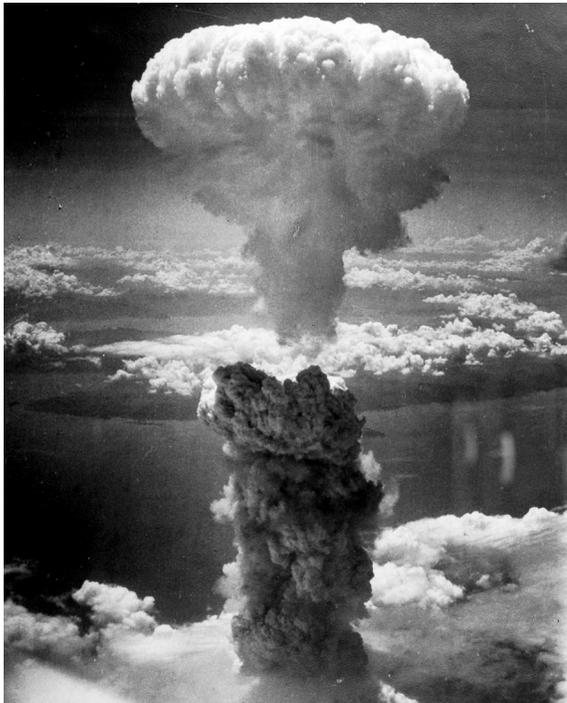




August 2018

Nuclear Abolition: The Road from Armageddon to Transformation

David Krieger



Nuclear weapons pose a grave threat to the future of civilization. As long as we allow these weapons to exist, we flirt with the catastrophe that they will be used, whether intentionally or accidentally. Meanwhile, nuclear weapons skew social priorities, create imbalances of power, and heighten geopolitical tension. Diplomacy has brought some noteworthy steps in curbing risks and proliferation, but progress has been uneven and tenuous. The ultimate aim of abolishing these weapons from the face of the earth—the “zero option”—faces formidable challenges of ignorance, apathy, and fatigue. Yet, the total abolition of nuclear weapons is essential for a Great Transition to a future rooted in respect for life, global solidarity, and ecological resilience. This will require an emboldened disarmament movement working synergistically with kindred movements, such as those fighting for peace, environmental sustainability, and economic justice, in pursuit of the shared goal of systemic change.

Civilization at Risk

Nuclear weapons, unique in their power and capacity for destruction, pose an existential threat to humanity. Although the peril of living at the precipice of nuclear devastation is clear, progress toward nuclear abolition has been slow and uneven, and the issue of nuclear weapons appears distant or abstract to many. And yet, nuclear abolition remains vital to achieving a Great Transition in our minds and on our planet. Ignoring the problem could result in nuclear war, which could leave few, if any, humans to rebuild a better world. With so much at stake, it is more important now than ever to re-energize and broaden the movement toward nuclear abolition. Making Earth a nuclear-free zone would be a gift to all inhabitants of the planet and all future generations.

It is more important than ever to re-energize the movement toward nuclear abolition.

The number of nuclear weapons in the world reached a peak of 70,000 in the 1980s amidst the Cold War. Although the nearly 15,000 that exist today across nine nuclear-armed countries (United States, Russia, United Kingdom, France, China, Israel, India, Pakistan, and North Korea) is far below this Cold War zenith, it is still enough to destroy civilization several times over. The vast majority of these weapons are in the arsenals of the US and Russia, the two countries that have always led the nuclear arms race.

To grasp the scope of the risks, consider that atmospheric scientists conclude that a relatively small nuclear war in South Asia, in which India and Pakistan fired fifty Hiroshima-size nuclear weapons at each other's cities, would send enough soot into the upper atmosphere to substantially block sunlight, shorten growing seasons, cause crop failures, and lead to a nuclear famine that could take the lives of some two billion people globally. The sunlight-blocking dust generated by the detonation of, say, 300 thermonuclear weapons in a war between the US and Russia could trigger a new Ice Age, dropping global temperatures to the lowest levels in 18,000 years, and leaving civilization utterly destroyed. Those who would survive the blast, heat, and radiation of nuclear war would live in a nuclear winter of freezing temperatures and perpetual darkness. The survivors would likely envy the dead.

The history of the nuclear age reveals just how resistant nuclear-armed nations have been to real accountability, fueling a vicious cycle of ignorance, apathy, and fatigue. Only a global, systemic movement can bring the global, systemic change required. For that to be a possibility, the nuclear abolition movement must link up with the many other social forces fighting for a better world.

