

New York: A City of Global Leadership: Nuclear Weapons in Context

Testimony Before New York City's City Council on Behalf of Move the Nuclear Money

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“The unleashing of the power of the atom bomb has changed everything except our mode of thinking, and thus we head toward unparalleled catastrophes.”

Albert Einstein

We are the first generation that must decide whether to be the last. We are faced with existential threats to human survival. We simply must protect the global commons, the living systems upon which civilization depends – oceans, rainforests, and climate – and eliminate nuclear weapons before they eliminate us. Every nation, city and person lives under clouds of destruction of our own doing. Every nation, city and person has a duty to clear the skies, now.

New York City in 1983 demonstrated global responsibility in its declaration that has made New York City a Nuclear Weapons Free Zone. Today more than then the spirit and meaning of that declaration is critically important.

In these notes below I shall contextualize our plea to divest funds under the City's control away from enterprises engaged in profit making from operationalizing the destruction of the future and creating a Special Committee to educate, advocate and help advance policies and programs that address minimizing and ending threats posed by nuclear weapons.

Context:

Thinking clearly and bringing morally grounded practical policies into action is necessary to avoid catastrophe. Presidents Ronald Reagan and Mikhail Gorbachev did just that when they met in Geneva, Switzerland in 1985. The two leaders put in motion enormous social change by applying common sense to humanity's greatest existential threat. They stated clearly the need for cooperation to make the world safer and avoid nuclear war.

<https://www.reaganlibrary.gov/research/speeches/112185a>

In their Nov. 21, 1985 Joint Statement they stated:

“The sides, having discussed key security issues, and conscious of the special responsibility of the USSR and the U.S. for maintaining peace, have agreed that a nuclear war cannot be won and must never be fought. Recognizing that any conflict between the USSR and the U.S. could have catastrophic consequences, they emphasized the importance of preventing any war between them, whether nuclear or conventional. They will not seek to achieve military superiority.”

That statement arose because the city of Geneva invited the two leaders to meet and address the issue. One city in that instance made an enormous contribution to world security.

This statement helped to create the dynamic that ended the Cold War. Since 1985 the arsenals of these two nations have gone from over 65,000 nuclear warheads to less than 15,000 today. That is not an insignificant accomplishment. But much more work needs to be done. We remain too close to destruction.

Today, Russia keeps asking to reaffirm the principle of the unacceptability of nuclear war and gets no answer from the US Administration. This is simply outrageous. In fact it is worse than that, it is terrifying in its implications.

<https://www.newsweek.com/russia-ask-us-no-nuclear-weapons-1443464>

Despite its being ignored by the public, the existing US policy rejects the insights of Geneva and seems to contemplate actual use of nuclear weapons in war.

The Joint Chiefs of Staff of the US Military in its recent Joint Publication 3-72 Nuclear Operations June 11, 2019 states:

“Integration of nuclear weapons into a theater of operations requires the consideration of multiple variables. Using nuclear weapons could create conditions for decisive results and the restoration of strategic stability. Specifically, the use

of a nuclear weapon will fundamentally change the scope of a battle and create conditions that affect how commanders will prevail in conflict.”

“Prevail in conflict” means winning by using nuclear weapons. Such an aspiration is stimulating a new immeasurably dangerous and expensive global nuclear arms race.

Silence in the face of such irrationality is complicity in madness. Such a policy is based on mythical thinking and such dreaming could lead to a global nightmare. We are committed to stopping it.

We believe that if the public really understood what the use of nuclear weapons will do, the level of threat under which the people of New York live daily, the outrageous downward spiral in thinking and behavior of the nations with nuclear weapons, it would demand change for the better.

Nuclear weapons exist in a global context which should be recognized. The Nobel Peace Laureates addressed this fact:



Three Questions to Fulfill Our Duty to the Next Generation
8th Nobel Peace Laureate Summit
December 13-15, 2007

Today, the world is interconnected as never before. Decisions made today will have permanent consequences. Humanity's global footprint must be guided by appropriate thinking, policy, and actions. No longer can we afford to think locally and act globally.

Three significant issues require new levels of international cooperation based on the rule of law and universal norms. No state, or even a powerful group of states, can succeed alone. Because these issues impact us all, we must all be concerned.

We must effectively address crushing poverty and adequately organize ourselves to protect the global commons, such as the oceans, the climate, and the rainforest – living systems on which civilization depends. Because the promotion of global cooperation is distorted by the possession of nuclear weapons by some, and our security increasingly risked by their spread, we must ensure the elimination of nuclear weapons before they eliminate us.

If we are to fulfill our responsibility to leave a sustainable future to the next generation, we must make sure our political leaders have answers to these critical questions:

- 1. What are your plans to address crushing poverty?**
- 2. What are your plans to protect the environment?**
- 3. What are your plans to eliminate nuclear weapons?**

We, as Nobel Peace Laureates and Laureate Organizations have a duty to demand answers to these questions and we commit to continue to press political candidates and all world leaders for responses. We encourage citizens, especially youth who will be most affected by the answer to these questions, to energetically pursue them also. Further, we expect the press to insist that candidates and leaders articulate their plans to ensure a sustainable and just future.

