



LE COLLECTIF

# ÉCHEC à la GUERRE

**Nuclear weapons...  
an enduring peril!**



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This pamphlet was produced by the *Collectif Échec à la guerre* to promote discussion and organizing around nuclear weapons, a critical issue for the survival of humanity. It does not cover nuclear energy or depleted uranium (DU) weapons.

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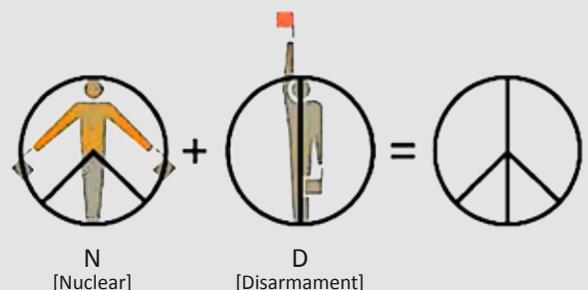
## More information:

To learn more about the nuclear threat, see the *Collectif Échec à la guerre* website for a list of articles, books and films:  
<https://echecalaguerre.org/armes-nucleaires-pour-en-savoir-plus/>

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The symbol we know as the peace sign was created in 1958 as the logo of the Campaign for Nuclear Disarmament in Britain. It is based on the superimposed semaphore signals for the letters N and D.



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## Section 1 => Introduction

**T**wo existential threats to life on Earth as we know it are generally considered to be climate change and the existence of nuclear weapons. This pamphlet tells the story of the latter and the 75-year struggle to end it.

Nuclear weapons are often discussed as posing a greater threat in the hands of countries like Iran and North Korea than in the hands of countries who have had them for years. Not so. The problem with the continuing existence of nuclear weapons is their very existence, no matter who has them. As long as any country has some, others will want some too. As long as nuclear weapons exist, one or more can be detonated at any time, either deliberately, on purpose, or accidentally through human error or technological failure, and there is a growing risk of nuclear terrorism. We all live within less than half an hour of possible nuclear catastrophe.

In August 1945, the Japanese cities of Hiroshima and Nagasaki were destroyed by atomic bombs. The second World War had become a nuclear war. At the time, only one country, the US, had nuclear weapons. Since then, nine more have produced them and thousands have been developed and maintained at a cost of hundreds of billions of dollars, together with plans to use them. Today, nuclear weapons are hundreds, even thousands, of times more powerful than the first atomic bombs.

**“On that grim day in August 1945, humanity entered into a new era, the nuclear age. It’s one that’s unlikely to last long. Either we will bring it to an end, or it’s likely to bring us to an end.”**

— Noam Chomsky  
Internationalism or Extinction

**The two  
existential threats  
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interconnected  
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Both imperil life as  
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Both require  
urgent radical  
action [...]**

The sheer destructiveness of nuclear weapons makes their global elimination an urgent imperative, and wanton disregard of their inhumane effects makes preparations to use them the ultimate human depravity. We have known this from the beginning. On January 24, 1946, less than six months after Hiroshima and Nagasaki, the very first resolution of the United Nations established a Commission mandated to “make specific proposals for the elimination from national armaments of atomic weapons.” Repeated attempts to deal with the nuclear menace have led to important changes in international law, but progress in implementing treaty obligations has been thwarted by bad faith and lack of political will.

Contrary to the peaceful image it maintains, and unbeknownst to the vast majority of its population, Canada has always been part of the problem, supplying raw materials and technology for making nuclear weapons and enabling nuclear-armed allies, especially the United States, to perpetuate their addiction to nuclear weapons, in defiance of international law.

We, the people of the planet Earth, have some critical choices to make. The two existential threats to our survival are interconnected and share several characteristics. Both imperil life as we know it. Both are consequences of human choice. Both require urgent radical action based on fundamental change in our way of thinking. This pamphlet is intended to contribute to that process.



## Section 2 =>

# HISTORICAL BACKGROUND

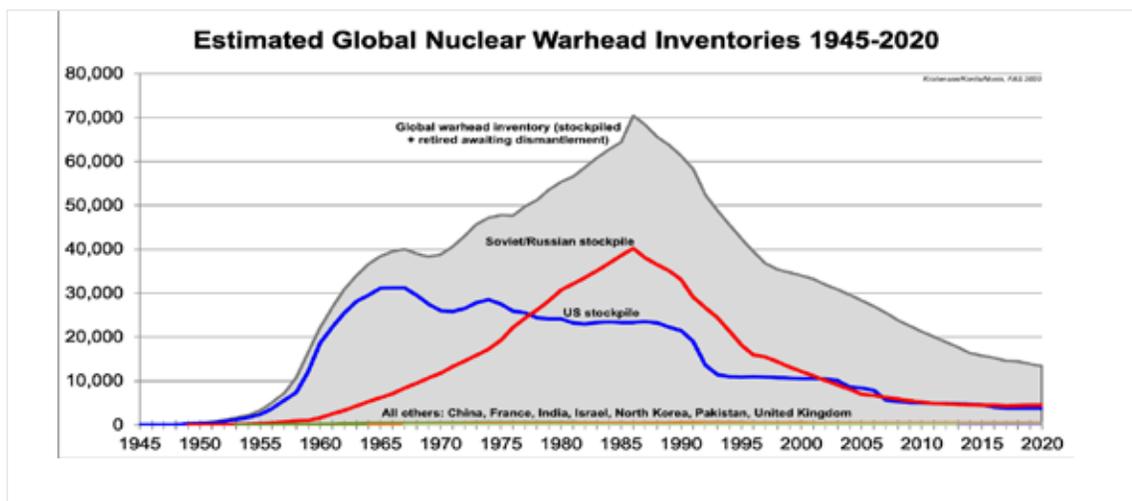
## The invention of nuclear weapons

The first nuclear weapons were developed during the Second World War. In 1939, the United States began a secret effort to make an atomic bomb before Germany did. In 1942, the army took over what would henceforth be called the Manhattan Project. On July 16, 1945, the US conducted the Trinity test in New Mexico and detonated the first atomic bomb, with a yield of 21,000 tons of TNT (21kt). Three weeks later, on August 6 and 9, 1945, two atomic bombs with yields of 15 and 22 kilotons of TNT respectively were dropped on Hiroshima and Nagasaki. Out of Hiroshima's population of approximately 350,000, 70,000 died instantly and another 70,000 died over the following months. In Nagasaki, out of a population of about 250,000, 35,000 died instantly and another 45,000 in the following months.

