



WP 5 Final Report



National Insights

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I - Objectives and Methodology

The research carried out in COWAM 2 draws on a wide range of experiences from ten European countries. The results include the identification of good practices, hindrances and benchmarking in the governance of radioactive waste management which are useful in all countries while allowing for institutional and cultural particularities. WP5 provides a tool to enhance the integration of this research into the national experience of each country. The participants from each country were invited to report in a short document, called the *National Insight*, their views about the governance of radioactive waste management, building on the discussions and results of the four thematic work packages (local democracy, influence of the local actors on the national decision-making process, quality of the decision-making process, long term governance).

The objective of the National Insights was to develop as far as possible “a historical and strategic vision of the radioactive waste governance” for participants of a same country. While decision-making processes in radioactive waste management very often remain technically driven, there is a need to put forward and give substance to a more open and inclusive decision-making process. The notion of governance is often used to label this type of decision-making process. Gerry Stoker¹ identifies five aspects of governance : “(1) - *Governance refers to a set of organisations and actors which does not belong all to the government sphere* (2) - *It modifies the respective roles and responsibilities of public and private actors compared to traditional paradigms of policy making* (3) - *It involves interdependence between the organisations and actors engaged in collective action in contexts in which none of them has the resources and knowledge necessary to tackle the issue alone* (4) - *It involves autonomous networks of actors* (5) - *A key principle is the possibility of doing things without resorting to the power or the authority of the State.*” What does governance mean in the specific context of each country ? The National Insights made an attempt to answer this question by highlighting practical issues and experiences in each country, and explaining which are the key elements to be integrated in the decision-making process together with scientific and technical evidence and concepts.

Moreover, by reviewing the findings of COWAM 2 through the lens of their national experience, participants developed a document which supports their views on COWAM 2 issues and facilitates their efforts to develop the consideration of governance issues in their respective countries.

National sessions were held three times during the projects throughout the three years at the annual conference of COWAM 2 (July 2004 Berlin, July 2005 Ljubljana, July 2006 Antwerp). In some countries, additional meetings took place to take more time for national discussions.

The National Insights were elaborated along a common questionnaire (see Annex 1), prepared by the nine National Contact Persons, and the three expert resource persons involved in Work Package 5.

In the mid-term of the project, it was realized that this national dialogue entails a process dimension. Very often, the relations between local stakeholders and national decision-makers

¹ G. STOKER, Governance as a theory: five propositions, in *International Social Science Journal*, March 1998, n°155, pp17-28

remain bilateral. There are little opportunities for “horizontal” links, and local communities are isolated one from the other. Participation in the project enabled local communities from a same country to realize that they have common concerns, and they can exchange experience and advice. This is particularly the case for countries not involved in previous COWAM projects, but also for countries like Belgium, United Kingdom or France, involved already in COWAM 1, where local communities have strengthened relations. The fact that the project was structured in thematic work packages and provided room for national sessions gave more opportunities for local stakeholders from a same country to cooperate. In some Member States local stakeholders had never had the possibility to meet before, and sharing experience with peers faced with the same questions, in the same institutional context, was a major step forward.

Meeting fellow country men and women with different roles, concerns and responsibilities was not least significant. As a matter of fact, as a European arena COWAM 2 opened a dialogue forum distant from national disputes and controversies. It created favourable conditions for stakeholders to share views and information freely about current national and local RWM governance affairs. In these “neutral” settings, they were able to listen to each other, putting aside arguments, and to learn about each other’s concerns and attitudes. These conditions were particularly important for relations between RWM specialists and non professionals, and for relations between local and national stakeholders. The personal contacts established through the three years facilitated discussions and understanding. Participants recognized that this greater personal communication and awareness eventually reflected also in the organisations which the individuals represented.

Finally the meetings and conferences were often the starting points of other exchanges outside the project. Participants established contacts, developed relations beside COWAM 2, and in some cases, organised meetings to address the more direct and topical issues of RWM governance for their community or country.

In order to reflect this dimension, a second questionnaire (see annex 2) was proposed to support a discussion in the last National sessions in July 2006.

The National Insights consist of the discussions or answers on the basis of the first questionnaire. They are reported in section 2.

The answers to the process questions are included in section 3.

II - National Insights

II.1 - Belgian Group

National Contact Person / Facilitator: Gaston Meskens

Introduction

This report describes in short the Belgian situation with regard to RWM up to November 2006. The structure and spirit of the report is based on the list of questions that was prepared within EC FP6 COWAM2 Work Package 5. The answers to these questions are generated from a number of sources² and from various meetings with the stakeholders (including those in the frame of the COWAM2 annual seminars in Berlin, Ljubljana and Antwerp). In addition, in the frame of the SCK•CEN Programme of Integration of Social Sciences into nuclear research (PISA), two meetings of the Reflection Group 'Involvement' were organised in order to discuss the content of this report. All meetings generated much more insights and factual data about the working of the partnerships and the local and national political context than we can present here in this short briefing note. The Belgian partners within COWAM2 remain of course prepared to answer more detailed questions to the maximum possible extend.

Note to the reader

The history of the RW siting process in Belgium has itself evolved faster than the drafting and discussion process that led to this WP5 report. On a number of occasions, the content of this draft had to be adapted to the real situation (finalisation of the report of MONA, withdrawal of Fleurus-Farciennes). Finally, on 23 June 2006, the council of ministers decided to opt for a surface disposal site for the disposal of low and medium level short-lived waste in the municipality of Dessel. This makes any 'speculative' language in this report on the process in the run to that decision of course outdated. As by that time, this text had been discussed and revised rather extensively, we decided to keep the body of the text, and make only minor adaptations (especially by putting text in the past tense), as the answers to the questions still contain information that gives useful insight in the process as such.

Gaston Meskens (COWAM2 national contact person for Belgium)

² Written sources were the three partnership reports and the generic report of ONDRAF/NIRAS that was written as 'cover report' to these three reports : "Disposal on Belgian territory of low-level and medium-level short lived waste. Preparatory report for the presentation of the local partnership's reports to the Federal Government of Belgium" (NIROND 2005-07 N "Berging, op Belgisch grondgebied, van laag- en middelactief afval met korte levensduur. Rapport ter voorbereiding van de overhandiging door NIRAS aan de federale regering van de dossiers van de lokale partnerschappen"). The report exists in Dutch and French and is in this briefing note referred to as reference [1, page].

Participants of the national sessions and related meetings³

FANC	Ludo Jadoul Yvan Pouleur
MONA	Hugo Ceulemans Jan Claes Lut De Pillecyn Jacques Helsen Luc Smeyers Liesbeth Vanhoof Jef Verrees
NIRAS	Evelyn Hooft Peter De Preter
PaLoFF	Jean-claude Wauthy Francis Piedfort Barbara Weiss
SCK•CEN	Gunter Bombaerts Michel Bovy Benny Carlé Gilbert Eggermont Erik Laes Gaston Meskens Geert Volckaert
STORA	Hugo Draulans Kathleen Derveaux
Other	An Bergmans - University of Antwerp Paul Govaerts(†) - former General Manager of SCK•CEN Bernard Neerdael - IAEA, formerly SCK•CEN

³ Not all members were present at every meeting. This list represents the total of participants that were active in the meetings and during in-between discussions over the three years of the COWAM2 project.

1. National context - Belgium

1.1. Key milestones and events for radioactive waste management in Belgium.

The following chronological list gives an overview of key events.

- 1967 Start of systematic sea dumping of low level waste (organised by SCK•CEN);
- 1970 Sea dumping continues under supervision of NEA/OECD;
- 1980 Creation of NIRAS/ONDRAF, the Belgian national waste agency;
- 1982 Press conference on joint initiative of Belgian labour organisations and Greenpeace, calling to abandon sea dumping;
- 1983 Belgium joins the international moratorium on sea dumping (Convention of London, 1983);
- 1985 – 1987 First selection of 5 possible disposal sites by ONDRAF/NIRAS (the Belgian Agency for Radioactive Waste and Enriched Fissile Materials), based on (geological) criteria of the IAEA, NEA and US NRC;
- 1990 ONDRAF/NIRAS report stating that surface disposal is the most promising option (alternative techniques : old coalmines (drawback : unpredictable groundwater behaviour) and deep disposal in clay layers (more R&D needed - research was ongoing for B & C type waste, see www.niras.be for specifications));
- 1994 The Belgian government agrees with definitive ban on sea dumping (established internationally in 1993);
- 1994 Release of the ONDRAF/NIRAS report presenting 98 selected sites for surface disposal of LLW/MLW, unanimously rejected by the envisaged communities and also rejected by the Belgian government (Christian-Democrats and Socialists);
- 1995 The Belgian government orders a new study on alternatives ; three solutions were considered from now on : temporary surface storage, definite surface storage and deep disposal;
- 1996 The Belgian government orders a new study considering 25 old military sites;
- 1997 ONDRAF/NIRAS publishes the report on technical alternatives and on the old military sites, as requested by the government in 1995 and 1996;
- 1998 Decision by the Council of Ministers to opt for surface or deep disposal. ONDRAF/NIRAS had to limit its exploratory activities to existing nuclear sites and to sites where the local authorities show an interest. The agency had to develop methods, including management and consultation structures, making it possible to integrate a project of this kind at a local level.
The community of Beauraing is candidate (has old military site). The local referendum that was organised on this occasion resulted in the highest participation ever seen in Belgium (66%). Finally, the proposal was turned down by 95% of the people that participated in the referendum;
- 30 9 1999 Creation of the STOLA partnership (Dessel municipality)
- 9 2 2000 Creation of the MONA partnership (Mol municipality)
- 27 2 2003 Creation of the PaLoFF partnership (Fleurus-Farciennes municipalities)

Update on the partnerships' progress :

STOLA

- 23 9 2004 Final report approved by the general assembly of the partnership;
- 05-11-2004 Final report presented to Dessel municipality council;
- 27-01-2005 Final report approved by municipality council (+ STORA principles);
- 27-04-2005 dissolution of STOLA; creation of STORA, with the extension of the mandate to all kinds of waste;
- 25-05-2005 STOLA Dossier forwarded to the competent Minister of the Belgian Government;

MONA

- 19 01 2005 Final report approved by the general assembly of the partnership;
- 27-01-2005 Final report presented to Mol municipality council;
- 25-04-2005 Final report approved by municipality council;
- 13-07-2005 MONA Dossier forwarded to the competent Minister of the Belgian Government;

PaLoFF

- 21-12-2005 Final report approved by the general assembly of the partnership;
- 17-02-2006 Final report rejected by the executive council of the municipality of Fleurus

ONDRAF/NIRAS

- 08-05-2006 In May NIRAS presented a definitive report to the government that contained elements that should allow the government to make a properly informed decision concerning the follow-up to be given to the program for the disposal of low and medium active short-lived waste.
With the rejection of the PaLoFF report by the executive council of the municipality of Fleurus, the federal government had then 2 specific partnership dossiers and one generic ONDRAF/NIRAS Dossier. This means that there were two candidate municipalities that had forwarded specifications and conditions to accept the site. It was up to the government to make a decision. The outcome should be one dossier of one partnership integrated into the local context. On request of the minister, ONDRAF/NIRAS formulated itself a recommendation with regard to the decision to be made.
- 23-06-2006 Based on the recommendation of ONDRAF/NIRAS, the council of ministers decided to opt for a surface disposal site for the disposal of low and medium level short-lived waste in the municipality of Dessel.

A short description of the future of the process is taken up in §1.5. A map situating the municipalities in Belgium is presented in annex 1.

1.2. Key governance issues related to RWM in Belgium

- Key organisations : ONDRAF/NIRAS, the Belgian Agency for Radioactive Waste and Enriched Materials (<http://www.niras.be>), the Belgian Federal Agency for Nuclear Control (FANC, <http://www.fanc.fgov.be>). Research is performed by SCK•CEN, the Belgian Nuclear Research Centre (<http://www.sckcen.be>). Waste processing and interim storage is done at Belgoprocess (<http://www.belgoprocess.be>);
- With regard to management of high level waste, originally Belgium opted for the closed fuel cycle option (reprocessing of waste ; no direct disposal). With the moratorium on recycling and further use of MOX fuel, it is unclear what the long term policy of the government will be, but this is of course closely connected with the future of nuclear energy in Belgium as such. In general, the Belgian nuclear industry considers retrievability of high level disposed waste as a valuable option;
- Although there have been protest actions during the first and second transport, the return of vitrified waste from La Hague is no longer a ‘hot’ issue in the media. Meanwhile, several transports from La Hague (France) to Mol took place by railway and truck, and this with minor to no coverage in the press. In the beginning of 2007, the 13th and 14th transport will take place. The 14th will be the last transport of high level vitrified waste;
- At the Belgian Nuclear Research Centre, research on long term disposal in clay layers is progressing. The research concentrates as well on performance assessment studies as on in-situ experiments in an underground research lab. Among others, new experiments investigate the behaviour of clay exposed to heat (simulation of heat generation by HLW containers). Info on <http://www.euridice.be>;
- Belgian research on state-of-the-art partitioning and transmutation technologies could bring new insights and opportunities into RWM in general (<http://www.sckcen.be/myrrha/>);
- On the agenda for 2006 and following years are the process that should follow the site selection (decision of the Federal Government to proceed with one integrated project) and the working and future existence of the local partnerships STORA and MONA;
- In line with the previous point : similar participation projects for the solution of a high level and long lived waste disposal site could start in the (far) future. In this respect, MONA and STORA are considering their possible role in the long term management and disposal of all types of waste.

1.3. Types of waste at stake

The siting process that engaged the municipalities of Mol, Dessel and Fleurus-Farciennes up till now only looks at so-called ‘category A waste’. This is low- and medium-level short-lived waste. This waste has an average half-life of about 30 years, which will imply monitoring of the disposal site during 200 to 300 years (after 300 years, the waste contains only residual alpha activity).

1.4. Belgian legislation/regulation framework for the decision-making process for radioactive waste management.

The working of ONDRAF/NIRAS is specified by Belgian law. More information (in English, Dutch or French) can be found on <http://www.niras.be>

1.5. Expected key milestones for the governance of radioactive waste management in the next 10 – 15 years.

1.5.1. The final decision on site selection, based on the reports of the two partnerships (and the subsequent negotiations), was taken by the council of ministers on 23 June 2006. This decision is certainly of key importance for the future RWM policy in Belgium and even abroad.

In its generic report that accompanies the reports of the partnerships [1, iii], ONDRAF/NIRAS asked the government to guarantee that

- at least one of the presented pre-designs can result in a continuation into project phase;
- an agreement can be found on the social-economical aspects of the pre-designs that could go into project phase, as there is currently no settlement on the funding mechanisms for these aspects;
- the actual legal framework (that doesn't cover all of the aspects foreseen in the pre-designs) will be updated by the competent authorities (the Belgian Agency for Nuclear Control).

The follow-up decision making process that started after a period of exploratory talks and that lead to a selection of a site consisted of two phases [1, 43] : a consultation phase and a negotiation phase. The waste agency states that “during these phases, it is of key importance to maintain the ‘participatory character’ of the process”, and this in order to make maximum use of the expertise of those who were involved before and to guarantee a continuous trust in the transparency of the process. The decision making process evaluated the site options according to the same evaluation scheme. This scheme relied basically on three main aspects :

- compliance of the proposed pre-designs with the decision of the council of ministers (retrievability, flexibility...);
- quality of the participation process;
- financial aspects.

The financial aspects related to two categories linked to the integrated project : technical projected costs and socio-economical projected costs. Up till now, only the technical cost (of one central integrated disposal site) is budgeted and covered through a financial mechanism. The technical projected cost contains the construction, exploitation, closure, institutional monitoring and controls of the site and also the waste transports. To cover these technical costs, ONDRAF/NIRAS is building up provisions into a so-called ‘long term fund’, according to the ‘polluter pays’ principle. Every waste producer has to provide the agency with a projection of the total amount of waste that will be produced in the producers ‘lifetime’ and has to pay a certain financial contribution in the fund for every collected amount of waste (from that moment on, the agency becomes the ‘owner’ of the waste). This long term fund system is in use already since 1981, independently from the site selection process. For what the electricity producing utility Electrabel is concerned, this system will be subject of reconsideration due to the change of ownership by Suez.

The socio-economic ‘compensation’ will be another important topic of the negotiations among the involved actors during the follow-up of the decision making process. In their respective reports, the three partnerships gave an indication on how they saw this (what they

call) “socio-economic added value” or “local development projects” for their community. Logically, priority was given to structural arrangements that should ensure continuous public information and involvement with regard to the safety aspects during construction, exploitation and monitoring (after closure) of the site. In addition, the reports listed suggestions for local development that cover a number of specific areas (local industrial development, employment, education, renewable energy projects, transport, environmental site remediation (non-nuclear), heritage site restoration (specifically PaLoFF), ...). It is clear that these suggestions were not seen as limitative or ‘take it or leave it conditions’, but that they had rather to be seen as a basis for further negotiations.

Although different in character, both MONA and STORA suggested the establishment of a ‘fund structure’ that should be able to cover the local socio-economic projects over the longer term. None of them had (officially) put forward a suggested total amount this fund structure should contain⁴.

In its report ([1, 45]), ONDRAF/NIRAS made some suggestions for what the financing of the fund is concerned. This could be a revision of the ‘technical’ long term fund so that it also includes a ‘default’ socio-economic compensation cost, but also a system of taxes (f.i. on the kWh produced) could be considered. The agency stated that relying on the long term fund alone could be dangerous, as this system generates no money in times without actual collection of waste. At this moment, it is not clear who should collect the finances for the socio-economic fund as such (according to the report, this could be ONDRAF/NIRAS itself, but also the Belgian State, the producers, the electricity providers, the regions or the municipalities).

Looking back on the participation process, ONDRAF/NIRAS, in spring 2006, was of the opinion that it should have been possible to arrive at a sufficiently clear situation before the end of 2006, i.e. a situation in which the government can take a decision. Several reasons for the fact that the decision was already taken in June 2006 could be identified. However, this analysis is beyond the scope of this report. Anyway, the press file ONDRAF/NIRAS⁵ released early 2005 is still valid. It said that, “this decision will mark the transition to a new stage: the stage in which the license application files that are necessary to start the construction of the repository will actually be prepared. Numerous licenses and a safety report are required before construction of the repository can start. A repository can be operational in 2015-2020 at the earliest. The operational stage, i.e. filling the repository, will take about thirty years and will be followed by the final covering and closure of the repository, and a monitoring phase of a few hundred years.”