Nobel Peace Laureates and Laureates Organizations: His Holiness the Dalai Lama, Mikhail Gorbachev, Mairead Corrigan Maguire, Muhammad Yunus, Lech Walesa, Betty Williams, Institut de Droit International, American Friends Service Committee, Amnesty International, International Labor Organization, International Peace Bureau, International Physicians for the Prevention of Nuclear War, International Campaign to Ban Landmines, Medecins Sans Frontieres, Pugwash Conferences on Science and World Affairs, Red Cross Italy, United Nations, United Nations Children's Fund, United Nations High Commissioner for Refugees



Prologue: The Nuclear Predicament

The Mayor of Nagasaki pleads with us to understand the human dimensions of one relatively small atomic bomb:

The explosion of the atomic bomb generated an enormous fireball, 200 meters in radius, almost as though a small sun had appeared in the sky. The next instant, a ferocious blast and wave of heat assailed the ground with a thunderous roar. The surface temperature of the fireball was about 7,000 degrees C, and the heat rays that reached the ground were over 3,000 degrees C. The explosion instantly killed or injured people within a two-kilometer radius of the hypocenter, leaving innumerable corpses charred like clumps of charcoal and scattered in the ruins near the hypocenter. In some cases, not even a trace of the person's remains could be found. A wind (over 680 miles per hour) slapped down trees and demolished most buildings. Even iron-reinforced concrete structures were so badly damaged that they seemed to have been smashed by a giant hammer. The fierce flash of heat meanwhile melted glass and left metal objects contorted like strands of taffy, and the subsequent fires burned the ruins of the city to ashes. Nagasaki became a city of death where not even the sound of insects could be heard.

After a while, countless men, women and children began to gather for a drink of water at the banks of the nearby Urakami River, their hair and clothing scorched and their burnt skin hanging off in sheets like rags. Begging for help, they died one after another in the water or in heaps on the banks. Then radiation began to take its toll, killing people like a scourge (of) death expanding in concentric circles from the hypocenter. Four months after the atomic bombing, 74,000 people were dead and 75,000 had suffered injuries, that is, two thirds of the city population had fallen victim to this calamity that came upon Nagasaki like a preview of the Apocalypse.

George Kennan, the distinguished American diplomat who originated the Cold War containment policy toward the Soviet Union, not associated with moral admonitions, warns us:

The readiness to use nuclear weapons against other human beings – against people we do not know, whom we have never seen, and whose guilt or innocence is not for us to establish – and, in doing so, to place in jeopardy the natural structure upon which all civilization rests, as though the safety and perceived interests of our own generation were more important than everything that has taken place or could take place in civilization: this is nothing less than a presumption, a blasphemy, an indignity – an indignity of monstrous dimensions – offered to God!

General George Lee Butler, who as former Commander-in-Chief of U.S. Strategic Air Command (1991-92) and U.S. Strategic Command (1992-94), who was responsible for all nuclear forces in the U.S. Air Force and Navy, stated forcefully:

Despite all the evidence, we have yet to fully grasp the monstrous effect of these weapons, the consequences of their use defy reason, transcend time and space, poisoning the Earth and deforming its inhabitants. Nuclear weapons are inherently dangerous, hugely expensive and militarily inefficient.

Former US Secretary of Defense Robert McNamara in the May/June 2005 issue of Foreign Policy, wrote:

This in a nutshell is what nuclear weapons do: They indiscriminately blast, burn, and irradiate with a speed and finality that are almost incomprehensible. This is exactly what countries like the United States and Russia, with nuclear weapons on hair-trigger alert, continue to threaten every minute of every day in this new 21st century.

I have worked on issues relating to U.S. and NATO nuclear strategy and war plans for more than 40 years. During that time, I have never seen a piece of paper that outlined a plan for the United States or NATO to initiate the use of nuclear weapons with any benefit for the United States or NATO. I have made this statement in front of audiences, including NATO defense ministers and senior military leaders, many times. No one has ever refuted it. To launch weapons against a nuclear-equipped opponent would be suicidal. To do so against a nonnuclear enemy would be militarily unnecessary, morally repugnant, and politically indefensible. The fact that more than a decade after the end of the Cold War there are more than 25,000 nuclear weapons, with the US and Russia still squaring off with over 96% of the arsenals and thousands still on launch on warning hair trigger alert, should cause any prudent person alarm. The wakeup call is being heard on protecting the environment, since climate change cannot be ignored and the Millennium Development Goals ring a hopeful note that poverty in our lifetime could become history. My belief is that without progress in the arena of cooperative security these other critical challenges will remain unmet and our collective future uncertain. For that reason I urge you to reflect deeply on the Axis of Responsibility.

Responsibility for Our Common Future

The world is interconnected as never before. It is not only connected presently but decisions made today will have permanent consequences long into the future. If our decisions today are flawed we cannot say how long the future will last. This is unique in human history. We are the first generation, which on several issues must ensure consciously and intentionally that we are not the last. Moreover, our most critical challenges require new levels of holistic creative thinking and governance that can integrate local concerns with global responsibility. The dangers that used to hang over only a few now hang over the heads of all. Wisdom to understand the interconnectedness of the dangers is now also required. No longer can we afford to think locally and act globally. Humanity's global footprint must be met with appropriate thinking and policies.

There is an Axis of Responsibility

Three issues, amongst others, require global cooperation, the rule of law, and universal norms. Whether we effectively address crushing poverty, adequately organize ourselves to protect the global commons such as the oceans, the climate, and the rainforest—living systems upon which civilization depends—and eliminate nuclear weapons before they eliminate us, defines whether we pass on a sustainable future. If we attain appropriate levels of cooperation and clarity of purpose to address these three issues correctly others will fall into place. Our capacity to address cyber-security, the health of the oceans, preventing an arms race in space, ending terrorism, and preventing pandemic diseases will be much improved, to say the least.

No state, nor even a powerful group of states, can succeed alone. Universal coordinated approaches using our highest values, culture, and the arts of law and diplomacy are needed. Those who know, as never before, simply must educate the public that apathy is not acceptable. Publics will not empower leaders with the political room to create necessary changes unless they are made aware. All too often the media exploits the pornography of the trivial.

We simply cannot allow any hurdle to constrain what we know to be critical – creating the political passion and will to act now. We have a duty to constrain greed and the pursuit of power with a culture of peace, law, justice, morality and reason. If fear or greed continue to guide us, these tools will continue to fail us. Leaders such as yourselves can bring hope, but only when vision and analysis are clear.