## Proliferation

Over the ensuing decades, the United States, which had a clear lead at first, and the USSR/Russia produced tens of thousands of nuclear devices. Other countries developed and tested their own nuclear weapons: the UK in the 1950s; France and China in the 1960s; India in 1974; Pakistan in 1998; North Korea in 2006. In 1986, Israeli nuclear technician Mordechai Vanunu revealed the existence of nuclear weapons in his country. South Africa built six atomic bombs between 1982 and 1989 before scrapping its nuclear weapons program.

The following chart shows the number of nuclear warheads stockpiled by the United States (in blue) and the USSR/Russia (in red) between 1945 and 2020. The warheads of the other seven nuclear states combined are barely discernible at the very bottom. The gray area shows the total number of nuclear warheads in the world.



**“Perhaps the greatest immediate danger which faces us is the probability that our ‘demonstration’ of atomic bombs will precipitate a race in the production of these devices between the United State and Russia.”**

– Leó Szilárd

Manhattan Project scientist, 1945  
(before the Trinity test)

Source : Kristensen et Korda, Federation of American Scientists, 2020.

<https://fas.org/issues/nuclear-weapons/status-world-nuclear-forces/>

## TERMINOLOGY

### Strategic nuclear weapons

Very powerful, long-range bombs delivered by submarines, bombers or intercontinental missiles housed in protected silos. They target entire “enemy” countries: urban centres, industries, state facilities, strategic nuclear weapons. In short, these are weapons of genocide and crimes against humanity.

### Tactical nuclear weapons

Less powerful weapons intended for use against military targets: military headquarters, troops, military bases, ships, warplanes, etc. There are no treaties limiting tactical nuclear weapons.



### A few observations are in order:

- While the Nuclear Non-Proliferation Treaty (NPT, 1970) did limit the spread of the atomic bomb beyond the five then-existing nuclear powers, it clearly did not prevent the growth of nuclear stockpiles in some countries, particularly the USSR, or lead to any significant reduction in the US arsenal.
- Between the peak in 1986 and 2020, the total number of nuclear warheads decreased by 80%, partly because of the anti-nuclear movement but also because of the absurdity of the 1986 levels. It serves no purpose to be able to wipe out humanity 15 or 20 times over; humanity can disappear only once.
- So the decrease in nuclear stockpiles has NOT reduced the risk to humanity; the arsenals of the seven countries that are barely visible on the chart are more than enough to wipe out the population of the world.

### Victims of nuclear testing

More than 2,000 nuclear tests were conducted between 1945 and 1992, spreading radioactive isotopes around the world. In 1999, it was estimated that the total number of cancer deaths caused by these tests could be as high as two million.

The US conducted a series of tests in the Marshall Islands during the 1950s and 1960s, displacing local populations, contaminating their food and land, and endangering their health (causing acute radiation syndrome, thyroid problems, cancers, miscarriages, infertility, etc.). Hundreds of birth defects of varying degrees of severity were also reported, including “jellyfish babies” that look more like a bunch of grapes than a human being.

The most powerful bomb ever tested by the US – 1,000 times greater than Hiroshima – was detonated on Bikini Atoll on March 1, 1954. The fallout contaminated the population of 15 islands and atolls in the Marshall Islands, as well as 20,000 crew members aboard 850 Japanese fishing boats. Years later, Henry Kissinger said of the Marshall Islands, “There are only 90,000 people out there. Who gives a damn?”

### Nuclear weapons and international law

Beginning in the early 1960s, several treaties were signed banning the testing or deployment of nuclear weapons:

- in Antarctica (1961)
- in the atmosphere, outer space and underwater (1963)
- in outer space, including the moon and other celestial bodies (1967)
- on the sea-bed and ocean floor (1972)

Then the following centerpieces were put in place:



### (1970) Treaty on the Non-Proliferation of Nuclear Weapons (NPT)

The five “nuclear-weapon States” of the time agreed not to spread nuclear weapons in any way, and the “non-nuclear-weapon States” not to manufacture or acquire them. Article VI is of special importance:

“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.”  
(emphasis added)

The NPT was extended indefinitely in 1995. To date, it has been ratified by 190 countries. However, four of the nine nuclear states (Israel, India, Pakistan and North Korea) are not parties to the treaty.



### (2021) Treaty on the Prohibition of Nuclear Weapons (TPNW)

The TPNW, which came into force on January 22, 2021, declares nuclear weapons illegal. The non-nuclear states undertake never to produce or acquire them, and the nuclear states to remove them from operational status and destroy them “not later than a deadline to be determined by the first meeting of States Parties,” which must be convened within one year. No nuclear power and no NATO member has signed, let alone ratified, the treaty.

Other treaties have been drawn up and discussed but have never entered into force. For example, the Comprehensive Nuclear Test Ban Treaty (CTBT) was adopted in 1996 and has been ratified by 168 countries but is not in force because it has not been ratified by 8 of the 44 states whose ratification is required (the US, China, Israel, India, Pakistan, North Korea, Egypt, Iran).

Countries in five parts of the world have also entered into regional treaties establishing nuclear-weapon-free zones (NWFZs) in Latin America and the Caribbean (1968), the South Pacific (1986), Southeast Asia (1997), Africa (2009) and Central Asia (2009). Mongolia has also been a NWFZ since 1992.



The US and the USSR/Russia have signed a number of important bilateral treaties:

**“Is there anything in the sovereignty of a State which would entitle it to embark on a course of action which could effectively wipe out the existence of all States by ending civilization and annihilating mankind?”**

— Mohamed Shahabuddeen,  
ICJ judge, 1996



### **(1972) Anti-Ballistic Missile (ABM) Treaty**

The two countries each agreed to deploy only one anti-ballistic-missile system. The United States withdrew from the treaty in June 2002.



### **(1988) Intermediate-Range Nuclear Forces Treaty**

The US and the USSR agreed to eliminate their short- and intermediate-range missiles (with a range of 500 to 5,500 km). The two countries withdrew from the treaty in August 2019, accusing each other of violating its terms.



### **Strategic Arms Limitation Talks and Strategic Arms Reduction Treaties**

In the 1970s, the Strategic Arms Limitation Talks (SALT I and II) curbed the growth of strategic nuclear arsenals. Then the Strategic Arms Reduction Treaty (START I, 1994), the Strategic Offensive Reduction Treaty (SORT, 2003) and the New START (2011) cut strategic nuclear arsenals (currently to 700 delivery systems and 1,550 deployed warheads). The New START was due to expire in 2021 but has been extended to 2026.

