



Summary Article: **nuclear waste**

From *The Hutchinson Unabridged Encyclopedia with Atlas and Weather Guide*

Image from: [Workers in radiation suits standing by trucks at... in Encyclopedia of United States National Security](#)

The radioactive and toxic by-products of the nuclear energy and nuclear weapons industries. Nuclear waste may have an active life of several thousand years. Reactor waste is of three types: **high-level** spent fuel, or the residue when nuclear fuel has been removed from a reactor and reprocessed; **intermediate**, which may be long- or short-lived; and **low-level**, but bulky, waste from reactors, which has only short-lived radioactivity. Disposal, by burial on land or at sea, has raised problems of safety, environmental pollution, and

security.

The issue of nuclear waste has become the central controversy threatening the future of generating electricity by nuclear energy. The dumping of nuclear waste at sea officially stopped in 1983, when a moratorium was agreed by the members of the London Dumping Convention (a United Nations body that controls disposal of wastes at sea). Covertly, the USSR continued dumping, and deposited thousands of tonnes of nuclear waste and numerous faulty reactors in the sea during 1964–86. In 1993 Russia announced its intention of continuing to dump nuclear waste in the sea, in violation of international conventions, until 1997. However, in 2010 the Russian Duma was preparing to pass a major new law on the management of radioactive waste.

Waste from a site where uranium is mined or milled may have an active life of several thousand years, and spent (irradiated) fuel is dangerous for tens of thousands of years. Sea disposal has occurred at many sites, for example 450 km/300 mi off Land's End, England, but there is no guarantee of the safety of this method of disposal, even for low-activity waste. There have been proposals to dispose of high-activity waste in old mines, granite formations, and specially constructed bunkers. The most promising proposed method is by vitrification into solid glass cylinders. About one-third of the fuel from nuclear reactors becomes spent each year. It is removed to a **reprocessing** plant where radioactive waste products are chemically separated from remaining uranium and plutonium.

In 1997, at the Oslo Paris Commission, it was announced that the UK was to give up its right to dump nuclear waste at sea. The UK committed itself to accepting new targets for radioactive discharges.

Issues concerning nuclear waste in the UK fall within the remit of Britain's nuclear safety agency, the Nuclear Directorate (ND), part of the Health and Safety Executive. The ND examines nuclear sites in the UK and also issues quarterly reports on significant incidents relating to all aspects of nuclear safety, including nuclear waste.

### essays

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nuclear waste. (2018). In Helicon (Ed.), *The Hutchinson unabridged encyclopedia with atlas and weather guide*. Abington, UK: Helicon. Retrieved from [https://search.credoreference.com/content/topic/nuclear\\_waste](https://search.credoreference.com/content/topic/nuclear_waste)

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## APA

nuclear waste. (2018). In Helicon (Ed.), *The Hutchinson unabridged encyclopedia with atlas and weather guide*. Abington, UK: Helicon. Retrieved from [https://search.credoreference.com/content/topic/nuclear\\_waste](https://search.credoreference.com/content/topic/nuclear_waste)

## Chicago

"nuclear waste." In *The Hutchinson Unabridged Encyclopedia with Atlas and Weather Guide*, edited by Helicon. Helicon, 2018. [https://search.credoreference.com/content/topic/nuclear\\_waste](https://search.credoreference.com/content/topic/nuclear_waste)

## Harvard

nuclear waste. (2018). In Helicon (Ed.), *The Hutchinson unabridged encyclopedia with atlas and weather guide*. [Online]. Abington: Helicon. Available from: [https://search.credoreference.com/content/topic/nuclear\\_waste](https://search.credoreference.com/content/topic/nuclear_waste) [Accessed 18 September 2019].

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"nuclear waste." *The Hutchinson Unabridged Encyclopedia with Atlas and Weather Guide*, edited by Helicon, 2018. *Credo Reference*, [https://search.credoreference.com/content/topic/nuclear\\_waste](https://search.credoreference.com/content/topic/nuclear_waste). Accessed 18 Sep. 2019.