In a press briefing on the occasion of the decision by the council of ministers⁶, ONDRAF/NIRAS said that this decision will now permit the start-up of the next phase of the work programme: the real design of an integrated project of surface disposal on the territory of the municipality of Dessel. Crucial in this phase, the agency states, is the continuation of

⁴ It is generally accepted that there is no clear and rational way to link an economical value to a ‘disadvantage’ that comes with the disposal site. In this context, ONDRAF/NIRAS says that “it is rather difficult to stick an exact budget to the socio-economic component of the integrated project” [1, 44], but refers as an example to the European EXTERNE study in this sense. EXTERNE budgets ‘external costs’ through an estimation of the ‘damage due to radiological impact’ as $4,8 \cdot 10^6$ € per kWh installed nuclear capacity (a critique to this approach is that the estimation does not take into account the characteristics of the site region). Assuming that all LLW and MLW would origin from nuclear electricity production and that all seven reactors would operate for 40 years, the agency estimates that this would lead to a total ‘damage cost’ of 11,2 M€ for Belgium. This represents 2,3 to 2,9% of the projected technical cost of the disposal site in the case of the surface disposal option. The agency said that the deep disposal option would be about twice the cost of the surface option, but in that case, the ‘radiological damage’ to the environment would be significantly lower.

⁵ ONDRAF/NIRAS press file released on 27 January 2005

⁶ ONDRAF/NIRAS press file of 23 June 2006, my translation

the participative process and the central role of both partnerships STORA and MONA (the municipality of Mol is next to that of Dessel, and the site will be less than a kilometre from the border). The partnerships and the municipalities are of the opinion that also after the selection the other municipality and its partnership should participate in the following decision making process. In order to ensure a fair treaty of all interests, a specific involvement process for this situation will be designed.

Meanwhile, following the decision of the government, and in view of the future licensing process, a consultation process between ONDRAF/NIRAS and the Federal Agency for Nuclear Control FANC has started.

1.5.2. Future key evolutions that are not directly related to RWM but that could have an impact in the longer term:

- As Belgium has a significant nuclear share, the future of the law on the nuclear phase-out decision will of course also have an impact on future RWM in the broadest sense. In the frame of (1) international evolutions with regard to liberalisation of the electricity market, (2) the national commitments related to the Kyoto Protocol and eventual post-Kyoto negotiations and (3) the issue of autonomy and security of supply with regard to the gas market, the phase-out is currently heavily discussed in the media and in unofficial political discussions. It is not clear whether a major debate could be expected to take place before 2007 (national elections);
- The future of the MYHRRRA project and all other scientific and political evolutions with regard to partitioning and transmutation;
- The evolution of issues related to governance of RWM on an international level, especially the discussions on the development of international sites, on (non)retrievability and on the open or closed fuel cycle.

1.6. Key players currently involved in the decision-making process.

ONDRAF/NIRAS

- authorised RWM management (and related policy) agency
- public information (national)

Stakeholders - through the partnerships and eventual follow-up structures

- local representation / policy
- proposals of pre-designs of disposal sites
- public information and communication (local)

Federal Agency for Nuclear Control

- safety authority (national)
- public information (national, not 'active', only via website)

2. *Governance issues from the local perspective*

2.1. **Key mechanisms supporting the implementation of local democracy and citizens' participation at the local, regional and national levels.**

2.1.1. The partnership model

Although there exist several participatory models ((local committees, partnerships, focus groups, round tables, forums,...), Belgium has chosen for the local partnerships model as the formal local participatory process tool. This is partly because the Belgian authorities asked ONDRAF/NIRAS to 'concentrate their research on developing methods integrating existing local policy and deliberation structures'[1, 1]⁷.

The idea behind the local partnership programme was that the potential host communities should be given the opportunity to be involved in the development of both the technical and the socio-economic part of the repository project and should be enabled to determine for themselves the conditions for accepting such a drastic intervention in their immediate surroundings. These 'conditions' were regarded to be more than just technical and safety measures. Together they were to constitute the above mentioned accompanying project (in one way or another related to the disposal site) from which the entire community benefits.

In addition, the agency choose to go ahead only with those municipalities who - after a briefing session - showed spontaneous interest in the development and local integration of this kind of siting project. It is worthwhile to mention that those municipalities saw the project merely as a kind of 'responsibility towards (their local) society' and as a challenge as such. Although the principle of compensation was known and considered obvious, there were no elements of possible compensations specified at this stage.

A 'partnership'⁸ is a constitution of stakeholders based on 'social map' of the community (governing actors, societal actors, economical actors). Reference [1] gives a more in-depth review of the characteristics of the concept. The most important characteristics are [1, 15-17]:

- The constitution reflects the community it represents in a balanced way;
- The partnership functions in a democratic and autonomous way and had the (Belgian) structure of a non-profit organisation;
- The partnership makes internal decisions in an autonomous way, including the decision to eventually end its activities in the run of the process;
- The registered office of the partnership is situated in the community it represents;
- The partnership received a local working budget of 250 K€/y and two times a 75 K€ study budget. It could manage these budgets in an autonomous way.

The final reports and info on the partnerships can be found on

www.monavzw.be

www.stora.org

www.paloff.be

There is a general feeling with both the partnership members themselves and people who worked with them that the partnership concept has proven to be a success. It is clear that any analysis that has been done up till now will be useful for any other follow-up structure that

⁷ my translation

⁸ The partnership format was developed for ONDRAF/NIRAS by the University of Antwerp (UA, Dept of Social and Political Sciences) and the Fondation Universitaire Luxembourgeoise (FUL, Research group on Socio-economics, Environment and Development).

will emerge in the future. In this respect, both STORA and MONA have been ‘re-established’ to follow up the future process. In general, these follow-up structures will have a wider competence and authority than the original partnerships, as they could be involved in the follow-up of ‘their’ case on national level and in RWM management related to all types of waste.

Alongside the ‘official’ involvement process, there were several other parallel supportive initiatives, such as the SCK•CEN research initiatives (including COWAM2) next to roundtables, presentations and forums organised by ONDRAF/NIRAS, SCK•CEN, the utility Electrabel and the partnerships, sometimes in cooperation.

2.1.2. Influence of local stakeholders on policy that will be implemented in their territory, now and in the future ; flexibility of the process in this sense.

Except for ‘end responsibility’ with regard to the final decision, the partnership model guaranteed direct influence on the policy implemented in their territory, as it is to the partnership to engage in the development of a solution itself. Together with the responsible waste agency, it can (and should) also propose ‘follow up structures’. Flexibility can be introduced by seeking guarantee for the *principle* of the follow-up structure in combination with a finite term (and mandate) of every group as such (in other words: the ‘structure’ would remain while the people involved will change). Terms could be defined to the different stages of construction, exploitation, closing and subsequent monitoring of the disposal site.

2.1.3. Influence of local stakeholders on national RWM policy.

The influence of the local stakeholders on national RW siting policy is in a way significant, as the analysis and adaptation of the pre-designs of the disposal concepts (originally presented by ONDRAF/NIRAS) as well as the suggested accompanying economical and social measures is in origin their work. Secondly, their influence was also present in the ‘negotiation phase’ following completion of the three proposals (see §1.5.). This process involved the waste producers, ONDRAF/NIRAS, the national, regional and local authorities and the so-called ‘follow-up structures’ that should grow out of the partnerships [1;iii].

On the other hand, influence of local stakeholders on national long term RWM policy is still limited (whether about low- or high-level waste), as this policy covers more than only site conceptualisation and selection. In this sense, it should be noted that this is not only a problem for RWM. Direct influence of local stakeholders on national policy remains limited to specific exercises organised by the federal and regional governments (f.i. focus groups and workshops on genetically modified food or energy policy). Belgium has also no tradition of organising public consultations (as it is f.i. the case in Sweden).

In this sense, one could also question the actual involvement process seen in the broader context of Belgian energy policy. The views on whether the Belgian government has done enough effort in the past to involve stakeholders on a national level instead of only on local level vary significantly, and this as well related to siting processes as for what the role of nuclear energy in the Belgian energy mix is concerned. The nuclear phase-out is nowadays again in the centre of the energy debate, but there is no indication whether or not the government will organise a national societal debate (citizen forums such as focus groups or consensus conferences) with all relevant stakeholders in the run to - or slipstream of - the foreseen national elections.

2.1.4. Possible future role of stakeholders as statutory consultees (i.e. consulted in a statutory way).

This issue is very relevant, but it is too early now to give a clear indication on the future involvement of the stakeholders in this sense. One should anyway take into account that ‘one or another future body’ that represents the (local) stakeholders can never replace local municipality authorities. The format of the municipality having a representation in the partnership has proven to be successful and could inspire future involvement and representation concepts.

2.2. Influence of local stakeholders in framing, controlling, reviewing and producing expert knowledge relevant to local decisions.

As technical experts from ONDRAF/NIRAS proposed design concepts and basic characteristics for the development of the technical issues from the start, one could observe that many of the local stakeholders became very knowledgeable about the technical issues at stake in the run of the process themselves. In addition, they each brought knowledge from their specific ‘social background’ into the process. This two-way input provided the basis for the necessary ‘synergetic’ expertise : technical knowledge that was tested to the conditions of the real social environment and vice-versa. Of course there will always be a (practical) limit to the expertise one can gain in another area. Therefore it is evident that mutual trust remains another essential element in the development of a proposed solution.

The issues of the use of expertise and expert culture are topics of research that is performed at SCK•CEN-PISA (Programme of Integration of Social Aspects into nuclear research) (see <http://www.sckcen.be/pisa>)

■ Use of external expertise

As stated before, the partnerships had (and will have) an autonomous internal working. In this sense, it was up to them to judge on the need for ‘extra’ studies or ‘external’ expertise. Due to the specific balanced constitution of the partnership, the group had the capacity to evaluate the ‘neutral’ character of the expertise as such. The eventual costs were covered by the working or study budget (see §2.2.) or direct by the waste agency in specific cases.

2.3. Key elements to take into account in Belgium to strengthen the quality of the decision-making process.

2.3.1. Specific for Belgium

- As for all other national policy issues, the balancing of regional interests (Flemish / Walloon) is an element that has to be taken into account, although it had no negative impact on the process as such up till now.
- Policy issues related to energy and environment are more and more passed on to regional authority, while nuclear related policy (including RWM) remains under national authority. This ‘double authority’ - if it remains - could possibly affect further RWM policy.

2.3.2. In general

- One should avoid generating too much competition between candidate communities and focus on synergies as much as possible. This is certainly the case when different municipalities are situated in the same region.
- A clear agreement on the framework of the process is essential. From the start, all stakeholders should find consensus on which elements are relevant for the negotiations and which are not ('joint problem definition' should precede 'joint problem solution').
- A thorough analysis of the Belgian participation process as it was organised up till now will clear out some remaining questions with regard to 'representation'. Although the siting affects mainly local stakeholders, one could f.i. consider consultation and involvement of stakeholders on a broader national basis, in order to give the process also a broader (national) support.
- It is evident that a participatory process can only exist when it is embedded in democratic political system. However, overcoming the intrinsic 'boundaries' of this system will remain the biggest challenge of every kind of participatory process (not only on RWM). In this sense, both the element of 'representation versus end responsibility' and the element of 'robustness of implemented solutions and structures through subsequent political terms (legislatures)' are essential.

2.3.3. Creating or developing conditions for empowerment of local organisations/committees so that they move from a consultative to an engagement role.

The Belgian partnership model is basically already an engagement model rather than a consultative model. As it was sometimes done in the Belgian case, the partnerships (in cooperation with research centres, universities and/or the waste agency) can 'back up' their work by organising parallel consultative exercises (round tables, focus groups, ...) on specific issues.

2.3.4. Organising the different roles of public and private institutions to increase legitimacy and confidence and to avoid conflicts of interest.

Through their involvement in the partnership model, the role of every public and private institution involved in the Belgian process up till now was clear and unambiguous.

The role and format of the partnership has of course to be revised for the future. Especially for what the administration of the socio-economic part of the integrated project for the selected community is concerned, clear and transparent agreements on responsibilities and ownership between the waste agency, the partnership (or follow-up structure) and the municipality will have to be settled.

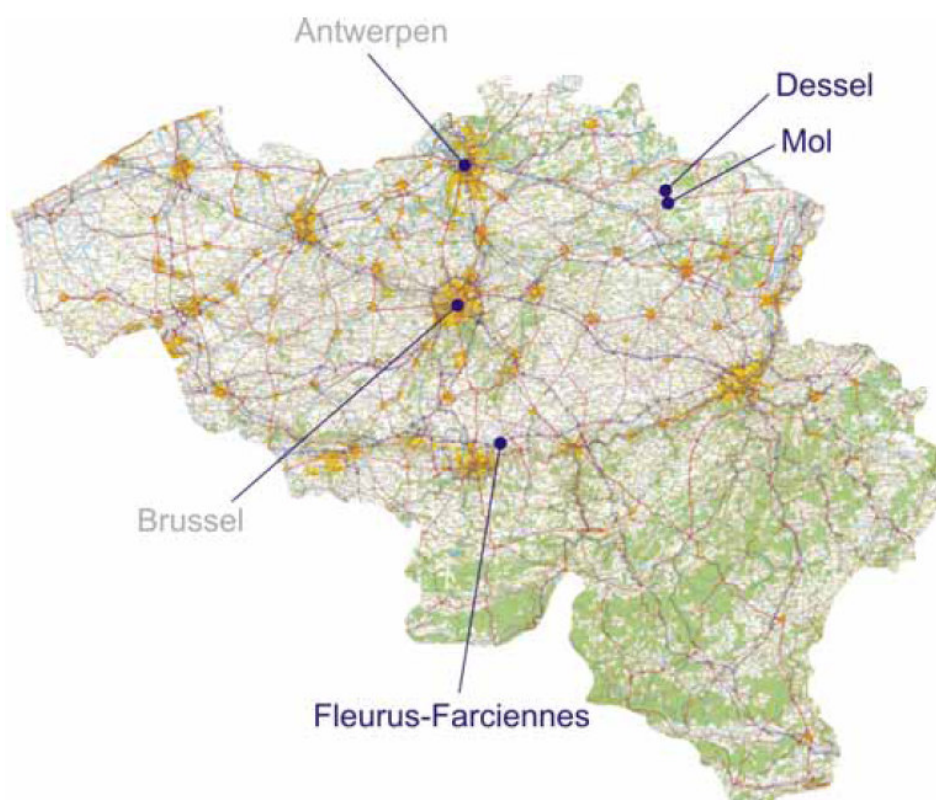
2.4. Role of local committees in the long-term development of a community.

Partnerships have proven to be a successful format for the preparation of an integrated pre-design proposal for a disposal site that has the necessary support of the community itself. There are reasons to believe that a partnership model with specific extended competences (as it is already the case with MONA and STORA) will be the most suitable body to start negotiations on a national level in the next phase (see § 1.5.). However, one should integrate this bottom-up process in a wider process that seeks to involve stakeholders on a national basis (see also 2.3.2.)

Now that the site has been selected, the role of this partnerships will have to be reviewed, taking into account the following points:

- Mol, being the municipality that has not been selected still needs one or another kind of representation, as there remains of course nuclear activity in their region. The experience of the partnership exercise will anyway contribute to a even better communication between the stakeholders also in their case. As said before, ONDRAF/NIRAS states itself that this kind of involvement is of key importance in the future process.
- Dessel, being the municipality that has been selected needs to establish a citizens' representation for as well the monitoring of the site itself (construction, exploitation and post-closure monitoring) as for the monitoring of the socio-economic development projects. Related to these projects, obviously a body needs to be installed that will be responsible for the administration of the societal compensations (whether a development fund or any other kind). F.i., in its report, the MONA partnership applied for a principle independency with regard to the management of the compensation fund (independent from the local community authority and the national RWM institute).
- As said before, the practical organisation of representations and responsibilities and the (practical and principle) degree of independency with regard to the administration of the societal compensation at local level will now be essential elements of the design of the specific future involvement process.

Map of Belgium - location of the municipalities of Mol, Dessel and Fleurus-Farciennes



Glossary

Organisations

FANC	Federal Agency for Nuclear Control
MONA	Mols Overleg Nucleair Afval
ONDRAF/NIRAS	Nationale Instelling voor Radioactief Afval en verrijkte Spleitstoffen / l'Organisme national des déchets radioactifs et des matières fissiles enrichies
PaLoFF	Partenariat Local Fleurus-Farciennes
SCK•CEN	StudieCentrum voor Kernenergie • Centre d'étude de l'Energie Nucléaire
STOLA	Studie- en Overleggroep Laagactief Afval
STORA	Studie- en Overleggroep Radioactief Afval

Technical

EXTERNE	Externalities of Energy - A Research Project of the EC
HLW	High Level Waste
LILW	Low and Intermediate Level Waste
LLW/MLW	Low Level Waste / Medium Level Waste
MYHRRA	Multi-purpose hYbrid Research Reactor for High-tech Applications
RWM	Radioactive Waste Management

II.2 - French Group

Facilitator

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Most participants above took a constant part, some an occasional participation, in the discussions held by the French group on topics addressed in COWAM 2 workpackages. Three sessions were held on 7 July 2005 in Ljubljana, on 22 May 2006 in Paris, and on 5 July 2006 in Antwerp. The report relates the discussions held during the sessions, and was circulated among the group, but is the sole responsibility of the facilitator.

1. Context and objectives

Participants in COWAM 2 met in national sessions to express their vision, each in regard to their own country, of the governance of radioactive waste. The *National Insights* document gave an account of these discussions and was drafted by the facilitator. These Insights rely on the reflection that took place on the four theme-based workpackages of COWAM 2 (local democracy, influence of local actors on national decision-making process, quality of decision-making process, and long term governance).

The purpose of the national insights was to develop an historic and strategic vision of governance in the field of radioactive waste management in each country. Given that decision-making processes remain highly focused on the technical dimensions of waste management, how could more weight be given to the dimensions of governance? and how could a more open and inclusive process be built?

Governance can be taken to mean the adoption of political, social, economic, ethical, legal and technical considerations, by the inclusion of civil society in all levels of decision-making (national, but also local, regional and international). Governance pays special attention to "transparency, participation, the spirit of responsibility, efficacy and coherence" (European Commission White Paper on European Governance⁹). The notion of governance also takes in aspects of diversity of regulation, questions of participation, access to information, finance, and issues such as the role of institutions and science, etc.

What does governance mean in the field of waste management, and in the specific context of individual countries? How can it be better identified and taken into consideration? National perspectives have sought to give an answer to these two questions by underlining the issues raised and the practical experience gained in each country, and by bringing to the fore the main elements (other than scientific and technical) to be taken into account by the decision-making process, in individual contexts. This review of COWAM 2 results was, furthermore, an opportunity for the participants to bring forward their COWAM 2 reflection as a response to the issues which appeared to be the most pertinent to their national contexts.