The International Court of Justice (ICJ) has issued two opinions and two decisions. The following opinion is the most significant:



### **(1996) Legality of the Threat or Use of Nuclear Weapons**

In response to a request from the WHO World Health Assembly and the UN General Assembly, the Court found that “the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law,” but said it could not make a definite determination “in an extreme circumstance of self-defence, in which the very survival of a State would be at stake”.



# Movement against nuclear weapons

The campaign to abolish nuclear weapons is a broad movement that includes organizations regrouping scientists, professionals and intellectuals, coalitions of local and international NGOs, street demonstrations, coalitions of countries that have established nuclear-weapon-free zones (NWFZs) and launched various initiatives, groups of parliamentarians, of mayors and so forth. Understandably, it has always been particularly prominent in Japan.

Opposition to nuclear weapons emerged in the scientific community at an early date. The *Bulletin of the Atomic Scientists* was created in 1945 and remains active to this day. It keeps the Doomsday Clock, which shows the immediacy of the threat to humanity. The *Pugwash Conferences on Science and World Affairs* began in 1957 and the Pugwash movement still has groups in some 40 countries.

There have been grassroots movements against nuclear weapons the world over – some of them massive in scale. For example:

- In 1954, after the US thermonuclear test on Bikini Atoll, there were major demonstrations in Japan protesting the radioactive contamination of fishing boat crews. A petition demanding a halt to the tests was signed by 32 million people, a third of the country's population!
- In the 1980s, there were mass protests against nuclear weapons in Western Europe and North America. Half a million people demonstrated in Italy in October 1981, a million in New York in June 1982, three million across Western Europe in October 1983.



Québec contingent at the million-person demonstration against nuclear arms before the United Nations building in New York, 1982.  
Photo : Martine Eloy

## In Canada and Québec

For decades, peace groups, religious, environmental, feminist and student organizations, labour unions, professional associations and Indigenous communities across Canada have opposed the federal government's nuclear weapons policies.

During the 1980s, tens of thousands of people demonstrated for nuclear disarmament in major Canadian cities, including 100,000 in Vancouver in the spring of 1986. In addition to this general demand, there were more specific campaigns for an end to US cruise missile testing in northern Alberta and to NATO's low-level training flights over Nitassinan, the land of the Innu nation in Québec/Labrador.

In many towns, residents have organized to demand that their city be declared a "nuclear-weapon-free zone" (NWFZ). Nearly 200 cities in Canada, including some 40 in Québec, have been declared NWFZs, among them Vancouver, Regina, Toronto, Montréal and Sherbrooke..

In the early 1990s, three international NGOs launched the *World Court Project*, which led to the 1996 opinion from the International Court of Justice. Millions of people – a significant proportion of them in Japan – sent the ICJ statements expressing their belief that nuclear weapons are immoral.

At the 1995 NPT Review Conference, countries from the Global South and the anti-nuclear movement expressed concern that indefinite extension of the treaty would mean an equally indefinite delay in disarmament talks. International NGO networks and groups of states called on the nuclear powers to commit to a timetable for eliminating their nuclear arsenals.

There followed wide-ranging efforts to press for that commitment, including:

- *Abolition 2000*: a global network that urged the elimination of nuclear weapons by the year 2000;
- A three-phase program for effective disarmament by 2020: proposed by 28 non-aligned countries in 1996;
- The *Middle Powers Initiative*: an effort launched by international NGOs in March 1998 to bring the influence of middle powers to bear on the nuclear states;
- *A Nuclear-Weapons-Free World: The Need for a New Agenda*: a joint statement by the foreign ministers of eight countries (Brazil, Egypt, Ireland, Mexico, New Zealand, Slovenia, South Africa and Sweden) issued in June 1998.

This pressure seemed to be having some effect. At the NPT Review Conference in 2000, a consensus was reached on a 13-step plan. The nuclear states agreed that nuclear disarmament could be achieved without general disarmament and approved 13 practical steps for eliminating nuclear weapons quickly, verifiably and irreversibly.

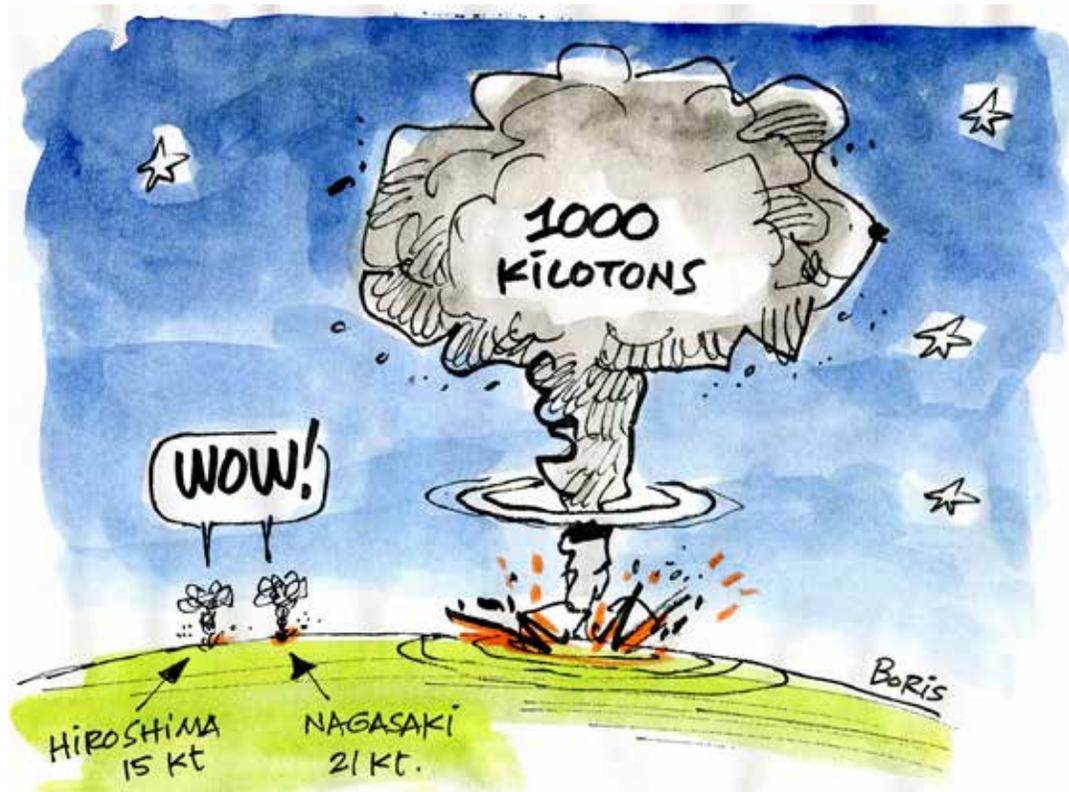
But the US Nuclear Posture Review in 2002, a few months after 9/11, unequivocally rejected most of the 13 steps and the goal of nuclear disarmament altogether. As no significant progress was made at the NPT Review Conferences in 2005 and 2010, an international alliance of governments, NGOs, UN agencies and other organizations was formed in 2010 to press for a treaty banning nuclear weapons. This effort led to the adoption of the Treaty on the Prohibition of Nuclear Weapons in 2017 and its entry into force in January 2021.



