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If we do not abolish nuclear weapons  
they will surely abolish us.

# Notes on A New Movement to Ban Nuclear Weapons: The Humanitarian Consequences Initiative

Presentation by Dave Ratcliffe to Piedmont Gardens Peace Group, 2 Sep 2015

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## **The Situation** – The Nuclear Age, 70 Years On:

The terrorizing capability to obliterate life on Earth with nuclear war was conceived 70 years ago. Its potential began to manifest in the late 1950s, and was wholly produceable by the 1960s when arsenals of multi-megaton hydrogen bombs numbered in the thousands and ICBMs were deployed.[[1](#)]

On February 28 of this year, physician and anti nuclear campaigner Dr. Helen Caldicott convened a [Symposium](#) on **The Dynamics of Possible Nuclear Extinction (DPNE)**. [[2](#)]

The nuclear arms race between the U.S. and Russia peaked in the mid-eighties with about 63,000 warheads. In the 1980s both Reagan and Gorbachev publicly stated that nuclear weapons could never be used. [Two slides](#) from the **DPNE** talk by Professor Alan Robock [[3](#)], a climate scientist on “[Nuclear Famine and Nuclear Winter: Climatic Effects of Nuclear War, Catastrophic Threats to the Global Food Supply](#),” summarize what they said. First was from a [1985 Reagan interview](#) while he was President:

**Ronald Reagan:**

When asked about the  
effects of nuclear war in a  
February 12, 1985 interview  
in the *New York Times* said,

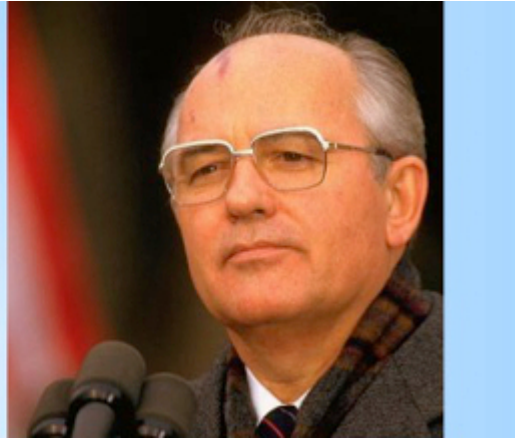


“A great many reputable scientists are telling us that such a war could just end up in no victory for anyone because we would wipe out the earth as we know it. And if you think back to ... natural calamities – back in the last century, in the 1800s, ... volcanoes – we saw the weather so changed that there was snow in July in many temperate countries. And they called it the year in which there was no summer. Now if one volcano can do that, what are we talking about with the whole nuclear exchange, the nuclear winter that scientists have been talking about? It’s possible.”

And second was [a 2000 interview with State of the World Forum Co-Chair Mikhail Gorbachev](#):

**Mikhail Gorbachev:**

"Mikhail Gorbachev explains  
what's rotten in Russia"  
by Mark Hertsgaard  
Salon.com, Sept. 7, 2000



"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 in that situation."

Steven Starr[4] spoke at the **DPNE** on  
["Nuclear War: An Unrecognized Mass Extinction Event Waiting To Happen"](#)

In 1945, Albert Einstein said, "The release of atomic power has changed everything except our way of thinking." In 2015, seventy years later, we are still stockpiling nuclear weapons in preparation for nuclear war. Our continued willingness to allow huge nuclear arsenals to exist clearly shows that we have not fundamentally grasped the most important truth of the nuclear age: that a nuclear war is not likely to be survived by the human species.

Remarkably, the leaders of the Nuclear Weapon States have chosen to *ignore* the authoritative, long-standing scientific research done by the climatologists, research that predicts virtually *any* nuclear war, fought with even a fraction of the operational and deployed nuclear arsenals, will leave the Earth essentially uninhabitable.

It is not clear that these leaders are even *aware* of the findings of this research, since they have consistently refused to meet with the scientists who did the studies.

A universal ignorance of basic nuclear facts ultimately creates a very dangerous situation, because leaders who are unaware that nuclear war can end human history are likely to lack the gut fear of nuclear war that's needed to prevent them from leading us into a nuclear holocaust.

Without this basic knowledge, it is almost impossible for anyone to understand the immense dangers posed by nuclear war. Thus I am now going to take some time to explain these facts, to try to insure my message today is clear.