2. Methodology

The national groups brought together COWAM 2 members belonging to a given country¹⁰. Each group was led by a facilitator. In France, that facilitator was Mutadis.

Each national group had an opportunity to meet in a two-hour session coinciding with annual conferences held in Berlin (July 2004), Ljubljana (July 2005), Antwerp (July 2006). At the request of the facilitator, national groups were able to meet outside annual conferences. A further session of the French group was thus held on 22 May 2006 in Paris, and enabled the presentation and discussion of the intermediate results of COWAM 2, as seen from the French perspective.

⁹ European Commission White Paper on European Governance, COM(2001) 428 final, 25/07/2001, Brussels.

¹⁰ In addition to France, the countries which set up COWAM 2 national groups were: Germany, Belgium, Spain, Great Britain, Hungary, Romania, Slovenia and Switzerland.

The list of participants in Appendix 1 shows the French members of COWAM 2 who contributed, at the Ljubljana, Paris and Antwerp sessions, to the discussions on working themes related to the project.¹¹

The Ljubljana meeting in July 2005 initiated discussions on the results of the work in progress on the work workpackages. France, being similar in this respect to other countries involved in COWAM 2, such as Spain or Great Britain, was on the eve of holding a major national debate on the question of radioactive waste management. At this time of initial exchange of points of view, participants discussed the orientation of a document drafted by the French COWAM 2 group.

While there was a strong interest in bringing to the notice of the Commission Nationale du Débat Public (CNDP – National Commission for Public Debate), such elements of information as were produced by COWAM 2, most of the French participants noted that the national consultation timetable was not in step with the timetable of the COWAM 2 European project. Even so, each organisation was free to keep the CNDP national debate process informed of the conclusions and recommendations that it had adopted, on an individual basis, in regard to the discussions and reflections underway at the European level.

Participants at the same time confirmed their interest in a cross-border approach to the questions subjected to analysis, from the French point of view, in COWAM 2. Discussion took place on the nature of the draft. Was its ambition to reflect the differences in points of view of the various COWAM participants? or should it build a commonly held vision? In whose name was the draft to be put forward? And by whom should it be signed? What methodology should be adopted to continue working? Winding up its discussion on these questions, the group agreed to work on a shared analysis that respected the points of view of the various participants and broke matters down into three distinct aspects of the national perspective:

- **Historical overview**, which reviewed the main dates and orientations taken in the last thirty years in the field of waste management. This section was above all factual (cf. Appendix 3).
- The "**French**" **interpretation of the four theme-based workpackages**. The French group agreed to review the work in progress on each workpackage, in order to identify the major questions, comments or conclusions calling for consideration in the French context. The objective was not necessarily to assess the French situation, but to identify and characterise those questions that were apparently of a greater interest in the French context, particularly those that merited debate or more extensive investigation at the national level.
- A more comprehensive **perspective** of French issues and challenges. Based on a review of the four directions of work (local democracy, influence of local actors on the decision making process, quality of the decision-making process, long term governance), the group sought to undertake an overall analysis of governance issues

¹¹ As with the other countries, the first session of the French group in Berlin was devoted to a discussion of the general objectives and working programme of COWAM 2. This was an opportunity for French participants to introduce themselves to one another and express their expectations in regard to COWAM 2. Comments were made on the objectives and on the first months of project activity. These were sent on to the WP leaders, and helped give better direction to the work in the four theme-based workpackages.

felt to be most acute at the present time in France. The conduct of the session, which sought an overall perspective, set particular store on bringing out converging points of view. However, participants were able to append to the report summarising the general discussion, additional or different points of view, if they deemed it necessary.

This document presents the final outcome of these discussions. Without the analysis being segmented to quite the degree originally proposed, this report highlights the lessons that the members of the group drew from the COWAM 2 work, going forward at that time and the questions of governance it raised, as seen from the French group point of view in the national context.

The analyses and opinions presented here are not all shared by the French participants in the COWAM 2 project. Diverging opinions, when expressed, have been registered as necessary. At all events, this document, drafted under the responsibility of the facilitation team, reflects the discussions and debates of the Group. It brings out key questions of governance that were identified, on a pluralistic basis, by French participants in COWAM 2 seeking interrelationships with the European experience, and drawing on the direct experience of stakeholders in the waste management process currently implemented in France.

3. Summary of discussions

The work of workpackage 1 on **local democracy** was oriented towards the description of the existing local commissions (CLIs for *Commissions Locales d'Information*), the purpose being to assist countries and communities with less experience in this field, and to improve the practice of local democracy. The French group suggested reflection on the changes that could be introduced by the CLIs involved in waste management, in order to take into consideration this as yet unexplored dimension of the longer term perspective. Furthermore, a discussion was initiated on expert missions at the local level. How could access to expertise be facilitated locally? and how could the pertinence of such experience be reinforced for actors at the local level?

In regard to the question of the **influence of local actors on national decision-making**, a consensus was reached on the need to set up dialogue between local actors and national bodies in a spirit of continuity. Discussion related to how this sustainable dialogue could be organised, and more particularly, to the importance of the institutionalisation of such dialogue. Whether the structures were formal or informal, participants emphasised that it was essential to have regular meetings in order to place the debate within a context of continuity, over time, and to extend the debate from a discussion about risks and compensation, to an authentic dialogue centred on issues of local development or land use. This question was seen as connected to the problem of the longer term, giving rise to discussion of the conditions of the sustainable participation of local actors in the dialogue process

Work on the **quality of the decision-making process** set itself the goal of looking laterally at all elements that might reinforce the robustness, legitimacy, efficacy of and trust in governance arrangements. This work was also an incentive to raising questions about the definition of 'quality' in the field of governance and waste management. The French group raised two major questions. Who could contribute to improving the quality of the decision-making process – decision-makers or society? The issue was, broadly, 'What place should be

set aside for purely technical approaches? and what scope given the wider issues of governance, in the search for quality?'

Participants pointed out that the question when raised in the following terms, "What role could be played by local committees in the longer term development of their communities?", did not do justice to the plurality of the issues emerging in this field. In practice, the discussions that the French group was able to undertake regarding the **longer term** covered a wider set of problems: from liability for and ownership of waste, to financial management; the contribution of the various levels of governance - local, national and international - to the sustainable management of waste, and questions of definition of a local development and land use project.

In conclusion to their work in national session, French participants reviewed their participation in COWAM 2 and the lessons they drew from it, notably the manner of apprehending questions of governance in the field of waste management, and the ability to act on their local or national, or even European, environment.

4. Local Democracy

The work of workpackage 1 on local democracy was oriented towards the description of the existing CLIs, the purpose being to assist countries and communities with less experience in this field, and to improve the practice of local democracy. The French group discussed the necessity of including Local Commissions as a dimension of the longer term, and suggested reflection on the changes that could be introduced to take into consideration the as yet unexplored dimension of the longer term perspective. Furthermore, a discussion was initiated on expert missions at the local level. How could access to expertise be facilitated locally? and how could the pertinence of such experience be reinforced for actors at the local level?

Local Information Commissions

Many foreign countries considered that the French CLIs were a model of dialogue and consultation. As part of the COWAM 2 process, the French participants brought to the notice of foreign partners the mode of operation of the CLI and of the CLIS, while bearing in mind that the CLIs were a characteristically French institutional feature. Here, it was important to avoid over-schematising approaches to existing organisations and idealising them as "models".

All good practice could not be adapted directly and immediately to all circumstances. For example, the Belgian partnership was a close-knit association of elected members and associations in a joint project. But it appeared not to be feasible in France in the current situation in the Meuse-Haute Marne. The whole interest of a tool such as the *roadmap*, built up in Workpackage 1, was to demonstrate that a Local Commission was set up according to a logic which was proper to each country concerned. **Putting things into perspective made it possible to identify and better understand what worked and what did not work in the local and national context.**

In the final analysis, even when concerns regarding local democracy in Europe were held in common, the CLIs themselves did not treat them in the same manner. From this point of view, the *roadmap* is not a normative tool, but a **means to reflect on how to improve existing practice in the light of local and national experience**. The roadmap can from this point of view be seen as a means to promote the structuring of *space for dialogue* at the local level.

Furthermore, there is not a one-and-only model of the Local Commission within France itself. There is a **historically fashioned diversity, which it appears important to respect**. In the waste management field, for example, facilities such as the Centre de Stockage de la Manche (CSM or Channel Storage Centre), the COGEMA La Hague site, the Bure laboratory and the Soulaines and Morvilliers centres, are each linked to a Local Commission, each of which however differed in status and make-up. For example, the CSPI La Hague includes a group of internal experts, an option that the majority of CLIs did not adopt. In the opinion of some, there is a real need **for a degree of flexibility, so as to ensure that Local Commissions respond as best they could to particular problems encountered locally**.

It is interesting to note that the European Commission is reflecting for its part on the manner in which CLI development could be promoted, as an element of good practice in the area of consultation on nuclear sites.

Local Democracy and the long term

COWAM, in its first period (2000-2003), took distance from the technical features of waste management and brought out common and generic aspects in questions of governance affecting decision-making processes, and this irrespective of the type of waste. The purpose of the work performed in the framework of the local democracy workpackage, was to make generic recommendations regarding the organisation of local democracy, by drawing on the experience of the CLIs in Europe around nuclear sites.

Furthermore, waste management is associated with the **dimension of the long term, which raises new and specific problems for the CLIs**. This is in particular related to the question of vigilance: how far would a CLI be involved in long term monitoring? It is of interest that, by cross referencing this work with the investigations of Workpackage 4 on the longer term, specific features could be taken into consideration by the CLIs established close to waste management sites, soon to be or already confronted with experience of long term management issues. Some participants therefore suggested reflection should take place on how to recruit members to CLIs.

The long term raises questions as yet unposed, regarding the development of local land use and its planning. How should this be organised to ensure that a local area is in a position to offer long term hosting facilities? Doesn't the organisation of the local authority or area itself contribute to a more vigilant watch over the installations, and to the sustainable management of waste? Could not the existence of local democracy, based for example on a CLI, facilitate a local authority exercising vigilance over the longer term?

Expertise

Confronting the experience of French CLIs with that of their European counterparts, raised questions as to the role of actors in local democracy with respect to experts, and helped clarify what expert assessment could bring to issues of local democracy.

Discussions mainly centred on two questions:

- What access to expert opinion? How could such access be improved?
- What use could be made of expert opinion? In what manner could sharing of expertise opinion be assured at the local level?

These discussions threw light on the relationships between the CLIs and the site operators on the one hand, and on the other hand the relationship with public sector experts. Different developments were taken into consideration, in particular, the development of pluralist expertise.

Access to information

Access to operator documents or to institutional expertise was a point of entry for CLIs participating in the expert assessment process. Without access to documentation, CLIs would find it difficult to build an opinion in the monitoring field.

In this respect, agreements had been signed between operators and local actors and associations, and were the outline of a new approach toward access to documents. An agreement had, for example, been made between GSIEN and EDF in the framework of the public debate on the EPR nuclear reactor. An agreement between EDF, Flamanville CLI and the National Association of CLI (ANCLI) is likely to be signed regarding the EPR reactor for a period of six years, until installation start-up. The purpose of these agreements is to define and ensure procedures for access to technical information, whilst providing for respect for confidentiality when necessary. In parallel, progress is noted in regard to the publicity given to the opinions of the institutional expert involved.

The clarification of the conditions whereby access to and publicising of expert opinion is allowed, takes time. Arrangements are at their earliest stages of implementation, and real cooperation between the actors involved appears to be needed to ensure that they are efficacious. IRSN and ANCLI thus set up a working group to enable the clarification of access procedures by CLIs to institutional expertise, and procedures for cooperation enabling both parties to construct dialogue.

Discussions and opportunities for dialogue appears to be becoming more frequent, and provide further opportunities for exchange of views and greater access to information. However, these advances remain limited, as long as dialogue on technical information remains a purely occasional exercise. It becomes clearly apparent that substantial improvement in access to information raises the issue of the sustainability and continuity of exchanges of points of view, and of plurality of expertise.

Without calling into question the quality of public sector expert opinion, the introduction of additional or counter-expert opinion is increasingly acknowledged as a legitimate demand,

given that the plurality of opinions appears to raise the veil that had concealed certain processes from view, and contributes to making that which was initially difficult to understand by non-specialists, more comprehensible.

Two different interpretations were given of plurality. The first was the development and the highlighting of pluralism in the matter of expert opinion. At issue here is the existence of diversified and acknowledged expertise and if necessary bringing into being procedures for joint appraisals by different types of expert, including associations. Dialogue between a plurality of actors makes it possible to highlight the gulf that can arise, between the full diversity of expert opinion, and the final decision when taken, as in most cases it is, by a single actor possessed of competency and legitimacy.

The second idea put forward was the development of a network of “independent” experts, be they foreign experts or accredited experts. It was interesting to learn that France’s RTE (*Réseau de Transport d’Electricité* – National Grid) had designated experts from across Europe to intervene and provide counter expertise in France. In a similar way, the draft directive on nuclear safety provided for a European peer review at the regulatory and operator level. What criteria should the CLIs adopt, if they were to grant recognition status to an expert? Would an accreditation system be a possibility?

Both approaches raised the question of the technical dialogue which could be built up jointly between institutional experts and local actors. For example, how could an institutional expert work with a CLI? This is a technical matter, but also a strategic issue which raises questions about the role of public experts in their dialogue with local actors.

What use is to be made of expertise?

Access to information owned by operators (in particular at the time of public enquiries), and access to public expert assessments do not, as such, give local actors ownership of technical questions. Ownership involves the development of an expert capacity, within the framework of the CLIs. The CLIs and ANCLI had been able to institute investigatory processes (ten year inspections of EDF power stations, IEER study of ANDRA research programme in Bure, analysis and monitoring of public enquiry dossiers at Saclay...), but their representatives noted that this all too often required unremitting effort. As for access to information, progress was too frequently limited, and exchanges of points of view remained occasional.

How is it possible, over time, to take into consideration the point of view or oversight of an independent expert? Dialogue should be deeper. Making special agreements to achieve this is particularly important, but it was admitted that progress was no easy matter. Approaches based on agreed procedures could be a guarantee of the sustainability of the process, as these agreements would concern not only the technical aspect of access to expert opinion, but also the communication and circulation of information.

How could access to expert opinion contribute to ensuring that CLIs make up their own minds, and raise questions which had not been identified by institutional experts? At the national level, note that the ANCLI set up a Scientific Committee which gathers and organises the issues raised by CLIs, although the CLIs themselves have every latitude to perform their studies independently.

Another important question is the ability to include in the assessment process undertaken by experts, wider aspects of territorial development which were not necessarily included in the earlier stages of expert analysis. Here note that there is a need for citizen debate which goes beyond expert debate. Could the CLIs be a staging post for citizen dialogue over time? How avoid loss of interest in the debate? Aren't there sufficient grounds for mandating CLIs to bring together citizens' points of view on a regular basis?

5. Influence of local actors on national decision-making process

On the question of the influence of local actors on national decision-making processes, a consensus was reached on the advisability of setting up dialogue between local actors and national bodies on a continuous basis. The discussions in the French group address the ways this dialogue should be organised and how opportune it is to institutionalise it. Whether the structures for dialogue would be formal or informal, participants emphasise it is essential to have regular meetings to ensure the debate is continuous and sustained, and to extend the scope of debate from matters of risk and compensation, to authentic dialogue on a local land-use or development project.

In the preliminary debate leading up to the parliamentary vote on the law of 2006 on the management of radioactive waste, the French experience showed that bodies for dialogue and points of contact could be set up between local actors and national bodies, in an attempt to ensure that the definition of national policy took into account the opinions of the local areas concerned. The point of view broadly expressed by French local actors in COWAM 2 was that the organisation of and space for discussion were far from sufficient. This raised questions as to the real scope of dialogue.

Towards a sustainable link between local and national actors

Members of the CLIS therefore reported that they become involved in public debate, had met different personalities from the ministries and formed a working group on the manner the CLIS should operate, so as to give law-makers the benefit of their experience. Throughout this work, discussion within the CLIS made it possible to pinpoint a number of issues of interest. However, the members of the CLIS had the impression that the time invested, in the final analysis, did not pay off in terms of impact on the decision-making process.

Similarly, when the CPDP public debate process on the management of radioactive waste was over, many actors were of the opinion that it was impossible to continue with occasional consultations, and that continuous monitoring over time was required. Both at the national and local level, effective monitoring appeared to be a condition for the sustainability of a participatory democratic body.

Reflection along these lines was undertaken in the workpackage dealing with long term issues. The existence of regular national meeting points and the participation of local actors appeared two key points if the sustainability of long term governance was to be assured.

Based on this observation, the French group discussed the ways in which such sustainability should be built. Local actors expected institutional recognition, and wished for guarantees from national bodies. Workpackage 2 of COWAM 2 brought to light the need in France for a national, inclusive body for dialogue, similar to Great Britain (CORWM) or to plans in Spain (National Commission). Writing into the law such an approach, would, according to some, be the most sustainable course for exercising on-going and inter-generational democratic control. The fact of having a national body would undeniably facilitate change, and more consideration would be given to the questions raised by actors in civil society. An institutional link between the bodies for local dialogue and the national public sector authorities reinforces the credibility and sustainability of the commitment of local actors. It gives further credit to the fact that the message will be taken into account. Without such recognition, the local commissions run a considerable risk of seeing their members demobilised. The creation of a federation representing local actors at the national level, such as ANCLI, was underscored as an essential element in structuring the point of view of the territorial stakeholders, and facilitating dialogue with national interlocutors. The national level of exchange of points of view appears to be complementary to the direct relations that the local actors might wish to establish with national public authorities.

Building the long term locally: condition of the sustainable influence of local actors on the national decision-making process

At the same time, local dialogue bodies cannot derive their sustainability solely from recognition “from above”. Institutional paths are not the only means to getting messages across, and it appears opportune to allow a certain flexibility to the way in which this dialogue between local and national actors could be built.

Furthermore, the longterm sustainability of the dialogue and monitoring process raises questions as to the internal operation and objectives of local bodies. How could a structure for dialogue be brought into being when there is no clearly identified event to which to attach it? Why would members of a commission exchange points of view? How could exchange of points of view be maintained over the long term? What basis for the credibility of a long term structure over time? For the CLIS in Bure, there was much at stake in the draft law. The CLIS proposals put forward at the time of the debate on the legislation on waste management might or might not be taken into account. Nevertheless, CLIS had a fundamental mission, which is to inform. The motivation of the CLIS in the future would depend on its ability to open up possible avenues, to build opportunities for discussion, and to respond to the expectations of its members and the public.

