred P. Sloan, Jr. (left) and President Charles E. Wilson (right) of General Motors Corporation, who were instrumental in the development of commercial automobiles.
“With nuclear weapons the failure of deterrence means that there is no hope of recovery or recuperation. It is totally final and therein lies the dilemma that I felt to the depth of my being.”
—Gen. Lee Butler
Former Commander-in-Chief, United States Strategic Command (1992–94)

“We endorse setting the goal of a world free of nuclear weapons and working energetically on the actions required to achieve that goal.”
—George Shultz, William Perry, Henry Kissinger and Sam Nunn
Former high-level US security officials

The overwhelming threat posed by nuclear weapons has brought the dawning realization that states operating under the traditional assumption of complete independence and sovereignty cannot ensure their own security.
Political cooperation has come to be recognized as a necessary condition for survival. The result has been a series of agreements, both bilateral and multilateral, seeking to reduce the threat of nuclear war and facilitate cooperation to that end.

Political efforts for nuclear disarmament

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1957</td>
<td>The Antarctic Treaty enters into force.</td>
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<td>1957</td>
<td>The Statute of the International Atomic Energy Agency (IAEA) enters into force.</td>
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<tr>
<td>2000</td>
<td>The Nuclear Non-Proliferation Treaty (NPT), the key treaty to prevent the spread of nuclear weapons, enters into force.</td>
</tr>
<tr>
<td>2000</td>
<td>The Comprehensive Test Ban Treaty (CTBT) is signed by the United States and the Soviet Union, and comes into force.</td>
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<tr>
<td>1991</td>
<td>The Strategic Arms Reduction Treaty (START I) is signed by the United States and the Soviet Union.</td>
</tr>
<tr>
<td>1989</td>
<td>The Intermediate-Range Nuclear Forces (INF) Treaty, signed by the United States and the Soviet Union, eliminates an entire class of nuclear weapons, nuclear missiles with a range between 500 and 5,000 km.</td>
</tr>
<tr>
<td>1987</td>
<td>The Berlin Wall falls as East Germany opens its borders with West Germany, marking the end of the Cold War.</td>
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<td>1988</td>
<td>The United Nations General Assembly's Special Session on Disarmament is held.</td>
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<td>The Treaty on the Prohibition of Nuclear Weapons is adopted by the United States and several non-nuclear states.</td>
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<td>The United States and the Soviet Union sign the Strategic Arms Limitation Treaty (SALT I), limiting the number of strategic nuclear warheads to 2,200 each.</td>
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The corrosive effects of nuclear weapons permeate all societies. They force us to live under the shadow of potentially catastrophic destruction. They embody the obscene proposition that there is some overarching value that can justify the mass slaughter of innocents. Their use would not only erase the past fruits of all human civilization, but would leave present and coming generations confronting a mutilated future.

Representatives of the world’s ethical and spiritual traditions have spoken out—whether in the language of religious tenets or from a more secular appreciation of what it means to be human—to condemn nuclear weapons. They make clear that we bear a shared and universal responsibility to protect our fellow humans, our planet and the future from this direct and unacceptable threat.

“All religions agree about the dignity of the human person, the peaceful settlement of disputes, protection of the environment and the preservation of the rights of future generations.”
—Christopher Weeramantry
Former International Court of Justice vice president

“We need a massive global uprising against nuclear weapons as was done to abolish slavery, to save humanity from annihilation.”
—Ibrahim Ramey
Muslim American Society (MAS) Freedom Foundation

“By far the greatest single danger facing humankind—in fact, all living beings on our planet—is the threat of nuclear destruction.”
—Tenzin Gyatso
The 14th Dalai Lama

“We simply transferring the world’s nuclear weapons to a museum will not in itself bring about world peace. The nuclear weapons of the mind must first be eliminated.”
—Mātā Amrātanandamāyī Devī
Hindu spiritual leader

“While we know you will continue in the future to deal with the legacy of radioactive, toxic waste, we are committed to leave to you a legacy of strength. The battles we fight to protect our land, our future, and our lives will in some way reduce the threat you are exposed to.”
—Jacqui Katona
Aboriginal woman who led a campaign against a uranium mine in the Northern Territory, Australia

“From the prophets’ dreams of the time when nations would beat their swords into plowshares to today’s aspirations of a nuclear-weapons-free world, we have sought to avoid armed conflict and not yield to despair in the search for universal peace.”
—Rabbi David Saperstein
Religious Action Center of Reform Judaism

“We nuclear abolition is the democratic wish of the world’s people, and has been our goal almost since the dawn of the atomic age. Together, we have the power to decide whether the nuclear era ends in a bang or worldwide celebration.”
—Archbishop Desmond Tutu
South African Council of Churches

“As people of faith, we advocate for the right of all people to live in security and dignity. … The horrific destructiveness of nuclear weapons makes their abolition the only path to authentic human security.”
—Public Statement Submitted to the 2018 UN General Assembly First Committee
Faith Communities Concerned about Nuclear Weapons
“Women, in professional and military settings, have related experiences of realizing that something terribly important is being left out.

