

Nuclear weapons and climate change

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Life on Earth faces two existential threats: the climate crisis and nuclear weapons. Both threats are closely linked and mutually reinforcing. With the world in flames, the climate crisis is, even for its fiercest deniers, impossible to ignore. However, the vast majority of people do ignore how this situation worsens the risk of nuclear war and why nuclear disarmament is more important today than ever.

By Carlos Umaña

Climate and nuclear costs

According to a report by the U.S. Environmental Protection Agency[1], detailed in the report “From Warheads to Mills”[2] in that country alone, the costs of damages caused by extreme weather events were \$400 billion in 2018, and this cost could easily reach \$3 trillion per year by 2050. The cost of air pollution from burning fossil fuels is estimated to be about \$176 billion per year, or up to \$5.2 trillion, in total, by 2050.

Investment in green technologies is scarce worldwide, especially in the countries that contaminate the most. However, considering the high direct and indirect costs of environmental damage, it is clear that their cost-effectiveness is high. However, political short-termism and its consequent demagoguery result in the inaction on the part of most politicians. In fact, many political resources and scientific talent needed for ecological innovation are currently engaged in the development of nuclear weapons and other enterprises that, far from solving urgent existential problems, rather threaten life on the planet.

Nuclear weapons, in particular, are militarily and politically obsolete and suicidal. The short-sightedness of this arms whim is very costly, since these weapons are extremely expensive to maintain: current investment in nuclear weapons is \$126 billion per year and rising.

The risk of nuclear war

The climate crisis increases the risk of nuclear war. The Bulletin of Atomic Scientists' Doomsday Clock, a symbolic clock that measures the risk of total catastrophic destruction by a nuclear war, currently marks 2 minutes to midnight, the greatest risk since 1947. This is mainly due to three factors: 1. unstable political leadership in the nuclear states, 2. increased risk of accidental nuclear detonation or cyberterrorism due to the vulnerability of the high and growing reliance on automated systems, and 3. climate change.

Climate change multiplies the potential for conflict over resources such as land, drinking water and food reserves, and increases the pressure to migrate. Political collapse, in turn, leads to extremist leaders gaining control over nuclear weapons, which poses a risk in regions where there already is political tension.

Environmental and Climate Effects of the Use of Nuclear Weapons

Now, a single nuclear detonation, especially in current times, is capable of causing significant and irreparable environmental damage.

On the one hand, there is the electromagnetic pulse (EMP) produced by any nuclear detonation. A single high-altitude EMP – which does not require a high-powered nuclear bomb – is capable of disabling electrical systems and devices in an entire continental area, be it North America or Europe, and would have massive effects on the power grid, on communications systems, on the operation of cars and ambulances – disrupting civilized life as we know it – but it would also affect, in the same way, nuclear power plants, and could provoke several dozen simultaneous nuclear meltdowns. Let us think for a moment about the damage caused by a single nuclear accident. The world is still living the damages of the 2011 nuclear accident in Fukushima, a single nuclear power plant. Let's multiply that by dozens. Far from being hypothetical, this disaster is the threat that until recently Kim Jong-Un made to the United States, knowing that the North Korean arsenal, a very small fraction of the American arsenal, is enough to alter life for the entire North American subcontinent.

On the other hand, even limited use of nuclear weapons would have catastrophic climatic consequences. In 2012, a prospective study[3] was published on what would happen after such a war between India and Pakistan, both countries being nuclear states and currently in conflict. With 100 Hiroshima sized bombs, less than 0.5% of the global arsenal, the catastrophic impact would not only be local and regional, but also global. The ozone layer would be destroyed – affecting the life that depends on it – and the climate would be altered in such a way as to reduce harvest times for the staple grains on which many populations depend, leading to a famine that would kill 2 billion people worldwide, especially in the global south. This food shortage, in turn, would generate more conflicts, which could lead to greater use of nuclear weapons. On a larger scale, a nuclear war would cause destruction of unimaginable proportions, with billions of deaths, with very high radiation pollution of huge areas, and a nuclear winter that would end up destroying our civilization and possibly our species, along with many others.

Integrated solutions

The solution to climate change must include nuclear disarmament. Nuclear weapons represent an unacceptable cost and risk and undermine the foundations of international cooperation and goodwill essential to resolving global crises.

To alleviate the climate crisis, a massive mobilization of resources is required. A large part of this capital investment could come directly from the substantial resources that will be released

once nuclear disarmament is implemented. At the same time, the scientific talent and political resources currently involved in nuclear weapons can then be redirected to seek ecological innovations.

On the other hand, the solution to both the climate crisis and nuclear weapons must necessarily involve the entire international community. It is essential to channel the efforts of humanity towards fostering a culture of peace and strengthening the multilateral regime.

While we see the collapse of bilateral agreements (such as that of intermediate nuclear forces between the US and the Russian Federation), we are fortunately also in the midst of a paradigm shift in which a country's prestige is no longer given by its military or even economic power, but rather by its capacity for dialogue, for building agreements and for generating peace. The Treaty on the Prohibition of Nuclear Weapons (TPNW), adopted at the UN in July 2017 by 122 countries, is the product of this change. Its conception required several political steps that involved the cooperation of many nations, and its negotiation was extremely constructive and participatory, involving experts from civil society in a way never before seen in a process of this type. The universalization and implementation of the TPNW will strengthen the multilateral regime and promote scientific and international diplomacy, essential elements for tackling climate change. The signing and ratification of the TPNW, therefore, must be seen as urgent actions within the framework of the climate crisis.

The time for rhetoric is over. Faced with this existential dilemma, humanity finds itself at a crossroads: we can either ensure our prosperity or we face our own destruction. More than ever, the world needs dialogue, it needs pragmatic leaders, able to make courageous decisions and to enact and implement constructive policies. It is imperative to give peace a chance.

[1] <https://www.yaleclimateconnections.org/2019/04/climate-change-could-cost-u-s-economy-billions/>

[2] <http://www.nuclearban.us/w2w/>

3] Nuclear famine – <https://www.ippnw.org/nuclear-famine.html>

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