To do so, we simply must make these global concerns part of personal, domestic and local agendas.

Priorities must be recalibrated; our collective survival is at stake. This will cost money everywhere, enormous economic adjustments, and changes in values and lifestyles.

We know short-term economic opportunities might have to give way to long-term environmental responsibility. At the outset, let me thus place before your minds a question to hold as I set forth the nodes of the Axis of Responsibility: Will we achieve the necessary cooperation in a world with nuclear weapons in the hands of a few who claim the privilege of superior security interests?

Protecting Global Commons

No nation can be secure when the living systems upon which everyone depends are at risk. Global warming will lead to radical changes in food production and increase the likelihood of disease pandemics. Climate change will cause population displacements leading to instability and conflict. Rainforest destruction -- whether in Brazil, Canada, or anywhere—destroys the lungs of the planet and thus the air we all need to breathe. If one country can dump in the oceans, all can dump toxic chemicals and life destroying waste through that country's flag. We must protect the oceans biodiversity and fishing stocks.

In fact, the phytoplankton, which depends on the health of the oceans, provides the majority of our oxygen and has a positive impact in the absorption of carbon. Global warming will change the oceans and we do not know how it will impact our third lung, phytoplankton. We do not have the luxury of experimenting with a system handed to us by a loving divine mystery. Changing the earth's climate is putting more at risk than we currently even comprehend. Is there anyone so naive as to think that global warming will exempt any country from its destructive forces?

Can we survive a world where vast millions lack a simple glass of clean water? A world, where half of the population lives on less than \$2.50 per day, cannot be sustained. It is both immoral and impractical to ignore such suffering when we know there are solutions achievable at low cost. The Marshall Plan worked well, helping to build a post WWII security system with trading partners. The same principles can now be applied between the developed and developing communities. The Sustainable Development Goals set forth an excellent map (see appendices)

Crushing poverty is an injustice that breeds the instabilities and suffering wherein hopelessness turns to terrorism. Immigration becomes a problem because people cannot sustain their families by staying home. The world is now our collective home. We have to make every room in the home hospitable. And again there is traction and public awareness to pursue a sustainable development agenda.

In this regard, we recommend simply fulfilling commitments made in the Sustainable Development Goals and disarmament commitments made pursuant to the Nuclear Nonproliferation Treaty, demanded by the decision of the International Court of Justice and embodied in initiatives such as the Ban Treaty.

Nuclear Disarmament

On this issue, we are in a unique situation. The enormity of the crisis is being overlooked. Today, thousands of nuclear weapons are on long-term high alert status, just as they were during the Cold War. There are 14,930 of these devices in existence. The nine states (China, Democratic People's Republic of Korea, France, Israel, India, Pakistan, Russia, United Kingdom, and the United States), which possess them, are either modernizing, or expanding their arsenals, or doing both.

Under the Nuclear Nonproliferation Treaty (NPT) and pursuant to the unanimously ruling of the International Court of Justice, there is a legal duty to negotiate the universal and verifiable elimination of nuclear weapons. Nevertheless, negotiations amongst the nuclear weapons states to achieve this goal are not taking place because of a failure of both public knowledge and political will.

Every moment of every day, thousands of personnel stand ready, willing, and able to annihilate the future. Billions of dollars have been and will be spent on this mad venture.

Recent studies show that if less than 1 percent of the arsenals were to be exploded, then the debris would rise into the stratosphere will affect the climate of the planet, terminating agriculture as we know it, and ending civilization.

The core bargain of the NPT is threatened by the ad hoc approach of the most powerful states, which want to sacrifice the core bargain of the non-proliferation regime of only rewarding those who eschew proliferation while seeking to constrain those who would proliferate.

Simply, we cannot sustain a world where the security for some is valued more than for others. But the greatest present disequilibrium in the quest for common security is the fact of nuclear weapons apartheid. It is a central litmus test of our time – to succeed we must change a variety of relationships and to fail on this issue is not acceptable.

Nuclear weapons are unworthy of civilization and the only security against their spread and use is their universal, legally verifiable elimination.

Every step towards the elimination of nuclear weapons must reduce threats, enhance security, and promote the rule of law. Nuclear weapons themselves are unacceptably dangerous in anyone's hands. Ronald Reagan and Mikhail Gorbachev knew ever so clearly how nuclear weapons threaten civilization. The threat has not disappeared.

President Reagan called for the abolition of "all nuclear weapons" which he considered to be "totally irrational, totally inhumane, good for nothing but killing, possibly destructive of life on Earth and civilization".

His call has recently been echoed by Henry Kissinger, George Schultz, William Perry and Sam Nunn in a January 7, 2007 Wall Street Journal oped. They correctly argue that we do not live in a static world. Their call for progress based purely on political realism was amplified by President Mikhail Gorbachev's response of in the Wall Street Journal on January 31, 2007:

We must put the goal of eliminating nuclear weapons back on the agenda, not in a distant future but as soon as possible. It links the moral imperative – the rejection such weapons from an ethical standpoint—with the imperative of assuring security. It is becoming clearer that nuclear weapons are no longer a means of achieving security; in fact, with every passing year, they make our security more precarious.

Without clear commitment to the vision of disarmament, and a passion to achieve it, the inequities of the current order cannot be self-sustaining. Our choice is a sustainable nonproliferation regime with movement toward disarmament, or a denial of the inequities and ever more dangerous counter proliferation adventures, like Iraq. We cannot think the status quo will hold.

We must either accept ever more violent counter proliferation efforts or get on with nuclear disarmament. There is insufficient public traction on this axis. The other two in fact depend upon this issue.

Nuclear Weapons Free Zones (NWFZs)

We are delighted that the majority of states, over 114 states, belong to nuclear weapons free zones (NWFZs), zones that are defined as specific regions in which states commit themselves not to manufacture, acquire, test, or possess nuclear weapons.