“What is it that cannot be spoken? What gets left out is the emotional, the concrete, the particular, human bodies and their vulnerability, human lives and their subjectivity—all of which are marked as feminine in the binary dichotomies of gender discourse.”

—Carol Cohn with Felicity Hill and Sara Ruddick

Birth defects from nuclear testing

On 14 November 1995, Lijon Eknilang, a quiet, unassuming woman from the Pacific island of Rongelap, spoke at the International Court of Justice in The Hague when it was hearing testimony regarding the legality of nuclear weapons.

“Women have experienced many reproductive cancers and abnormal births. In privacy, they give birth, not to children but to things we could only describe as ‘octopuses,’ ‘apples,’ ‘turtles’...

“The most common birth defects on Rongelap and nearby islands have been ‘jellyfish’ babies. These babies are born with no bones in their bodies and with transparent skin. We can see their brains and hearts beating. The babies usually live for a day or two before they stop breathing.”

—Lijon Eknilang

“Every woman is free to take the initiative, take risks, be angry, shout, sing, disobey police and be adaptable. We are always looking for unexpected and unpredictable actions...”

—Di McDonald

Anti-nuclear activist

Women have consistently been at the forefront of grassroots efforts to abolish nuclear weapons. They have used techniques of nonviolence to protest the hideous destructive power nuclear weapons represent. They also often reject the vast investment of resources which could otherwise be constructively used to address social issues.

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2020 marks the 75th anniversary of the Hiroshima and Nagasaki bombings. How many survivors will be alive five or ten years from now?

The voices of survivors

No group of people have been more dedicated to communicating the realities of nuclear war than the hibakusha, the survivors of the atomic bombings of Hiroshima and Nagasaki. Through their words and actions, in art and in writing, they have confronted and conveyed a past whose horrors we must prefer to forget. In doing so, they have been driven by a commitment to the future, the determination that no one anywhere should ever experience the terror and sufferings they have undergone.

Youth attitude

A survey conducted by Soka Gakkai Student Division in 2018 showed that 84.9% of Japanese students in Hiroshima and 93.4% in Nagasaki believed a nuclear weapon might be used at some point in the future. Only 24.1% of the students in Hiroshima and 15.0% in Nagasaki believed the elimination of nuclear weapons would be possible.

Q. Will nuclear weapons be used at some point in the future?

"We are looking ahead to make every decision that we make relate to the welfare and well-being of the seventh generation to come."

—Oren Lyons
Chief of the Onondaga Nation

"Every second of day, nuclear weapons endanger everyone we love and everything we hold dear. We must not tolerate this insanity any longer."

—Setsuko Thurlow
Hiroshima Survivor Who Delivered Nobel Peace Prize Speech for 2017

Hibakusha Stories

Hibakusha Stories is a disarmament education initiative that began in October 2008, which passes the legacy of the atomic bombings of Hiroshima and Nagasaki to a new generation, empowering them to build a world free of nuclear weapons.

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“Ours is a world of nuclear giants and ethical infants. We know more about war than we know about peace, more about killing than we know about living.”

—Omar N. Bradley

“The traditional understanding of sovereignty has rested on the state’s monopoly on the legitimate use of violence: in police and law enforcement domestically, and in waging war abroad. Nuclear weapons were developed with the view that a state with access to this ultimate violence would enjoy security.

Under the Cold War regime of deterrence, it was assumed that the threat of devastating reprisal would prevent the opposing state from nuclear aggression because a state, as a “national actor,” would not engage in suicidal behavior.

The possibility of accidental nuclear war—of states being willing to take suicidal risks—or that terrorist groups might obtain nuclear materials or weapons represents a fundamental challenge to this thinking.

Contemporary terrorism is, more than anything, an expression of despair; it manifests in acts of savage disregard for human life—including the lives of those who carry it out. For such groups, with nothing to protect and nothing to lose, the logic of deterrence means nothing.