The Case for Abolition

It is clear that the status quo is not working. The paradigms of arms control and non-proliferation that dominate international diplomacy assume the continued existence of nuclear weapons. However, the dangers inherent in nuclear weapons will remain whether there are tens of thousands or only a few. As long as they exist, they can be used, whether by malicious intent, miscalculation or careless accident.

The persistence of
this threat stands as a
profound moral malady
of our age.

Key attributes of nuclear weapons make them incompatible with a secure, sustainable world:

Immense destructive potential. Nuclear weapons are capable of destroying cities, countries, civilization, and most complex life on the planet. The nuclear age has ushered in a new form of devastation: *omnicide*, the death of all. Living with nuclear weapons is like sitting on a world-encompassing keg of dynamite capable of exploding at any moment.

Lack of discrimination between soldiers and civilians. Due to their immense destructive power, nuclear weapons cannot distinguish between armed soldiers and civilians, thus violating a basic tenet of international humanitarian law. As the world learned from the atomic bombings of Hiroshima and Nagasaki, deaths from a nuclear attack result from blast, heat, fire, and radiation, the latter especially painful.

Concentration of power. The decision to use nuclear weapons resides with a small number of leaders, sometimes only one. In the US, the president is given the codes to launch a nuclear strike, and the same centralization of power holds in other nuclear-armed countries. No pretext exists for democratic procedure, or even a formal declaration of war. Of the nuclear-armed countries, only China and India have current pledges of “no first use,” i.e., that they will not use nuclear weapons unless first attacked with nuclear weapons.

Geopolitical imbalance. The world is divided into a small number of nuclear “haves,” and some 185 nuclear “have-nots.” This provides some countries with the leverage to bully other countries into submission. As a result, nuclear weapons look more attractive to all as a way of asserting geopolitical power, increasing the prospects of nuclear proliferation.

Diversion of resources from meeting basic needs. The development, testing, deployment, and modernization of nuclear weapons impose immense costs. In recent years, many nuclear powers have embraced a crushing fiscal austerity, reducing public funding for health care, housing, education, and other services for the poor, the hungry, and the needy, while spending billions to maintain or even expand nuclear arsenals. At the same time, scientific and technological resources have been diverted from socially beneficial purposes, such as the rapid development of clean energy technologies.

Violation of fundamental moral and ethical codes. Maintaining the nuclear option carries with it the implicit and sometimes explicit threat of mass annihilation, which no major religious, cultural, or philosophical standard of moral principles would condone. The persistence of this threat stands as a profound moral malady of our age; the only cure is unleashing the better angels of our nature in a reinvigorated campaign for nuclear abolition.

A Brief History of the Nuclear Age

How did the world come to build and maintain, to the tune of more than \$100 billion each year, such civilization-destroying weapons of mass destruction?¹ The story begins with the creation of the first nuclear weapons in the secret US Manhattan Engineering Project during World War II. This massive project was initially sparked by fears, which ultimately proved unfounded, that Germany was well on its way to developing an atomic bomb. The war in Europe, had, indeed, already ended by the time the US conducted its first test of a nuclear device at Alamogordo, New Mexico, on July 16, 1945.

Three weeks later, on August 6, 1945, the US dropped an atomic bomb on the Japanese city of Hiroshima, causing massive destruction and killing up to 90,000 individuals immediately and 145,000 by the year's end. Three days later, the US used a second atomic weapon on the city of Nagasaki, killing tens of thousands more. Later, it came to light that the US knew, through the interception of secret communications, that Japan was trying to surrender and obtain favorable terms.² The two bombs were used anyway, purportedly to keep the Soviet military from moving into Japan, while signaling to the Soviet Union and the world the coming preeminence of US military power in the postwar order.

The two bombs were used anyway, signaling the coming preeminence of US military power in the postwar order.

In July 1946, less than a year after the destruction of Hiroshima and Nagasaki, the US began testing nuclear weapons in the Marshall Islands, which the US would administer as a United Nations Trust Territory starting in 1947. The US conducted sixty-seven nuclear tests in the Marshall Islands from 1946 to 1958, the equivalent power of detonating 1.6 Hiroshima bombs each day for twelve years. Marshallese children on islands far away from the tests were powdered with radioactive ash, which they played in like snow. Over the course of the nuclear age, more than 2,000 nuclear tests have been conducted, causing untold numbers of cancers, leukemia, and other radiation-induced illnesses.

