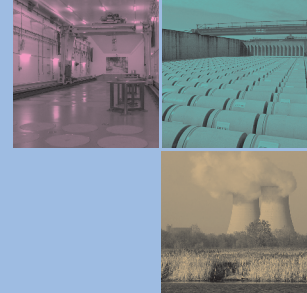


GEOLOGICAL DISPOSAL OF RADIOACTIVE WASTES: NATIONAL COMMITMENT, LOCAL AND REGIONAL INVOLVEMENT



Long-term radioactive waste management, including geological disposal, involves the construction of a limited number of facilities and it is therefore a national challenge with a strong local/regional dimension. Public information, consultation and/or participation in environmental or technological decision-making are today's best practice and must take place at the different geographical and political scales. Large-scale technology projects are much more likely to be accepted when stakeholders have been involved in making them possible and have developed a sense of interest in or responsibility for them. In this way, national commitment, and local and regional involvement are two essential dimensions of the complex task of securing continued societal agreement for the deep geological disposal of radioactive wastes.



The international position on geological disposal

Radioactive waste may result from all phases of the nuclear fuel cycle in the production of electricity, and from the application of radioactive materials in industry, medicine, research or education, and defence. All such wastes must be managed safely and in a manner that protects humans and their environment. OECD Nuclear Energy Agency (NEA) publications recognise the strong international consensus that geological disposal is the appropriate ultimate route for handling high-level waste or spent nuclear fuel; it is technically feasible and can be made safe for current and future generations. Geological disposal also represents an ethically correct approach (taking responsibility within the

generation producing the waste) that should be pursued now, proportionately with each country's situation. Providing protection through geological disposal of radioactive wastes is a technical endeavour; however planning for a repository and overseeing its implementation include more than just technical aspects. Geological disposal is a societal endeavour as well, and it comes under discussion and deliberation on a national, regional and local level. Clear and transparent decision making and citizen participation and empowerment are key ingredients to the formulation of national policies and to their successful implementation in regional and local contexts.

Demonstrating national commitment

Long-term radioactive waste management is a national challenge with a strong local/regional dimension. Articulation between these levels requires a national framework for decision-making that is widely supported, and adhered to, by the relevant actors. National commitment to delivering a repository will be aided by these framework assets:

- A statement by national government that the status quo is no longer acceptable and that there is a need to implement an integrative policy.
- Clarity about the link between radioactive waste management policy and planning regarding the role of nuclear energy in the country.
- A national waste management plan explaining the volume, source and destination of the various waste streams.

- Well-known rules about the separate roles and responsibilities of the various actors in funding, driving, monitoring or implementing the policy.
- Clarity on long-term issues such as the ownership of the waste.
- A site selection procedure whose goal is to identify not an "absolute technically best site", but rather, a good combination of "safe and licensable site" and "waste management concept" that enjoys local and regional support.
- Sound local and regional development schemes focussed on community vision for long-term quality of life, beyond the endowment of immediate economic benefits.
- Recognition that local interests may differ in part from regional interests.

Enhanced dialogues and stakeholder involvement at regional / local level

The national policy framework should support participatory, flexible and accountable decision-making processes. Interactions between a large range of stakeholders and specialists will promote societal learning about radioactive waste management issues and choices. Broad participation today may also compensate, to some degree, for the unavoidable absence of future generations in current reflections or negotiations. Empowerment of the local and regional actors has been growing steadily in the last decade. The following trends have been observed:

- Shift from framing a "decision" as a complete package solution to viewing it instead as one step in a judicious societal process of examining and making choices.
- Shift from information and consultation towards partnership.

- Shift from passive to active role of local communities.
- Recognition of regional interests, concerns and prerogatives alongside the local interests, and incorporation of regions in the dialogues.
- Development of a great variety of administrative formats for collaboration and partnership between the regional / local-level and national-level stakeholders.
- Recognition of the need for, and legitimacy of, empowerment measures, support mechanisms for competence building, and socio-economic benefits.
- Shift from technocratic approaches to new ideals and bases for collaboration including: mutual learning, adding value to the host community / region and fitting a repository into a sustainable development plan.