Possible forms of nuclear terrorism
- A conventional attack on a nuclear reactor in order to cause a meltdown
- Construction of a nuclear device using black market or stolen uranium or plutonium
- Construction of a so-called “dirty bomb,” whereby conventional explosives are packaged with uranium or plutonium to spread a radioactive cloud over the target area

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“In the final analysis, human security is a child who did not die, a disease that did not spread, a job that was not cut, an ethnic tension that did not explode in violence, a dissident who was not silenced.”

—Mahbub ul Haq
(1934–98) founder of the Human Development Report

In recent years, the nature of threats—military and otherwise—has changed. Most armed conflicts are now internal and it is rare for one country to invade or conquer another. At the same time, people around the world face unacceptable threats to their lives and dignity in the form of poverty, hunger, preventable diseases, human rights abuses, and environmental destruction. This has led to a reframing of the question of security from a focus on the state to a focus on people—human security.

Which is safer—the world of heavily armed states and simmering despair, or a world in which people’s basic needs are met and their dignity ensured?

Costs of attaining the Millennium Development Goals

- An additional $66 billion in aid could eliminate starvation and malnutrition globally.
- An additional $39 billion in aid could provide education for almost every child on Earth.
- An additional $45 billion in aid could provide universal access to water and sanitation.
- An additional $26 billion in aid could reverse the spread of AIDS.

Global annual military expenditure: $1.7 trillion

- An additional $12.7 billion in aid could fund proven strategies and provide humanitarian assistance.
- An additional $8.3 billion in aid could eliminate poverty and reduce hunger.
- An additional $6.6 billion in aid could ensure education for all children.
- An additional $6.9 billion in aid could reduce maternal, newborn, and child mortality.

Which is safer—the world of heavily armed states and simmering despair, or a world in which people’s basic needs are met and their dignity ensured?
Landmines ban
The Mine Ban Treaty was drafted by Austria and developed outside of traditional diplomatic channels in a series of meetings in Vienna, Bonn, Brussels and Oslo over the course of 1997. A group of like-minded governments worked in close cooperation with the NGOs of the International Campaign to Ban Landmines (ICBL) and international organizations such as the International Committee of the Red Cross (ICRC) to steer what became known as the Ottawa Process. The Mine Ban Treaty was signed by 122 states in Ottawa, Canada, on 3 December 1997. It entered into force less than two years later, more quickly than any treaty of its kind in history.

Cluster weapons ban
The Convention on Cluster Munitions entered into force on 1 August 2010. The cluster munitions ban process, also known as the Oslo Process, began in February 2007 in Oslo, Norway. At that time, 46 nations issued the Oslo Declaration. Meetings were subsequently held in Lima and Geneva, and, in February 2008, 79 countries adopted the Wellington Declaration, setting forth the principles to be included in the Convention. Delegates from 107 nations agreed to the final draft of the treaty at the end of a 10-day meeting held in May 2008 in Dublin.

States that have relinquished nuclear weapons
Nuclear states can—and have—given up the development or possession of nuclear weapons. States that have done so include Canada, which was involved in efforts to develop the first atomic bomb but later gave up the nuclear option. Brazil and Argentina abandoned their nuclear weapon development programs. South Africa dismantled its nuclear weapons and joined the ranks of non-nuclear-weapon states. Belarus, Kazakhstan and Ukraine inherited a massive stockpile of nuclear weapons when the Soviet Union broke up. They gave up their weapons in exchange for security guarantees and economic assistance from the United States, Russia and elsewhere.

Areas Designated as Nuclear-Weapon-Free
There are five NWFZs existing today, with four of them covering almost the entire Southern Hemisphere. This process of denuclearization needs to be expanded to the Northern Hemisphere. NWFZs have been proposed for: South Asia, the Middle East, Northeast Asia and Europe.

Denuclearization of the Northern Hemisphere
There are five NWFZs existing today, with four of them covering almost the entire Southern Hemisphere. This process of denuclearization needs to be expanded to the Northern Hemisphere. NWFZs have been proposed for: South Asia, the Middle East, Northeast Asia and Europe.

The Comprehensive Nuclear-Test-Ban Treaty (CTBT)
The CTBT was adopted and signed by 71 states, including the five nuclear-weapon states, in 1996. It has not become legally binding as it must be ratified by all 44 states with nuclear power or research reactors.