By the end of the 1940s, the Soviet Union tested its first nuclear device, triggering a rapidly unfolding arms race. In 1952 and 1953, the US and the Soviet Union, respectively, detonated their first thermonuclear weapons, which, as fusion weapons, were far more powerful than the fission bombs used at Hiroshima and Nagasaki.

The world came very close to nuclear war during the Cuban Missile Crisis in October 1962 over the secret Soviet placement of nuclear missiles in Cuba. A number of incidents during the thirteen-day confrontation could have led either side to launch World War III. Ultimately, to the whole world's benefit, an agreement was reached that the USSR would withdraw its nuclear weapons from Cuba, and the US would later and secretly withdraw its nuclear-armed missiles from Turkey.

After reaching the brink, the US, UK, and Soviet Union took steps to control the nuclear arms race. First, the Partial Test Ban Treaty (PTBT) of 1963 prohibited nuclear testing in the atmosphere, outer space, and under water. The PTBT's preamble stated

Bloated nuclear arsenals remain a troublesome and dangerous legacy of Cold War rivalry.

clearly that it sought “to achieve the discontinuance of all test explosions of nuclear weapons for all time, [and was] determined to continue negotiations to this end.” But it would take another thirty-three years for the international community to adopt and open for signatures the 1996 Comprehensive Test Ban Treaty (CTBT), which has yet to secure the necessary support to enter into force.

The second treaty in the aftermath of the Cuban Missile Crisis was the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (NPT), which entered into force in 1970. It aims not only to prevent the proliferation of nuclear weapons to additional countries but also, importantly, to provide for the disarmament of then existing nuclear states: the US, USSR, UK, France, and China. Indeed, the NPT could have been more accurately called the Nuclear Non-Proliferation *and* Disarmament Treaty. Parties agreed 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.” But a major loophole undermined non-proliferation: the treaty refers to nuclear energy as an “inalienable right.” Israel, India, and Pakistan never signed the NPT, and drew upon their so-called peaceful nuclear programs to develop nuclear weapons, while North Korea withdrew from the NPT in 2003, and conducted its first nuclear weapon test in 2006.

The next two decades saw continued efforts by the Cold War superpowers to mitigate the risks of nuclear war. In 1972, the US and Soviet Union entered into the Anti-Ballistic Missile (ABM) Treaty, which set limits on the number of sites that could be protected with missile defense systems (the deployment of ABM systems had exacerbated the arms race as countries sought to build even more powerful weapons to overcome them). Then, at a 1986 summit in Reykjavík, Presidents Ronald Reagan and Mikhail Gorbachev jointly stated that “a nuclear war cannot be won, and must never be fought.” They came close to agreeing to abolish their nuclear arsenals, but negotiations collapsed over Reagan’s insistence on developing missile defenses. With the collapse of the Soviet Union several years later, the Cold War came to an end, but bloated nuclear arsenals remain a troublesome and dangerous legacy of Cold War rivalry that has been difficult to dislodge.

The post-Cold War era has offered a mixed landscape on nuclear disarmament. In 2002, the US unilaterally withdrew from the ABM Treaty, and soon began deploying missile defense installations in Eastern Europe near the Russian border, purportedly against a threat from Iran. But Russia is concerned that their real purpose is to take out any Russian offensive missiles that might survive a US first strike.³ The US abrogation of the ABM Treaty also removed restraints on stationing weapons in outer space. US withdrawal from the ABM Treaty may prove to be the single greatest blunder of the nuclear age.

Once the Cold War ended, interest in nuclear disarmament issues rapidly faded.

This checkered history notwithstanding, there has been some progress. A series of Strategic Arms Reduction Treaties (START) have substantially reduced US and Russian arsenals. As of 2018, each country is limited to the deployment of 1,550 strategic nuclear weapons, still far more than enough to destroy most humans and other complex forms of life on the planet.⁴

In July 2017, the United Nations adopted the Treaty on the Prohibition of Nuclear Weapons (TPNW), the result of a partnership between the International Campaign to Abolish Nuclear Weapons (ICAN), a coalition of civil society organizations, and most non-nuclear weapon states. They joined forces to assert that nuclear war would be a dead end for humanity, with a total ban on nuclear weapons the only way out. ICAN's 2017 Nobel Peace Prize builds momentum, but achieving the necessary ratifications of 50 countries will take time. The US, UK, and France have vowed never to sign or ratify it, preferring to control their own nuclear arsenals rather than to cooperate in preserving a livable world—a reminder of the entrenched opposition the nuclear abolition movement faces.