Russia and the U.S. possess about 93% of the 16,400 nuclear weapons in today's global nuclear arsenal. Russia has about 8,000 intact nuclear weapons and the US has about 7,300. France comes next with about 300 and the remaining 6 nuclear states have fewer than that.

What's new in this work? A nuclear war between any nuclear states using much less than 1 percent of the current nuclear arsenal will produce climate change unprecedented in recorded human history.



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## The Wild Card: **Artificial Intelligence** – Automated Trigger for Accidental Nuclear War

In an April 2014 *Huffington Post* article written by Stephen Hawking, Stuart Russell (Berkeley computer science professor), Max Tegmark, and Frank Wilczek (both physics professors at M.I.T.) titled, "[Transcending Complacency on Superintelligent Machines](#)," the authors write,

Artificial intelligence (AI) research is now progressing rapidly. Recent landmarks ... as self-driving cars, a computer winning at *Jeopardy!*, and the digital personal assistants Siri, Google Now and Cortana are merely symptoms of an IT arms race fueled by unprecedented investments ...

The potential benefits are huge; everything that civilization has to offer is a product of human intelligence; we cannot predict what we might achieve when this intelligence is magnified by the tools AI may provide ... Success in creating AI would be the biggest event in human history.

Unfortunately, it might also be the last, unless we learn how to avoid the risks. In the near term, for example, world militaries are considering autonomous weapon systems that can choose and eliminate their own targets; the [UN](#) and [Human Rights Watch](#) have advocated a treaty banning such weapons....

Looking further ahead, there are no fundamental limits to what can be achieved: there is no physical law precluding particles from being organized in ways that perform even more advanced computations than the arrangements of particles in human brains.... One can imagine such technology outsmarting financial markets, out-inventing human researchers, out-manipulating human leaders, and developing weapons we cannot even understand. Whereas the short-term impact of AI depends on who controls it, the long-term impact depends on whether it can be controlled at all.

So, facing possible futures of incalculable benefits and risks, the experts are surely doing everything possible to ensure the best outcome, right? Wrong. If a superior

alien civilization sent us a text message saying, “We’ll arrive in a few decades,” would we just reply, “OK, call us when you get here—we’ll leave the lights on”? Probably not—but this is more or less what is happening with AI. Although we are facing potentially the best or worst thing ever to happen to humanity, little serious research is devoted to these issues outside small non-profit institutes ... All of us—not only scientists, industrialists and generals—should ask ourselves what can we do now to improve the chances of reaping the benefits and avoiding the risks [of artificial intelligence].[5]

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## **The Humanitarian Consequences Initiative**

We’ve [already banned](#) biological weapons, chemical weapons, land mines, and cluster munitions. But the worst of all weapons of mass destruction—nuclear weapons—have not been banned. Perhaps the most exciting speaker at the **DPNE** was Tim Wright[6] who spoke on “[A New Movement to Ban Nuclear Weapons](#).” As he described it,

In 2007, with Helen [Caldicott]’s help, we launched the [International Campaign to Abolish Nuclear Weapons](#)—ICAN—in an effort to reignite the languishing global antinuclear movement, to get better organized, and to finish the work of decades past. It was an ambitious undertaking, no doubt, but we felt confident then, and feel confident now, that it is a battle that we will ultimately win. Indeed, in many ways, we are *already* winning....

Over the past few years, we have seen the start of a fundamental shift in the way that governments talk about nuclear weapons—not the governments of nuclear-armed nations or their nuclear-weapon-loving allies, who remain firmly stuck in cold war thinking, but the rest: the other hundred or more members of the family of nations, constituting the overwhelming majority.

Possessing the bomb, it is worth remembering, is not normal. Almost every nation in the world has made a legal undertaking never to acquire nuclear weapons. But for many years, these nations have taken a back seat in disarmament debates, waiting patiently, idly, hoping that the promise of Prague, and every other promise, would be realized. But no longer. The so-called humanitarian initiative on nuclear weapons has emerged because of mounting frustration at the failure of nuclear-armed nations to fulfill their decades-old disarmament commitments under [the NPT](#). [7] It has emerged out of recognition that simply bemoaning their inaction, no matter how loudly, is not an effective strategy for achieving abolition. Indeed, *why would we* expect the nuclear-armed states to lead us to a nuclear-weapon-free world? Why would they willingly, happily give up weapons that they hold so dear, that they perceive as the ultimate guarantor of their security, that they believe give them prestige and status in international affairs?