# Section 3 => THE LIVING WILL ENVY THE DEAD

## Hiroshima

**O**n August 6, 1945, a Japanese Canadian, Setsuko Thurlow, was a teenager living in Hiroshima. At 8:15 AM, she saw a flash of light from a second-storey window almost 2 km away. She remembers floating in the air before she lost consciousness, as the building she was in collapsed. The first atomic bomb to be used in warfare had just exploded over the city, resulting in its near-total destruction. Fire spread rapidly, burning everything within 2 km of the epicentre. Setsuko describes burned, blackened and swollen survivors as phantoms, begging for water, their skin and flesh hanging, and parts of their bodies missing. Most of the doctors and nurses in Hiroshima had been killed or severely wounded, and the hospitals heavily damaged or destroyed, so no medical response was possible.



## Impacts of a one-megaton bomb

The detonation of a single one-megaton nuclear bomb in the air over a city would release vast amounts of thermal, kinetic, and radioactive energy, obliterating the immediate vicinity, and laying waste to the surrounding natural and built environments. We describe here the principal effects on humans, but both plant and other animal populations would also be gravely affected.

## Thermal energy

A flash of light a thousand times more intense than lightning and a powerful pulse of 3,000 °C heat at the epicentre would incinerate all life at ground zero, and instantly burn the retina of people looking in that direction up to 80 km away, causing temporary or permanent blindness. Within 10 km, burns on unprotected skin and deep into flesh would be severe or fatal, and inflamed clothing would cause many other burns. Multiple fires would coalesce into a “firestorm” big enough to create its own gale force wind.

## Kinetic energy

The explosion would instantly generate an enormous blast wave travelling less rapidly than the light and heat. This blast would destroy reinforced concrete buildings within a radius of 2 km, and wood or brick houses out to 8 km. Within 3 km, almost everyone would be killed, either directly by the blast, by collapsing structures, or by flying shards of glass and splinters of concrete and masonry.

## Radioactive energy

A nuclear explosion gives off a great pulse of radioactive energy, contaminating a wide area, and causing acute, often fatal, radiation sickness in everyone exposed to it. In addition, much of the original fissile material in the bomb is not destroyed by its explosion. This material, together with the radioactive by-products of the explosion are scattered by it. These vaporized radioactive particles would rise with the fireball, coming down slowly over a much wider area, sometimes as radioactive rain. Unseen and unfelt, radiation often damage cells and genes irreparably, causing cancers, genetic aberrations, and reduced reproductive capacities. Widespread radioactive contamination perpetuates these risks for decades.

## What only a few bombs can do

Each of the 14 US submarines carrying nuclear weapons could destroy all 80 of Russia's principal urban areas, causing the death of one third of the country's population.

Even a geographically limited nuclear war would result in immense human suffering and death, and inflict devastating environmental damage worldwide. A 2019 simulation of a war between India and Pakistan in 2025 suggests that 50 to 100 million people in the two countries would die immediately, with 30 to 60 million more casualties. Several million tons of black smoke from urban firestorms would rise into the stratosphere, and spread rapidly around the entire planet, remaining for at least a decade, blocking sunlight. Average global land temperature would drop by 4 to 8 °C, and average global precipitation by 15 to 30%. It would take more than 10 years to return to "normal". These effects would be even stronger in North America and Europe, severely reducing agricultural outputs. The resulting "nuclear famine" could kill a billion people.

## An all-out war between the US and Russia

An all-out nuclear war between the US and Russia would render the earth uninhabitable. There would be extreme drops in temperature and precipitation, drastic increases in UV light, massive radioactive fallout and huge releases of toxins and industrial chemicals. In the largest agricultural regions of the northern hemisphere, minimum daily temperatures would drop below freezing, eliminating growing seasons for 10 to 15 years and leading to mass extinction in most human and large animal populations. First recognized in 1983, this phenomenon is known as "nuclear winter".



**Each of the 14 US submarines carrying nuclear weapons could destroy all 80 of Russia's principal urban areas, causing the death of one third of the country's population.**



## Sooner or later luck runs out

The Cuban Missile Crisis, a confrontation between the US and the USSR, is generally considered to be the closest we have come to nuclear war. In October 1962, in response to the failed “Bay of Pigs” invasion of Cuba 18 months earlier, and the presence of US ballistic missiles in Italy and Turkey, the USSR agreed to Cuba’s request for Soviet troops and missiles to be stationed on the island. This prompted a US naval blockade and put its Air Force on high alert. When an American spy plane was downed over Cuba by a Soviet missile, the US issued a 48-hour ultimatum to the USSR: dismantle your missiles or our air force will attack. The crisis ended with the order to dismantle the Soviet missiles and US commitment not to invade Cuba again. This was unnerving at the time, but we now know how much more dangerous it had actually been. The USSR had secretly deployed tactical nuclear warheads in Cuba and on four submarines around the island. One of these came close to using its warhead when it thought it was being attacked by a US destroyer. Three commanders on the sub had to agree: two did, but not the third.

In November 1983, a nuclear war nearly erupted between the US and the USSR during the Able Archer NATO military training exercise, which included procedures related to the use of nuclear weapons. The world was saved by a mid-level decision maker in Russia who, when faced with what appeared to be an imminent nuclear attack by NATO against the USSR, chose to be guided by his instinct, and reported it to his superiors as a false alarm, before he knew for certain that it was.

