



## Resolution 1588 (2007)<sup>1</sup>

# Radioactive waste and protection of the environment

Parliamentary Assembly

1. Radioactive waste is and will continue for future generations to be potentially very hazardous to human health and the environment until such time as its radiation has decayed to low levels; it is therefore important to carefully monitor its management, in particular its storage and disposal. In its [Resolution 1435 \(2005\)](#) on energy systems and the environment, the Parliamentary Assembly stressed the need for an assessment of the long-term safe storage and disposal of spent fuels and other forms of nuclear waste.
2. Nuclear energy has, after decades of stagnation, recently been given a new impetus in Europe, due in particular to the fact that, as a “clean” energy, it contributes to slowing climate change and responds to the need to reduce Europe’s energy dependence, issues which have both recently been dealt with by the Assembly in its [Recommendation 1779 \(2007\)](#) and [Resolution 1531 \(2007\)](#) on the danger of using energy supplies as an instrument of political pressure.
3. The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (the Joint Convention) of the International Atomic Energy Agency (IAEA) entered into force in 2001. Today, the Joint Convention, the international waste safety standards published by the IAEA and other international organisations, and the IAEA’s mechanisms for providing for the application of those standards have led to a de facto international radiation and nuclear safety regime. The Joint Convention stipulates that contracting parties “shall take the appropriate steps to ensure that at all stages of radioactive waste management individuals, society and the environment are adequately protected against radiological and other hazards”.
4. As far as low- and intermediate-level radioactive waste is concerned, a range of long-term solutions have already been found and are currently in use, particularly surface and near surface repositories.
5. A typical 1 000 MW nuclear reactor produces around 25 tonnes of spent fuel per year. Spent fuel is very high-level radioactive waste, which represents approximately 1% of all nuclear waste. There are already more than 60 000 tonnes of spent fuel in storage facilities in Europe, either on or off reactor sites. This is a reality which must be dealt with, regardless of trends in the development of the nuclear industry in Europe.
6. Regarding the management of spent fuel, the following options are currently implemented or under consideration:
  - 6.1. disposal of spent fuel in geologic repositories;
  - 6.2. reprocessing of spent fuel, recycling of reprocessed plutonium and uranium, and disposal of waste remaining after reprocessing operations;
  - 6.3. a wait-and-see policy, which means first storing the fuel and deciding later what reprocessing or disposal methods to employ.

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1. *Text adopted by the Standing Committee, acting on behalf of the Assembly, on 23 November 2007 (see [Doc. 11377](#), report of the Committee on the Environment, Agriculture and Local and Regional Affairs, rapporteur: Mr Meale).*



7. The solution generally proposed by experts is the use of deep geological repositories, with a combination of natural barriers and engineered systems to provide physical and chemical waste containment. In a number of European countries, however, siting a repository has proven difficult: some countries have inappropriate geological structures and in many cases the public continues to have fears about safety, lacks confidence in the technology to be used and has insufficient knowledge of available options.

8. A number of European countries have already taken concrete steps toward designing and constructing geological repositories. However, the development of these facilities is at very different stages in these countries, because different approaches and timetables have been used both for consulting public opinion and for putting the results of research into practice. The most advanced countries in this regard are Sweden and Finland, where stocking waste in deep bedrock repositories will become effective in a few years' time.

9. The question of nuclear waste is not only about the technical construction of final repository facilities, but also an ethical issue concerning our responsibility to future generations. Repositories for spent nuclear fuel or high-level radioactive waste must be constructed in such a way as to require little maintenance, if any, particularly in the long term. However, future generations should be able to both monitor and, if necessary, retrieve the spent nuclear fuel or high-level radioactive waste from these repositories (for example, if in the future technological progress offers better alternatives, or if incidents – geological, safety-related, etc. – occur which might affect the stability of the repository).

10. The Assembly expresses its concern about the inappropriate management of nuclear waste that has been reported in certain Council of Europe member states.

11. It calls on the Council of Europe member and observer states confronted with the issue of nuclear waste management to:

11.1. encourage geological tests to identify suitable sites (which ensure long-term stability and which allow the use of multiple barriers to prevent radionuclides from reaching the ground surface) for the building of deep geological repositories for radioactive waste, this being the solution currently considered the most appropriate in order to ensure the long-term preservation of the environment, and, if such sites are identified, to proceed with the building of such repositories;

11.2. support research and development which focuses on finding alternative solutions to deep geological disposal of radioactive waste (for example, changing the isotopic composition of waste to render it harmless in a shorter length of time);

11.3. ensure the effective independence of the national authorities in charge of the control and management of nuclear waste;

11.4. organise public and parliamentary debates on options concerning the management of nuclear waste, its storage and the choice of repository sites;

11.5. increase public awareness of all aspects of radioactive waste management by promoting a policy of transparency regarding the topics of production, transport, storage and final stockage of waste;

11.6. ensure that the transport of nuclear waste from the production sites to the storage and/or repository sites is carried out in full respect of the principles of the IAEA Joint Convention;

11.7. take appropriate measures to increase safety and security against possible terrorist acts, at reactor sites, during transport of radioactive waste and at current storage facilities;

11.8. ensure that the building of all storage and/or disposal sites is carried out under strict governmental and international supervision to ensure that all safety and quality standards are met;

11.9. ensure that the construction of repositories will enable future generations to monitor and if necessary retrieve nuclear waste, bearing in mind that such an operation should not be made too easy or quick to perform;

11.10. involve as widely as possible local authorities, citizens and NGOs in the process of deciding upon possible sites for building final and other repositories, in order to increase public confidence both in the methods used for choosing sites and in the technologies for long-term management of nuclear waste;

11.11. allow local authorities and citizens living near the planned repositories to express their opinions as far as possible, while at the same time offering them the possibility to be associated with the project by a collaboration contract;

11.12. allow local authorities concerned to take part in the management of any disposal sites located within their respective jurisdictions;

11.13. ensure that data on the disposal sites is centralised both at national and international level, in particular in co-operation with the IAEA, so that no loss of information can affect future generations;

11.14. ratify, if they have not yet done so, the IAEA Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management at the earliest possible date and to strictly comply with its provisions.

12. Finally, the Assembly calls upon the European Union to develop, in co-operation with the IAEA, common principles and standards to be respected in the management of nuclear waste, and particularly in the further development of final repositories for nuclear waste in its member countries, such principles and standards having the potential of being extended to the entire pan-European geographical area.