Fissile Material Cut-off Treaty (FMCT)
An FMCT would represent a binding international prohibition against the production of fissile material for nuclear weapons purposes, thus strengthening nuclear nonproliferation efforts. While negotiations have not commenced, the idea has been repeatedly discussed in the Conference on Disarmament in Geneva.

“IT is time for all governments to come together—with the support of civil society around the world—to chart our course to a nuclear free future by beginning the negotiation of a comprehensive treaty banning the use, production, transfer and stockpiling of nuclear weapons. Now. Not in years or decades. Now.”

Jody Williams
The founding coordinator of the International Campaign to Ban Landmines (ICBL)
Treaty on the Prohibition of Nuclear Weapons (TPNW)

Despite the unparalleled devastation and humanitarian impact they produce, nuclear weapons have long been the only weapons of mass destruction not prohibited by an international treaty. The Treaty on the Prohibition of Nuclear Weapons globalizes what nuclear-weapon-free-zone treaties have done regionally, prohibiting a full range of nuclear-weapon-related activities, such as developing, testing, producing, manufacturing, acquiring, possessing or stockpiling nuclear weapons, as well as using or threatening to use these weapons.

Milestones

In 1996, the International Court of Justice handed down an advisory opinion in which it found that the threat or use of nuclear weapons would generally be contrary to international law. It further stated, “There exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament.”

In 1996, a model Nuclear Weapons Convention (NWC) was drafted by the International Association of Physicians Against Nuclear Arms (AlANAS). Three non-governmental organizations: the International Campaign to Abolish Nuclear War (ICAN), the Preparatory Committee meeting of the Nuclear Non-Proliferation Treaty (NPT), and the International Network of Engineers and Scientists Against Proliferation (INESAP), launched the NWC and the International Network of Engineers and Scientists (INPES) against nuclear weapons.

In 1998, Costa Rica submitted the draft convention to the United Nations Secretary-General. In 2007, International Campaign to Abolish Nuclear Weapons was launched (ICAN).

In 2007, at the Preparatory Committee meeting of the Nuclear Non-Proliferation Treaty (NPT), the three organizations launched an updated version of the draft NWC, later introduced to the UN General Assembly by Costa Rica and Malaysia.

In 2008, UN Secretary-General Ban Ki-moon expressed his support for the idea in his two-point proposal.

In 2010, the NPT Review Conference adopted a draft document in which it expressed its deep concern at the catastrophic humanitarian consequences of any use of nuclear weapons. Since then several humanitarian initiatives have emerged that have helped shift debate toward greater focus on humanitarian consequences of nuclear weapons rather simply than on the traditional national security dimension.

Between 2013 and 2014, three international conferences focused on the humanitarian impact of nuclear weapons were held (Hiroshima, Nagasaki, New York, Mexico, and Vienna, Austria).

In 2015, the two months of the UN Conference to Negotiate a Legally Binding Instrument to Prohibit Nuclear Weapons, Leading Towards their Complete Elimination were convened in New York. As a result of these discussions, the Treaty on the Prohibition of Nuclear Weapons (TPNW) was adopted on 7 July and opened for signature on 20 September.

ICAN was awarded the Nobel Peace Prize for 2017 in recognition of its role in achieving the TPNW.

Support for the Nuclear Ban Treaty

UN Secretary-General António Guterres

“The treaty is an important step towards the universally-held goal of a world free of nuclear weapons. It is in my hope that it will represent the global efforts to address this.”

Ambassador Gayle Wrytta Gómez of Costa Rica, President of the UN Conference

“We feel that we are responding to the hopes and to the dreams of present and future generations—those we undertake, our responsibility as agents of this disagreement in our hands for retrieval and to maintain the world status for the dream of a world free of nuclear weapons.”

The ICRC and International Federation of Red Cross and Red Crescent Societies

“This treaty confirms that a clear majority of States universally rejects nuclear weapons on moral, humanitarian, and procedural grounds. The treaty will and must view a personal reflection and a dedication to it all States.”

Setsuko Thurlow

“No human being should ever have to experience the inhumanity and incomprehensible suffering caused by nuclear weapons ever. We absolutely hold no pride that this treaty can and will change the world.”

ICAN

“We applaud these nations that have already signed and ratified the Treaty on the Prohibition of Nuclear Weapons, and urge all others to follow their lead. It offers a pathway forward at a time of alarming crises. Disarmament is not a pipe dream, but an urgent humanitarian necessity.”