Five such zones exist today, with four of them making the entire Southern Hemisphere nuclear weapons free. The regions currently covered under NWFZ agreements include: Latin America (the 1967 Treaty of

Tlatelolco), the South Pacific (the 1985 Treaty of Rarotonga), Southeast Asia (the 1995 Treaty of Bangkok) Africa (the 1996 Treaty of Pelindaba) and Central Asia (the 2006 Treaty of Semipalatinsk).

Treaty on the Prohibition of Nuclear Weapons

We welcome the Treaty on the Prohibition of Nuclear Weapons (“Ban Treaty”). In July 2017, this treaty to eliminate nuclear weapons was successfully concluded by a formal vote in which 120 states voted in favor for its adoption. However, none of the states with nuclear weapons have expressed support for the treaty yet.

Additional Steps

We recommend the following steps:

1. Massive Public Education on the threat that nuclear weapons pose and the legal and moral imperative to eliminate them
2. Commencement of negotiations amongst the nuclear weapon states on a comprehensive convention to universally eliminate the weapons
3. All states should work on joining the Ban Treaty
4. Immediately, pending the total elimination of all nuclear weapons, pledge to never drop a nuclear weapon on a city or populated area

Conclusion

We must help generate the will to create new initiatives, for the only "coalition of the willing" that can successfully address the problems identified as the axis of responsibility is a global coalition consisting of all states -- global problems require global solutions, not clubs or vigilante groups. The majority of nations of the world, which have called for nuclear disarmament, and all member-states of the UN have committed to the sustainable development goals. However, the nations of the world will not be able to accomplish these goals without the support of their citizens.

Bravo New York City, A Nuclear Weapons Free Zone since 1983!

As members of the human family fully aware of the fact that today’s choices will dramatically affect those yet to come, as well as those suffering today, we thus ask ourselves three powerful questions. We have suggested steps to answer them, but realize that others may have better approaches. But having no coherent approach spells irresponsibility. Let me end with one more suggestion. In political campaigns the world over, questions must be asked of every political leader and candidate:

1. What are you doing to eliminate poverty?
2. What are you doing to protect the climate?
3. What are you doing to eliminate nuclear weapons?

Appendix A. Sustainable Development Goals

The nations of the world have collectively agreed to a set of goals to be obtained by 2030. These commitments when put into practice will be a model of cooperative security. It is worthwhile to list the specific goals and their underlying policy commitments, targets, and demand political leaders enact programs to achieve them.

The Sustainable Development Goals adopted by the General Assembly of the United Nations on 25 September 2015, contains 17 Goals and 169 associated targets¹:

1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. Ensure healthy lives and promote well-being for all at all ages
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. Achieve gender equality and empower all women and girls
6. Ensure availability and sustainable management of water and sanitation for all
7. Ensure access to affordable, reliable, sustainable and modern energy for all
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10. Reduce inequality within and among countries
11. Make cities and human settlements inclusive, safe, resilient and sustainable
12. Ensure sustainable consumption and production patterns
13. Take urgent action to combat climate change and its impacts
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

¹ United Nations, General Assembly, Draft Outcome document of the UN Summit for the adoption of the post-2015 development agenda, A/69/L.85, (12 August 2015), available from http://www.un.org/ga/search/view_doc.asp?symbol=A/69/L.85&Lang=E

Appendix B. Climate Change

The recent 5th Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC) sent three overarching messages to the world: 1) Human influence on the climate system is clear, and growing, 2) we must act quickly and decisively if we want to avoid increasingly destructive outcomes and 3) we have the means to limit climate change and build a better future. The report addressed explicitly the implications of climate change on human security, including migration, displacement and violent conflicts.

The key findings of the IPCC are as follows:

Climate change over the 21st century is projected to increase displacement of people. Displacement risks increase when populations that lack the resources for planned migration experience higher exposure to extreme weather events, in both rural and urban areas, particularly in developing countries with low income. Expanding opportunities for mobility can reduce vulnerability for such populations. Changes in migration patterns can be responses to both extreme weather events and longer-term climate variability and change. However, migration can also be an effective adaptation strategy.

Climate change can indirectly increase risks of violent conflicts in the form of civil war and inter-group violence by amplifying well-documented drivers of these conflicts such as poverty and economic shocks. Multiple lines of evidence relate climate variability to these forms of conflict.

The impacts of climate change on the critical infrastructure and territorial integrity of many states are expected to influence national security policies. Some transboundary impacts of climate change, such as changes in sea ice, shared water resources, and pelagic fish stocks, have the potential to increase rivalry among states, but robust national and intergovernmental institutions can enhance cooperation and manage many of these rivalries.

Building a low-carbon world to stabilize the climate will create new opportunities for individuals, companies and countries to share.

Climate Change will increasingly affect all citizens and economic sectors around the world and will hit the poor and least favored hardest.

Therefore, it was imperative that the 21st Conference of the Parties to the United Nations Convention on Climate Change to be held in Paris, France on 30 November-11 December 2015, to establish a comprehensive agreement to support swift and decisive action by all States to address adaptation to and mitigation of climate change.

At the 21st Conference of the parties to the United Nations Convention on Climate Change, representatives from 196 states successfully concluded the Paris Climate Agreement, which:

For the first time – brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement's central aim was to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building

framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework.

The Paris Agreement requires all Parties to put forward their best efforts through “nationally determined contributions” (NDCs) and to strengthen these efforts in the years ahead. This includes requirements that all Parties report regularly on their emissions and on their implementation efforts.²

In 2017, U.S. President Donald Trump expressed his intention for the United States to withdraw from the agreement. His declaration was met by widespread condemnation by members of the European Union, multiple sectors, and cities in the U.S.