Meeting as we are at the [Academy of Medicine](#), it is perhaps appropriate to draw an



analogy with the banning of smoking in public places.... We would never expect the smoking community to initiate and lead efforts to impose such a ban. In fact, we would expect them stridently to resist it. The non-smoking community (the majority)—who wish to live and work in a healthy environment—must be the driving force. That should be obvious. Similarly, it is the non-nuclear-weapon states on whom we must depend to drive a process to ban nuclear weapons, to stigmatize them, to make them socially and politically unacceptable, to make it harder for nations to get away with possessing and upgrading them, and to help the nuclear-weapon states overcome this awful, debilitating addiction.

This flips the traditional arms-control approach on its head. The humanitarian initiative is about empowering and mobilizing the rest of the world to say “enough.” It is about shifting the debate from “acceptable,” “safe” numbers of nuclear warheads to their fundamental inhumanity and incompatibility with basic standards of civilized behaviour. It is about taking away from the nuclear-armed states the power to dictate the terms of the debate and to set the agenda—and refusing to perpetuate their exceptionalism.

The [International Campaign to Abolish Nuclear Weapons](#) (see an ICAN timeline since its founding in Geneva in 2007 [here](#)) action plan has three strategic components:

1. there is a humanitarian imperative to stigmatize nuclear weapons as fundamentally inhumane; banning them outright requires a comprehensive treaty-based approach rather than arms control;
2. strengthen links and common cause with local, national, and international humanitarian, peace, human rights, environmental, and disarmament NGOs, to develop a network of civil society campaigners all over the world committed to push for nuclear abolition;
3. non-nuclear-weapon states can and should take the lead to prepare for and negotiate a global treaty banning nuclear weapons, which will create an indisputable obligation for the nuclear-weapon states to eliminate their arsenals.

There have been [3 Conferences](#) on the Humanitarian Impact of Nuclear Weapons:

1. **4-5 March 2013, Oslo:** Norwegian Minister of Foreign Affairs, Mr. Espen Barth Eide hosted [an international conference](#) on the Humanitarian Impact of Nuclear Weapons. 127 governments, UN agencies, international organizations, and members of civil society participated.
2. **13-14 February 2014 Nayarit, Mexico:** In his [summary of the meeting](#), the Chair of the second conference called for the development of new international standards on nuclear weapons, including a legally binding instrument.
3. **8-9 December 2014 Vienna:** The [Vienna Conference](#) was attended by 158 States, constituting a broad spectrum of international organisations from the UN system, the Red Cross and Red Crescent Movement, many academics and experts and several hundred representatives of civil society. Austria presented a Pledge highlighting its

conviction that efforts are needed to stigmatise, prohibit, and eliminate nuclear weapons and this Pledge says that Austria will pursue measures to “fill the legal gap” for prohibiting and eliminating nuclear weapons. As more states endorsed it, this became the “[Humanitarian Pledge](#)” in May 2015. As of September 2, 114 nations have formally endorsed [this Pledge](#).

In researching sources to link to for Tim Wright’s talk, I looked up what I could find about what he refers to as “weasel states.”

The Non-Proliferation Treaty falsely divides the world into nuclear-weapon states and non-nuclear-weapon states. In reality, there is a significant group in the middle: 30 or so nations that claim the protection of U.S. nuclear weapons. They reinforce the idea of nuclear weapons as legitimate, useful, and necessary instruments. The humanitarian initiative has shone a spotlight on these [enabler states](#), known less affectionately as “[weasel states](#),” and they are scampering. They are not used to this level of scrutiny. They have always claimed to be committed to disarmament. But are clearly part of the problem—and that we can change.