Challenges for Movement-Building

The nuclear disarmament movement reached its apex in the early 1980s, when the arms race looked bleakest. In 1982, more than a million people took to the streets in New York to demand that the number of nuclear weapons be frozen and further deployment cease. One must wonder if the protest was so large because it asked for so little: a freeze, rather than deep reductions. Still, the movement succeeded in spreading public awareness and concern about the dangers. Once the Cold War ended, though, interest in nuclear disarmament issues rapidly faded.

Various factors have contributed to this decline in enthusiasm. First and foremost is ignorance. The awesome destructiveness of nuclear weapons lacks tangibility since they are largely kept out of the public sight and mind. As a result, many in nuclear-armed countries see them as a positive source of prestige and necessity for security. Nuclear countries boast of technological achievement and belonging to an exclusive “club.” When the Indians and Pakistanis tested nuclear weapons in 1998, for instance, their people took to the streets in celebration. Such national pride undermines efforts to establish nuclear abolition policies. At the same time, the security justification—the belief that nuclear weapons offer protection—is a fallacy. In fact, countries that possess them, by posing risks to other countries, become more likely to be nuclear targets themselves.

Contrasting narratives about the bombing of Hiroshima and Nagasaki exemplify the tension between nuclear pride and punishment. Most people, at least in the US, learn in school that the atomic attacks were necessary to save American lives. A different story is told by the Japanese survivors—a story of pain, suffering, and death. These two stories, one from above the mushroom cloud and one from below it, compete

The nuclear abolition movement builds on the stories from those beneath the mushroom cloud.

for dominance as frameworks drawing lessons of the past for guiding the future. The story from above, celebrating technological achievement, serves to keep the nuclear arms race alive. The story from below awakens humanity to the extreme peril it faces. The nuclear abolition movement builds on the stories from ground-zero, those beneath the mushroom cloud.

Beyond ignorance and its cousin pride, another source of apathy is a sense of fatigue. We must use our imaginations to envision the horror of nuclear catastrophe, but it is very difficult to sustain such fear in the public mind year after year, decade after decade, in the absence of nuclear war. The world has come close on many occasions, but malice, madness, or mistake has not yet triggered the use of nuclear weapons in war since World War II. Nonetheless, it is essential that we keep shouting warnings despite accusations of being “the boy who cried wolf.” Only by sounding the alarm can we build a movement with sufficient power to abolish nuclear weapons once and for all.

Even when people understand the dangers of nuclear weapons, however, they may still be paralyzed by a perceived lack of power to bring about change. With decision-making power on nuclear policy highly centralized, individuals lack influence—unless they become politically active in large numbers. Ironically, the perception of impotence becomes a self-fulfilling prophecy that impedes movement-building and effective change.

The only way to change direction is to build a strong popular movement, in the nuclear-armed countries and throughout the world, to delegitimize nuclear weapons, support the Treaty on the Prohibition on Nuclear Weapons, and oppose reliance on nuclear arsenals. Political pressure from below is our best hope for getting governments of the nuclear states to join the rest of the world in prohibiting the possession, use, and threat of use of nuclear arms.

Toward Systemic Change

Nuclear weapons stand as the quintessential shared risk, posing a danger to the whole of humanity. The problem cannot be solved by any one nation alone. Nuclear abolition requires collective global action—a deep shift in values and institutions lest the forces that created the nuclear age continue to prevail.

Just as no nation can succeed on its own, in our interdependent world, no movement seeking fundamental change can truly succeed on its own. However, movements are too often isolated in different issue silos, competing for support and scarce resources. This fragmentation erodes unity and long-term impact. The nuclear abolition movement must join with other movements seeking systemic global change.

Synergy is most promising with the wider peace movement, the environmental movement, and the environmental justice movement.

Synergy is most promising between the nuclear abolition movement and the wider peace movement, the environmental movement, and the economic justice movement. Each of these movements demands a global sensibility and global action. And each calls into question the governing assumptions of society that have led us down an unsustainable path.