Should not the commitment of local actors in the longer term be grounded in local issues? Over and above the question of the institutional acknowledgement (by a national structure) of the commitment of local actors, an essential element is surely the capacity of local actors to develop common projects and independent actions. If the hopes of local actors were pinned on expectations of compensation, or on the national acceptance of a local amendment to a nationally instituted policy, there is a real risk of long term disappointment at the local level.

In the current situation in France, there appears to be a persistent divorce between the debate on the risks incurred by such projects, and the debate on their economic aspects. Different bodies at the local level address these questions. This situation is not propitious to the construction of a long term perspective at the local level. If problems of risk and

development are seen as over-specific, their treatment in isolation raised difficulties, in that the issue can be seen as limited to one of financial compensation, excluding any aspect of forward-looking vision for the community. The example of the Belgian partnerships or of the British local authorities as actors in the Cumbrian region, showed the very real interest of twinning the questions about risk and thinking about the future of the community and its development. In both cases, the community endowed itself with the resources to establish dialogue at the local level on regional development, leading to a common vision, including the future of the region, the technical installations and risks involved. The community then brought this common vision forward to the national decision-making bodies. This allowed local actors to keep the initiative in regard to the future of their local area.

6. Quality of decision-making process

The goal of the work on the quality of the decision-making process is to investigate elements that reinforce the robustness, legitimacy, efficacy and trust in governance arrangements. The search for quality also forces one to raise questions as to the definition of quality in the field of governance of waste management. The French group raised two major questions: who can contribute to improving the quality of the decision-making process – decision-makers or society more generally? What status should be granted to technique alone and to the wider field of governance in the search for quality?

Workpackage 3 on the quality of the decision-making process established a set of proposals enabling the stakeholders to assess the quality of the decision-making process developed in the local, national or European environment. In the form they are drafted, these proposals are addressed to an ideal decision-maker, but they are an invitation to all stakeholders involved to assess the decision-making process. Workpackage 3 insisted in parallel on the fact that the decision-making process did not belong to the decision-maker only, but was common. Dialogue must be organised between stakeholders to discuss the goal and the procedures of the decision-making process. In governance processes, just as in strictly technical processes, there is of course a body that will take the final decision, but everything must be open for negotiation: the purpose, the process itself and its content.

The discussion in the French group emphasised the risk that might arise if there was over-focus, in the search for quality, on the final decision-maker. In France, as some noted, there was a relatively strong temptation, both to blame decision-makers, and to expect them to do everything and therefore not to take any independent action oneself. In Workpackage 2, a case study discussed the preparation of the legislative framework for major technological risks, in the wake of the Toulouse accident. This study brought to light strong tensions between the local and national levels, and how difficult it was for the national public authorities to acknowledge the identity of local authority actors and existing local dialogue tools. From this point of view, one might consider that a determining criterion of quality was the recognition that *the decision-making process is not the result of a single actor located at the central level of the governance arrangement, but is nourished by the contribution of a broad set of actors over and above those in the final decision-making process.* In order for the contribution to take place, a second essential condition was required: that there be spaces for dialogue at the local level, at national level and between local and national actors, on a

permanent basis. The quality of the governance process would thus emerge from this dual local and national, and even European, contribution.

Discussion on the quality of decision-making processes was an opportunity to redefine the terms of reference of the work on governance. Questions were raised as to how opportune it was to deal with the governance of nuclear waste management in a generalised manner, independently of the type of waste concerned, it being noted that the timescales of the different types of waste were very different, and that it was no easy matter to compare strategies adopted for highly radioactive and medium and low radioactive waste. Differences between countries could also stand in the way of comparisons. For example, at Mol in Belgium, 80% of the workforce worked in the nuclear industry; whereas there was no nuclear activity in Meuse and Haute-Marne.

Examples adduced underscored that highly radioactive waste and other waste received differentiated treatment in France. Storage was authorised at Morvilliers without major media coverage at the national level. However, the experience of other countries, such as Belgium and Switzerland, demonstrated that questions of governance were essentially the same, irrespective of the type of waste. Differences in the field of governance, experienced between countries, arose probably far more from the political and historical context, than from the actual categories of waste.

The timescales concerned were also an undeniable difference, from a technical point of view. Safety requirements were an incentive to make evaluations in regard to the likely future, in one case for 10,000 years hence, and in another in 300 to 500 years forward. But in terms of governance, the issues raised were identical. For a given local area and in the here and now, the question remained the same, whether the future required organisation 300 or 10,000 years ahead. Workpackage 4 emphasised that the long term dimension was in fact rooted in the past, when the options for the production and management of waste were actually taken.

In France, the latest developments, particularly the PNGMDR¹², go in the direction of breaking down barriers between the different types of waste, and the setting up of a governance structure providing an overview of its management.

In practice, the COWAM project did not begin with a technical, but from a local area vision of governance. The purpose was not to propose technical solutions but to deal with the issue of governance more generally in radioactive waste management.

Participants in Workpackage 4, dealing with the question of the longer term, said they had raised the question of the articulation between the technical provisions and the governance processes adopted. Overall, these processes appeared to be fairly identical, independently of the technical situation. There could be more detailed analysis of whether a particular option needed specific approaches in the field of governance. For example, depending on the technical solutions adopted, the expertise or expert opinion mobilised might not be the same.

¹² *Plan National de Gestion des Matières et Déchets Radioactifs* - National Plan for Management of Radioactive Waste Materials -, Law of 28 June 2006

7. Long term governance

*The participants made it known that the question when raised as follows “**What role can local committees play in the long term development of their community?**” did not do justice to the plurality of the issues arising. In the light of the discussions of the French group dealing with the longer term, a broad range of problems were covered, from responsibility for and ownership of waste, financial management, the contribution of the various levels of governance – local, national, international – to sustainable management of waste and the definition of a territorial or local development project.*

Ownership of waste and responsibility

Allocation of responsibility and ownership of waste are rather differently defined from one country to another, and the options vary. In France, liability is incurred by the producer of the waste. In other countries, a liberal option has been adopted, and the waste is the responsibility of the state as soon as it left the nuclear power station. Would the orientation adopted in France prevail in the longer term? What are the consequences, on a system of ownership and liability, of a change in the status of the producers of waste? Can there be transfer of ownership? What are the consequences of reversibility on the respective actors, operators and public authorities? What is the long term commitment of the State?

The new legislative arrangements introduced on 28 June 2006 go some way to answering these questions, that are fundamental, when it comes to querying the practical processes that are to be set up, and to assessing their operational efficiency, both over longer timescales, and in the face of change.

What financial management for long term waste?

The financial dimension is a major aspect of the robustness of long term management. It had become apparent in the initial discussions of 2005, that the ANDRA finance mechanisms were not defined beyond 2006, which raised a number of questions in regard to the **financial reserves set aside and the arrangements made for the long term management of waste**. How could funds for long term management of sites be set aside and managed? What portion of management costs is earmarked for maintenance and supervision? What are the costs in the light of the options envisaged? and what of reversibility costs?

Workpackage 4 worked on the financial aspects and brought to the fore analytical criteria. The work was based on the analysis of a number of European financial arrangements, with additional discussion of examples from CLIS of Bure, from GIP Meuse and from Centre Manche. The question of the selection and finance of social and economic development projects in local authorities or local areas, was given particular attention. Here, French local actors emphasised the lack of medium term visibility over the methods of finance of this type of action, particularly in the Bure region.

Participants in the French group who closely monitored the CPDP debates on waste management noted that this debate highlighted the lack of transparency in the use of the funds allocated to waste management and research. A suggested avenue of improvement was to

ensure that the information dissemination processes included a report on the orientation and allocation of the available finance.

The long term began yesterday

Raising the issue of the long term management of waste is a difficult matter, often due to it being considered that the future is too distant and meaningless for the generations in the here and now. However, if time is seen as a continuum, in which one generation comes before the next and passes the baton on, as it were, then one's perspective changes radically. It is no longer simply a matter of defining a solution that will stand the test of time, for generations which are unknown to and remote from us. The challenge is more to share the responsibility that we have now, with the generations that are to more immediately follow us.

Preparations must be made now, for the long term. Today's organisational management must include passing the baton from one generation to the next, in all ways, including the transfer of financial endowments, the transfer of liability, of ownership, of skills and of technical options. All are affected, right down to the local commissions, in regard to whom it was suggested that they promote the transmission from one generation to the next. This might be ensured through their collegiate *modus operandi* and the manner of appointment of their members. Note also, in this respect, that interest in the issues of waste management and an awareness of the challenge of the longer term cannot be decreed "from on high". These questions require a greater involvement of local actors and more organisation of space for dialogue, all of which in turn takes time.

A number of participants emphasised that the long term began yesterday. The various options adopted in regard to the management of the nuclear cycle broadly determine the actual specifications of long term waste management. All options are not open, although nothing is wholly determined either. Present day society has choices available to it. The first and most fundamental ethical approach would be to ensure that the ability to choose was unimpaired, so that the first of many subsequent generations managing nuclear waste are not entirely constricted in their choices.

Territorial project, and the interaction with local, national ... and international responsibilities

Compensation or development?

Recent CPDP debates indicated a greater awareness, at local authority level, that area development plans around waste storage and management locations, could not be restricted to devising compensation-based approaches. There was a consensus to say that the economic aspects of waste management should be reviewed at the time of the scrutiny of the 2006 law, both in regard to mechanisms of finance and in terms of local development. The idea of bringing in local actors, in all their diversity, into a development project was discussed at the time of public debate, but the principle had not been put into practice. The procedures so far proposed, remain limited to the domain of negotiation over compensation, and are not an incentive for the involvement of, or consultation with, local actors.

Putting development on the agenda for discussion

The discussions that took place clearly established that development must bring about opportunities for local actors to raise questions as to the general development rationale, in regard to their local area, applicable to waste storage or waste management installations. How could a waste management site become part of a local authority development project contributing to reinforced vigilance over the site? One might even ask whether vigilance at site level could not itself serve a local authority or regional development project? In what way could vigilance over the monitoring of risks and local land use planning policy, synergistically contribute to the sustainable development of the community affected? It is only if the two aspects of vigilance and development were jointly put up for discussion, that local actors could analyse the conditions under which a site might become an integral part of a planning approach, in the shorter and longer term. From this point of view, the economic aspect is not a secondary issue, as if it were an adjunct to an industrial development project. The economic dimension should be on a par with the other dimensions, should be analysed prior to the definition of the conditions of the acceptability, by a potential host community, of a waste management installation. The French participants made reference, in this respect, to the work of their Belgian partners on a project for a low radioactive waste management site. The corollary of such an approach was that the territorial or local authority project should exercise an influence on the way in which a technical project is configured.

From this point of view, the local authority or regional project depend on there being an initial local willingness, and a definition of the goal to be achieved, in the light of local requirements. A project foisted on the local community from the outside would be difficult to connect to any sustainable development goals within the constituency itself. As seen by Workpackage 4, any development should contribute to enhancing vigilance around the waste management site, for example by introducing a nexus of skills enabling greater oversight, exercised by the operator and/or public authorities. Hence, according to some, the funding earmarked for safety and for local land use development, should be reported and managed as part of a single financial scheme.

What interaction between local and national skills?

This discussion highlighted the fact that the local level should be capable of playing an active role in terms of development, without being destabilised by national bodies. This also means that new relationships should be established between the local and national levels. The 2006 legislation to a degree acknowledged this notion of development. Its implementation raises practical questions, and the legislation underscored how necessary it is in practice to provide for a better relationship between national and local skills and competencies.

Participants from the CLIS also testified as to how difficult it was to bring the national decision-making process into contact with the local reality, and obtain respect for local authority or regional identity. Prior to the 2006 law, there was no differentiation between the different communes (the lowest level of local authority representation in France), in regard to the allocation of subsidies. At present, the law gave a particular status to communes a part of whose land was located with a radius of ten kilometres of a nuclear waste research facility. The law stipulates that up to 20% support funds can be paid in directly to the qualifying communes.

Divergent points of view were expressed about this enhanced financial support, by the local representatives of the Meuse and of the Haute-Marne, at the time of the National Assembly debate. The Meuse, which is virtually wholly organised on an inter-commune basis,

requested funds to be allocated to the inter-communal organisations. On the other hand, the representatives of the Haute-Marne department, where there is less inter-communal cooperation, expressed a preference for the allocation of funds directly to the communes.

In the canton of Gondrecourt (Meuse), following adoption of the 2006 law, two communes expressed the wish to leave the intercommune arrangements to take entire responsibility for management of the finance allocated. Until then, the intercommune organisations had received direct subsidies up to 20% of the total available, whereby consideration was given to local development policies. By propounding a definition of the local scope of action which is at a mismatch to the existing reality, the law is seen as a factor of destabilisation, when joint commune organisations have been set up, and when development projects have been defined by local authorities consulting a multiplicity of local actors.

Local and international presence

Over and above local development and land-use planning, the undertaking of site supervision and monitoring may give good grounds for setting up links of solidarity between remote local authorities or regions, and between actors whose action takes place at various levels - local, regional, national and international.

For storage facilities, the final waste outlet areas may not be simply local to the site itself, but some tens or even hundreds of kilometres from the original source of waste. Waste storage sites may affect other local authority areas than where they are themselves located.

In Workpackage 4, participants also examined the way the World Heritage of UNESCO worked. This system requires additional, shared responsibilities to be borne by an international actor (UNESCO), by national governments, and by local authorities, to ensure that protection of the heritage is both effective and sustainable. This approach raises the possibility of alternative avenues, for example the commitment of a European fund to long term surveillance, or the setting up of an organisation bringing an international dimension to the local and national supervision of radioactive waste.

8. History and introduction of the Law of 1991

- 1979 Creation of ANDRA within C.E.A. to ensure coordination of radioactive waste management and operation of the Centre Manche (low and medium level radioactive waste).
- 1980-1990 Mandate given to a number of working parties to study questions raised by waste management and make proposals. (Castaing Working Group on Irradiated Fuel within the framework of the *Conseil Supérieur de la Sûreté Nucléaire* in 1981-1982; Goguel Commission on criteria for selection of storage in 1985; Desgraupes Commission – Control commission for repositories for radioactive materials - in 1989-91).
- 1989 At the end of 1980s, there were high profile demonstrations in Western France against prospection works undertaken by ANDRA in zones that had been earmarked for underground storage of long term and highly radioactive waste. In the wake of these events, the Government announced a one year moratorium for any research into sites. The Prime Minister went to the *Office Parlementaire d'Evaluation des Choix Scientifiques et Techniques* (OPECST – Parliamentary Bureau for Assessment of Scientific and Technical Choices), and requested a report on the problems of management of radioactive waste.
- 1991 French Member of Parliament, Christian Bataille representing OPECST, presented his report on the management of highly radioactive waste, forming the basis of a draft law on waste management, which was the subject of intense debate in the French National Assembly and Senate. The Bill was passed into Law 30 December 1991.

The new Act sets out a framework for research to prepare for the long term management of nuclear waste in France. Three lines of research require investigation:

1. separation and transformation;
2. geological storage;
3. long term storage.

In regard to the second line of research, the law sets out precise rules regarding site selection for an underground laboratory and its commissioning. The plan for the laboratory must give rise to local consultation, involving locally elected members and the local population. An information committee was set up to monitor the working of the laboratory. Finally the law provided for a review in 2006, by which the French Parliament would assess the results achieved and define new orientations.

Within the framework of the Act, Andra became an independent public manager of waste, with an industrial mission to design and operate waste storage, a research mission for the study of the feasibility of deep underground storage, and finally a public service mission for national

information on radioactive waste.

The Act sets up a *Commission Nationale d'Evaluation* (CNE – National Evaluation Commission) made up of twelve experts. CNE makes an annual report to Parliament on three directions of research. This report is publicly available.

1992 After several years of technical studies and public enquiry, the Storage Centre in the Aube, intended for low and medium radioactive short term waste was opened.

1993 Christian Bataille, French Member of Parliament, was appointed in 1993 to head up a mission directed at local authorities and to those working in the economic and social field. The mission was to present the underground research laboratory project and to receive applications from local authorities. Following on from this approach, four departments were pre-selected, on the basis of their geological characteristics: Gard, Haute Marne and Meuse for clay, Vienne for granite. The Meuse-Haute Marne site was finally chosen.

1999 After a public enquiry, the Government in August 1999 promulgated a decree to authorise the construction of an underground laboratory at Bure, in Meuse-Haute Marne. A second decree set up the *Comité Local d'Information et de Suivi* for that laboratory (Bure CLIS – Bure Local Committee for Information and Monitoring).

2000 At the same time, the Government appointed a consultation mission to identify an underground granite rock site. Three senior civil servants appointed to undertake this study faced strong hostility on the locations they inspected. They delivered their report to the government in June 2000. As they had failed to identify a site for the second underground laboratory, they made known their conclusions and recommendations on how consultation should be organised.

Initiation of the European Project COWAM 1 (2000-2003) on governance of radioactive waste, whose first initiative was to set up a network of stakeholders reliant on the extensive participation of representatives of local authorities.

*History and introduction of the Law of 2006*¹³

- November 2004 First publication of the National Inventory of radioactive waste and recyclable materials by ANDRA.
www.andra.fr
- December 2004 Launch of petition for local referendum by the Collective organisations opposed to the underground laboratory of Bure and by the *Association des Elus Meusiens et Haut-Marnais* (AEMHM – Association of Elected Members from Meuse and Haute-Marne)
<http://bure-stop.free.fr/>
- January 2005 Publication by *Cour des Comptes* (government audit office) of the report entitled “Dismantling of nuclear installations and management of radioactive waste”
www.ccomptes.fr/Cour-des-comptes/publications/rapports/nucleaire/introduction.htm
- January 2005 Publication of the expert counter-appraisal report requested by Bure CLIS from IEER.
www.clis-bure.com
- January-February 2005 Public hearings organised by OPECST on three directions of research set out in the 1991 Act.
- 16 February 2005 Matters placed jointly before the CNDP by the Ministry of the Environment and Sustainable Development and the Minister of Industry
www.environnement.gouv.fr/
- March 2005 Publication of the OPECST report (Birraux-Bataille report) on the "State of advance and prospects for research into radioactive waste management"
www.assemblee-nationale.fr/documents/index-oechst.asp#F84
- 2 March 2005 Decision by CNDP to organise public debate with *Commission Particulière du Débat Public* (CPDP – Particular Commission for Public Debate) on "General options in the field of high and medium long term radioactive waste" (Decision No. 2005/10/OGN/1). Mr Mercadal appointed President of CPDP
www.debatpublic.fr/
- 30 June 2005 Meeting at Ministry of Research "Results of research works performed on long term highly radioactive waste within framework of law". Official handover of pilot reports from ANDRA and CEA
www.andra.fr
www.cea.fr
- 1 July 2005 Publication of 11th report of the *Commission Nationale d’Evaluation* (CNE – National Evaluation Commission)
www.ladocumentationfrancaise.fr

¹³ Our thanks go to Frédéric Bourgoignon (IRSN) for his contribution.