In my research, I discovered a group based in Geneva called [Wildfire](#), and its spokesman, Richard Lennane. This group is exercising refreshing human intelligence with clarity.[8] The analysis presented is cogent and well-informed as well as highly effective at exposing government hypocrisy. Richard Lennane, listed as Wildfire’s “Chief Inflammatory Officer,” is based in Geneva, Switzerland and also serves as “[Head, Implementation Support Unit](#), Biological Weapons Convention,” United Nations Institute for Disarmament Affairs (UNODA). I’d like to now run two highly incisive films that Mr. Lennane has produced:



Wildfire statement at HINW14 Vienna  
(04:56, Dec 2014)



The Wildfire approach to nuclear disarmament  
(03:19, 22 Jun 2015)

I encourage you to read and study a penetrating 2-page summary by Wildfire concerning the What, Why, How, Where, Who, & When of “[A treaty banning nuclear weapons](#)”. There are more elements to explore in the [What To Do](#) section as well as other relevant information presented in the **DPNE** collection to inform and inspire.[9] Please share with everyone you know. Thank you.

## References

1. The means to create nuclear weapons came from the existence of uranium. The Manhattan project was all about enriching uranium. Since the 1960s the specter of nuclear annihilation has been steadily amplified by technology that continues the manipulation of uranium to generate radioactive elements especially suited to making nuclear warheads. As Dr. Gordon Edwards has noted, "Plutonium is the primary explosive in most nuclear weapons. It is an artificial element, created inside any reactor that uses uranium fuel. The first reactors were built in the U.S. in order to produce plutonium for bombs." This quote is from, [Plutonium, The Bomb, "Nuclear Technology ~ A Primer,"](#) by Dr. Gordon Edwards, president of the [Canadian Coalition for Nuclear Responsibility](#) (CCNR). The CCNR website provides an invaluable resource "dedicated to education and research on all issues related to nuclear energy, whether civilian or military—including non-nuclear alternatives—especially those pertaining to Canada."
2. The shortcut link to a collection of is: <[ratical.org/ne](http://ratical.org/ne)>. Here you will find [background on the Symposium](#), [complete transcripts with inlined slides of 8 speakers](#) (soon to be 9), [mp3s of all speakers plus the Q&As](#), [additional educational materials](#), and [means to engage with people](#) working to abolish nuclear weapons.
3. Dr. [Alan Robock](#) is a Distinguished Professor of Climate Science in the Department of Environmental Sciences at Rutgers University. [Professor Robock](#) has published more 350 articles on his research in the area of climate change, including more than 200 peer-reviewed papers. His areas of expertise include geo-engineering, climatic effects of nuclear war, effects of volcanic eruptions on climate, regional atmosphere-hydrology modeling, and soil moisture variations. He serves as editor of [Reviews of Geophysics](#), the most highly cited journal in the U.S. sciences. His honors include being a Fellow of the [American Geophysical Union](#), the [American Meteorological Society](#), and the [American Association of the Advancement of Science](#), and recipient of the AMS Jule Charney Award. Professor Robock is a lead author of the 2013 Working Group 1 for the [Fifth Assessment Report](#) of the Intergovernmental Panel on Climate Change which was awarded the Nobel Peace in [2007](#).

In a 2010 interview in the [Newsletter of the Atmospheric Sciences Section](#) of the AGU, Professor Robock was asked, "What would you consider the most two significant achievements in your career?" He described the first achievement as the following:

The most significant achievement is my work on nuclear winter. In the 1980s, by running climate model simulations, doing studies of the impacts of forest fire smoke on surface temperature, and by writing about policy implications, I am proud to have been part of the team that warned the world of the danger of the use of nuclear weapons. Nuclear winter

theory led to a vigorous discussion of the direct effects of the use of nuclear weapons and a realization that the nuclear arms race was crazy and dangerous, and that the use of nuclear weapons would be suicide. This led directly to the end of the nuclear arms race, several years before the end of the Soviet Union. Mikhail Gorbachev, then leader of the Soviet Union, described in [an interview in 1994](#) how he felt when he got control of the Soviet nuclear arsenal, "Perhaps there was an emotional side to it.... But it was rectified by my knowledge of the might that had been accumulated. One-thousandth of this might was enough to destroy all living things on earth. And I knew the report on 'nuclear winter.'" And in 2000 he said, "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 in that situation." [Robock, A., and O. B. Toon (2010), [Local Nuclear War, Global Suffering](#). *Scientific American*, 302, 74-81.]

