



# Added value in nuclear waste management facilities and processes

**The NEA Forum on Stakeholder Confidence (FSC)** uses the term “added value” to describe the contribution radioactive waste management facilities can make to the communities and areas in which they are located beyond the safe and secure management or disposal of radioactive waste. From the perspective of stakeholder confidence, the concept of added value is important as it is associated with helping to build stronger and more durable relationships between the community and the facility or operator. This, in turn, supports long-term relationship building with the implementer and project sustainability. Some waste management programmes identify added value as a right for the community to receive, and a responsibility for the implementer to deliver, given the national importance of the project. Added value is achieved when the facility and/or ancillary programme activities are designed, planned, implemented and/or operated in a manner that contributes to the social and economic well-being of the host community and area.

## Added value can contribute to long-term project sustainability

Radioactive waste management facilities are complex long-term projects that require the continued support of the community and the willingness and acceptance of the community to continue to host the facility over generations. Successful implementation of such projects, at a minimum, requires safety issues to be addressed to the satisfaction of both regulators and communities. Beyond safety, providing added value to the community can contribute to the long-term sustainability of the project, including ensuring the necessary continued relationship between the community and the facility.

Radioactive waste management facilities have the potential to provide benefits to a community beyond their core function. These can range from tangible benefits, such as local jobs and economic development, to less tangible benefits such as fostering community culture or spirit. Including added value in the planning of the radioactive waste management facility can help the plant better fit in the community and surroundings by identifying additional features for the facility, or community development opportunities the facility may support as part of project implementation. Adopting these features and/or carrying forward with community

development opportunities ensures a long-term sustainable relationship with the host community over the long timescales required.



Community group visit to the Bábaapáti low- and intermediate-level radioactive waste repository (PURAM, Hungary).

## Added value recognises the role host communities play in achieving a national objective

In the past, discussion of value or benefits associated with radioactive waste management projects had largely focussed on hosting fees and socio-economic development packages (i.e. guaranteeing employment or infrastructure) intended to compensate for real and perceived impacts. The concept of added value advances thinking and understanding beyond this transactional and monetary approach to focus instead on long-term relationship building, the cultural and amenity value of facilities, and other intangible aspects in both the short and long term.

As conversations continue about added value and its role in the implementation of radioactive waste management projects, some waste management programmes have strongly stated that added value is both a right for the host community to receive, and a responsibility for the implementer to deliver, given the national importance and benefit of these projects.

## Added value opportunities can best be identified through stakeholder engagement

Added value opportunities are best identified through meaningful dialogue with the community. A meaningful dialogue involves a wide range of stakeholders from the beginning of the process (early involvement); a clear explanation of the elements on which the dialogue is focused (clarity); and allowing for the influence and input of local communities (empowerment).

Engaging stakeholders to understand their views and concerns about the facility, and how the facility might best fit in with the community, can provide insight on potential added value opportunities and their importance to ensuring comfort with and ongoing support for the project. What constitutes added value for a radioactive waste management facility is specific to the community and site. From the perspective of community members, there may be intangible elements of a facility that have a symbolic value. These elements can only be identified through dialogue. Projects can be designed to improve well-being, consolidate knowledge,

fulfill locally identified values, further define community identity and image, and build social relationships.

The process of engaging stakeholders in a discussion on added value can provide its own value. This is the case when the topic of added value provides a platform for constructive community discussion and shared decision-making with the implementer, and more generally helps to build collaborative community decision-making processes and relationships. Continuing this discussion over time ensures the project remains aligned with community expectations, and supports the constructive relationship between the facility and the community.

## Added value through design features

Beyond ensuring safe management of the radioactive waste, design elements in the radioactive waste management facility can also include functional, cultural and physical design features meaningful to the community. This includes advancing the quality of life in the community through features such as: distinctiveness, aesthetic quality, convenience and meaningfulness; providing opportunities for residents and visitors to meet, learn, relax and enjoy; and fostering community development in areas like education, image definition or problem-solving capacity. Design elements can and should be adapted to the national context.

## Added value through planning, implementing and operating the facility

Including added value features may encourage a process of participative decision-making in the planning and implementation of the project, which may also help community capacity building. The process of defining the desired features of the facility can itself bring added value to the community by developing social capital such as skills, expertise and knowledge. Once added value features have been identified through dialogue, experience suggests that during operations, a trusted community committee might be established aimed at fostering communication and information exchange between the facility and the public, based on core values such as honesty, openness, and transparency.



Tabloo visitor and meeting centre, Dessel, Belgium (ONDRAF/NIRAS).



## Added value can aid preservation of meaning and memory across generations

Added value can also help preserve the meaning and memory of the facility through building a relationship with the facility that will be carried on through generations. By adding a symbolic dimension to the facility through added features which help fit the project in the social and cultural life of the community, the memory and information about the facility will become part of the story of the area and retained and passed along in the same way as monuments, buildings or natural features of the territory.

### Approaches to added value

The concept of added value has been incorporated in the implementation of various country programmes in a variety of ways. This includes the possibility of using the repository as a meeting point to arrange exhibitions and other cultural initiatives. It also includes the development of activities aimed at deepening and sharing the knowledge of the local area from a cultural or environmental perspective.