Faith Communities Concerned About Nuclear Weapons

“As people of faith, we accept as our special responsibility the work of raising awareness of the risks and consequences of nuclear weapons for current and future generations, awakening public conscience to hold a justifiable, collective responsibility in support of the Treaty.”

Special thanks to:
Luke O’Brien
Alan Robock
Kiyotaka Kuroda
Ban All Nuclide-generation (BANgp)
Comprensive Nuclear-Test-Ban
Treaty Organization (CTBTO)
Preparatory Commission
Consortium for Peace and Security (CPS)
Hibakusha Stories
International Committee of the Red Cross (ICRC)
International Law and Policy Institute (ILPI)

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About the Organizers

Soka Gakkai International (SGI)

Soka Gakkai International (SGI) is a lay Buddhist movement bringing more than 13 million people around the world to promote peace, culture and education. SGI collaborates with a range of intergovernmental and civil society organizations to promote public education in the fields of peace and disarmament, human rights and sustainable development. In September 2017, SGI launched the People’s Decade for Nuclear Abolition, a public outreach and education campaign. SGI, has been an international partner of ICAN since 2007 and has engaged in a number of collaborative projects toward the realization of a world free from nuclear weapons.

International Campaign to Abolish Nuclear Weapons (ICAN)

The International Campaign to Abolish Nuclear Weapons (ICAN) is a global grassroots movement for the prohibition and total elimination of nuclear weapons. Launched by International Physicians for the Prevention of Nuclear War (IPPNW) in 2007, ICAN now has more than 460 partner organizations in over 100 countries and provides a voice to the overwhelming majority of people globally who support the abolition of nuclear weapons. ICAN has been awarded the Nobel Peace Prize for 2017 in recognition of its role in achieving the TPNW.

“If I am convinced that human beings are best able to advance, not when driven by fear of catastrophe, but when guided by the prospect of hope-filled objectives.”

— Daisaku Ikeda
President of Soka Gakkai International

“SGI and IPPNW

In March 1989, Bernard Lown, one of the founding co-presidents of International Physicians for the Prevention of Nuclear War (IPPNW), and SGI President Daisaku Ikeda met in Tokyo, initiating a collaborative endeavor toward the goal of nuclear weapons abolition. In September 1989, with the support of the UN Department of Disarmament Affairs SGI and IPPNW cosponsored the exhibition “War and Peace” at the United Nations Headquarters in New York, the first collaborative effort by the two organizations.

“[T]here can be no peace without justice. Our work is far from done. It is with you, our future leaders, that the fate of humanity rests.”

— Bernard Lown MD
Founding Co-President of IPPNW
The Power of “Zero”
A world without nuclear weapons should not be thought of as our present world—wracked by violence and injustice—with this one particularly hideous aspect removed. The struggle to abolish nuclear weapons is an opportunity to fundamentally alter our relationship among ourselves and with the world. Consider a person struggling with a terrible addiction: to alcohol, drugs or gambling, for example. For such a person, getting to zero—having no further engagement with their addiction—is the key step. And taking that step necessarily involves a deep review and renewal of past behaviors, habits and ways of thinking about life.

This does not mean that nuclear weapons can only be eliminated after human nature has changed for the better. But they will be eliminated through the cumulative power of individual choices—choices made by each of us.

We should view the struggle for nuclear abolition first and foremost as an opportunity—a chance to transform humankind’s deep-seated impulse to destruction, including self-destruction.
Interdependence
and collaboration

When we become aware that our lives are fundamentally interdependent, it becomes clear that we cannot harm others without harming ourselves. We understand that it is impossible to construct our happiness and security on the fear and suffering of others.

In a nuclear age, the only viable path to security is through shared effort. Just as, in daily life, we cannot achieve the things we want alone, the goal of security on a global scale will only be achieved when we all—governments and civil society, “realists” and “dreamers” alike—work for it together. This will be even more true in a nuclear-weapons-free world.

We all care, usually very deeply, about the people and things in our lives. Our values, the things that matter to us, guide our actions. All our waking efforts—to work, to learn, to develop ourselves—are directed at protecting, preserving and passing on the things that we value and treasure.

What is the future you want?
How would you put it in words?
How will you put it into action?

“We have to face the fact that either all of us are going to die together or we are going to learn to live together, and if we are to live together we have to talk.”

—Eleanor Roosevelt (1884-1962) former US First Lady

By coming together for the future we want and deserve, we can protect the things each of us treasures.