I am now working with Brian Toon and other colleagues to warn the world that the current reduced American and Russian arsenals can still produce nuclear winter, and that even a nuclear war between India and Pakistan could produce climate change unprecedented in recorded human history. We are frustrated that people are not paying as much attention to our results as people did previously, but I was honored in September, 2010, by an invitation from Fidel Castro to come to Cuba and give a talk about nuclear winter. He listened for an hour to my talk and then wrote extensively about the need to rid the world of nuclear weapons. For the story of my trip, please visit: [climate.envsci.rutgers.edu/Cuba/](http://climate.envsci.rutgers.edu/Cuba/)

For more about this work, go to [climate.envsci.rutgers.edu/nuclear/](http://climate.envsci.rutgers.edu/nuclear/)

4. Steven Starr, MT (ASCP), graduated from the School of Health Professions at the University of Missouri, Columbia in 1985. He subsequently worked as a Medical Technologist over a period of 27 years at a number of hospitals in Columbia, Missouri, including Columbia Regional Hospital, Boone Hospital Center, and Ellis Fischel Cancer Center, as well as at Saint Mary's Health Center, in Jefferson City, Missouri. Mr. Starr is currently the [Director](#) of the [Clinical Laboratory Science Program](#) at the [University of Missouri](#).

Steven is an [Associate member](#) of the [Nuclear Age Peace Foundation](#) and [has been published](#) by the *Bulletin of the Atomic Scientists*. His writings appear on the websites of [PSR](#), the [Nuclear Age Peace Foundation](#), the Moscow Institute of Physics and Technology [Center for Arms Control](#), Energy and Environmental Studies, [Scientists for Global Responsibility](#), and the [International Network of Scientists Against Proliferation](#). From 2007 through 2011, he worked with the governments of Switzerland, Chile, and New Zealand, in support of their efforts at the United Nations to eliminate thousands of high-alert, launch-ready nuclear weapons.

Mr. Starr is also an expert on the environmental consequences of nuclear war, and in 2011, he made an address to the U.N. First Committee describing the dangers that nuclear weapons



and nuclear war poses to all nations and peoples. He has made presentations to Ministry Officials, Parliamentarians, Universities, citizens and students from around the world, and specializes in making technical scientific information understandable to all audiences.

5. Weapons that operate on their own without human supervision are termed autonomous weapons, also known as lethal autonomous robots. In a statement issued to mark the 70 year anniversary of the atomic bombings of Hiroshima and Nagasaki, the Association for Aid and Relief of Japan (AAR Japan) has renewed its call to prevent fully autonomous weapons from ever being created through a pre-emptive and comprehensive ban on their development, production and use. See: "[Prevent another Hiroshima or Nagasaki](#)," and the [Campaign to STOP Killer Robots](#).
6. Tim Wright helped set up ICAN beginning in 2006 and is Australia's campaign director. He has been instrumental in expanding the movement's influence. More about Tim:
  - o Tim Wright on [twitter](#) and [facebook](#)
  - o [Introducing Tim Wright, ICAN's Own Radical Dreamer!](#), by Emily Watson, *Politics Personified*, 14 May 2015
  - o [Interview with Tim Wright from the International Campaign to Abolish Nuclear weapons](#), by Tony Robertson, *Pressenza*, International Press Agency, 3 March 2015
  - o youtube: [ICAN statement on UN International Day for the Total Elimination of Nuclear Weapons](#), Tim Wright, Asia Pacific Director of the International Campaign to Abolish Nuclear Weapons (ICAN), delivers a statement at the UN in New York on 26 September 2014 to mark the first-ever International Day for the Total Elimination of Nuclear Weapons. Footage courtesy of UN Webcast.

"Given the dire state of play, one might be inclined to despair. But to despair is a recipe for further inaction, and inaction a recipe for catastrophe of unprecedented proportions. Instead we must chart a new course. Rather than waiting in vain for leadership by the nuclear armed states, the rest of the world must embark now on negotiations to prohibit nuclear weapons categorically." (1:49-2:16)
7. The [Non-Proliferation Treaty](#) (NPT) was opened for signature in 1968 and entered into force in 1970. **Article VI** states: "*Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control.*" The NPT nuclear weapon states (U.S., UK, Russia, France and China) are in violation of their treaty obligations by continuing to [modernize their nuclear forces](#) and by failing to negotiate in good faith for nuclear disarmament (45 years since entry into force of the treaty does not meet the definition of *at an early date*). For the

same reasons, the four nuclear weapon states not party to the NPT (Israel, India, Pakistan and North Korea) are in violation of customary international law.