July 2005	Presentation by DGSNR of PNGDR-MV project www.asn.gouv.fr
7 July 2005	Presentation of Birraux-Bataille report to Bure CLIS
12 September 2005	Start of CPDP debates on "Waste Management" www.debatpublic-dechets-radioactifs.org/
November-December 2005	CPDP sessions on governance ("Waste and Democracy ")
4 January	President Jacques Chirac's New Year greetings: announcement of a prototype of Generation IV reactor in 2020; confirmation of ITER; request to accelerate timetable on waste management (1st half 2006); draft law on transparency, including transformation of DGSNR into an Independent Administrative Authority
13 January 2006	CPDP Closing Meeting, Lyon. End of public debate phase.
31 January 2006	Handover of final CPDP Waste Report
31 January 2006	IRSN and DGSNR opinions on feasibility of radioactive waste storage made public
8 March 2006	Publication of second ANDRA inventory
10 March 2006	12 th CNE Report
13 June 2006	Law No. 2006-686 of 13 June 2006 relating to transparency and security in nuclear field
28 June 2006	Law No. 2006-739 of 28 June 2006 on programme for sustainable management of radioactive waste http://www.legifrance.gouv.fr/WAspad/UnTexteDeJorf?numjo=ECOX0600036L

II.3 - German Group

National Contact Person / Facilitator : Detlef Appel

Procedure

The following text was prepared by the National Contact Person. It was completed and amended by the German COWAM participants in order to reflect as much as possible a diversity of views. However, due to fundamental differences among the stakeholders regarding the necessity of a new siting process in Germany, which is postulated by the Federal Ministry in charge for radioactive waste management and which was the initial point for the German participation in the COWAM process, and because the text provides a diversity of views, it does not reflect the common position of all participants and is the sole responsibility of the author. Irrespective thereof, Eckhard Kruse, Protestant Lutheran parish of Gartow, and Jürgen Wollrath, Federal Office for Radiation Protection (BfS), expressed their agreement with the text.

1 Introduction

In Germany, it was originally intended to establish a so-called "closed nuclear fuel cycle" comprising not only final disposal of radioactive waste but reprocessing of spent fuel as well. Regarding final disposal, the disposal of all types of radioactive waste in a repository in deep geological formations (without consideration of retrieval) was and is the only seriously followed waste management option. That makes the identification of at least one repository site a major objective of radioactive waste management and related decision making. Today, there are two "real" disposal sites (Asse II, Morsleben), where low and intermediate level wastes have been disposed off in the past, and two intended repository sites (Konrad and Gorleben). All these sites are in different states of closure and licensing respectively (see table 1). Therefore, the objectives of decision making in these cases are very different and refer to specific procedural and legal situations.

For different reasons, particularly the Gorleben and Konrad sites are under controversial discussion since their respective designation. Not at last, these disputes hampered the progress towards a German repository. In 1999 the then Federal Government established a new radioactive waste management policy. One part of it was the implementation of a new siting process for a repository for all types of waste to allow for a comparison of the hotly contested Gorleben site with alternative sites. Therefore, in 1999 the Government appointed a committee (AkEnd) to develop a new siting procedure comprising as well technical, natural scientific and social-scientific criteria and allowing for broad public participation. The committee presented its proposal in time, but the government failed to adopt and implement the new procedure.

Table 1 Radioactive Waste Disposal Sites in Germany

Asse II	
Type:	Underground laboratory in abandoned salt mine
Host rock:	Rock-salt
Status:	Licensed prior to Federal Atomic Act, 124.000 m ³ LLW and 1.300 containers of ILW irretrievably disposed of 1967 - 1978 ("test-disposal"), decommissioned, being backfilled to overcome actual stability problems
State:	Niedersachsen
Morsleben	
Type:	Repository of the former German Democratic Republic for final disposal of LLW and ILW in abandoned salt mine
Host rock:	Rock-salt
Status:	Licensed under atomic law of the German Democratic Republic, operation started in 1971, in operation after German re-unification until 1998, 36.800 m ³ waste disposed of, decommissioned and being precautionary backfilled to prevent potential stability hazards
State:	Sachsen-Anhalt
Konrad	
Type:	Planned repository for negligibly heat producing radioactive wastes (LLW and ILW) in abandoned iron ore mine
Host rock:	Iron ore and accompanying carbonaceous formations
Status:	Licensed in 2002, lawsuits against license and the decision of trial
State:	Niedersachsen
Gorleben	
Type:	Planned repository for heat producing radioactive waste (originally all types of radioactive waste) in unmined Gorleben salt-dome
Host rock:	Rock-salt
Status:	Underground investigation interrupted for minimum 3 and maximum 10 years ("Moratorium" as of 2000)
State:	Niedersachsen

At present, there is no visible decision making process and no participation of local stakeholders directed to a new waste management facility, that might be interpreted as being in the scope of the COWAM 2 project. This situation makes it difficult, if not impossible, to

answer the questions of the Work Package 5 National Insights Questionnaire in a proper way. Therefore, instead of giving insufficient answers an insight into the actual waste management situation in Germany is given by describing its framework and historical background and the actual situation in radioactive waste management. The following topics will be addressed:

- legal, organisational and political framework
- development of the German waste management strategy and first siting attempts
- Gorleben and Konrad cases as examples for German experiences in radioactive waste decision making
- "AkEnd process" and its failure
- recent developments

2 *Legal, organisational and political framework*

The overall responsibility for radioactive waste management in Germany is with the Federal Government. Regarding final disposal, it has particularly to make efforts towards an operable repository. In detail, the federal political and administrative structure of Germany results in a - to some extent - indistinct distribution of tasks and responsibilities, being somewhat different from that in other countries:

Overall responsibility, regulator, supervisory authority

Federal Government, Ministry in charge: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)

Licensing authority

State Government, acting on behalf of the Federal Government. Today, the Ministry in charge is in both of the affected states (Niedersachsen: Asse II, Konrad, Gorleben / Sachsen-Anhalt: Morsleben) the State's Ministry for the Environment. The state's authority is not fully independent, but can be overruled by the Federal Government.

Applicant, implementer, operator

Federal Office for Radiation Protection (Bundesamt für Strahlenschutz - BfS, formerly Physikalisch-Technische Bundesanstalt - PTB). For implementation and operational activities (e. g.: site investigation, construction and operation of the repository) the BfS may (and does) avail itself of a "third party", which is the Deutsche Gesellschaft zum Bau- und Betrieb von Endlagern für Abfallstoffe - DBE (German Company for the Construction and Operation of Waste Repositories). DBE is operating the Gorleben and Konrad mines on behalf of BfS.

Research

Responsibility for and financing of research in the field of final disposal of radioactive waste is distributed to the Federal Ministries for the Environment (BMU) and for Economics and Technology (BMWV), the first one being responsible for project-related research, the second one for project-independent basic research.

According to the Atomic Law, the mandatory licensing procedure for repositories (and other types of major nuclear and non-nuclear facilities) is the so-called Planfeststellungsverfahren

(formal approval of plans / planning). It was not designed for siting purposes in general or even siting in radioactive waste management. Concerning the need of a transparent, stepwise decision making approach the Planfeststellungsverfahren is clearly an "one-phase" process. The chance of stakeholders, particularly local stakeholders, and other local actors to participate effectively in the process and to influence the decision is poor, although the procedure includes an obligatory public inquiry. This is because public participation takes place at the almost end of the licensing process, when most things are settled.

The distribution of responsibilities as due to the German federal system makes decision making complicated. Additionally, political influences on decision making processes in the field of radioactive waste management are emerging from the fact, that the "quality" of cooperation between the federal and the states' level depends - at least to some extent - on the political orientation of the respective governments.

When looking at the Gorleben and Konrad cases described below, one should be aware that since the eighties of the last century there is a clear differentiation between the German political parties with regard to their meaning about nuclear energy in general and siting of repositories and the suitability of designated sites in particular. During periods of major relevance for decision making the political background of a responsible state's government was different from that of the federal government. It might be concluded that this contrariness resulted in some political "instrumentalization" of radioactive waste management - by which actor ever.

3 *Development of the German waste management strategy and first siting attempt*

Important decisions about the radioactive waste management strategy in the Federal Republic of Germany were "informally" taken during the late 1950s and the 1960s already: Final disposal of all types of radioactive waste in deep geological formations was considered as the priority option of definitive waste management, because of the population density and the intensive land and water use in Germany. Rock salt in salt-domes was seen as the favourite host rock for final disposal. Salt-domes probably meeting all requirements were expected to be found in the State of Niedersachsen only, thus becoming the target area for siting.

On behalf of the Federal Government, site selection started in 1973. At that time it was intended, to concentrate all major waste management facilities of the "fuel cycle" at a so called nuclear waste management centre (Nukleares Entsorgungszentrum - NEZ). The criteria for the identification of a suitable salt-dome were developed mainly with regard to the safety and operational requirements of the surface installations of the NEZ rather than of the repository.

In 1975 three of the salt-domes in Niedersachsen were presented as highest ranking according to the criteria applied and in June 1976 surface-bound investigations at the three sites began to obtain information for the final selection of the definitive NEZ site. The start of the investigations instantaneously caused strong local opposition, because the local people, particularly landowners and politicians, felt misinformed by the responsible institutions and politicians of the federal and the state's level. Therefore, in August 1976 the investigations were stopped and in November 1976 the Government of Niedersachsen asked the Federal Government for interruption of any site investigation until the State has designated a site by its own. This was accepted by the Federal Government.

4 *Gorleben case*

The Government of the State of Niedersachsen established a working group for the State's own site selection and in February 1977 the Minister President of Niedersachsen presented the Gorleben salt-dome as the potential NEZ site. In July 1977, the Federal Government accepted this decision. The criteria used for the designation of the Gorleben site were and are even today somewhat obscure. This lack of clarity generated not only rumours and anecdotes about the reasons for Gorleben but also the formation of opposition against this decision and for the distrust of many people in political decision making in the field of radioactive waste management. In detail however, the reactions to the Gorleben decision were, of course, different according to the values, interests and political orientation of individuals and the composition of political and administrative institutions, such as councils of the Lüchow-Dannenberg County and of the municipalities in the area. In any case, the decision resulted in strong local and regional opposition to the project.

The Minister President of Niedersachsen reacted with the organization of the "Gorleben Hearing" (March / April 1979) on the "realizability" of the planned NEZ and final disposal in salt, particularly in the Gorleben salt-dome. As a result of the hearing and of the public debate about the NEZ and the Gorleben site he stated in May 1979, that "a reprocessing plant for spent fuel in Gorleben will politically not be accepted", but that Gorleben is a potential repository site. This was the end of the idea of a German NEZ. Later the attempt to build a reprocessing plant in Bavaria failed as well and resulted in the giving up of any plans for reprocessing in Germany. Instead, spent fuel was shipped to France and the United Kingdom for reprocessing (until 2005). Regarding the methodology of repository siting, the Gorleben decision was the end of the comparative approach for site selection followed so far.

The surface-bound investigations of the Gorleben salt-dome started immediately after the "Gorleben Hearing", in April 1979, and were accompanied by intensive protests. Considering the failure of the first siting attempt, the Federal Government arranged a series of three public meetings in the Gorleben area to present and discuss the results of the investigations. At the first of these meetings, in May 1981, the presented preliminary results particularly revealed the existence of the so-called "Gorleben channel". This erosional channel of quaternary age cuts into the older cover beds above the salt body and locally even into the salt body itself. It is - partially - filled with sediments of increased permeability allowing for accelerated radionuclide transport into the biosphere, if released radionuclides eventually reach the interface between salt body and covering rocks, and for locally increased salt solution by flowing groundwater ("subrosion"). This feature and its possible consequences are up to now seen by several scientists as potential threats to the long-term safety of a repository. The debate about its safety relevance is still going on.

Table 2 Historical Record of the Gorleben Case

1973	Start of siting process for integrated nuclear waste management centre (Nukleares Entsorgungszentrum - NEZ)
1975	Report on siting process (highest ranking salt-domes: Wahn, Lutterloh, Lichtenhorst, all in the State of Niedersachsen)
1976	Start of investigations at the three sites causes immediate local opposition (June) / interruption of investigations (August) / Government of Niedersachsen asks for stop of investigations to present its own site (November)
1977	Government of Niedersachsen presents Gorleben salt-dome (February) / Federal Government accepts (July) / Waste management report of the Federal Government (November): Gorleben at least suitable for LLW and ILW
1979	"Gorleben Hearing" about NEZ and final disposal in the Gorleben salt-dome (March / April) / Start of Gorleben investigation (April)
1981	First information meeting of the Federal Government (interim results of the Gorleben investigation) with presentations of "critical" experts
1982	Second information meeting of the Federal Government (interim results of the development of the methodological approach to long-term safety assessment of the planned repository) with presentations of "critical" experts
1983	Report of PTB suggesting the underground investigation of the Gorleben salt-dome / Third information meeting of the Federal Government (results of the surface bound investigations, preliminary safety assessment and their relevance for the decision on underground investigation (Mai) / Decision of Federal Government on underground investigation (July)
1985	Start of shaft sinking
1996	Start of underground investigation
2000	Beginning of Gorleben Moratorium to investigate generically major conceptual and safety related issues of final disposal

In reaction on the results of the site investigation, the responsible Federal authority, PTB (today BfS) suggested to investigate other sites, what was not accepted by the Federal Government. In May 1983 however, PTB published a report on the results of the surface-bound Gorleben investigations which became a key element of the political decision on the following underground investigation of the salt-dome. The safety relevance of the Gorleben channel was pointed out, reflecting that it may result in a significant shortening of travel-times of radionuclides into the biosphere. On the other hand, however, PTB claimed the site

to be potentially suitable and - based on this evaluation - suggested to start the underground investigation.

During the last one of the public meetings titled "Before sinking of the shafts" and held in May 1983, the responsible institutions and involved organisations respectively presented their approach for safety assessment and their evaluation of the results of the investigations with regard to the necessity or sense of underground investigations. Being concerned about the potential long-term effects of the Gorleben channel and subsidence, the senior investigator of these features and processes at the Gorleben salt-dome suggested the investigation of other salt structures. Despite these concerns were not really rejected during the meeting and the public debate during the following years, the Federal Government in July 1983 decided for the underground investigation. Therefore, the meeting was widely interpreted as an attempt to legitimize a previously taken decision. Sinking of the shafts started in 1985 and lasted - delayed by technical problems and a fatal accident - until 1996. Afterwards the first section of the underground area to be explored was investigated.

The investigation was interrupted in 2000 ("Gorleben Moratorium") according to an agreement between the Federal Government (and BMU respectively) and the major nuclear utilities about some details of the new nuclear policy as of June 2006. Since the beginning of the moratorium the local opposition against the Gorleben site was focussed on interim storage mainly, particularly on the transport of reprocessing waste from the reprocessing plants in France and the United Kingdom to the Gorleben storage facility for this type of waste. In parallel however, the debate about the continuation of the site investigation is rising again from time to time (see 7).

The technical reason cited in 2000 by BMU for the moratorium was the need for the generic review of 12 conceptual and safety-related issues regarding the final disposal of radioactive waste in different host rocks prior to the further exploration of the Gorleben salt-dome. The respective studies were coordinated and evaluated by BfS. In November 2005, the office published a synthesis report summarizing the results of the studies and presenting the conclusions drawn by BfS with regard to the comparison of different host rocks as well as to the need for further research and regulations in the field of radioactive waste disposal. With respect to generic host rock comparison, BfS pointed out, that a comparison of sites is necessary, because there is no host rock which always strictly ensures the highest level of repository safety (see also 7).

5 *Konrad case*

The nomination of the Konrad iron ore mine in Salzgitter, also situated in the State of Niedersachsen, as a potential disposal site for negligibly heat generating waste, was not the result of a site selection procedure but of the search for a follow up use for the unprofitable mine. The mine had started operation in 1965, but already in the early 1970s was no longer able to compete with imported ore, and in 1976 mining was stopped. The mine being extraordinarily dry as compared to other iron ore mines, the chief geologist of the company and the works committee suggested to use the mine for disposal of radioactive waste. On behalf of the Federal Government from 1975 investigations were carried out to proof the

mine's suitability for the disposal of low and intermediate level wastes, particularly from dismantling of reactors. These investigations resulted in a general statement on the suitability and the submission of the license application by PTB for disposal of negligibly heat producing radioactive wastes in 1982. Continued investigations were aimed at the preparation of the safety assessment to be presented within the licensing procedure.

Between September 1992 and March 1993 the required public inquiry took place, organised by the licensing authority, the Ministry for the Environment of the State of Niedersachsen. 10.000 objections against the Konrad project were presented from about 290.000 objectors, amongst them not only individuals and Non Governmental Organisations but also the hosting City of Salzgitter and other communities. Main topics of concern were the justification of the repository, waste characteristics, demonstration of long-term safety and transport of the waste. The inquiry was strongly influenced by the fact that both, the Federal Government and the Niedersachsen Government, had different positions on the suitability of the mine and the contents of the inquiry. In several procedural questions the licensing authority was overruled by the Federal Government. Finally, the license was granted in 2002. Lawsuits against it were initiated by some communities and individuals. The trial took place at the end of February 2006 and resulted in a decision confirming the license and excluding the chance of revision. However, the decision against revision is offended and will be negotiated at the Federal Administration Court.

6 *AkEnd process*

After Federal elections in 1998, the new (SPD / Greens) Federal Government started to implement a new waste management policy, including among other points

- phasing out nuclear, based on the agreement between the Federal Government (BMU) and major energy utilities as of June 2000,
- phasing out reprocessing of spent fuel in France and in the United Kingdom by mid 2005,
- one repository in deep geological formations for all amounts and types of German radioactive waste; that would mean to exclude the Konrad site, because it has not been checked for its suitability for heat producing waste, and possibly the Gorleben site, because of its problematic features (see 4),
- new siting process for this repository with broad public participation and including the comparison of different types of host rocks,
- "Gorleben moratorium": interruption of Gorleben investigation for at least three and maximum 10 years, Gorleben to be included in the new siting process,
- interim storage facilities for spent fuel at reactor sites,
- repository to start operation in ~2030.