Significantly, although Trump announced that the U.S. would withdraw from the agreement, the governors of 12 US states, including New York, Washington State, California, Connecticut, Delaware, Hawaii, Massachusetts, Minnesota, Oregon, Rhode Islands, Vermont, Virginia, and Puerto Rico have pledged to support the agreement. They joined the U.S. Climate Coalition, which includes states governments representing 36 percent of the U.S.’ GDP.

These states are committing to a specific goal: reducing their emission as much as 28 percent below 2005 levels in the next three years and meeting or exceeding the targets of the Clean Power Plan.³

Additionally, in July 2017, Governor Jerry Brown of California announced that he will be hosting the Climate Action Summit in San Francisco in September 2018. The summit will bring together the leaders of states, cities, businesses, and other distinguished individuals, who have pledged to curb greenhouse gas emissions as stipulated in the Paris Agreement.⁴

As we enter an era in which we need local politicians to unite with citizens, we urge you to support the Paris Agreement and spread awareness about the significance of this agreement to members of your local communities.

² United Nations, “The Paris Agreement.” *UN Framework Convention on Climate Change*, available at: http://unfccc.int/paris_agreement/items/9485.php

³ “All of the US cities, counties, states, university presidents, companies, and investors defying Trump’s stance on Paris.” *Quartz*, available at: <https://qz.com/999142/paris-agreement-all-of-the-us-cities-counties-states-universities-companies-and-investors-defying-trumps-stance-on-climate-deal/>

⁴ Lisa Friedman, “Jerry Brown Announces a Climate summit Meeting in California.” *New York Times*. 6 July 2017, available at: <https://www.nytimes.com/2017/07/06/climate/jerry-brown-california-climate-summit.html>

Appendix C. Fast Facts

1. Climate Change

Type of Risk: Existential

Corresponding Legal Regimes: Montreal Protocol, United Nations Framework Convention on Climate Change, Kyoto Protocol, Marrakesh Accords, Doha Amendment⁵

Climate change is caused when greenhouse gases are released, trapping heat in the atmosphere and warming the planet.⁶

The concentration of carbon dioxide in the atmosphere was 280 parts per million (ppm) before the Industrial Revolution, and as of December 2016, was up to 404.93 ppm. These are the highest levels of carbon dioxide in the last 800,000 years.⁷

According to projections by the Intergovernmental Panel on Climate Change, global temperatures are expected to increase by at least 2.7°F by 2100.⁸

The United States is the second largest contributor to global climate change, despite holding only 4.4% of the global population. China is the largest contributor, accounting for 23% of all global CO₂ emissions.⁹

The average sea level is expected to rise between 1 and 6 feet before 2100.¹⁰

The number of glaciers in Glacier National Park has decreased from more than 150 in 1910 to 25 as of December 2016. Eventually, it is expected to lose all of its glaciers (a phenomenon that is happening worldwide).¹¹

At the current pace of global temperature rise, approximately 25-35% of plant and animal species have an increased risk of extinction.¹²

Climate change is also caused by the destruction of rainforests, because there are fewer trees to store carbon. Additionally, clearing and burning trees releases large amounts of carbon dioxide into the atmosphere.¹³

Due to rises in ocean temperatures, coral reefs are dying off en masse around the world. In 2015, coral bleaching had impacted 40% of reefs, and 4,630 square miles of reef had been killed.^{14,15}

⁵ "Towards a climate agreement - UN and Climate Change." *United Nations*. United Nations, n.d. Web. 03 May 2017.

⁶ "Overview of Greenhouse Gases." *EPA*. Environmental Protection Agency, 14 Apr. 2017. Web. 03 May 2017.

⁷ *NASA*. NASA, n.d. Web. 03 May 2017.

⁸ "Fast Facts About Climate Change." *National Wildlife Federation*. N.p., n.d. Web. 03 May 2017.

⁹ WorldAtlas.com. "Biggest Contributors To Global Warming In The World By Country." *WorldAtlas*. N.p., 16 Oct. 2015. Web. 03 May 2017.

¹⁰ "Understanding Sea Level Projections." *NASA*. NASA, 04 Aug. 2016. Web. 03 May 2017.

¹¹ "Glaciers." *National Parks Service*. U.S. Department of the Interior, n.d. Web. 03 May 2017.

¹² "Wildlife in a Warming World." *National Wildlife Federation*. N.p., n.d. Web. 03 May 2017.

¹³ Munita, Photograph By Tomas. "Deforestation and Its Effect on the Planet." *And Its Effect on the Planet*. N.p., 01 May 2017. Web. 03 May 2017.

¹⁴ Heron, Scott F., Jeffrey A. Maynard, Ruben Van Hooijdonk, and C. Mark Eakin. "Warming Trends and Bleaching Stress of the World's Coral Reefs 1985–2012." *Nature News*. Nature Publishing Group, 06 Dec. 2016. Web. 03 May 2017.

¹⁵ *National Oceanic and Atmospheric Administration*. N.p., n.d. Web. 03 May 2017.

2. Oceans and Phytoplankton

Type of Risk: Existential

Corresponding Legal Regimes: Montreal Protocol, United Nations Framework Convention on Climate Change, Kyoto Protocol, Marrakesh Accords, Doha Amendment¹⁶

General Ocean Changes:

Coastal flooding is becoming increasingly prevalent. Nearly every measured coastal site in the U.S. has experienced an increase in flooding since 1950.¹⁷

Multiple data analyses show a long-term trend of rising ocean temperatures.¹⁸ Some data shows that there has been a 0.1 degree Celsius increase every decade between 1970 and 2010 in shallow waters.¹⁹

Carbon dioxide and acidity levels in the oceans have increased over the last few decades. This makes it more difficult for some animal species to build and maintain skeletons and shells.²⁰

Warming oceans are forcing fish to change their migration patterns and migrate toward the Earth's poles.²¹

Phytoplankton and Their Impact on Oxygen Levels:

Phytoplankton provides food for several ocean creatures, such as whales, snails, and jellyfish. This makes them the base of several ocean food webs. They float in the top part of the ocean where sunlight shines through the water.²²

Ocean phytoplankton produces approximately two thirds of the planet's atmospheric oxygen through photosynthesis.²³

A six degree Celsius increase in ocean temperatures could disrupt the phytoplankton's photosynthesis process, which would stop their oxygen production. Some scientists predict that this could occur before the year 2100. This would likely result in mass mortality in humans and animals.²⁴

Warmer water temperatures (as a result of global warming) slows phytoplankton growth, because there is less mixing of warm surface water and cold water below, so there are fewer nutrients in the surface level warm water for the phytoplankton. Rising levels of carbon dioxide in the atmosphere play a big part in global warming," said lead author Michael Behrenfeld of Oregon State University, Corvallis. "This study shows that as the climate warms, phytoplankton growth rates go down and along with them the amount of carbon dioxide these ocean plants consume. That allows carbon dioxide to accumulate more rapidly in the atmosphere, which would produce more warming."²⁵

¹⁶ "Towards a climate agreement - UN and Climate Change." *United Nations*. United Nations, n.d. Web. 03 May 2017.

¹⁷ "Climate Change Indicators: Coastal Flooding." *EPA*. Environmental Protection Agency, 17 Dec. 2016. Web. 03 May 2017.

¹⁸ "Climate Change Indicators: Ocean Heat." *EPA*. Environmental Protection Agency, 17 Dec. 2016. Web. 03 May 2017.

¹⁹ "5 ways climate change is affecting our oceans." *Environmental Defense Fund*. N.p., n.d. Web. 03 May 2017.

²⁰ "Climate Change Indicators: Ocean Acidity." *EPA*. Environmental Protection Agency, 17 Dec. 2016. Web. 03 May 2017.

²¹ "5 ways climate change is affecting our oceans." *Environmental Defense Fund*. N.p., n.d. Web. 03 May 2017.

²² US Department of Commerce, National Oceanic and Atmospheric Administration. "What are phytoplankton?" *NOAA's National Ocean Service*. N.p., 27 July 2009. Web. 03 May 2017.

²³ <https://www.sciencedaily.com/releases/2015/12/151201094120.htm>

²⁴ "Failing phytoplankton, failing oxygen: Global warming disaster could suffocate life on planet Earth." *Science Daily*. Science Daily, n.d. Web. 03 May 2017.

²⁵ Earth, NASA's Visible. "Warming Ocean Slows Phytoplankton Growth." *NASA*. NASA, 11 Aug. 2009. Web. 03 May 2017.

Additionally, since plankton are so significant in so many food webs, fewer plankton will lead to fewer fish, which is a major food source for humans and other animals.²⁶

Counterpoint: They may not be as affected as we thought. Phytoplanktons have a hard shell, and researchers predicted their shells would be very affected by increasing acidity in oceans. So far, though, they have not been affected, which is a good sign.²⁷

3. Rainforests

Type of Risk: Existential

Corresponding Legal Regimes: International Tropical Timber Organization (ITTO)²⁸, Convention on International Trade in Endangered Species (CITES)²⁹

Rainforests are an important habitat for over 30 million species of plants and animals. They are home to over half of the world's animal species, and more than two thirds of its plant species.

Rainforests store much of the Earth's water, with some estimates suggesting that they store more than half of the Earth's rainwater. This recycling of water helps prevent droughts, famine, and disease.

Trees cleanse our atmosphere by absorbing carbon dioxide and providing oxygen. When trees are burned, they release this carbon dioxide, contributing to pollution and global warming. Deforestation is considered to be the second largest driver of climate change--even more than transportation. It is estimated that deforestation is responsible for 18-25% of annual carbon emissions.

In the past 50 years, significant areas of rainforest have been destroyed for a variety of purposes, including cattle ranching, logging, mining, and agriculture.

It is estimated that for each pound of beef produced, 200 sq. ft. of rainforest is destroyed. Cattle farming is responsible for about 50% of deforestation.³⁰

Most experts agree that we are losing *at least* 80,000 acres of rainforest daily.³¹

Rates of tropical deforestation are 8.5% higher this decade than they were in the 1990s, according to the United Nations' Food and Agriculture Organization (FAO).³²

Annually, we are destroying 31,000 square miles of rainforest--the size of South Carolina or the Czech Republic. Most of this loss was in Brazil, Indonesia, Democratic Republic of Congo, and Malaysia between 2012-2014.

According to researchers' suggestions, this destruction amounts to more than 5 billion trees being cut down per year.³³

²⁶ Thompson, Helen. "How Will Climate Change Impact Plankton?" *Smithsonian.com*. Smithsonian Institution, 26 May 2015. Web. 03 May 2017.

²⁷ Kachur, Torah. "Good news: Phytoplankton can survive in a warming world." *CBCnews*. CBC/Radio Canada, 16 Feb. 2016. Web. 03 May 2017.

²⁸ *The International Tropical Timber Organization (ITTO)*. N.p., n.d. Web. 02 May 2017.

²⁹ "What is CITES?" *What is CITES? | CITES*. N.p., n.d. Web. 02 May 2017.

³⁰ "Rainforest Concern." *Rainforest Concern - Why are rainforests important?* N.p., n.d. Web. 03 May 2017.

³¹ "Measuring the Daily Destruction of the World's Rainforests." *Scientific American*. N.p., 18 Nov. 2009. Web. 03 May 2017.

³² "Measuring the Daily Destruction of the World's Rainforests." *Scientific American*. N.p., 18 Nov. 2009. Web. 03 May 2017.

³³ Mongabay. "10 Rainforest Facts for 2017." *Mongabay.com*. N.p., 09 June 1999. Web. 03 May 2017.