8. These 2 pages at [Wildfire](#) are representative of the perspective and understanding presented:

### **Nuclear disarmament: some cold hard truths**

Nuclear-weapon states will not engage in negotiations on a comprehensive nuclear disarmament treaty. Not now, not ever.

Negotiating detailed disarmament procedures and verification provisions for nuclear weapons is vastly complex - and pointless without the participation of the nuclear-weapon states.

The so-called step-by-step approach has got nowhere. This will not change.

The NPT legitimizes nuclear weapons. It holds the non-nuclear-weapon states in thrall, powerless and paralyzed by their good intentions, as eternal supplicants to the nuclear powers.

The civil society effort to abolish nuclear weapons is flailing. Without a clear, achievable short-term goal, it cannot unify, focus or exert effective pressure on governments.

All the cards are on the table. The catastrophic consequences of any use of nuclear weapons are understood. The motivations of the nuclear-weapon states are clear. Further research, commissions, studies, analysis, eminent windbags and general whining will add nothing.

It's time to change the game.

### **Changing the game**

The key: separate prohibition from disarmament.

Outlaw nuclear weapons now. Disarmament will follow later.

Two steps to a world free of nuclear weapons:

1. Negotiate, conclude and bring into force a ban.
2. Negotiate the disarmament and verification process.

Nuclear-weapon states need not be involved in step 1.

Nuclear weasel states (NATO members and other umbrella-dwellers) need not be involved in step 1.

Step 1 could be achieved in as little as two years.

There are around 140 states which could start step 1 now.

What are they waiting for?

Step 1 requires only a simple treaty:

- that completely and permanently bans the acquisition, possession, transfer and use of nuclear weapons: no exceptions, no loopholes, no withdrawals.
- that non-nuclear-weapon states parties to the NPT may join freely.
- that nuclear-weapon states (NPT parties or not) may join after entry into force by negotiating an accession protocol stipulating time-bound disarmament steps and verification provisions (Step 2). ([Read more](#) about the treaty)

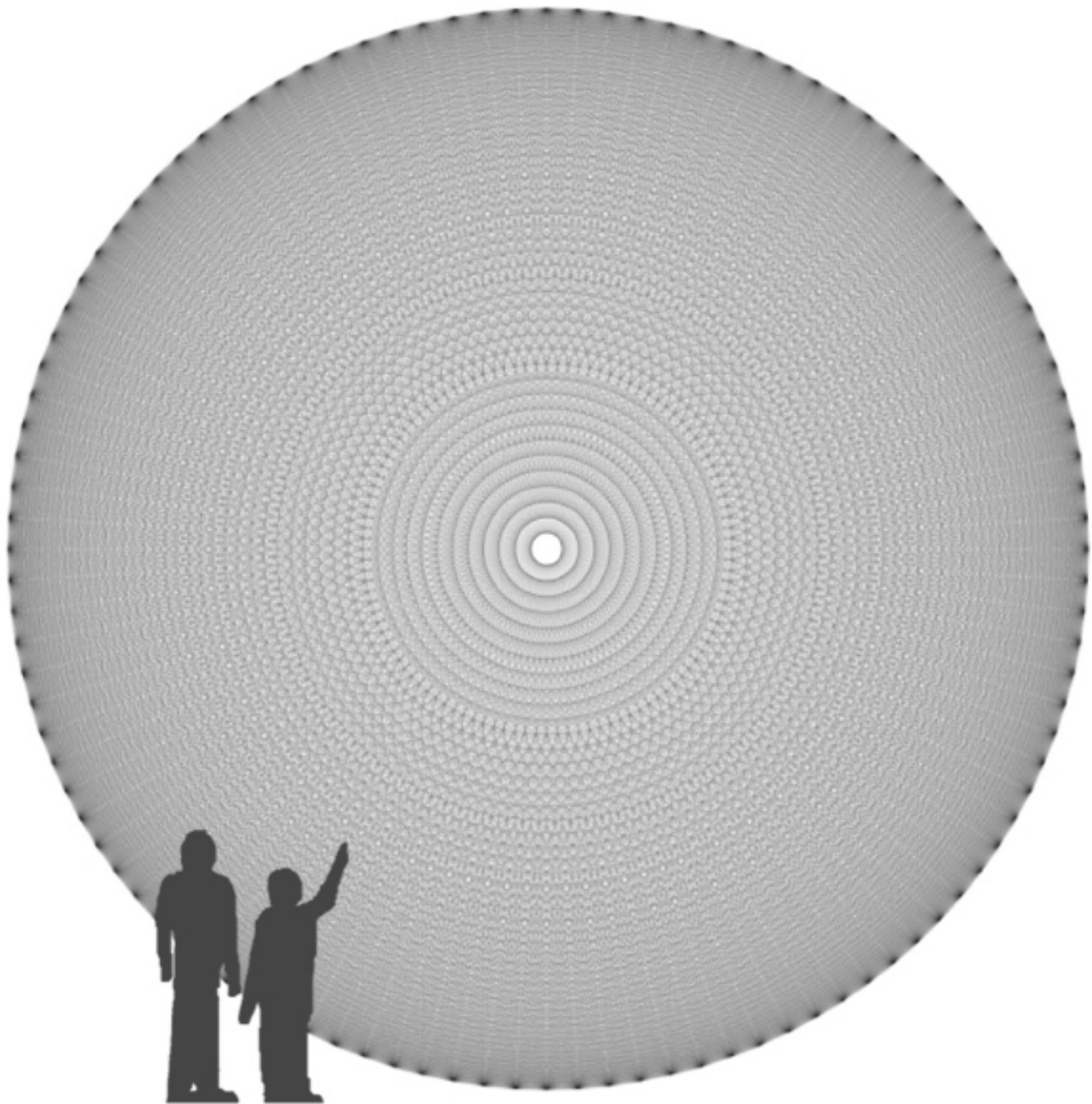
[It's time to change the game. >](#)