In 1999 BMU established the Committee on Site Selection Procedure (Arbeitskreis Auswahlverfahren Endlagerstandorte - AkEnd) with the aim to develop a procedure to be applied for the intended new siting process. The committee had a "pluralistic" composition with regard to the professional background of its members as well as to their opinion on the

disposal issue. With some success, the committee made strong efforts to re-open the national debate about final disposal and included as many interested stakeholder groups from the national, states' and local levels as possible. The AkEnd final report was presented in December 2002. The proposed siting process was designed to identify the best-possible repository site in Germany (according to the criteria and rules of the process) without any spatial pre-selection and predetermination of the host rock. AkEnd made detailed suggestions for safety related geo-scientific criteria, social-scientific criteria, the structure of a new siting procedure, as well as broad public participation during implementation. Regarding the implementation of the siting process, three phases were distinguished:

1. Development of the new siting procedure by AkEnd (work of AkEnd ended with presentation of its final report in December 2002).
2. Public discussion and negotiation about and political and societal agreement on the suggested procedure (~2003 / 2004), intended "core institution" for discussion and negotiation was the "negotiation group", consisting of members representing different groups of stakeholders. At the end of this phase the procedure agreed upon would be determined by the Federal Parliament (Bundestag).
3. Implementation of the finally determined procedure.

In springtime 2003, BMU tried to establish the "negotiation group" for the discussion and eventual modification of the proposed siting procedure by inviting potential members of the group. However, important "players" refused their participation, particularly the political parties CDU / CSU and FDP forming the opposition in the Bundestag, the Government of Lower Saxony, and the nuclear industry. The CDU / CSU and FDP opposition complained that the agenda of the negotiation group was not open for discussion about phasing out (at least extending the lifetimes of reactors), the Gorleben and Konrad sites and the costs of a new siting procedure. The nuclear industry complained that the new siting process would not be in line with the agreement between Government and industry as of 2000 (see 4) and would produce new costs not to be paid by the industry, because industry had paid already for the Gorleben investigation. Interesting is the position of the new Niedersachsen Government (CDU / FDP) represented by the Ministry of the Environment (NMU), requiring the continuation of the Gorleben investigation and start of operation of the Konrad repository as soon as possible. This is in contradiction to the precedent (SPD / Greens) government's position.

The reluctance of the political actors and industry against participation was widely interpreted as pinpricking of a strong opposition against a weak government and fallback into old positions. The behaviour of the Lower Saxony Government was interpreted as backing the opposition in the Federal Parliament.

7 *Recent developments*

After the failure of the AkEnd process in 2003, BMU renounced to establish the negotiation group and considered - from a legal point of view - more formal approaches to reorganize the responsibilities for final disposal and to establish a new siting process. As a result of these considerations, in September 2003 the Minister presented a so-called "Verbandslastmodell" to

the public. This means, that the nuclear utilities would form an association ("Verband") with compulsory membership not only to take the financial burden ("Last"), but also to organize and carry out the new siting process. With this construction, the technical and organisational responsibility for final disposal would be transferred from the Federal Government to the industry. For very different reasons (costs, safety concerns, lack of oversight), this model was heavily offended by several stakeholder groups - despite of having different views on radioactive waste management and particularly a new siting process.

In autumn 2004, BMU announced the draft of a Site Selection Act based on the "Verbandslastmodell" to be presented to the public by the end of 2004. The draft was finished in time. However, the Minister postponed its presentation referring to the pending elections in the State of Nordrhein-Westfalen - probably arguing, that this topic would be counterproductive for the election campaigns of the parties (SPD / Greens) forming the Nordrhein-Westfalen Government (and the Federal Government).

The Nordrhein-Westfalen elections in May 2005 were lost by the SPD / Greens coalition. As a result the then German chancellor requested early federal elections as soon as possible which were held in September 2005. After the date of elections was fixed, in June 2005, BMU placed the drafts of the site selection act and the ordinance on its website. There was no broader public debate about this draft, but clearly the industry was and is offending this approach.

After the Federal elections in September 2005 a big coalition between CDU / CSU and SPD was formed. Due to the different positions of the partners on the future of nuclear energy in general and the road map to final disposal of radioactive waste in particular, the coalition agreement as of November 2005 contains just the following passage about this issue:

“CDU, CSU and SPD do not share the same opinion on the use of nuclear energy for power generation. For that reason, we cannot change the agreement between the Federal Government and power supply companies of 14 June 2000 or the procedures contained therein or the corresponding regulations of the amended Atomic Energy Act. (...) CDU, CSU and SPD acknowledge Germany's responsibility to ensure the safe final disposal of radioactive waste and will tackle this issue in a speedy and result-oriented manner. We intend to solve this question by the end of the current legislative period.”

The wording of the last part of this section allows for a broad range of interpretation. So far however, there was no concretion of this statement with regard to its political and procedural consequences. As a result, prominent representatives of the partners of the big coalition continue to disperse their different views about the future use of nuclear energy and the necessity of a new siting process. The Federal Ministers, S. Gabriel (SPD) and M. Glos (CDU / CSU), can be considered as protagonists for the positions of their parties, when claiming

- to continue phasing out nuclear energy, to observe defined remaining reactor operation times, to hold Gorleben moratorium, and to identify and compare additional sites (S. Gabriel), respectively

- to re-consider phasing out nuclear energy, to extend defined remaining reactor operation times, and to end Gorleben moratorium and finish the site's investigation (M. Glos).

Within the public political debate in Germany about nuclear energy in general and final disposal of radioactive waste in particular similar demands are raised by representatives of stakeholder groups with different views on nuclear energy and different group specific interests. Up to now, there is neither a convergence of these views nor a political agreement about the procedural steps to be taken towards the realization of a repository.

Minister Gabriel's intention to identify new potential repository sites and to compare them to each other and to Gorleben is supported by the BfS conclusions from the reviews of conceptual and safety related issues forming the technical background of the Gorleben Moratorium (see 4), where BfS placed emphasis on the need of site investigation and comparison. However, following the rumours about the struggle between the different actors about a new siting process, particularly its financing, it seems, that such a process would be different from the approach proposed by AkEnd. It is suspected, that the broad and open AkEnd approach (see 6) would be reduced to the identification of sites "suggesting themselves" as being better than Gorleben by means of technical and planning criteria only. In November 2006, newspaper announcements about the existence and some contents of a strategic BMU paper dealing with the circumstances and the structure of a new site selection process and its relevance for the future of the Gorleben moratorium seem to confirm this suspicion. On the other hand, however, these announcements provided an indication that a new siting approach is politically not yet out of scope.

8 *Abbreviations*

AkEnd	Arbeitskreis Auswahlverfahren Endlagerstandorte - Committee on Site Selection Procedure for Repository Sites
BfS	Bundesamt für Strahlenschutz - Federal Office for Radiation Protection
BGR	Bundesanstalt für Geowissenschaften und Rohstoffe - Federal Institute for Geosciences and Natural Resources
BMU	Bundesministerium / Bundesminister für Umwelt, Naturschutz und Reaktorsicherheit - Federal Ministry / Minister for the Environment, Nature Conservation and Nuclear Safety
BMWi	Bundesministerium / Bundesminister für Wirtschaft und Technologie - Federal Ministry / Minister of Economics and Technology
CDU	Christlich-Demokratische Union - Christian-Democratic Union (conservative)
CSU	Christlich-Soziale Union - Christian-Social Union (Bavarian counterpart of CDU)
DBE	Deutsche Gesellschaft zum Bau und Betrieb von Endlagern für Abfallstoffe - German Company for the Construction and Operation of Waste Repositories
FDP	Freie Demokratische Partei Deutschlands - Free Democratic (Liberal) Party of Germany

ILW	Intermediate Level Waste
LLW	Low Level Waste
NEZ	Nukleares Entsorgungszentrum - nuclear waste management centre
NMU	Niedersächsisches Umweltministerium - Lower Saxony Ministry of the Environment
PTB	Physikalisch-Technische Bundesanstalt
SPD	Sozialdemokratische Partei Deutschlands - Social-Democratic Party of Germany

II.4 - Hungarian Group

National Contact Person / Facilitator : Zoltan Ferencz

Participants

ERP in WP1: Prof. Anna Vári

Stakeholders in WP1: Mr. Győző Kovács, mayor of Boda

Ms. Brigitta Puskás, secretary of a local NGO (For Boda Foundation)

1. Which were key milestones/events for radioactive waste management in your country over the past 25 years? Why were they relevant?

Low- and intermediate level nuclear waste.

The existing institutional waste disposal site in Püspökszilágy.

Prior to 1976 Institutional radioactive waste disposed of at an experimental facility located in Solymár, near Budapest.

1976 The radioactive waste management facility at Püspökszilágy (situated about 30 km north of Budapest) opened to condition and dispose of institutional waste.

1983-89 Receiving L/ILRW from the Paks NPP.

1989 Local protests

1992-96 Negotiations on financial incentives result in agreement. Transfers of L/ILRW generated at Paks NPP resume and this practice continues till 1996.

1996 Three municipalities located in the vicinity of the operational Püspökszilágy facility form the Isotope Information Association, with the objectives of public information and oversight

2000 Tritium found in nearby wells

2001 Reshaping the factory building and installing a new monitoring system

The attempt to site a L/ILRW repository in Ófalu

1977 Decision on a new L/ILRW disposal facility

1983 Ófalu selected for hosting a near-surface facility - local geologists oppose the site

1987 Drillings start, plans found out by residents, protests

1988 Conflict between local geologists and the NPP experts leads to the suspension of the licensing process

1988 Government invites the Hungarian Academy of Sciences to evaluate the suitability of the Ófalu site

- 1989 The position of the Academy: „technically not inappropriate”, but „unfavourable in terms of social acceptability”
- 1989 Application for construction permit rejected

Siting a new L/ILRW repository in Bataapati

- 1993 National Programme for the permanent disposal of L/ILRW launched - no public dialogue. Near-surface and underground (at a depth of maximum 300 m) disposal considered.
- 1993-98 Investigations
- 1998 Selection of the Bataapati site - based on geological features, technical viability and social acceptance
- 1999 Six nearby municipalities found the Public Association for Oversight and Information (incentives). Five settlements opposing the facility refuse to join (later one of them decides to join).
- 2000-2003 Site investigations
- 2003 Favourable results of the geological investigations at the Bataapati site accepted by the authority. Further investigations from tunnels will be carried out to determine the final location of the repository in the granite rock.
- 2005 (July) Following a successful (non-binding) referendum in Bataapati, the citizens of the village agree with the construction of the radioactive waste repository.
- 2005 (November) Hungarian Parliament takes a decision in principle to make preparations for the establishment of a L/ILRW repository, on the one hand and on the extension of the operational life time of the Paks Nuclear Power Plant, on the other.

High level nuclear waste

Establishing an interim spent fuel storage facility in Paks

- 1990 The interruption of the spent fuel reshipment to Russia leads to a pressing problem.
- 1991 Decision on establishing a temporary storage facility in the vicinity of the Paks NPP.
- 1992 On the initiative of Paks NPP the Public Oversight and Information Association established with the participation of 13 villages located within 12 km radius of Paks NPP (incentives).
- 1994 Protest movement in Paks - fight against the new facility and for reduced electricity prices - failure
- 1994 Agreement between the NPP and the Paks municipal government on additional incentives and guarantees

- 1995 The Hungarian Atomic Energy Commission issues the construction licence
- 1997 Commissioning of the facility.

Investigations for a HLRW disposal facility in Boda

- 1992 The NPP initiates geological investigations in the area of Boda (aleurolit) - without national HLRW strategy
- 1995-98 Second research program
- 1996 Six settlements around Boda establish the West-Mecsek Public Information Association (incentives)
- 1998 New government orders discontinuation of surveys and flooding the mine shafts
- 2003 Third research program launched (URL + repository)

1. Which is the legislation/regulation framing the decision-making process for radioactive waste management in your country? How is it being implemented?

The most important legislation framing RWM is the Act on Atomic Energy No. CXVI of 1996 (replacing Act 1/1980).

The Government, in its Decree No 2414/1997 (17 December) authorised the Director General of the Hungarian Atomic Energy Authority (hereinafter: HAEA) to establish a non-profit agency, called "Public Agency for Radioactive Waste Management" (PURAM). PURAM was set up in 1998.

The Atomic Energy Act enabled the Paks nuclear power plant and PURAM to help set up so-called public information and oversight associations. These associations are independent legal entities, composed of local governments located in the vicinity of planned or already operational nuclear facilities. Their main task is participation in overseeing the safety of nuclear facilities and providing the local population with up-to-date information on important events in course of the planning, construction, and operation of the facility. Consequently, the law established the legal basis for providing financial incentives to the supportive group of municipalities. Funding provided for the associations can be used for public information and oversight activities, and – recently – also for regional development purposes¹⁴.

Considerations of environmental issues concerning radioactive waste management are given in the Act on Environmental Protection (1995. XIII.). The Act requires assessment of impacts of - among others - major waste management activities in the form of Environmental Impact Assessment. (EIA).

¹⁴ While the Atomic Energy Act of 1996 limited the use of funding provided for the associations to public information and oversight purposes, recent amendments (Act CLI of 2005) allow that such funding be used for regional development purposes, as well.

Modification of the Atomic Energy Act

In 2005 the four public information and oversight associations have begun a joint lobbying process for the modification of the Atomic Energy Act, aimed at facilitating the use of the financial incentives. The former regulation permitted only the financing of communication activities.

In December 2005 the Parliament accepted this modification. The new regulations authorise the associations to use the incentives also for other purposes, including municipal services, as well as local and regional development tasks.

2. Which are expected key milestones for the governance of radioactive waste management in the next 10-15 years?

Low- and intermediate level nuclear waste

The existing disposal site in Püspökszilágy

2003-2006	Enlargement
2006-2047	Operation and maintenance
2048-2050	The close-down procedure (shipping long-lived waste to the HLRW facility)
2051-2101	Long-term active monitoring
2101 -	Long-term inactive supervision

The new L/ILRW repository in Bataapáti

2006-2008	Completing underground research
	EIA
	Issuing license
	Construction
2008-2019	Operation
	Transportation of utility waste from Püspökszilágy to the repository
2093-2094	Enlargement
2095-2104	Operation
2104-2107	Closing down

2108- Long term supervision

Interim spent fuel storage facility in Paks

2003-2017 Operation and enlargement

2017-2047 Operation

2047-2069 Transportation of the spent fuel to the new HLRW repository

2070-2088 Protected supervision

2089-2104 Dismantling parallel with the NPP

The new HLRW in Boda

2004 - 2008 Site selection for a URL

2009 - 2012 Building the laboratory

2013 - 2032 In-situ research in the laboratory

2033 - 2046 Constructing the repository

2047 - 2069 Phase I. of the operation. Receiving spent fuel from the interim storage facility and long-lived waste from the Püspökszilágý L/ILRW facility

2070 - 2094 Operation

2095 - 2104 Phase II. of operation

Receiving decommissioning waste from the Paks NPP

2105 - 2108 Closing the repository

2108- Long term supervision

3. Who are the key players involved in the decision-making process and what are their functions at local / regional / national levels?

a) The **Public Agency for Radioactive Waste Management (PURAM)** is a fully state-owned, non-profit agency. PURAM performs the following activities:

- Planning and reporting
 - draws up and promotes research and investment plans
 - performs cost calculations for determining payments to the Fund
 - provides technical and financial reports
 - draws up decommissioning strategy and plan
- Research, development, implementation
 - siting, construction, licensing of L/ILRW repository
 - extension of interim storage facility
 - preparation of HLRW disposal
- Operation
 - L/ILRW repositories
 - Interim storage facility for spent fuel
 - HLRW repository
 - Collection and transport of radwaste
 - Communication and internal cooperation

b) **The Hungarian Atomic Energy Authority (HAEA)** is a regulatory and policy making authority. Its tasks include the following:

Establishing the regulatory duties in connection with the safety of the peaceful application of nuclear energy, particularly with the safety of nuclear materials and facilities under normal and accidental conditions and with nuclear emergencies is a basic task of the Hungarian Atomic Energy Authority. The Authority is also responsible for developing recommendations for the government regarding RWM policies. In addition, the HAEA is required to harmonise and handle the related public information activities.

In accordance with the Act on Atomic Energy, in order to ensure the scientific basis for governmental, regulatory, and emergency response measures concerning the safety of nuclear applications, the work of the HAEA is supported by a Scientific Council. This Council consists of 12 members who are nationally known professionals in the field of nuclear energy applications. The chairman and the members of this council are appointed by the supervising minister of the HAEA. Within its terms of reference and taking into consideration the latest scientific results, the Scientific Council is required to take a stand on the most important issues of principle, research and development issues related to nuclear safety, and radiation protection and emergency response issues.

c) **Local governments of host communities** are issuing permits needed for geological investigations, as well as construction permits. **Public information and oversight associations** represent the interests of 33 local governments in the vicinity of existing and planned RWM facilities. They carry out public oversight activities during research, construction and operation of such facilities. The Associations have members from affected settlements (mayors/ elected representatives) with decision rights and NGO delegates with deliberative rights.

At present 4 associations exist:

- the Isotope Information Association; around the Püspökszilágy L/ILRW facility
- the Public Oversight and Information Association around Bátaapáti, where the new L/ILRW storage will be built;
- the Public Information and Oversight Association around the Paks NPP;
- the West-Mecsek Public Information Association around Boda where the new HLRW disposal facility will be built.

d) **The Ministry for Environment and Water Management** is responsible for issuing the environmental permit, on the basis of an EIA process.

e) The **Hungarian Parliament** takes a decision in principle on the establishment of any proposed RWM facility.

4. For the governance of radioactive waste management today, which are key mechanisms (local committee, partnerships, focus groups, roundtables, forums,...) supporting the implementation of local democracy and citizens' participation at the local, regional and national levels?

- Public information and oversight associations in four regions (see above)
- Local (non-binding) referenda in host communities

The story of an successful referendum in Bátaapáti, where the citizens of the village agreed with construction of the radioactive waste repository.

On administrative territory of Bátaapáti located on the county border between Tolna and Baranya counties already for a decade have been those geological investigations performed in course of which the location of the repository assuring the final disposal of the low- and intermediate level radwastes were identified. Following evaluation of the investigation results, the competent authority, the Hungarian Geological Service, classified the Bátaapáti granite as suitable for hosting the repository. At the present time the drift works of the research are going on with the aim of finding the best repository location.

In accordance with a former resolution of the municipal government – the municipality decided to announce a local referendum. During the recent years the citizens of the village had the chance several times to express their opinion about the planned investment, and in every case the results were positive.