4. Facts about Poverty and SDGs

Extreme poverty rates have been cut by more than half since 1990. While this is a remarkable achievement, one in five people in developing regions still live on less than \$1.25 a day, and there are millions more who make little more than this daily amount, plus many people risk slipping back into poverty.

Poverty is more than the lack of income and resources to ensure a sustainable livelihood. Its manifestations include hunger and malnutrition, limited access to education and other basic services, social discrimination and exclusion as well as the lack of participation in decision-making. Economic growth must be inclusive to provide sustainable jobs and promote equality.³⁴

ENDING POVERTY – WHY IT MATTERS

836 million people still live in extreme poverty

About one in five persons in developing regions lives on less than \$1.25 per day

The overwhelming majority of people living on less than \$1.25 a day belong to two regions: Southern Asia and sub-Saharan Africa

High poverty rates are often found in small, fragile and conflict-affected countries

One in four children under age five in the world has inadequate height for his or her age

Every day in 2014, 42,000 people had to abandon their homes to seek protection due to conflict

Goal 1 Target

- By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day
- By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
- Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable
- By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance
- By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters
- Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions
- Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions

³⁴ "Sustainable Development Goals." *United Nations*, available at <http://www.un.org/sustainabledevelopment/poverty/>

5. Facts about Nuclear Weapons

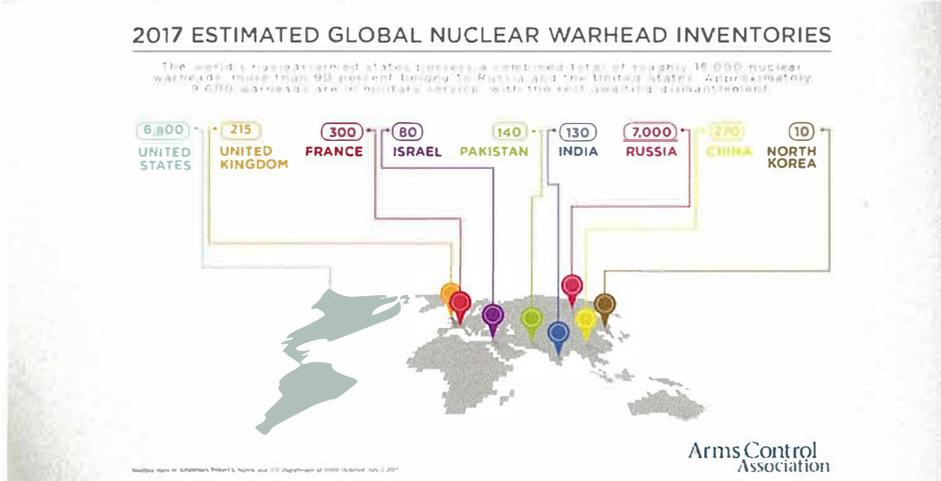
Amount of Nuclear Weapons

Estimated Amount: 14,930 nuclear weapons of which more than 3,900 warheads are deployed with operational forces, of which nearly 1,800 US, Russian, British and French warheads are on [high alert](#), ready for use on short notice

93 percent of all nuclear warheads are owned by Russia and the United States,

4,000-4,500 warheads in their military stockpiles; no other nuclear-armed state sees a need for more than a few hundred nuclear weapons for national security.

Nuclear Weapons Inventories



Status	RUSSIA	UNITED STATES	FRANCE	CHINA	UK	PAKISTAN	INDIA	ISRAEL	N. KOREA
Deployed Ready to launch	1,910	1,800	290	?	120	0	0	0	?
Undeployed Stockpiled, or some assembly required	2,390	2,200	10	270	95	140	130	80	60
Retirement Retired, waiting for disassembly	2,700	2,800	0	0	0	0	0	0	0
Total	7,000	6,800	300	270	215	140	130	80	60

*Estimates indicate that North Korea may have 30-60 warheads
SIPRI, Federation of American Scientists, Bulletin of the Atomic Scientists, World Business Insider

Modernization

All the nuclear weapon states continue to modernize their remaining nuclear forces and appear committed to retaining nuclear weapons for the indefinite future.

Snapshot of modernization costs:

The United States maintains an arsenal of about [1,650](#) strategic nuclear warheads deployed on Intercontinental Ballistic Missiles (ICBMs), Submarine-Launched Ballistic Missiles (SLBMs), and Strategic Bombers and some 180 tactical nuclear weapons at bomber bases in five European countries. The Departments of Defense and Energy requested approximately \$26.8 billion in Fiscal Year (FY) 2017 to maintain and upgrade these systems and their supporting infrastructure, according to the

nonpartisan Congressional Budget Office (CBO). CBO estimates that nuclear forces will cost \$400 billion between FY 2015 and FY 2024.³⁵

An analysis by the Arms Control Association of U.S. government budget data projects the total cost over the next 30 years at between \$1.25 trillion and \$1.46 trillion in then-year dollars, meaning it includes price increases due to inflation.

The Defense Department is projecting to spend \$230-\$290 billion to recapitalize U.S. nuclear forces between FY 2018 and FY 2040, in constant FY 2018 dollars. The estimate includes the total cost of strategic delivery systems that have a nuclear-only mission, and a portion of the cost of the B-21 bomber (which will have both conventional and nuclear roles) that according to the department is consistent with the historical cost of delivering nuclear capability to a strategic bomber. The total also includes the cost of modernizing nuclear command, control, and communications (NC3) systems.³⁶

The projected costs of nuclear modernization prompted Senate Armed Services Committee chairman John McCain (R-Ariz.) to utter the following on May 19, 2016, at the Brookings Institution: "it's very, very, very expensive....Do we really need the entire triad, given the situation?"³⁷

Yield of nuclear weapons

Overview

The 13 and 21-kiloton explosions over Hiroshima and Nagasaki in August 1945 burned both cities to the ground, killing over 200,000 people instantly. Yet nuclear weapon States went on to develop far more destructive weapons that dwarf the power of these simple fission weapons.

