

Managing Radioactive Waste Making a Difference with Nuclear Technology



IAEA
International Atomic Energy Agency

Modern life is filled with technology whose production or use generates radioactive waste. Radioactive waste is an unavoidable by-product of the use of radioactive materials and nuclear technology. The IAEA promotes the safe management of radioactive waste, by fostering a global safety regime through developing safety standards and promoting safe and proven technologies in radioactive waste management.



Due to its radioactivity, radioactive waste is potentially hazardous to health. To ensure the safety of people and the environment, radioactive waste must be managed carefully and responsibly.

Most radioactive waste originates from nuclear electricity production. Other sources of radioactive waste include beneficial practices in medicine, agriculture, research and industry.

All sources of energy generation produce waste throughout their life cycle. Waste generated by nuclear power production is relatively small in volume and, when properly confined and isolated, the safety of people and the environment is ensured. Other sources of energy generation release vast quantities of waste into the environment.

Radioactive waste can be roughly categorized as low, intermediate and high level waste, according to its radioactive content.

The appropriate disposal option and the extent of safety measures depend on the length of time the waste remains harmful. Some waste remains radioactive for hundreds of thousands of years and other waste for decades or less.

The world has over half a century's experience in managing radioactive waste —the characteristics of the waste are well known and, therefore, it can be safely managed.

The IAEA promotes the safe management of radioactive waste generated by the use of nuclear technology, including nuclear power. The objective of waste management is to protect people and the environment, now and in the future.

The disposal of low and intermediate level waste is well established in several countries.

Good waste management begins before the waste is generated by avoiding or reducing waste generation at its source.

Spent fuel can be recycled in order to make additional fuel for nuclear power plants.

A number of countries have made good progress towards implementing disposal of spent fuel and high level waste, in particular Finland, France and Sweden. The cost of managing radioactive waste is, in most countries, included in the price of electricity. These internalized expenses cover the cost of managing waste, including disposing of the waste in repositories and decommissioning the plant at the end of its life.

The IAEA develops and transfers nuclear technology to Member States through coordinated research activities, the sharing of good practices and technical cooperation projects that support sustainable socioeconomic development. For more information, please visit www.iaea.org, www.facebook.com/iaeaorg or follow @iaeaorg on Twitter.