Many initiatives include identifying and providing economic benefits to support long-term sustainable development of the region that hosts the facility. Benefits, and their importance, are identified through an open dialogue with local communities and with a wide range of stakeholders. Added value areas include:

- reinforced environmental protection in the area, as a consequence of the strict regulatory licensing conditions (e.g. institutional surveillance, declaration of environmentally protected area, reinforced measures against fire or flooding);
- direct and indirect employment opportunities;
- the development of infrastructure that will make the area more attractive;



Students examine core samples on a Carrier Orientation Day in a secondary school in Paks (PURAM, Hungary).

- the opportunity to carry out research, development and training activities which may make the site a center of expertise at the national level, and a source of trusted information for local communities.

Examples of added value approaches in three countries are briefly outlined below.

### Evolution of the concept

The added value approach continues to evolve as national radioactive waste management programmes advance in concert with host communities. Experience suggests that creating added value in radioactive waste management programmes helps align the projects with the communities in which they are implemented, embeds them in the social fabric of host communities, and helps build the relationships and sustained support needed for these long-term endeavours. The shape and form of the added value approach needs to be context-specific, reflecting valued aspects that may differ between countries and individual projects.

## Approaches to added value in three countries

### Sweden

The Added Value Programme (AVP) in Sweden is an important component of the preparations for implementation of the spent fuel repository and associated facilities. The two host municipalities for the repository and the encapsulation plant, Östhammar and Oskarshamn, initially identified and defined the added value concept which became the basis for the discussions with the project implementer, the Swedish Nuclear Fuel and Waste Management Company (SKB). The communities signed an agreement with SKB in 2009 comprising a range of possible benefits of mutual interest, in addition to the direct establishment of the planned facilities. The Added Value Programme is designed to enhance the overall conditions of the communities as a place to live, run businesses, and promote new establishments and companies. A Steering Committee, which has members from the power companies, SKB and the municipalities, decides how to allocate programme resources. The programme acts as a framework and platform for constructive dialogue between the implementer and communities on a range of activities and projects. The focus of these activities includes:

- Education, with special efforts in the energy sector and on creativity and entrepreneurship.
- Innovation, business development, broadening of the labour market.
- Development of non-commercial organisations.
- Road, rail, harbour and technical infrastructure development.
- SKB canister manufacturing plant and further development of its laboratories and offices.
- Marketing programmes for the municipalities such as “Attractive Oskarshamn”.

## Approaches to added value in three countries (cont'd)

### Belgium

In Belgium, added value is a foundational component of the waste management programme for short-lived low and intermediate level waste. The project implementer, the Belgian Agency for Radioactive Waste and Enriched Fissile Materials (ONDRAF/NIRAS), was tasked in 1998 with developing the waste management programme while maintaining dialogue with citizens. Local partnerships or committees were formed in the municipalities of Dessel and Mol and, in discussion with these groups, the implementation for the waste management project came to encompass a range of side-projects designed to provide added value to each community. All aspects of the waste disposal programme, including these side-projects, are controlled by a joint steering group comprising members from ONDRAF/NIRAS and the local partnerships STORA and MONA, with the mayors having an advisory role.

In addition, all projects are discussed with working groups and further elaborated in co-design with the local partnerships. The range of side-projects discussed include:

- A visitor and community centre with a dual function including: an information centre where visitors can learn about radioactive waste; and a local meeting centre with spaces such as a theatre, an exhibition space, an event meadow, and a multi-purpose area as well as recreational elements.
- A local fund designed to support local projects that create sustainable opportunities for the local communities and improve the quality of life in the short, medium and long term.
- Resources to support community participation.
- A dialogue on spatial planning and mobility.
- A plan for employment and retention of nuclear know-how, and support for the environment.
- A long-term study to monitor health locally and take initiatives to improve it.

### Hungary

In Hungary, creating added value has been a focus for the Public Limited Company for Radioactive Waste Management (PURAM) in working closely with communities which have hosted radioactive waste disposal or research facilities for more than 20 years. This has involved collaboratively organising activities with communities to support learning among all ages, in particular young people, and supporting activities that enhance community sustainability in areas important to the community. Examples include:

- Holding free annual information events and open days for everyone to visit. Beyond facilitating learning and presenting updates on radioactive waste management activities, events also highlight local merchants and performers with displays of their goods and artistic performances as part of community building.
- Organising competitions and events for children to bring the younger generation closer to science while passing on knowledge. Lectures in physics classes are organised to build the capacity of future generations both with respect to science and the moral standards guiding radioactive waste management at PURAM. School trips are organised to encourage learning, and summer internships are provided for young people, as well as support for university scholarships.
- Funding for local communication activities (newspapers, information events) and investments to improve the standard of living (purchase and maintenance of municipal housing, road renovation and road construction, purchase of transport vehicles).
- Stimulating economic activity in the community by creating work and attracting visitors as part of PURAM activities, with the addition of jobs and growth in population. This in turn helps achieve community objectives such as retaining youth and sustaining and growing valued services and population.