

IAEA and the Post-2015 Development Agenda

“The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world.” — Article II of the IAEA Statute

The contributions of Vienna-based Organizations to the Post-2015 Development Agenda

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in collaboration with the Vienna-based Organizations

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Science and technology are critical for development, and nuclear science and technology, in particular, have an enormous contribution to make to the post-2015 development agenda. Since its foundation, the International Atomic Energy Agency (IAEA) has helped its Member States to use nuclear science, technology and applications to meet the needs of their people and contribute to global development objectives.

Nuclear technology is widely used in our daily lives: supporting human health from diagnosis to cure or palliation, improving crops and strengthening agriculture, monitoring and protecting the environment, identifying and protecting water resources, in energy planning and nuclear power, in research, data collection and analysis. The IAEA helps its Member States safely employ this technology to ensure peace, health and prosperity throughout the world. This document identifies and explains the contributions that the IAEA and nuclear technology can make to the future Sustainable Development Goals.

Proposed goal 1: End Poverty

Science and technology are indispensable to socioeconomic progress. Nuclear technology contributes across a wide range of areas, helping to address hunger and disease, and to support economic advancement. For example, nuclear techniques support the development of crops resistant to drought and other adverse environmental conditions, resulting in higher income for farmers.

Proposed goal 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

IAEA projects and programmes help to provide equipment and expert guidance, as well as technology and training from the IAEA's specialized laboratories, Member states' institutions and partner organizations like the Food and Agriculture Organization of the United Nations (FAO). With this support nuclear techniques can be used by countries safely and properly, in areas such as breeding improved crop and plant varieties, including vitamin or mineral-enriched varieties; controlling animal and plant pests and disease; improving food safety; enhancing livestock reproduction, health and nutrition; and strengthening soil and water management. The IAEA also offers technical expertise in the application of stable isotope techniques to

evaluate nutrition programmes aimed at promoting maternal and infant health through breastfeeding, food supplementation and food fortification. Additionally, isotopic techniques make ratio analysis available to help determine the authenticity and traceability of foodstuffs. This helps to combat growing world-wide fraud in foodstuffs, protecting legitimate producers and ensuring that food is safe for human consumption.

Proposed goal 3: Ensure healthy lives and promote well-being for all at all ages

The IAEA helps Member States in the establishment and strengthening of nuclear medicine, radiotherapy and radiopharmaceuticals production. Essential in modern medicine, they provide precise diagnosis for many non-communicable diseases, as well as targeted treatment for cancer. The IAEA's Programme of Action for Cancer Therapy (PACT) works in partnership with the World Health Organization (WHO), the International Agency for Research on Cancer (IARC) and others to save lives in both developed and developing countries by helping national governments establish comprehensive cancer control programmes. PACT helps identify national needs for programmes that incorporate cancer prevention, early detection and treatment linked with follow-up care. The IAEA also promotes the use of nuclear and isotopic technology to develop and evaluate programmes aimed at reducing obesity and promoting physical activity.

Proposed goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

The IAEA assists its Member States in building human capacities in nuclear science, technology and applications in various areas such as human health, food and agriculture, water and environment, nuclear energy, radiation safety and radiation in industry through national, regional and interregional projects. In 2014 close to 10,000 persons participated in IAEA learning activities worldwide, including training courses, workshops and scientific visits. The IAEA has initiated activities towards the implementation of compendium for introducing nuclear science and technology to secondary school students in several countries.

Proposed goal 5: Achieve gender equality and empower all women and girls

The IAEA promotes the involvement of women in every aspect of its technical cooperation programme. Gender balance is considered in all project proposals, and the IAEA encourages the participation of women in all training events and meetings. In addition, the IAEA's work in the fields of nutrition and cancer makes an important contribution to child and maternal health, essential for the full participation of women and girls in society.

Proposed goal 6: Ensure availability and sustainable management of water and sanitation for all

Nuclear techniques are cost effective tools in hydrological investigations and assessments, and are critical in supporting effective water management. Through its Water Resources Programme, the IAEA provides science based information and technical skills to its Member States to improve the understanding and management of their water resources.

Proposed goal 7: Ensure access to affordable, reliable, sustainable, and modern energy for all

The IAEA builds energy planning capacity in its Member States, helping them to assess their future energy needs and options. Nuclear power remains an important option for many countries, offering improved energy security, reducing carbon emissions and mitigating the effects of climate change, as well as the impact of volatile fossil fuels prices.