There have been numerous accidents involving nuclear weapons, including the irretrievable loss of several bombs. For example, in 1956, during a training exercise in England, a bomber crashed into a nuclear weapons storage facility. Miraculously, none of the stored bombs exploded. Close calls have also occurred when natural phenomena or military activities were misinterpreted as threats. Several false alarms at NORAD have been caused by faulty computer chips.

**In November 1983, a nuclear war nearly erupted between the US and the USSR during the Able Archer NATO military training exercise[...]. The world was saved by a mid-level decision maker in Russia...**



# Section 4 => RISING RISKS AND SINKING SAFEGUARDS

In 2020, the combined arsenals of nine countries (the US, Russia, the UK, France, China, India, Israel, Pakistan and North Korea) held a total of some 13,400 nuclear weapons. Of the 3,720 deployed with operational forces, 1,800 were kept on high alert status, ready to be launched on warning within minutes, despite fallible warning systems.

World nuclear forces, January 2020

Country	Year of first nuclear test	Deployed warheads	Stored warheads	Other warheads <sup>i</sup>	Total inventory
United States	1945	1750	2050	2000	5800
Russia	1949	1570	2745	2060	6375
United Kingdom	1952	120	95	–	215
France	1960	280	10	–	290
China	1964	– <sup>ii</sup>	320	–	320
India	1974	–	150	–	150
Pakistan	1998	–	160	–	160
Israel	–	–	90	–	90
North Korea	2006	–	–	[30 – 40]	[30 – 40] <sup>iii</sup>
<b>Total</b>		<b>3720</b>	<b>5620</b>	<b>4060</b>	<b>13400</b>

i “Other warheads” are retired warheads waiting to be dismantled.

ii According to the Bulletin of the Atomic Scientists report of January 2021, China is now deploying warheads on some of its missiles.

iii There is no publicly available evidence of the extent of North Korea’s nuclear-weapon capabilities.

Stockholm International Peace Research Institute (SIPRI) Yearbook 2020. Table 10.1

Four major factors presently intensify the risk posed by the existence of nuclear weapons. Briefly examined, these are:

## The undermining and erosion of international arms control agreements

The 1972 Anti-Ballistic Missile (ABM) Treaty between the US and the USSR/Russia held for 30 years until the US withdrew in 2002. Since then, the US has deployed ABM systems in Alaska, California, Guam, South Korea, Japan, Poland and Romania, as well as on destroyers in the Atlantic, Pacific and Mediterranean. Russia and China feel threatened by these provocative deployments.

In 2019, the US, and then Russia, withdrew from the bilateral 1987 Intermediate-Range Nuclear Forces (INF) Treaty. Since its demise, both countries have begun a new competition to develop and deploy weapons previously banned by the INF Treaty.

In November 2020, the US unilaterally abandoned the confidence-building multilateral 2002 Open Skies Treaty, an international agreement allowing unarmed observation overflights to monitor military forces and activity. In January 2021, Russia served notice that it would follow suit unless the new US administration indicated its intention to reinstate the Treaty by the end of summer.

## **The “modernization” of nuclear arsenals makes them increasingly lethal**

The so-called modernization programmes of the nine nuclear-armed countries include the development of weapon delivery systems capable of carrying either nuclear or conventional warheads. Mistaking a conventionally armed missile for a nuclear-armed one could lead to inadvertent nuclear conflict.

The US continues to implement its Nuclear Posture Reviews (NPR) of 2010, under Obama, and 2018, under Trump, introducing several new nuclear weapons, as well as new cruise and ballistic missiles, and increasing production of plutonium cores for nuclear weapons, at an estimated cost of 1,200 billion dollars over 30 years. The NPR also reaffirms the option of using nuclear weapons first, even against non-nuclear-armed countries.

## **Increasingly confrontational US defence policy**

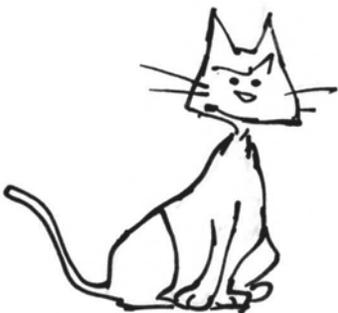
The expansion of NATO into Eastern Europe, following the dissolution of the Soviet Union in 1991 increased tensions between Russia and the West.

In 2018, the new US National Defense Strategy (NDS) downgraded the war on terror in favour of a new priority: long-term strategic competition with China, Russia, North Korea and Iran. The NDS asserts that “should deterrence fail, the [US] Joint Force is prepared to win”. A far cry from the Reagan-Gorbachev November 1985 warning that “a nuclear war cannot be won and must never be fought”. Considering the hair-trigger alert status of some nuclear weapons and the number of past close calls due to misinterpretation of the other side’s actions or intentions, the orientation to “Be strategically predictable, but operationally unpredictable” is very disquieting.

In 2019, in the largest US military exercise since the Cold War, ships and long-range bombers rehearsed an Air-Sea Battle Concept, blocking sea lanes to cut off China’s access to raw materials from the Middle East and Africa. The US maintains more than 400 military bases almost encircling China with missiles, bombers, warships and nuclear missiles.

China is now considering putting its missiles on high alert, ready to launch on warning of an attack.

**The US maintains more than 400 military bases almost encircling China with missiles, bombers, warships, and nuclear missiles. China is now considering putting its missiles on high alert, ready to launch on warning of an attack.**



## The impending weaponization of space

In December 2019, the US created a “Space Force”, as a sixth branch of its armed forces, breaking more and more with the vision of keeping outer space as a military no-go zone, under international law.

The US, Russia and China are each developing missile systems that can travel up to 27 times the speed of sound, making them difficult to track. These include hypersonic glide vehicles and hypersonic cruise missiles with shorter and intermediate ranges for use in regional conflicts. Those of Russia and China are designed to be armed with nuclear warheads. This hypersonic arms race and the potential development of space-based missile defences heightens the probability of accidental nuclear war.

## Alignment with the US of its closest allies

The new strategic orientation of the US is gradually being reflected in that of its closest allies. Thus, in November 2020, NATO’s Reflection Group, nominated by the Secretary General, recommended that NATO update its 2010 Strategic Concept by focusing on the danger posed by Russia and China, rather than the threat of terrorism. Then, in March 2021, the UK’s Integrated Review of Security, Defense, Development and Foreign Policy also adopted this orientation and even anticipated a 45 % increase in its stockpile of nuclear warheads, ending 30 years of progressive reductions.

