Scientific Advisory Group for the Treaty on the Prohibition of Nuclear Weapons

Statement on the 80th anniversary of the development, use, and threat of use of nuclear weapons
6 August 2025

As the Scientific Advisory Group for the Treaty on the Prohibition of Nuclear Weapons (TPNW)[1], we make this statement to mark the 80th anniversary of the development, testing, use, and threat of use of nuclear weapons. All these actions were taken first by the United States and opened a terrible and fearful era in the shared global history of humanity.

We recall the secret US Manhattan Project that built the first nuclear weapons, the Trinity test that created the first nuclear explosion and unleashed nuclear fallout, the bombing of Hiroshima that devastated a city, and President Harry Truman's subsequent threat of "a rain of ruin from the air, the like of which has never been seen on this earth". They brought suffering, death, and despair, and cast the terrible shadow of nuclear war over the future. But there also was hope.

We also mark here the 80th anniversary of the June 1945 "Report of the Committee on Political and Social Problems" by a group of Manhattan Project scientists. Chaired by Nobel Laureate James Franck, the Report is a milestone in the global efforts by scientists to understand and warn of the humanitarian consequences and other impacts of nuclear weapons and the imperative of disarmament as the path to avert them.

The Franck Report emphasised that the bomb was an "indiscriminate method of wholesale destruction of civilian life" and "a grave danger for the safety of this country as well as for the future of all the other nations". It warned both of a future "nuclear armament race" and the risk of "conversion of a peace time nucleonics industry to military production" (proliferation). It urged "an agreement permitting an effective international control of the means of nuclear warfare."[2]

Over the eight decades of the nuclear weapons age since then, some scientists have continued to design, build and maintain nuclear weapons, others have sought to

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[1] The Scientific Advisory Group https://meetings.unoda.org/-/treaty-on-the-prohibition-of-nuclear-weapons-scientific-advisory-group-2023
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[2] Report of the Committee on Political and Social Problems, Manhattan Project "Metallurgical Laboratory", University of Chicago, June 11, 1945 (The Franck Report), https://www.dannen.com/decision/franck.html

control and eliminate these weapons. Scientists have contributed to key ideas for many of the international agreements aiming to limit nuclear dangers. These include treaties restricting nuclear weapons testing, curtailing the further spread of nuclear weapons, capping the number and types of nuclear weapons, and most recently the TPNW.

The TPNW is another source of hope for ending the nuclear age. Agreed in 2017 by 122 states at the United Nations, it entered into force in 2021 when 50 states had joined the treaty. As of August 2025, almost half of the members of the United Nations are signatories. The Treaty has a comprehensive set of obligations, including undertakings to “never under any circumstances" develop, test, produce, acquire, possess, stockpile, use or threaten to use nuclear weapons. States with nuclear weapon programs are required to eliminate them.

But the work of lifting the nuclear shadow is not done. In fact, humanity today faces a renewed and growing danger from the nuclear arsenals and policies of the nine nuclear armed states and their allies. Nuclear weapons treaties have failed to enter into force, not been complied with, or been rejected altogether. The nine nuclear-armed states have been modernising and, in some cases, increasing their arsenals and relying more on making nuclear threats. There is renewed debate in some countries on allowing the stationing of weapons on their territory or acquiring nuclear weapons of their own.

With humanity facing a renewed and increasing risk of nuclear war, scientists individually and together must once again take action. To this end, we call on scientists to ask themselves and their professional organizations what ethical and practical responsibilities do scientists bear for ending the nuclear danger to the well-being of humankind and the planet.

The Scientific Advisory Group recalls and supports the “Atomic Scientists’ Appeal to Colleagues” made in 1995 in Hiroshima on the 50th anniversary of the bomb, by physics Nobel Laureate Hans Bethe, who was the director of the Theoretical Division of Los Alamos Laboratory during the Manhattan Project, together with other Manhattan Project scientists, for ‘all scientists in all countries to cease and desist from work creating, developing, improving and manufacturing further nuclear weapons”.[3] The Appeal noted that while states will decide their national nuclear weapon policies “individual scientists can still influence this process by withholding their skills.”

The Scientific Advisory Group also believes scientists, the public and decision makers worldwide need a deeper understanding of the full range of destructive impacts of nuclear weapons. We welcome the establishment in 2025 by the United Nations General Assembly of an Independent Scientific Panel on the Effects of Nuclear War. The creation of this panel was a key recommendation in our 2023 report to the meeting

[3] The "Atomic Scientists Appeal" was released at the Pugwash Conference in Hiroshima on July 25, 1995; Atomic Scientists Appeal to Colleagues: Stop Work on Further Nuclear Weapons *Journal of the Federation of American Scientists* Volume 48, No. 5 September/October 1995

of the states-parties of the TPNW.[4] We call on scientists in all states to contribute their knowledge and expertise to the Panel and to circulate the Panel's report widely and to take action on its recommendations.

The Scientific Advisory Group also calls on all scientists in all countries to lend their expertise and support to the scientific and technical efforts for furthering nuclear disarmament, arms control, and non-proliferation. They can for instance contribute by laying the scientific and technical basis for national and international policies and decisions: to improve the understanding of impacts of nuclear war on societies and environments; to meet the needs of victims of nuclear weapons testing and use, and other activities in the production and maintenance of nuclear weapons, by addressing legacy contamination and environmental remediation of areas harmed by nuclear weapon testing and production; and to develop methods and tools for verifying irreversible nuclear disarmament. Scientists also can work to educate each other, especially the next generation, and the public and policy makers on the risks posed by nuclear weapons arsenals and policies; and expand the role of science for disarmament, conflict resolution and peace and as a bridge between states and societies globally.

The existence of nuclear weapons is too great a risk for humanity and our planet. Science should aim to preserve our shared planet and build a safer and more peaceful world and not serve to destroy it. It is our time to act.

[4] Report of the Scientific Advisory Group on the status and developments regarding nuclear weapons, nuclear weapon risks, the humanitarian consequences of nuclear weapons, nuclear disarmament and related issues, 2023, https://disarmament.unoda.org/report-of-the-scientific-advisory-group-on-the-status-and-developments-regarding-nuclear-weapons-nuclear-weapon-risks-the-humanitarian-consequences-of-nuclear-weapons-nuclear-disarmament-and-relate.