Pragmatic elements for confidence in decisions with regional and local support

Involving regional and local stakeholders starts with providing information and may include, by increasing degrees, consultation, active participation, and shared decision authority. Management tools and also mandated instruments (e.g., the Environmental Impact Statement or EIA) are available to facilitate stakeholder involvement. Participatory approaches can deliver potential positive effects of several types: substantive improvements to decisions, procedural improvements, and contextual benefits (like reinforcement of democracy and of confidence in institutional players). The following assets support effective local and regional involvement in the national delivery of a geological repository:

- A voluntary siting process in which the consent of host communities and surrounding region is sought from the outset. An unambiguous right to withdraw from consideration within a certain period or under certain circumstances increases the chances for success in repository siting.
- Fully visible, enhanced oversight by local / regional authorities representing local / regional interests.
- Benefits aimed at making host communities and regions better off and contributing to their sustainable development.
- Collaborative arrangements as a method for achieving discussion

and dialogue between waste management institutions and local and regional actors, and for seeking to ensure inclusiveness and informed decision making.

- Designing and, when agreed, implementing the installation in ways that reflect the values and interests of local communities and surrounding region.

Partnerships have been or are being set up in an increasing number of countries as a model for dialogue. Most often such organisations build their own expertise and influence the waste management implementer's work. They also collect, process and disseminate information on the (future) facility and its impacts, monitor other players' performance and advise local governments.

As dialogue and stakeholder involvement have become central to the waste management process, traditional roles have given way to new ones. Scientists address new questions raised by the general public; policy makers and waste management organisations innovate with public dialogue formats; regulators increasingly act as "safety communicators" and "peoples' experts", becoming involved in early consultations with local communities. Regions defend their image and are vigilant on balancing economic development and infrastructure across their territory.

Confidence in Governmental Institutions, Safety Authorities and Waste Management Organisations

Building confidence in waste management arrangements implies that the involved national-level, public or private institutions must develop appropriate features in the areas of organisation, mission, and behaviour. Pragmatic steps must be taken by these actors in order to ensure and demon-

strate *transparency, accountability, independence and competence*.

Overall, RWM institutions are evolving away from a technocratic stance, and they demonstrate constructive interest in learning and adapting to societal requirements for radioactive waste management.

Enhancing Familiarity and Control

For any individual or community, *control* and *familiarity* are important components of safety. *Institutional control* is an essential condition for assuring safety of a national waste management undertaking. Such control must be exercised by the national safety authority, but a measure of control may also be delegated to other parties. This shared control is viewed as important by regional and local stakeholders. Enhanced control and familiarity can be gained in the context of col-

laborative arrangements. For instance, members of partnerships can review, examine and assess research and also identify complementary research needs through dialogue. Collaborative arrangements are helping regional / local stakeholders to develop their competence to play a relevant role, so that both technical and societal questions concerning repository development can be addressed in a manner conducive to confidence.

Opportunities at the regional and international level

Siting, construction and operation of a repository can be a favorable outcome for all involved stakeholders or a win-win project for the region where the repository is located and for the nation at large. Provisions not to impair local well being and opportunities will be created to improve quality of life durably. The economic activity in the whole region will develop from incoming staff and construction workers, a large number of visitors and increased tax revenues. The new a highly skilled resident

workforce will contribute to maintain or increase the educational level of the community and will stimulate the local service economy. Involvement of the stakeholders at the local level will increase understanding of the local interests and will create new cooperation structures. The experience from the first implementations of geological repositories for high-level radioactive waste will help other national programmes move forward in a more efficient manner.

LONG-TERM RADIOACTIVE WASTE MANAGEMENT, INCLUDING GEOLOGICAL DISPOSAL, IS A NATIONAL CHALLENGE WITH A STRONG LOCAL/REGIONAL DIMENSION. THE NATIONAL POLICY FRAMEWORKS INCREASINGLY SUPPORT PARTICIPATORY, FLEXIBLE AND ACCOUNTABLE PROCESSES. RADIOACTIVE WASTE MANAGEMENT INSTITUTIONS ARE EVOLVING AWAY FROM A TECHNOCRATIC STANCE, DEMONSTRATING CONSTRUCTIVE INTEREST IN LEARNING AND ADAPTING TO SOCIETAL REQUIREMENTS. EMPOWERMENT OF THE LOCAL AND REGIONAL ACTORS HAS BEEN GROWING STEADILY IN THE LAST DECADE. REGIONAL AND LOCAL PLAYERS TEND TO TAKE AN ACTIVE ROLE CONCERNING THE SITING AND IMPLEMENTATION OF GEOLOGICAL REPOSITORIES. NATIONAL COMMITMENT AND LOCAL/REGIONAL INVOLVEMENT GO HAND-IN-HAND IN SUPPORTING SUSTAINABLE DECISIONS FOR THE GEOLOGICAL DISPOSAL OF RADIOACTIVE WASTE.