In Canada, official rhetoric is already anti-Russia and anti-China. We can probably anticipate a similar shift in the wording of the next defence policy.



# Section 5 => WHAT SHOULD WE MAKE OF ALL THIS?

## Danger and denial

**B**y 1961, the US plan in the event of a direct war with the USSR – even a limited one – was to immediately launch an all-out nuclear attack. It was estimated the death toll could reach 600 million. We now know that this number was far too low and that we have had many close brushes with disaster, which we often didn't realize until years later.

But none of this gives the nuclear powers pause when the time comes to reconsider their “nuclear posture.” They decide to modernize their arsenals, expand their options, develop new weapons – all without the knowledge of the public, for even though these are existential questions, they are never really addressed by either legislatures or mainstream media.

## Variations on the theme of destroying humanity

The doctrine of nuclear deterrence boils down to this: no country is likely to attack the “vital interests” of a country that possesses nuclear weapons, for it would bring utter destruction upon itself. Two countries that both have nuclear weapons will dare not attack each other, at least not directly, because the result would be “mutually assured destruction.”

According to the United States' Nuclear Posture Review of 2018,

*“The number one priority of the Department of Defense is that we maintain a safe, secure and effective nuclear deterrent so we make certain those weapons are never used.”*

– Secretary of Defense James Mattis, August 2017

In this case, why shouldn't all countries have nuclear weapons, to make certain they are never used? Taking the doctrine to its absurd conclusion illustrates its lack of logic: the more we make certain that nuclear weapons are never used by building nuclear stockpiles, the more likely it is that they will be. How can we be reassured by weapons that entail the risk of total annihilation? If they really do keep people safe, why aren't all the countries in the world allowed to possess these comforting weapons?

As total nuclear war would have apocalyptic consequences, strategists vainly sought alternatives, such as bombs with smaller yields that could be used in a “limited nuclear war.” However, the deployment of “mini-nukes” can only increase the risk of a first

Proponents of nuclear deterrence claim it safeguards us from attack, but how can weapons capable of annihilating the human race make us safe?



nuclear strike, which is likely to trigger a rapid escalation to total war. If one side decides to launch a few mini-nukes, the other side will quickly retaliate with larger bombs – unless it decides to take no chances and unleash the full power of its arsenal immediately.

Another solution they came up with was the deployment of anti-missile systems to provide a defence against nuclear weapons. This however offers no real security. For one thing, anti-missile defences are not 100% effective. For another, their deployment inevitably leads to an escalation of the arms race as other countries build up their arsenals to guarantee they will be able to overwhelm all defences. And there is nothing to prevent these “defensive” systems from being used for a first strike , creating a climate of extreme insecurity for countries within their range.

## The nuclear weapons monopoly and nuclear intimidation

Given the extreme danger, why are the nuclear powers, led by the US, so intent on holding on to their nuclear weapons – and constantly refining them? Like the conventional arms race, the nuclear arms race affords the leaders an undeniable advantage: the ability to dictate the course of international or regional events to suit their interests. They can do it by going to war, but more often they do it through intimidation, by brandishing the threat of war, as the whistleblower Daniel Ellsberg pointed out:

*Contrary to the cliché that “no nuclear weapons have been used since Hiroshima and Nagasaki”, U.S. presidents have used our nuclear weapons dozens of times in “crises”, mostly in secret from the American public (though not from adversaries). They have used them in the precise way that a gun is used when it is pointed at someone in a confrontation, whether or not the trigger is pulled. To get one’s way without pulling the trigger is a major purpose for owning the gun.*



**The unleashed power of the atom has changed everything save our modes of thinking and we thus drift toward unparalleled catastrophe.**

– Albert Einstein, 1946

Because possessing nuclear weapons is the ultimate “continuation of politics by other means,” the members of the nuclear club have no intention of relinquishing them, or of letting other states acquire them.

Ostensibly to reinforce the credibility of their nuclear deterrent against any potential aggressor, the US and NATO have long proclaimed their willingness to make first use of nuclear weapons, even against non-nuclear states. The US cites the same rationale for being “operationally unpredictable.” But the true purpose of these policies is to reinforce the credibility of the nuclear intimidation practiced by the US.

## **Nuclear intimidation: The Israeli case**

Israel’s nuclear monopoly in the Middle East has been a decisive factor in its ability to maintain its illegal occupation of Palestinian territories since 1967 and to attack its neighbours with impunity, confident that no country can contemplate serious military retaliation. One need only think of the Israeli air strike against an Iraqi nuclear reactor in 1981, the invasions of Lebanon in 1982 and 2006, the bombing of Gaza in 2008-2009, 2012 and 2014, and the hundreds of air strikes in Syria since 2011. For years, Israel has also repeatedly urged the US to bomb Iran’s nuclear facilities or hinted it might do so itself.

For decades, the establishment of a nuclear-weapon-free zone (NWFZ) in the Middle East has been a priority demand for proponents of peace in the region.



## The only solution: Complete elimination of nuclear weapons

The nuclear states stubbornly ignore the key issue: the stockpiling of nuclear weapons means the risk of nuclear war, which would spell the end of humanity. There is no defence against a nuclear war and no place of safety in such a war. Wherever we live on the face of the earth, the threat hangs over us. Even a “limited” conflict at the other end of the world would be devastating for the entire planet. All nuclear weapons are a threat to us, wherever they are located.

So there is only one solution: the complete elimination of nuclear weapons, in keeping with the spirit of the Treaty on the Non-Proliferation of Nuclear Weapons.

This is a widely held view around the world. It is embraced by the 122 countries that signed the Treaty on the Prohibition of Nuclear Weapons (TPNW) on July 7, 2017 and also by the citizens of the other nations of the world – including the NATO member states, none of which signed the treaty. Polls conducted in six NATO countries in November 2020 found strong support for ratification: 89% in Spain, 87% in Italy, 86% in Iceland, 78% in the Netherlands, 78% in Denmark, 77% in Belgium. In a Canadian poll published in April 2021, 74% of respondents said they would support ratification of the TPNW even against US pressure. In September 2020, 56 former prime ministers, defence ministers and foreign ministers of 22 countries (20 NATO members plus Japan and South Korea) called for ratification of the treaty. Many senior retired military officials have done likewise; in 1996, 61 former generals and admirals from 17 countries, including 18 from Russia and 17 from the US, issued a joint statement supporting nuclear disarmament.