The most obvious opportunity for cross-movement collaboration is with the peace movement. Any war involving nuclear-armed states or their allies could lead to the use of nuclear weapons. Peace activists, of course, have often been on the frontlines protesting the expansion of nuclear arsenals. However, the peace movement in the US and globally appears to be exhausted after the long wars in Afghanistan, Iraq, and elsewhere in the Middle East that have dragged on for more than a decade.

Still, there are bright spots. New approaches to peace literacy are sprouting up.⁵ Veterans groups, such as Veterans for Peace (VFP), have helped to reinvigorate the peace movement. Through their first-hand experience with warfare, the veterans bring a unique perspective, legitimacy, and energy to the quest for peace, and have demonstrated a willingness to take on the issue of nuclear abolition as well. VFP has resurrected the *Golden Rule*, a ship that first sailed in the 1950s to protest atmospheric nuclear weapons testing in the Pacific. Now, she sails again in support of nuclear abolition and to display the bravery and tenacity that can overcome militarism. VFP also supports such disarmament projects as the lawsuits filed by the Marshall Islands in 2014 at the International Court of Justice against the nine nuclear-armed countries.⁶ The British Nuclear Test Veterans Association and other groups work to support veterans who have suffered radiation exposure from nuclear tests.

The environmental movement offers another potential partner for cross-movement collaboration. Nuclear abolition has not been high on the priority list of the environmental movement. At least in the US, the movement has been preoccupied with defensive battles against an administration intent on rolling back environmental protection. Even before, it focused on tangible and immediately pressing battles while tackling such planetary-scale threats as ozone depletion and climate change.

Environmentalists have, however, sounded the alarm on the deleterious impacts of so-called “peaceful” nuclear power, particularly in the aftermath of the accidents at Three Mile Island in the US, Chernobyl in the former Soviet Union, and Fukushima in Japan. But this is just one facet of the threat nuclear technology poses to a livable planet. Without total abolition, every aspect of the Earth’s living systems, as well as life itself, remains at risk, while building and maintaining these tools of total war are a drag on efforts to transition toward a sustainable economy. As nuclear energy always contains within it the possibility of nuclear proliferation, advocates of nuclear abolition must likewise get behind the fight for a renewables-driven clean economy that would render such technology unnecessary.

The militarization of the economy and the centralization of power are incompatible with egalitarian national systems.

The economic justice movement is a third promising ally of the nuclear abolition movement. Nuclear weapons systems have consumed vast public resources since the onset of the nuclear age. The US alone has spent more \$7.5 trillion on its nuclear arsenal, and plans to spend \$1.7 trillion more over the next three decades to modernize it. World nuclear weapons expenditures exceed \$1 trillion per decade, with the US accounting for over sixty percent of the total with Russia accounting for 14 percent and China 7 percent.⁷ These resources could be far better used to provide food, clean water, shelter, health care, and education to those in need. This diversion of resources is a double whammy: we underspend on human and ecological well-being while intensifying the threat of a nuclear catastrophe.

The militarization of the economy and centralization of power, for which nuclear weapons have been both cause and effect, are incompatible with egalitarian national economic systems. Internationally, as long as nuclear weapons give a handful of countries outsized power on the global stage, especially the ability to make credible threats, the shift toward a more democratic global economic system will be impossible.

For all these reasons, nuclear abolition serves the cause of economic justice. And it is equally true that those of us who care about the nuclear threat need to advocate for greater justice. Economic inequality within and between nations fosters polarization, migration pressure, and geopolitical conflict, thereby raising the risk of (nuclear) war. Thus the peace movement has powerful incentives to ally with social justice movements.

Peace, a healthy environment, and economic justice will remain elusive in a nuclear world. A cooperative movement of movements would enhance the capacity of each constituent to achieve its own goals, while fostering the cross-movement solidarity that can bring a Great Transition future. With the alarms sounding, the time has come to act together with a sense of urgency.

Armageddon or Transformation?

At the onset of the nuclear age, Einstein reflected, "The unleashed power of the atom has changed everything save our modes of thinking, and we thus drift toward unparalleled catastrophe." The splitting of the atom made new modes of thinking not only desirable but necessary. Nuclear weapons threaten the future of civilization and the human species. We can no longer think in old ways, solving differences among countries by means of warfare. Instead of absolute allegiance to a sovereign state, we must think holistically and globally. In light of the omnicide that our technologies have made possible, we must elevate our moral and spiritual awareness to forge a movement global and systemic enough to meet the challenges ahead.