Proposed goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Nuclear science and technology is used in a wide range of economic activities, contributing to socioeconomic growth. In addition, access to reliable and sustainable energy is essential for the economic growth of any country. Nuclear power can help to improve a country's energy security, and can make a vitally important contribution to socioeconomic growth in developing countries.

Proposed goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Nuclear technology is used both for analysis and industrial production and is a cornerstone of several innovative technologies. Non-destructive testing ensures safety of industrial installations such as power stations, aircrafts and oil and gas pipelines. Irradiation using accelerators contributes, for example, to the expansion of the polymer industry and to a cleaner environment through treatment of waste water and flue gases, and the identification of pollution pathways on land and in the sea. The use of specific isotopic or radioactive tracers is also used in the identification of pollution pathways.

Proposed goal 10: Reduce inequality within and among countries

IAEA support is accessible to all Member States, without discrimination. The IAEA coordinates, supports and encourages the development of new approaches that make nuclear sciences, technology and applications a safe, reliable, affordable and practical solution, in particular, for developing countries.

Proposed goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

The IAEA contributes to the increased safety of cities and settlements through facilitating global cooperation in the area of nuclear safety and security.

Proposed goal 12: Ensure sustainable consumption and production patterns

The IAEA helps Member States to elaborate their sustainable energy strategies and to conduct studies for energy planning, electricity sector development and management, energy investment and energy environment policy formulation. In the area of food and agriculture, the IAEA supports Member States' efforts to achieve sustainable food security through crop production, animal health and production, and the use of nuclear techniques for pest control and management.

Proposed goal 13: Take urgent action to combat climate change and its impacts

Nuclear technology contributes to both climate change mitigation and adaptation. Nuclear power is one of the lowest emitters of carbon dioxide – alongside hydro- and wind-based electricity generation – when emissions through the entire life cycle of electricity production are considered. In addition, nuclear isotopes enable the assessment of soil erosion and sediment redistribution, estimating sediment provenance, sediment dating over several years and monitoring carbon sequestration by the ocean. The scientific understanding will lead to the formulation of specific strategies to minimize the adverse effects of, and adapt to, climate change in polar and mountain regions across the world. Climate change adaptation measures include the development of drought resistant crops and water conservation techniques, helping to preserve agricultural practices in areas affected by climate change, particularly in developing countries.

Proposed goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

The IAEA helps Member States understand, monitor, and manage marine environmental phenomena, for example, ocean acidification and harmful algal blooms, thus supporting and protecting coastal communities. Member States receive assistance in setting up national laboratories and regional laboratory networks for the analysis of radioactive and non-radioactive marine contaminants and pollutants.

Proposed goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

The IAEA helps Member States to manage scarce water resources effectively and productively. For example, fertigation of farmland optimizes water use and fertilizer efficiency and improves land productivity. Isotopic techniques provide accurate assessment of soil erosion and help in the identification of erosion hot spots, providing an important tool to reverse land degradation.

Proposed Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Through its development work, the IAEA supports sustainable development in its Member States, including establishing effective and independent national nuclear and radiation regulatory controls. Behind each IAEA project, programme and service lies a foundation of safety and security, which is undertaken in line with international safety and security standards. The IAEA assists Member States in their efforts when they embark on using nuclear science and technology, through review services and through facilitating tailored, dedicated training and emergency preparedness exercises. The IAEA ensures that these uses remain peaceful and assists Member States to properly manage these uses in order to protect people and the environment while achieving the full benefits that these tools offer. The IAEA guards relentlessly against the proliferation of nuclear weapons by maintaining a strong and independent nuclear verification regime.

Proposed goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

The IAEA facilitates the transfer of nuclear science, technology and application to its Member States through various mechanisms, most important of which is the IAEA Technical Cooperation Programme (TCP). The TCP is the main mechanism through which the IAEA builds capacities in its Member States. For instance, in 2014, 3461 expert and lecturer assignments were carried out, 5285 persons participated in meetings and workshops, 2830 participants took part in 187 interregional and regional training courses and 1677 benefited from fellowships and scientific visits. Through its programmes, the IAEA helps Member States to build, strengthen and maintain capacities in support of sustainable socioeconomic development through various means, including a global network of centres of excellence and IAEA collaborating centres.



For further information, see:

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