Complete elimination of nuclear weapons would make it possible to reallocate a portion of the enormous resources currently devoted to producing and maintaining these weapons – an estimated US\$72.9 billions in 2019 alone – to climate action and meeting basic human needs, such as food, housing, health and education.



# CANADA'S ROLE

**C**anada has supported preparations for nuclear war ever since it was one of the three countries involved in developing the first atomic bombs.

**Successive federal governments have permitted Canadian companies to manufacture and export components for nuclear weapons and their delivery systems.**

## **Canada and the Manhattan Project**

In 1940, British scientists learned that uranium can be “enriched” to become a powerful nuclear explosive. The following year, the UK and the US started buying Canadian uranium from Eldorado Mining and Refining Limited. This cooperation was formalized in August 1943, when the US and the UK signed the Quebec Agreement to jointly develop the atom bomb, with Canada’s help. Eldorado was converted into a Crown Corporation to guarantee the supply of uranium mined in the Northwest Territories and refined at Port Hope, ON, along with even greater quantities of ore from the Belgian Congo, thus providing almost all the uranium needed by the Manhattan project. Meanwhile, the National Research Council of Canada hosted an international team of scientists in a secret lab at *Université de Montréal*, who designed a powerful nuclear research reactor to produce plutonium, the fissionable material in the Nagasaki bomb. In April 1944, the US authorized the construction of that reactor at Chalk River, ON, to demonstrate that reactors using heavy water are well suited for plutonium production. The Consolidated Mining and Smelting Company (now Cominco) in British Columbia produced and supplied heavy water to the US for the Manhattan Project and continued to do so until 1956.

## **Export of canadian raw materials and technology for nuclear weapons**

For two decades, from 1945 to 1965, Canada fueled the nuclear arms race by selling the US and the UK enough uranium for 15,000 nuclear bombs.

Successive federal governments have permitted Canadian companies to manufacture and export components for nuclear weapons and their delivery systems.

Canadian nuclear technology played a significant role in India’s development of nuclear weapons. In 1956, Canada gave India a heavy-water nuclear reactor, which India later used to produce the plutonium for the atomic bomb it tested in 1974. Furthermore, the French scientists, who worked on a reactor to produce plutonium for Israel’s nuclear weapons, drew on their experience as members of the secret research team in Montreal.

# Canada's support for nuclear war preparations

Canada has authorized its land, sea and air space, as well as its personnel, to be used to prepare for nuclear war, notably by:

- the participation of 700 Canadian soldiers in some thirty nuclear arms tests in the US and the South Pacific from 1946 to 1953;
- the deployment of US nuclear weapons on their military bases in the Canadian Arctic and Newfoundland from 1950 to 1971;
- the deployment of Canadian weapons systems, equipped with US nuclear warheads, on Canadian military bases in Canada and Western Germany from 1963 to 1984;
- permitting visits to Canadian ports and waterways of potentially nuclear-armed US warships and submarines;
- providing an underwater torpedo testing range for US submarines at Nanoose Bay, BC;
- maintaining communication sites for nuclear forces;
- the testing in the Northwest Territories and Alberta of air-launched cruise missiles capable of carrying nuclear warheads;
- the use of long air corridors in the Northwest Territories, British Columbia, Alberta and Ontario to train US strategic bomber crews, and of a vast area of the Quebec/Labrador Peninsula as low-level flight ranges for training NATO pilots.





**Notice the gap between Canada's rhetorical support for the global elimination of nuclear weapons, on one hand, and, on the other, its lack of action on nuclear disarmament and refusal to sign the Treaty on the Prohibition of Nuclear Weapons.**

## **Hypocrisy and double standards in Canadian nuclear weapons policy**

Canada's three closest allies, the US, the UK and France, all have nuclear arsenals, making them the most militarily powerful countries in the West. Canadian politicians and bureaucrats have long chosen to enable their nuclear-armed allies, especially the US, to maintain their addiction to nuclear weapons. The propensity for Canada's nuclear-weapons policy to be determined by that of the US is clear within NATO – where Canada is a member of the Nuclear Planning Group – and even at the UN.

A rare exception occurred in 1998, when Canada and Germany led a mini revolt of 12 non-nuclear-armed allies who abstained, and thus refused to vote against a UN nuclear disarmament resolution that the US, the UK and France wanted to defeat. The contradictions and double standards of Canadian policy are evident in the hypocritical gap between Canada's rhetorical support for the global elimination of nuclear weapons, on one hand, and its lack of action on nuclear disarmament and outright opposition to concrete steps towards that goal, on the other. For example, Canada has:

- withdrawn its sponsorship of a 2005 UN resolution to establish General Assembly working groups on nuclear non-proliferation and disarmament;
- voted against the 2016 UN resolution establishing the process that led to the 2021 Treaty on the Prohibition of Nuclear Weapons, boycotted that process from 2017 to 2020, and refused to sign the Treaty;
- voted against annual UN resolutions calling on Israel to renounce nuclear weapons and sign the NPT, and against resolutions to initiate a concrete process establishing a nuclear-weapon-free zone in the Middle East, despite Canada's formal support for this goal;
- criticized and voted for sanctions against Iran's nuclear programme while remaining silent about Israel's nuclear arsenal.

Several Canadian financial institutions invest in the production of nuclear weapons. In 2019, eight of these institutions each invested more than \$500 million (US) in some of the 18 largest corporations of the nuclear weapons industry, for a combined total of \$23.7 billion. These include the *Caisse de dépôt et placement du Québec*, who, as the principal shareholder in CAE, is thereby participating in the US programme to replace its Minuteman III intercontinental ballistic missiles.

# Section 7 => WHAT IS TO BE DONE ?



## Organize at the grassroots level

The leaders of the nuclear powers will not be convinced to dismantle their arsenals by more sophisticated analyses, stronger arguments, or yet more legal opinions or treaties . Only grassroots pressure can force them to agree to full nuclear disarmament.

Our strategy should be modelled on the example of the movement that has sprung up to address the climate emergency, which is targeting the world's largest emitters of greenhouse gases, while also demanding significant reductions in all the major emitting countries. In the case of the nuclear threat, this would mean:

1. Everywhere in the world: target the American and Russian nuclear arsenals
2. In every nuclear country: demand its nuclear disarmament
3. In every non-nuclear NATO member, including Canada: denounce its pro-nuclear stance and demand ratification of the Treaty on the Prohibition of Nuclear Weapons.



