

Industry Statement to the Tenth Review Conference of the Parties to the Treaty on the Non-proliferation of Nuclear Weapons

Nuclear technologies for the global well-being of humanity

On the occasion of the Tenth Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) held in New York on 1 – 26 August 2022, representatives of international and national industry associations, and their members, covering a variety of nuclear applications met to express their collective support for the NPT as a cornerstone of their industries.

Nuclear technologies support a wide range of applications beneficial to both developed and developing nations. Applications spanning electricity generation, district heating/cooling, food safety and medicine make an essential contribution to protecting our climate, as well as improving health and well-being for humanity, and the economic welfare of the world.

Article IV of the NPT sets out the inalienable right of all States Parties to develop research, production and use of nuclear energy for peaceful purposes, and calls upon States Parties to cooperate to further develop the applications of nuclear science and technologies for peaceful purposes. We therefore urge governments to firmly embrace nuclear technologies in their post-Covid economic recovery and energy transition plans, and to support policies to ensure the realization of their many benefits in accordance with the United Nations Sustainable Development Goals (SDGs):

Nuclear and Sustainable Energy Solutions

Nuclear energy is widely recognized as a sustainable, low carbon, and resilient source of power generation which will have a central role in addressing energy poverty, energy security and climate change. It provides abundant, reliable and affordable electricity essential to lift people out of poverty and to meet growing energy demand. Demand for electricity is increasing, particularly across developing nations. This is driven by a growing global population, the increasing electrification of the energy and transportation sectors, and the needs of the hundreds of millions of people that currently lack access to adequate and reliable electricity supply. Nuclear plants, including advanced technologies that can be deployed in all regions of the world, promote global and local economic growth not only by providing electricity to meet basic needs, but also by contributing to multiple economic sectors and providing direct and indirect national employment. A nuclear power plant is a major infrastructure investment that boosts local economies and provides long term, high-skilled, high-paying jobs during plant construction and through more than 60 years of plant operation. Beyond electricity, nuclear plants can power seawater desalination, hydrogen production, district heating/cooling as well as process heat for various industrial processes.

Nuclear and Zero Hunger

Nuclear technologies in food and agriculture can be used to improve the yield of crops, help reduce the losses due to pests and insects, and help keep food fresh for longer, thereby increasing the global available food supply and supporting the agrarian economy. In particular, nuclear techniques can be used to assess soil quality and study optimum water and nutrient uptake in crops and soil movement, as well as to combat desertification. Nuclear technologies that use ionizing radiation to control insect populations can reduce agricultural pesticide needs. Meanwhile, food irradiation eliminates microbes and bacteria from foodstuffs and increases shelf life, reducing the threat of food poisoning. Water desalination projects, which improve climate resilience in agriculture, can also be powered by nuclear energy.

Nuclear and Health and Well-Being

Nuclear technologies are also essential for medical research and for the diagnosis and treatment of a myriad of conditions for tens of millions of people each year around the globe. Nuclear medicine is changing the standard of patient care for both diagnosing and treating cancer, heart disease, and other conditions, as short-lived radiopharmaceutical tracers accurately visualize disease at the molecular level and are followed by targeted radioisotope therapy for the delivery of radioactivity directly to tumor cells. Radiation therapy (radiotherapy) continues to be one of the most effective treatments for many different types of cancer, as well as other conditions. Cobalt-60 is used to eliminate harmful and deadly bacteria, making it an effective solution to sterilize medical equipment, medical products and even blood for transfusions. Innovation in nuclear medicine will contribute to the health and well-being of current and future generations.

Nuclear and Infrastructure Safety and Protection

Nuclear technologies can be an effective tool in the inspection and assessment of critical infrastructure and industrial components through non-destructive testing. Industrial radiography uses x-ray and gamma radiation to show flaws in structural steel beams, concrete slabs or metal welds that could not otherwise be detected as the rays can travel through different types of materials, such as air, soil and water. Industrial radiography is, therefore, useful in inspecting materials without having to move or damage the material itself. This technique is used in the oil and gas, aviation, and vehicle manufacturing industries, to name just a few.

Our Commitment

We, the undersigning international and national industry associations and their members, look forward to continuing to support the implementation and fulfilment of the responsibilities set out in the NPT. Recognizing the important role of the NPT in providing the underpinning framework for universal access to nuclear technologies for peaceful nuclear applications, we reaffirm our commitment to:

- Supporting the important role and programs of the International Atomic Energy Agency (IAEA) to facilitate access to peaceful nuclear applications to improve the quality of life and well-being of people around the world and to promulgate global safety standards for nuclear technologies;
- Facilitating implementation of international legal commitments embodied in the IAEA statute; Safeguards agreements concluded pursuant to the NPT; additional protocols to the Safeguards agreements; and regional and bilateral accords providing for IAEA verification;
- Exposing insecure or illicit practices regarding nuclear and radioactive material management and to use all necessary precautions to ensure appropriate regulatory control during use, storage, transport and waste disposal;
- Incorporating safeguards, safety and security measures into the design of new nuclear facilities;
- Appropriately managing used fuel from its discharge from the reactor up to final disposal and/or recycling in accordance with a well-defined practical programme based on a realistic financing plan;
- Deploying our resources to support the delivery of the UN Sustainable Development Goals to create a healthier, more resilient and more sustainable world; and
- Maintaining a high degree of safety and to ensuring the responsible and sustainable development of nuclear technology in the future.

Our Appeal

We therefore call upon the NPT States Parties to:

- Acknowledge that nuclear energy and technologies are essential to sustainable development and the sound environmental stewardship of our planet and to mitigating climate change.
- Support IAEA's activities and actions to expand and sustain access to peaceful uses as well as to promote the safety and security of all civilian nuclear facilities for peaceful uses.
- Uphold the right of all States Parties that meet their obligations under the NPT to access peaceful nuclear techniques and applications, and to facilitate the transfer of nuclear technology to those countries.
- Recognize that the open and transparent exchange of safety related information is essential to the peaceful uses of nuclear technology.
- Develop the potential of civilian nuclear technologies for peaceful purposes via an integrated approach involving the IAEA, UN agencies and other multilateral organizations, including the international development banks.
- Work in a timely and efficient manner towards the harmonization of regulations that will facilitate a broader access to peaceful nuclear technologies.

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