We are compelled to transform our world or to face Armageddon.

Armageddon is a frightening thought, but as long as these “doomsday machines” exist, to use Daniel Ellsberg’s term, it remains a possibility. The only realistic alternative to Armageddon is transformation, both of individual and collective consciousness: an “anti-nuclear revolution,” to quote activist Helen Caldicott.⁸ This requires nothing less than changing the course of history; we are compelled to transform our world or to face Armageddon.

Change ultimately begins with individuals. Movements are composed of committed individuals, some of whom step forward as leaders. The task is to awaken to the urgency of the threat and mobilize. The nuclear age and the Great Transition call upon us, before it is too late, to wake up.

WAKE UP!

The alarm is sounding.
Can you hear it?

Can you hear the bells
of Nagasaki
ringing out for peace?

Can you feel the heartbeat
of Hiroshima
pulsing out for life?

The survivors of Hiroshima
and Nagasaki
are growing older.

Their message is clear:
Never again!

Wake up!
Now, before the feathered arrow
is placed into the bow.

Now, before the string
of the bow is pulled taut,
the arrow poised for flight.

Now, before the arrow is let loose,
before it flies across oceans
and continents.

Now, before we are engulfed in flames,
while there is still time, while we still can,
Wake up!

Endnotes

1. Bruce Blair and Matthew Brown, *Nuclear Weapons Cost Study* (Washington, DC: Global Zero, 2011), https://www.globalzero.org/files/gz_nuclear_weapons_cost_study.pdf.
2. Gar Alperovitz, "The War Was Won Before Hiroshima – And the Generals Who Dropped the Bomb Knew It," *The Nation*, August 6, 2015, <https://www.thenation.com/article/why-the-us-really-bombed-hiroshima/>.
3. The US public and leaders might more easily sympathize with this concern by imagining a scenario where Russian missile defenses were deployed at the Canadian or Mexican borders.
4. President Trump's criticism of this Obama-era treaty, which clouds its prospects, should also be noted. See <https://www.reuters.com/article/us-usa-trump-putin-idUSKBN15O2A5>.
5. A program developed by Paul Chappell at the Nuclear Age Peace Foundation is making its way into school curricula. See <http://www.peaceliteracy.org>.
6. Although the lawsuit was dismissed, this type of action helps to forge a united front for a livable future.
7. Joseph Cirincione, "Lessons Lost," *Bulletin of the Atomic Scientists* (November/December 2005): 47, <https://thebulletin.org/2005/november/lessons-lost>; Kingston Reif, "CBO: Nuclear Arsenal to Cost \$1.2 Trillion," Arms Control Association, December, 2017, <https://www.armscontrol.org/act/2017-12/news/cbo-nuclear-arsenal-cost-12-trillion>. Note that this will be \$1.7 trillion when factoring in inflation.
8. Daniel Ellsberg, *The Doomsday Machine: Confessions of a Nuclear War Planner* (New York: Bloomsbury, 2017); Helen Caldicott, *Sleepwalking to Armageddon: The Threat of Nuclear Annihilation* (New York: The New Press, 2017).

About the Author



David Krieger has served as president of the Nuclear Age Peace Foundation, which he co-founded, since 1982. He has been a leader in the global movement to abolish nuclear weapons, playing a key role in international networks such as Abolition 2000, the International Network of Engineers and Scientists for Global Responsibility, and the Middle Powers Initiative. He has written scores of articles and books, including *ZERO: The Case for Nuclear Weapons Abolition* (2013).

About the Publication

Published by the [Great Transition Initiative](#).

Under our Creative Commons BY-NC-ND copyright, you may freely republish our content, without alteration, for non-commercial purposes as long as you include an explicit attribution to the Great Transition Initiative and a link to the GTI homepage.



Cite as David Krieger, "Nuclear Abolition: The Road from Armageddon to Transformation," *Great Transition Initiative* (August 2018), <http://www.greattransition.org/publication/nuclear-abolition>.

About the Great Transition Initiative

The [Great Transition Initiative](#) is an international collaboration for charting pathways to a planetary civilization rooted in solidarity, sustainability, and human well-being.

As a forum for collectively understanding and shaping the global future, GTI welcomes diverse ideas. Thus, the opinions expressed in our publications do not necessarily reflect the views of GTI or the Tellus Institute.