**We surely cannot expect systems of organized power, state, or private systems to take appropriate actions to address these crises – not unless they are compelled to do so by constant, dedicated, popular mobilization and activism.**

— Noam Chomsky  
Internationalism or Extinction

## **Turn the spotlight on the West**

In North America, these goals are not straightforward, due in large part to the rising tide of anti-Russian and anti-Chinese propaganda. We are being told that Russia and China are intent on dominating the “free world.” This narrative reflects the new military strategy of the United States, and hence of NATO. Its purpose is to justify astronomical military spending and to mask the Western powers’ strategy of encirclement.

We need to expose this strategy and denounce the actions that are exacerbating the risk of direct nuclear confrontation. The point isn’t to portray Russia and China as good actors but rather to lay bare what has always lain concealed under Western discourse about democracy, individual rights, terrorism and “competition” between the great powers: a long history of appropriating resources, crushing local resistance, diktats, interference, bullying and wars that continue to this day (in Afghanistan, Iraq, Libya, Syria, Yemen, Iran, Venezuela, Bolivia and elsewhere).

We cannot be content with calling for peaceful “conflict resolution,” for this way of framing the issue obscures a history of colonialism, imperialism and racism. The West has not been the sole perpetrator of these wrongs but for centuries it has been their main agent.

## **Link strategically with the climate justice movement**

An international grassroots protest movement has sprung up to demand action on the climate emergency. It shows no signs of letting up until its call for change is answered. A movement of this type is needed to achieve nuclear disarmament, just as it is needed to challenge the system of overproduction and overconsumption that is exhausting the earth’s resources, polluting land, sea and air, and causing a new mass extinction.

As all these issues are interrelated and pose equally urgent challenges for humanity, we don’t have time to build parallel global citizens’ movements. We believe the antinuclear movement must form strategic ties to the climate movement and urge it to incorporate the nuclear emergency into its fight for the survival of humanity.



# What we're doing

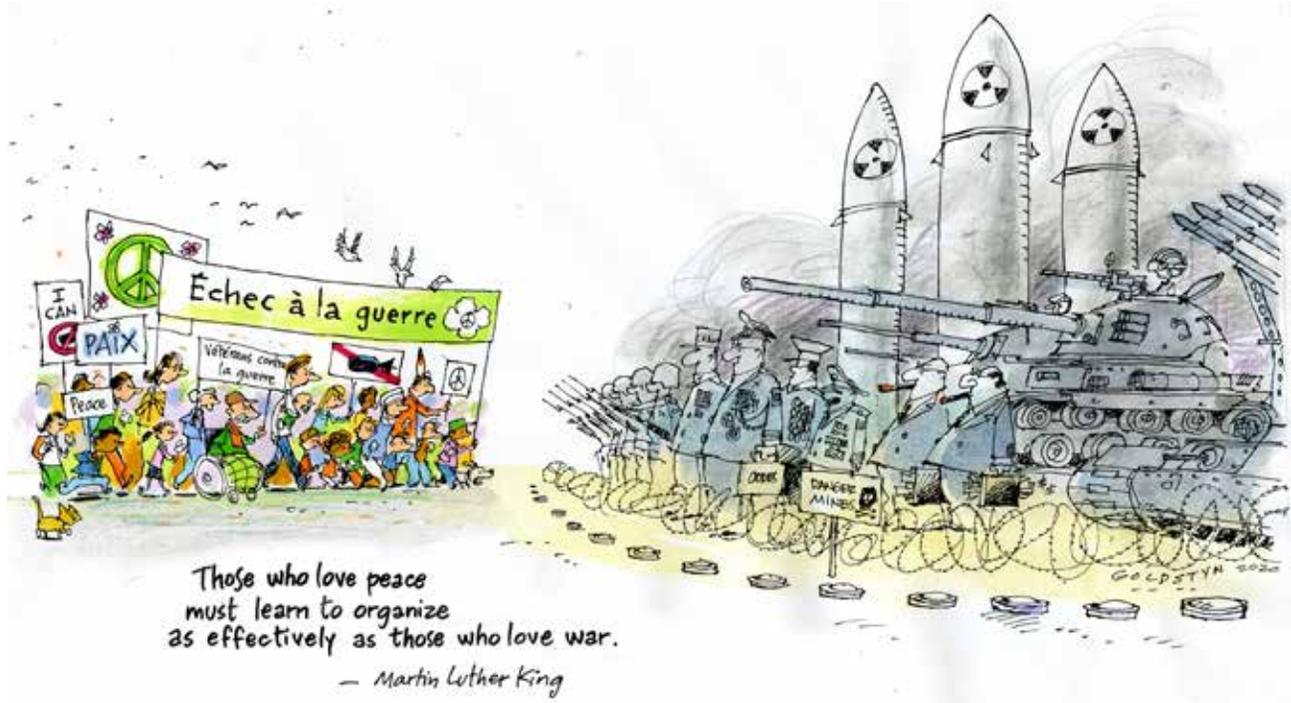
In Quebec, *Collectif Échec à la guerre* is stepping up its efforts to disseminate information about the history of the nuclear threat and the issues involved. It wants to work with anti-nuclear and anti-war movements in the rest of Canada to articulate common demands and develop a joint action plan. And it is planning efforts to make linkages with the climate movement.

## What you can do :

- Increase your knowledge and motivation by reading more about the nuclear arms race (<https://echecalaguerre.org/armes-nucleaires-pour-en-savoir-plus/>);
- If you're involved in climate justice, point out to other people in the movement that nuclear weapons also threaten the survival of the human race;
- When people you know make comments that seem to be influenced by anti-Russian or anti-Chinese propaganda, explain why we are being inundated with this type of propaganda and why it is dangerous;
- Give this pamphlet and other materials about the nuclear threat to people you know;
- Organize an information session on the nuclear threat and invite a resource person (by webinar or in person);
- Write letters or post comments on media sites, write to your MP, encourage your town's mayor to join the world's 8,013 mayors for peace, including 109 in Canada (13 in Quebec), etc.;
- Become a member of *Collectif Échec à la guerre* and get involved.



Setting of the Doomsday Clock from 1984 to 1987





## It is 100 seconds to midnight



*In January 2021, because of increasingly aggressive nuclear postures, failing climate change policies and technically sophisticated disinformation campaigns, the hands of the Doomsday Clock were set to 100 seconds to midnight, the same as in January 2020 and the closest to apocalypse they have ever been, even at the height of the Cold War.*



LE COLLECTIF  
**ÉCHEC à la GUERRE**

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