In a non-binding referendum held on July 10, 2005 the local residents had the chance to answer the following question: „Do you agree with construction of a low and interim level radioactive waste repository in Bátaapáti?” On the local referendum 75 per cent of the entitled people took place. Thus, the vote was valid and successful; 90.7 per cent of those who filled ballot-papers voted “yes”. Majority of the citizens of the village understand a promote, that the construction of the final repository for the low and interim level radioactive wastes constitutes an outstanding national target, it is of national interest, while, on the other hand it will be one of the largest Hungarian waste management investments of the present period.

The local referendum is not obligatory in the site selection process, it is a possibility for the local governments to strengthening the legitimacy of the decision making process. It will be an intention for other municipalities, to use this form of the direct democracy.

5. What is the influence of local stakeholders in framing, controlling, reviewing and producing expert knowledge relevant to local decisions?

The roles of the local stakeholders are the following:

- consult with scientific experts (e.g., experts of the Hungarian Academy of Sciences)
- organize topical talks for public understanding

6. What are the key elements to take into account in your country to strengthen the quality of the decision-making process?

- Developing a national RWM strategy, based on a nationwide public dialogue.
- Making national-level processes and policies transparent.
- Providing funds for local stakeholders to hire independent experts.
- Involving the national/local public in decision making on RWM options, technologies, locations, local oversight and regional development.

The elements of the first three points and the involving of the national public are missing from the Hungarian system. There are not an agenda actually.

7. What is the role of local committees in the long-term development of a community?

Local committees bring together local government representatives and NGO activists from several settlements. They raise environmental and social awareness, civic participation and dialogue within the settlements, and they also promote collaboration between the affected settlements. In general, they increase inter- and intra-community trust, and may also increase trust in policy makers.

Glossary

EIA	Environmental Impact Assessment
HAEA	Hungarian Atomic Energy Authority
HLRW	High Level Radioactive Waste
L/ILRW	Low / Intermediate Level Radioactive Waste
NGO	Non Governmental Organisation
NPP	Nuclear Power Plant
PURAM	Public Agency for Radioactive Waste Management
RWM	Radioactive Waste Management
URL	Underground Research Laboratory

II.5 - Romanian Group

National Contact Person / facilitator : Daniela Diaconu, INR

List of participants:

Marin Constantin, INR
Codruta Mihaela Nedelcu, ARIN
Mariana Mircea, Cernavoda Local Council
Stela Diaconu, ANDRAD
Alice Ionescu, ANDRAD

Common background

1. Which were key milestones/events for radioactive waste management in your country over the past 25 years? Why were they relevant?
 - *Brief history of radioactive waste management in the country*

Looking back over the past 25 years in the history of the radioactive waste management in Romania, we have to delimitate two stages, before and after 1989, the communist regime and the transition toward the private property system and democratic society.

Before 1989, the management of radioactive waste in Romania was governed by the State Committee for Nuclear Energy (CSEN) responsible with the accomplishment of the National Plan for Nuclear Energy Development in Romania. At that time, the main radioactive waste producers were the research reactors VVER-S from Magurele-Bucharest, TRIGA reactor, from Pitesti and uranium mining and processing activities.

In this context, following the CSEN's decision, the first events in radioactive waste management could be the commissioning, in 1984, of the two radioactive waste treatment plants, on the platform of the research reactors. Their objective: the treatment and conditioning of the low and intermediate level active waste for their final disposal, according to the international safety standards of the time.

The next important milestone was the commissioning, in 1986, of the National Repository Baita Bihor for the final disposal of the institutional LIL waste generated by the research activities in the Institute for Nuclear Research – Pitesti (ICN) and Institute for Physics and Nuclear Engineering – Magurele (IFIN). The same State Committee for Nuclear Energy took the decision after a technical approach, which indicated the old uranium mine Baita Bihor, placed in a mountain and unpopulated region, as a suitable site for LIL waste disposal. The commissioning of the National Repository did not involve the participation of the surrounding local communities and neither a Safety Report at the present standards. The technical report followed the IAEA criteria existing at that time. The owner of the National Repository Baita Bihor was, and still is, IFIN. Since 1986, the treated and conditioned LIL waste generated on the two research platforms, have been disposed in the lateral galleries of this repository.

After 1989, the players in the radioactive waste management process multiplied. Few NGOs, some of them pro-nuclear (AREN, ROMATOM) and others with ecologist convictions (ARIN, AGIA, Terra Millennium III) have been created. Their activity reflected in publications in journals had until now a very low impact on the nuclear politics and on the public.

In 1996, the first unit of the Cernavoda Nuclear Power Plant started to operate and became the most important producer of radioactive waste in Romania. The owner of the NPP is Nuclear-Electrica National Society (SNN), a state company. In order to support the technical aspects regarding the radioactive waste management, SNN initiated in 1992 a research program, performed by GEOTEC, INR and CITON, having as main objective the selection of a suitable site for LIL waste disposal. In 1997, this program became the national R&D Program “Safety management of the radioactive waste and spent fuel disposal”, managed by the Romanian Authority for Nuclear Activities (RAAN) and developed mainly by its Institute for Nuclear Research –Pitesti. The Program was focused on the treatment and conditioning of the operational waste as well as on the site selection and characterisation for their final disposal.

The firm political commitment regarding the safety management of the radioactive waste and of spent fuel was assumed in 1996 through the Law 111 (Law of radioactive waste and spent fuel management) and reconfirmed in 2002 through the Nuclear National Plan and the associated Strategy, which became governmental documents. The Nuclear National Plan is drawing the direction of the nuclear field, including the radioactive waste management, until 2040. The Law 111/1996 and the Nuclear National Plan have been the first official documents foreseeing the necessity of a national organization responsible with the management of nuclear waste in Romania.

In 2003, SNN finished the construction, on the NPP platform, of the Dry Storage Facility for the temporary storage (60 years) of the spent fuel from Cernavoda NPP. This was the first event that offered to the local community the possibility of a public debate. Individuals, groups, NGOs and Cernavoda Local Council had the opportunity to make comments to this project before that the Environmental Impact Report receives the approval of the Ministry of Environment, but none observation regarding the building of the facility was registered.

The last important event that must be mentioned is the creation, in 2003, of the National Agency for Radioactive Waste Management (ANDRAD), governmental organization responsible with the final disposal of the radioactive waste and the spent fuel. It started to effectively operate in 2004 with the elaboration of the long, medium and short-term strategy for the radioactive waste management and the fund law.

In 2006, it was approved the Governmental Decision no.31/2006 foreseeing measures for people information, development and implementation of social programs for the localities surrounding the disposal facilities, monitoring of the people health. The Decision will be discussed in the Parliament in order to become a law.

ANDRAD also elaborated the project of the Fund Law indicating the contributors and their contributions to the national fund for radioactive waste disposal and nuclear installations decommissioning. The project is in still under debate in the Parliament.

In June 2006, ANDRAD and the Mayor of the Saligny village signed an agreement for further investigations on the site proposed for the disposal of LIL operational waste.

September - November 2006 ; the first open discussions between Governmental organizations (Nuclear Agency, ANDRAD and SNN) and people, NGOs and local representatives from

Saligny and Cernavoda took place in, with a large reflection in the local and national mass-media.

Concluding, before 1989, the dialog was only between the technical and political levels.

After 1989, the dialog was also opened to the public and NGO's but their voices are still quiet. Until 2006 almost all-important milestones in the radioactive waste management in Romania had mainly political and technical connotations. The decisions were taken at technical level and have been politically assumed. Since 2005 a dialogue between the local and national stakeholders started and evolved.

- Which are the types of waste (LLW, ILW, HLW) at stake and which respective decisions were taken or should be taken?

The radioactive wastes produced in Romania are divided in Low and Intermediate Level-Short Lived (LIL-SL), Low and Intermediate Level- Long Lived (LIL-LL) and the Spent Fuel.

The LIL-SL waste comprise:

- institutional waste – generated mainly by VVER and TRIGA research reactors, research centres, nuclear fuel plant, but also by industry, agriculture and medicine. They are stored in National Repository Baita Bihor
- operational waste – generated by the Cernavoda Nuclear Power Plant, which will be disposed in a new, near-surface repository. The sitting and safety assessment processes are in progress

The LIL-LL waste both from institutional and operational activities, will be disposed in a geological repository, together with the spent fuel.

The Spent Fuel is generated by the two research reactors and by the Cernavoda NPP.

There are two types of VVR-S spent fuel:

- High-enriched VVR-S spent fuel (85% U^{235}), which has been sent to USA.
- Low enriched VVR-S spent fuel (23% U^{235}), which is stored in the reactor pools, and it is intended to be sent to the origin country, Russia. If the return will be not possible, a safe intermediate storage followed by deep geological disposal in Romania is foreseen.

There are also two types of TRIGA spent fuel with a similar history:

- HEU TRIGA spent fuel –which is sent back to the origin country, USA, according to a bilateral agreement between INR and DOE
- LEU TRIGA spent fuel –for which there are two possible alternatives: to be sent in USA or to find a solution at national level,

The CANDU spent fuel is stored for 5-7 years in the reactor pool, then 50-60 years in the Dry Storage Facility and finally disposed in a geological repository. The Romanian strategy does

not foresee the reprocessing of the spent fuel, but only its final geological disposal. At this moment, there is not yet established the host formation, which could be clay, crystalline rocks or salt.

- Which is the legislation/regulation framework for the decision-making process for radioactive waste management in your country?

The main legal document framing the decision making process in Romania is the Law 52/2002. In essence, experts take the decisions, which are then politically assumed. The public can only make observations to the Environmentally Impact Study. This document is open to the whole public, even on Internet, but the public participation is still low and NGOs involvement is moderate.

Law 320/2003 - “National Strategy for Radioactive Waste Management” establishes the creation of ANDRAD as unique coordinator at national level of the management of nuclear waste and its responsibilities, as well as the relationships between ANDRAD and the waste producers.

The legislation related to the decision making process in Romania is completed by the Law of the Institutional Transparency and Aarhus Convention adopted by the Law 86/2000.

- Which are the current and prospective sites? (if possible, provide a map)

Baita Bihor is the site of the National Repository for institutional waste. It is placed in the northwestern part of Romania, in former uranium exploitation.

Two candidate sites have been envisaged for the disposal of the LIL waste generated by Cernavoda NPP: Cernavoda and Saligny, both located in the eastern part of Romania, in the proximity of the nuclear power plant. At present, Saligny, the preferred site is under a detailed



characterization and safety assessment process.

2. Which are expected key milestones for the governance of radioactive waste management in the next 10 – 15 years? (if necessary, explore alternative scenarios)

According to the national strategy, the governance of radioactive waste management must firstly solve the technical aspects. In parallel, there is the intention to build the frame for the public involvement in the decision process.

The main technical aspects that must be solved are:

- setting up a complete database containing all information about the radioactive waste from Romania
- concluding of the Safety Analysis of the National Repository Baita Bihor; as well as its modernization and up-grading; decision on the National Repository future (closing-up/intermediate disposal)
- deciding on the new site for the disposal of the LIL waste from Cernavoda NPP
- strategy for the management of the LIL waste from IFIN, ICN, Cernavoda NPP and uranium processing
- decommissioning of the VVER-S research reactor
- elaboration of the strategy for the research reactor spent fuel disposal
- elaboration of the strategy for the NPP spent fuel final disposal

On short term, from legislative point of view, the approval of the Fund Law and of the Governmental Decision 31/2006 represents the most important milestone in the governance of RWM.

From technical point of view, the licensing of LIL waste repository is the most important priority.

3. Who are the key players currently involved in the decision-making process and what are their formal functions and strategic roles at local / regional / national levels?
 - a. Are there missing players?
 - b. If yes, what should their functions / roles be?

The most important players acting at *national level* in the present context of radioactive waste management are:

Nuclear Agency	governmental organization responsible with the elaboration of the national strategy in nuclear energy
ANDRAD	national coordinator of the radioactive waste management
SNN with its subsidiaries (Cernavoda NPP and Nuclear Fuel Plant)	Public company - the main waste producer and the most important contributor to the special fund
RAAN-ICN	nuclear research center and waste producer– contributes to the special fund for RWM and has a technical function in the radioactive waste management, being in charge with the fulfillment of the R&D National Program for RWM
IFIN-HH	nuclear research center, waste producer and the owner of the National Repository Baita Bihor
National Uranium Company (uranium exploitations and UO ₂ Powder Plant – Feldioara)	waste producer
CNCAN	national regulatory body – issues the national regulations and releases the licenses for the disposal facilities
Ministry of Environment	gives the environmental authorization after the debate of the Environmental Impact Report of the disposal facilities

At local level,

The Mayor and the Local Council	local players – gives authorization for the repository building and could make observations in the last stage of the debate of the disposal project, the Impact Study, organizes referendums
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The NGOs more or less involved in the nuclear debates in Romania are:

ARIN	ecologist organizations with mild anti-nuclear attitudes
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AGIA - Cernavoda	local organization fighting for the development and environmental improvement
Terra Millennium III	ecologist organizations with strong anti-nuclear attitudes
AREN	professional association, promoting the nuclear energy
ROMATOM	organization representing and sustaining the Romanian nuclear industry and its interest
Zona Cernavoda	Zonal organization representing the interests of municipalities surrounding Cernavoda NPP and the proposed LIL waste disposal site in the dialogue with the national stakeholders

In the present context, the players missing are formal local committees whose major function would be an active participation in the decision-making process starting with the very early stage.

Governance issues from the local perspective

4. What are the key mechanisms (local committee, partnerships, focus groups, round tables, forums,...) supporting the implementation of local democracy and citizens' participation at the local, regional and national levels?

At present, the only way enabling the citizen participation in the decision making process is the emitting of observation to the Environmental Impact Study requested for the obtaining of the environmental authorization for the radioactive waste disposal. Citizens and NGOs can make observations, which must receive answers from authorities. The environmental authorization is released when there are no more observations. There is not a law or some other legal notification requesting explicitly the public acceptance or public participation in the decision making process of RWM.

People, local organizations or NGO's can also make petitions and demonstrations against any project affecting them. Sometimes, mass media could also help, promoting their protests at national and governmental level.

The most powerful voice is the Local Council. In Cernavoda, there is an initiative for the organization of a Local Committee. Local representatives and NGOs are invited in the meetings organized by the national stakeholders (Nuclear Agency, ANDRAD, SNN, and even by the Presidency) where they can express their opinion. Local representatives invite national stakeholders in their meetings to discuss the problems of concern. The ways to influence the policy implemented in their territory are dialogue and negotiation with national stakeholders.

5. What is the influence of local stakeholders in framing, controlling, reviewing and producing expert knowledge relevant to local decisions?

At this moment, there is no influence of the local stakeholders regarding the expert knowledge related to the disposal aspects or radioactive waste management and no financial support for the access to independent experts.

The implication of the citizens or NGOs, through their observations to the Environment Impact Study (EIS), can only bring an increase of the safety degree of the facility, but cannot stop the implementation of the project.

6. What are the key elements to take into account in your country to strengthen the quality of the decision-making process?

There is the legal frame enabling the influence of a decision but the people are not aware and interested in using these opportunities. Since in Romania the people have not yet the democratic exercise, there is missing the trust in these approaches. The process could be improved by application of Aarhus convention, training and information of the local people, an open and transparent communication.

7. What is the role of local committees in the long-term development of a community?

Related questions from the point of view of local stakeholders:

- *According to their national context, what role could the local community play in the long-term management of a nuclear waste facility?*
- *To what extent do the local actors of the concerned region(s) share a common vision of the future for their community?*

There are no local committees yet in Romania at this moment. A financial support is essential for the organization and operation of a Local Committee. A deeper involvement of the main nuclear stakeholders: Cernavoda NPP, ANDRAD and CNCAN would improve the dialogue and communication with the local people and would insure the transparency of the decision making process.

But Local Council (Mayor) of the Saligny and ANDRAD agreed on a contribution to the improvement of village infrastructure if the repository will be built on its territory (road, water supply).

“Zona Cernavoda” proposed a law of compensations similar with the Slovenian Law, asking to solve the inequities produced to all municipalities owning nuclear facilities.

In Cernavoda, representatives of the Local Council, AGIA and Cernavoda Zone asked for a public office for transparent information of the public regarding all activities developed by and in connection with the Nuclear Power Plant and disposal facilities. At their request, two information centers, in Cernavoda and Constanta, have been opened by SNN with ANDRAD participation.

So, the local organization could promote their requests reflecting the local interest regarding the future of their community.

Glossary

ANDRAD	National Agency for Radioactive Waste Management
CANDU	“CANada Deuterium Uranium” pressurized Heavy water reactor CITON Center of Technology and Engineering for Nuclear Projects
CSEN	State Committee for Nuclear Energy
DOE	Department of Energy (USA)
IAEA	International Atomic Energy Agency
ICN	Institute for Nuclear Research - Pitesti
IFIN	Institute for Physics and Nuclear Engineering - Magurele
LIL	Low and Intermediate Level (waste)
LIL-SL	Low and Intermediate Level Short-lived (waste)
LIL-LL	Low and Intermediate Level Long-lived (waste)
NPP	Nuclear Power Plant
RAAN	Romanian Authority for Nuclear Activities
SNN	Nuclear-Electrica National Society

II.6 - Slovenian Group

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Introduction

The Slovenian nuclear programme consists of only three operating facilities: the small, 250 kW TRIGA research reactor, which has been in operation since the mid sixties, the nuclear power plant – 676 MWe PWR Westinghouse type – which is in commercial operation since 1983 and Central Interim Storage Facility for LILW from small producers. The NPP was jointly constructed by Slovenia and Croatia and is owned in equal shares by Slovenian and Croatian utilities. The fourth nuclear facility, the uranium mine Žirovski vrh, was in operation in the eighties. It was closed in 1990. The mine is now being under decommissioning.

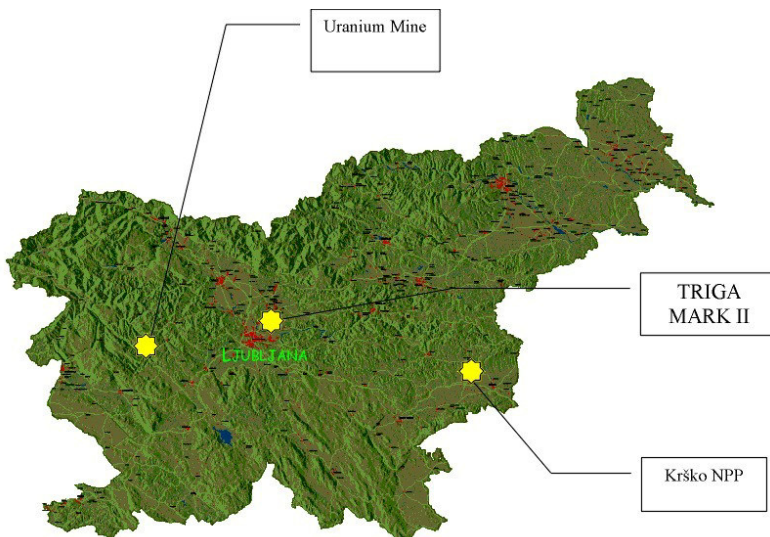


Figure1: Nuclear facilities in Slovenia

1. Which were key milestones/events for radioactive waste management in your country over the past 25 years? Why were they relevant?