At the height of the Cold War, thousands of U.S. and Soviet ballistic missiles on high alert were capable of delivering up to 10 independently targeted warheads at a time, each one twenty times more powerful than the Hiroshima bomb.

The largest nuclear explosion in history was the 1961 Soviet "Tsar Bomba" test, which measured more than 50 megatons (3,800 times more powerful than the Hiroshima bomb).

To generate an explosion of this magnitude using dynamite, it would require 50 billion kilograms (over 110 billion pounds) of TNT, which is more than the weight of all the cargo that has passed through London's Heathrow airport in the past 40 years. Expressed in volume, this would amount to 18 blocks of TNT each as large as the Empire State building.

Nations hosting Nuclear Weapons

Belgium, Germany, Italy, Netherlands, and Turkey

Nations in Nuclear Alliances

Albania, Australia, Bulgaria, Canada, Croatia, Czech, Denmark, Estonia, Greece, Hungary, Iceland, Japan, Latvia, Lithuania, Luxembourg, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, South Korea, Spain (plus the five host nations)

³⁵ "U.S. Nuclear Modernization Programs: Fact Sheets and Briefs," *Arms control Association*. August 2017, available at: <https://www.armscontrol.org/factsheets/USNuclearModernization>

³⁶ Ibid.

³⁷ Ibid.

Nuclear Non-Proliferation Treaty

The NPT is a landmark international treaty whose objective is to prevent the spread of nuclear weapons and weapons technology, to promote cooperation in the peaceful uses of nuclear energy and to further the goal of achieving nuclear disarmament and general and complete disarmament.

Opened for signature: 1 July 1968

Entered into force: 5 March 1970

Parties to the NPT: 189

States not party: India, Pakistan, Israel, and Democratic People's Republic of Korea* (withdrew 10 January 2003)

Link: <https://www.un.org/disarmament/wmd/nuclear/npt/>

Treaty on the Prohibition of Nuclear Weapons

The Treaty on the Prohibition of Nuclear Weapons prohibits States Parties from developing, testing, producing, manufacturing, acquiring, possessing, or stockpiling nuclear weapons or other nuclear explosive devices. Signatories are barred from transferring or receiving nuclear weapons and other nuclear explosive devices, control over such weapons, or any assistance with activities prohibited under the Treaty. States are also prohibited from using or threatening to use nuclear weapons and other nuclear explosive devices. Lastly, States Parties cannot allow the stationing, installation, or deployment of nuclear weapons and other nuclear explosive devices in their territory. In addition to the Treaty's prohibitions, States Parties are obligated to provide victim assistance and help with environmental remediation efforts.

Opened for Signature: 20 September 2017

Adopted: 7 July 2017 (120 yes, 1 abstention, 1 against)

Duration: Indefinite

Links: <http://www.nti.org/learn/treaties-and-regimes/treaty-on-the-prohibition-of-nuclear-weapons/> and <https://www.un.org/disarmament/ptnw/>

Nexus between Nuclear Weapons and Environment

Excerpt from an interview on Nuclear Winter with Alan Robock and Brian Toon:

In the 5 years after a tiny little war using less than 1% of the global arsenal on the other side of the world, global food production would go down by 20 to 40 percent for 5 years and for the next 5 years 10 to 20 percent. So, that means that there would be huge stress on countries that import food and even on countries that grow food.³⁸

For additional information, please see: Dr. Alan Robock Nuclear Famine and Nuclear Winter: Climatic Effects of Nuclear War, Catastrophic Threats to the Global Food Supply Symposium: The Dynamics of Possible Nuclear Extinction, available at <https://ratical.org/radiation/NuclearExtinction/AlanRobock022815.html>

³⁸ "Nuclear Winter with Alan Robock and Brian Toon," *Future of Life*, available <https://futureoflife.org/2016/10/31/nuclear-winter-roboc-toon-podcast/>

Another appeal of the Noble Peace Laureates:

Appeal to the Youth of the World, Noble Peace Laureates' Summit, Chicago, November 2012

As Nobel Peace Laureates and Laureate organizations we realize that if the commitment to peace and human rights is not passed from one generation to the next our achievements will be short lived. For this reason we applaud the youth of the world over who are standing up and speaking out in protest against injustice and inequality and defending the right to peace, social justice and a sustainable future.

We are concerned that old threats to peace are persisting and new ones emerging. We therefore urge young people to organize for peace and learn to prevent and resolve conflicts peacefully. At a time when militarism continues to corrupt the minds of politicians and poison international relations, when a new arms race is unfolding, this must be a key priority. As Nobel Laureate Martin Luther King, Jr. said, "those who love peace must learn to organize as effectively as those who love war."

Our collective security can no longer focus primarily on the security of states; it must focus on the security of people. Wars and militarism cannot achieve real human security.

Substantial reductions of world military expenditures could eliminate the crushing poverty whereby nearly one third of humanity lives in insufferable conditions. Excessive military expenditures not only represent a theft from those who are hungry but are also an ineffective means of obtaining security.

Equally unacceptable is violence against nature that ruins the environment upon which civilization depends.

All the world's religions and peoples share similar basic values, such as peace, compassion, love, justice, service toward others, and the alleviation of suffering.

Political leaders must recognize our common humanity through deeds rather than mere words.

We urge young people to question leaders about what they are doing to address the main challenges that face the world today:

What are you doing for the abolition of nuclear arms and other indiscriminate weapons and for reduction of military spending?

What are you doing to bridge the divide between wealth and crushing poverty?

What are you doing to save our planet from environmental disaster?

What are you doing to protect and promote human rights and equality between women and men?

We offer the world's youth our support and our experience as they pursue a better future. We urge them to achieve change through peaceful and moral means. We need your enthusiasm and we want you to join us in our continued quest for peace and justice.