9. The following pursuits will promote the work of our single global civil society to stigmatize, prohibit, and eliminate nuclear weapons:

- [Support and join](#) the International Campaign to Abolish Nuclear Weapons (ICAN)
- **Tell your bank not to invest in nuclear weapons**  
Stand Up Against Nuclear Weapon Financing: find out if your financial institution is investing, or is one of those with a good policy on nuclear weapons by studying the [2014 annual report](#) of [Don't Bank On The Bomb](#). This significant publication gives everyone an opportunity to contact their bank or other financial institution. No one can do everything, but everyone can do something.
- **Inform yourself and those you know about the intelligent and coherent strategies to outlaw nuclear weapons being reflected and produced by [Wildfire](#).**
- [Sign This Petition](#): **Demand the President of the United States publicly acknowledges and addresses the existential threat the US nuclear arsenal poses to the continued existence of Life on Earth**
- **Sign the [Global Petition](#) Supporting the Nuclear Zero Lawsuits**  
On 24 April 2014, the Republic of the Marshall Islands filed lawsuits against all nine Nuclear Weapon States in the International Court of Justice and, separately, against the United States in U.S. Federal District Court. The Non-Proliferation Treaty has been in force for over 44 years. The Nuclear Weapon States continue to rely heavily on nuclear weapons and are engaging in modernization programs to keep their nuclear weapons active for decades to come. The time has come for the Nuclear Weapon States to be held accountable for their inaction.

Finally, be clear that educating ourselves and others serves Life's needs here on Earth and gives significance and purpose to our days. Learning more about implementing a treaty banning nuclear weapons increases consciousness of the overriding necessity to do so. The following work of art, produced by [Chris Jordan photographic arts](#), visualizes "the enormous power of humanity's collective will." **E Pluribus Unum** is a striking indicator—as of 5 years ago—of how many people on Earth are engaged in engendering a world of inclusion where

everyone and everything belongs. You must visit the page itself to apprehend the magnitude of what is being represented by zooming out from within this visualization.



**E Pluribus Unum**, 2010 24x24 feet, laser etched onto aluminum panels

Depicts the names of one million organizations around the world that are devoted to peace, environmental stewardship, social justice, and the preservation of diverse and indigenous culture. The actual number of such organizations is unknown, but estimates range between one and two million, and growing.

To be sure, there are a wealth of disturbing facts visualized by Jordan's portfolio of works. Still, as with all eternal opposites, forever joined like two sides of a coin, there is also the life-affirming expression of the "enormous power of humanity's collective will" to understand and be informed by. This power is what we must ALL engage, direct, and focus, to close the book on the possibility of extinction by nuclear weapons, for the sake of the children, all we share Earth with, and all that is yet to be born and live out lives here long, long, long after we are gone.