Slovenia is one of the rare countries in the world who does not have a disposal facility for any type of radioactive waste. At present the operational waste from only nuclear power plant in

Krško is stored in storage facilities at the NPP site, while low and intermediate level waste from all other producers (medicine, industry and research activities) is stored at the Research Reactor Center near Ljubljana in the Central Interim Storage facility. At the Research Reactor Center there is also small reactor TRIGA intended for research and training, from where all spent fuel rods were taken back to the USA, the country of fuel origin. The current storage capacities are limited and will soon run out, which is especially true for the LILW storage at Krško. Although by waste volume reduction, improvements in waste treatment and reduction of waste production the operation of the storage in Krško can be prolonged, it can not be a substitute for the final solution. Due to increased needs from waste producers a repository for LILW should be constructed.

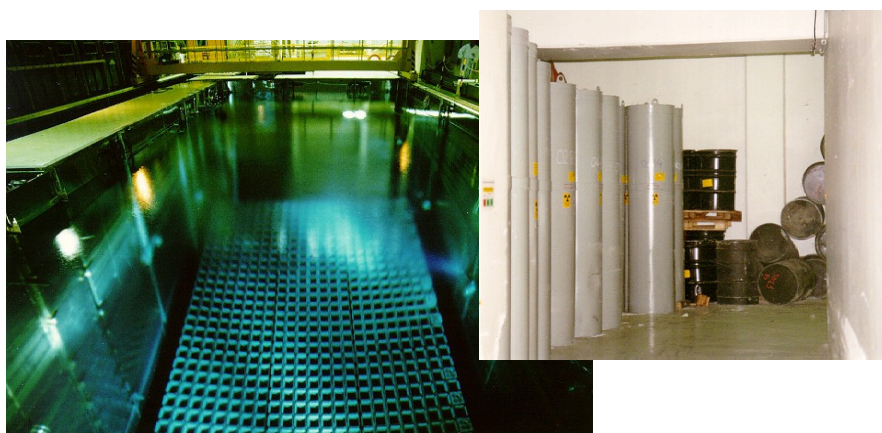


Figure 4: Spent fuel pool and operational LILW storage in NPP Krško



Figure 5: Central interim storage facility for radioactive waste from small producers

1.1 History:

From **1945 to 1970**: The use of nuclear energy has a strong tradition in Slovenia. In 1949 the Institute Josef Stefan was founded, devoted to research in physics, with great emphasis on nuclear physics. A few years later (1966) the research nuclear reactor TRIGA started to work in the vicinity of Ljubljana, to support its research. The first attempt to site a LILW repository in Slovenia were linked to the construction of the NPP Krško in the 70's. Only a technical (“technocratic”) approach was used as was the case of many other countries at that

time. When constructing the first NPP in Krško there was still a view that several NPP's would be built in Yugoslavia and that one centralized disposal facility for radioactive waste from all the NPP's would be prepared in the 80's. However, later on the idea of construction of several additional NPP was abolished due to serious political problems as well as economical ones.

In **1970**: Executive councils (governments) of Slovenia and of Croatia signed agreement on NPP Krško construction in 50:50 shares. Repository would be connected to another NPP in Prevlaka, Croatia.

In **1974**: State president Josip Broz Tito set a foundation stone for the NPP Krško. The site license required that the implementor should find the final solution for all radioactive waste until the end of the construction period.

In **1981**: Start of the NPP Krško commissioning operation. Still no final disposal solution found.

In **1983**: Members of municipalities chamber raised the question on radioactive waste management. Executive council of SRS (Socialistic Republic of Slovenia) believed that the storage at NPP Krško has sufficient capacity for the next five years and that it is reasonable from economic and safety reasons to find common solution together with Croatia i.e at the Croatian location Prevlaka.

In **1984**: Start of the construction of a central interim storage for small producers in Brinje near Ljubljana (at the place where experimental nuclear reactor is also located). Only after the opposition to construction of the facility, the local inhabitants were informed about it.

In **1985**: The agreement between Elekrogospodarstvo Slovenije (Electricity management of Slovenia), Združenje elektrogospodarskih organizacij Hrvaške (Association of electricity managing organizations of Croatia) and the NPP Krško on the start of a siting process for a LILW repository. First study entitled "Disposing of radioactive waste and spent nuclear fuel for Yugoslavian NPP construction program until 2000" was based on a technical approach to the site selection and prepared by Elektroprojekt Zagreb. In the study three possible locations in Slovenia were also mentioned.

In **1987**: Institute Josef Stefan (SEPO department) and the Biotechnical faculty (Department of Landscape Architecture) prepared under the contract to NEK a study on the LILW repository and siting possibilities in Slovenia. The result was a broad overview of 39 possible areas for siting of the disposal facility. The areas were chosen on the basis of geological, demographic and spatial development criteria.

In **1990**: Start of the site selection for a LILW repository in Slovenia only using exclusion and comparative criteria, but not taking into account social acceptability. The result of siting procedure was that five micro locations were defined **in 1993** which provoked strong opposition between neighboring inhabitants. The presentation of the results to the public was unsuccessful and has provoked strong disapproval within the local communities where the locations were identified. Because of the extremely negative reactions from local municipalities, the public acceptance criterion at these locations was not met; therefore in 1993 the siting process was suspended. All activities connected to this siting were stopped.

In **1991**: Foundation of the national Agency for radwaste management (ARAO) with the assignment to provide conditions for final disposal of all radioactive waste. ARAO was established in time when all activities for LILW repository site selection were already under way and no bigger change of the approach was feasible.

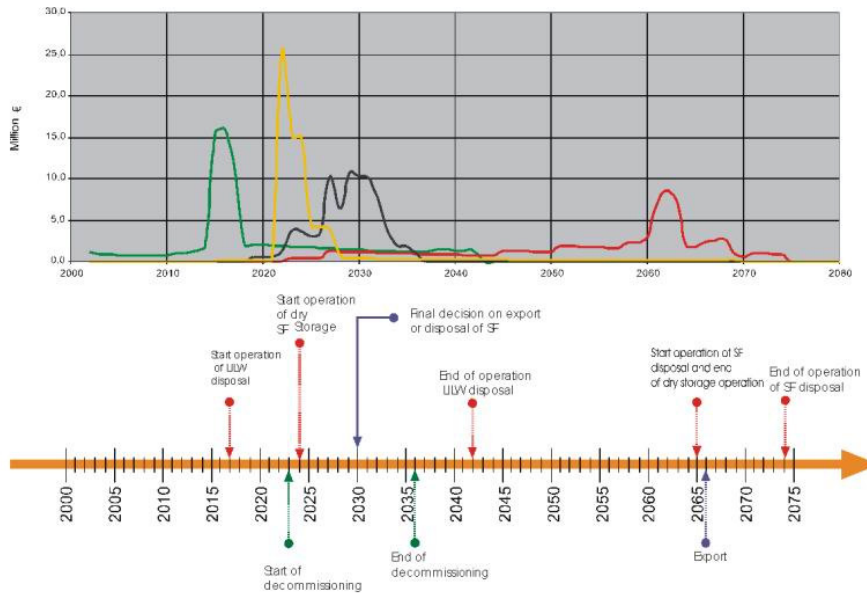
In **1993-1994**: ARAO was challenged with organizational replacement after the unsuccessful site selection.

In **1995-1996**: ARAO made thorough analyses of this siting process which showed that the main reason for the failure of the siting project was insufficient and inadequate provision of information to the public. Information on the project was poor, public participation in the site selection process was not established and the representatives of local communities were not involved in the process. The analyses also agree that the site selection process did not have sufficient political support. A waste management policy that could have provided the needed link between the politicians and the investor, did not exist. In fact, the period of the site selection process coincided with the time of tremendous changes that occurred in our country in the late eighties and early nineties. The changes in the political, social and economic system, in combination with the growing opposition to the peaceful use of nuclear energy, would require a different approach to the problem. The siting project, based on the technical screening method should have adapted to all changes and new circumstances, but due to its long-term nature it was practically impossible.

In **1997-1999**: In 1997 ARAO proposed a new mixed mode approach to the site selection and made a wider discussion between experts from different fields of work (technical, natural and human sciences). The majority of the participants supported the combined approach to the site selection for LILW repository. In their opinion, the advantage of the combined approach is flexibility, transparency and public involvement from the early stage. Until 1999 the whole siting procedure was defined including a program of co-operation with the public. Special attention was devoted to the involvement of the local communities in the site selection process, which was recognized as essential to the process. It was decided that the best way to communicate with the local communities was through an independent mediator, who would conduct the negotiations between the community and the investor, and thus represent the link between the two parties.

In **2002**: With the amendment to the Nuclear act accepted in 2002, Slovenia made a clear decision on the disposal of LILW. The amendment requires that the site for a LILW repository be approved by 2008 and the repository in operation by 2013. The site selection and the repository construction are therefore the first priority of ARAO. In order to achieve this goal, the suitable site(s) should be identified in 2004-2005 and the site characterization completed in 2007.

In **2003**: The **Program of NPP Krško Decommissioning and Spent Fuel (SF) and Low and Intermediate Level Waste (LILW) Disposal** was prepared in accordance with the Agreement between the governments of Slovenia and Croatia on the status and other legal issues related to investment, exploitation, and decommissioning of Nuclear power plant Krško from 2003. By this bilateral agreement the ownership of the NPP Krško is divided in equal shares between Republic of Slovenia and Croatia as well as the responsibilities for its decommissioning and SF and LILW disposal for radioactive waste and spent fuel from NPP Krško operation and decommissioning.



In **2005**: According to the [Act on Ionising Radiation Protection and Nuclear Safety](#) (Off. Gaz., RS, No. 67/2002) the **National program for radioactive waste and spent fuel management** was accepted by Slovenian Government in October 2005 and was adopted by the Slovene Parliament in February 2006 as a part of the national program for the protection of the environment pursuant to the regulations on environmental protection. The technical ground for the National Programme for Radioactive Waste and Spent Fuel Management (2004), together with a detailed description of the measures relating to the reduction of the occurrence of radioactive waste, to the treatment thereof prior to disposal and to its disposal, and the measures relating to the treatment and disposal of spent fuel, was carried out and communicated to the ministry competent for the environment by the ARAO. The operative programmes within the national programme of the radioactive waste and spent fuel management were drawn up by the ARAO and will be adopted by the Slovene Government. The operative programmes are prepared for a four years period, the main activities are connected with site selection and construction of LILW repository, assurance of stable functioning of public service of RWM for small producers together with the operation of Central interim storage facility, safe on-site RWM of all waste from NPP Krško, decommissioning of uranium mine which is under closure and preparation of some vital documents for management with radioactive waste. Spent fuel disposal is not a priority while it is planned to be developed only in 2065.

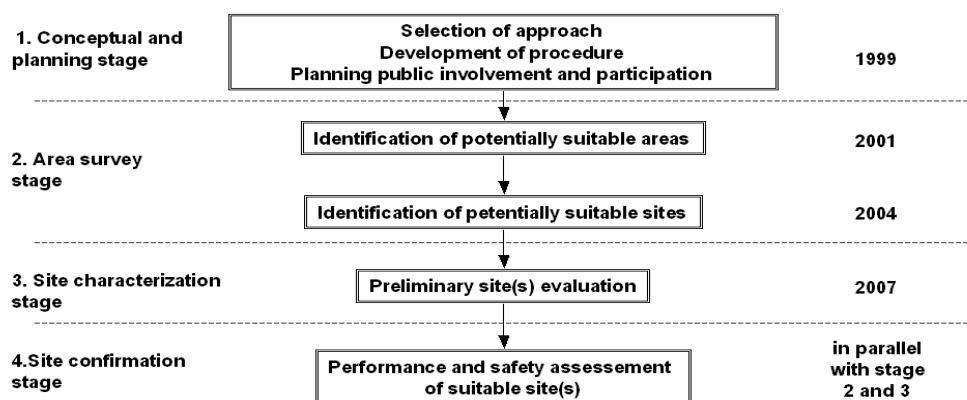
1.2 Specific development in LILW repository site selection

LILW repository siting is the key governance issue in Slovenia and is taking place according to the mixed mode procedure which follows the IAEA recommendations. It combines the expert assessments and local initiatives and proposals. The mixed mode procedure is divided into four stages:

1. *Conceptual and planning stage*: this was concluded in 1999; the siting procedure incorporating the public participation was defined;
2. *Area survey stage*: identification of potentially suitable areas was concluded in 2001 and a map was presented to the public; identification of potentially suitable sites was concluded in 2005,

and the sites were agreed upon with the local communities after their volunteering to the site selection process;

3. *Site characterization stage*: this will be concluded in 2007; maximum three potential locations will be studied, additional cabinet and field research will provide the necessary data for the site confirmation, the research will be carried out with the local community consensus;
4. *Site confirmation stage*: this will run in parallel with the previous stage; the suitability of the potential locations will be evaluated and additional data for safety analysis and environmental impact assessment will be provided by further research with consensus of the local community.



In 2001, the area survey stage was performed by cabinet investigations using the multi-criteria decision-making evaluation program within a Geographic Information System. The most important were related to the integrity and safety of the repository, which were then evaluated through study of the geological properties of an area. The results showed that about 15 % of Slovenian territory is potentially suitable for underground disposal and almost 45 % for surface disposal.

The most difficult step is the identification of potentially suitable sites, which requires extensive communication and negotiations with the local communities at the area of interest. In February 2002, ARAO has presented the approach to the local representatives and invited the local communities to participate through an independent mediator, representing a link between the two parties and thus facilitating the communication and negotiations between the investor and the local community. The mediator represents the connection between public interests in local environmental protection and the governmental interests to safely dispose of the radioactive waste.

The real negotiations with the local communities have started with the legal basis for financial compensations to the hosting community, which were accepted through the Decree on criteria for the determination of the compensation level due to the limited land-use on the site of a nuclear facility in December 2003 (Off.Gaz. RS 134/2003). The decree defines the fixed compensation of 2.3 mio EUR due to the limited land-use to the local community who would host the LILW repository during its operation, and 1/10 of that amount for field investigations and the repository construction.

In November 2004, the official administrative procedure for the siting of the repository was set. The Ministry of Environment and Spatial Planning together with ARAO carried out the First Spatial Planning conference. The Program for the preparation of the national location plan for the LILW repository was accepted, and ARAO invited all local communities in Slovenia to volunteer a site or area for further investigation. Applications had to be signed by mayors only.

Participation of local communities in the site selection process for LILW repository is considering requirements of Aarhus Convention regarding access to information, public participation in decision making and access to legal protection.

Therefore the participation of local communities followed the structure:

- 1. phase: ARAO invited local communities to participate
- 2. phase: pre-feasibility assessment of the public acceptability in local communities (LC)
- 3. phase: establishment and implementation of local partnership (LP)

Nov.2004	Apr.2005	May 2005	Jul.2005	Nov.2005	Jan.2006	Feb.2006
Invitation to LC to participate	End of bidding process	Theses for local partnership	Pre-feasibility study	Govern. decision on 3 LP	Com. activities	Signing of LP
Phase 1		Phase 2			Phase 3	

Figure: Local communities involvement in the LILW repository site selection

Invitation to local communities to participate in the site selection for LILW repository was sent to all municipalities in Slovenia with exception of 3 which in advance rejected participation (190 municipalities). The principles of application were clear and published on the ARAO web pages and included the instructions for the application of municipalities in the process. The application has to be signed by the mayor and could include the whole territory of municipality or some special selected areas in the community. Beside the form for application the leaflet also included the general information on LILW repository, the radioactive waste, minimal necessary surface for the facility, the conditions for financial compensations provided in the decree, further process on the pre-feasibility study and on local partnership establishment and timeframes for activities.

By the beginning of April 2005, ARAO finished the bidding process with eight applications from local communities. Within the next two months three local communities had decided to withdraw their applications. Only one of the remaining five local communities proposed an appointed potential site for further investigation. In the others, the potential sites were defined by cabinet studies and presented to local communities for confirmation. Only the potentially suitable sites confirmed by local communities were further assessed in the pre-feasibility study. This provided the assessment of all sites based on public acceptability, passive safety, technical functionality, economic, environmental and spatial aspects.

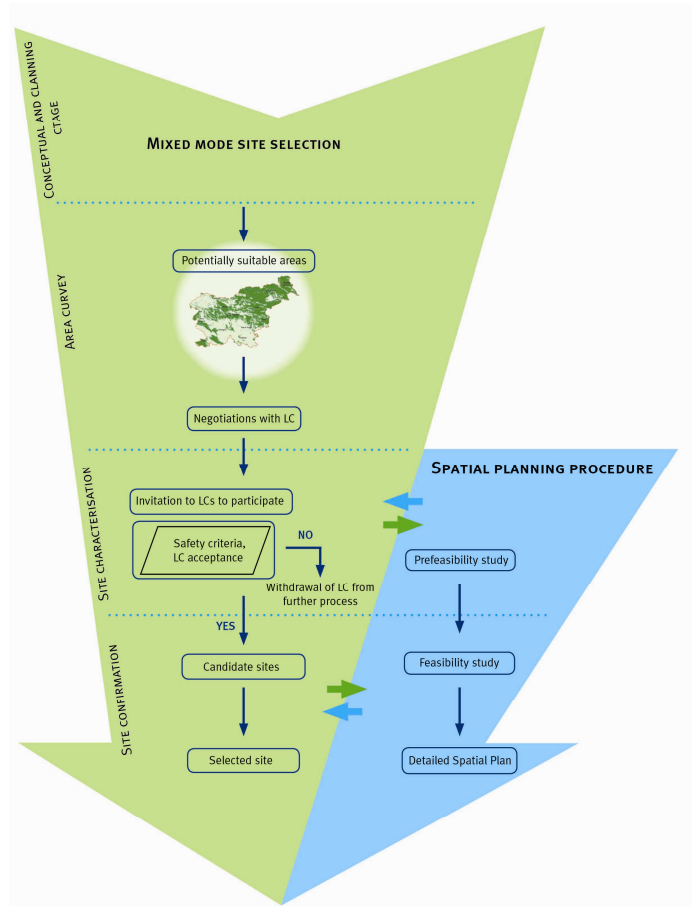


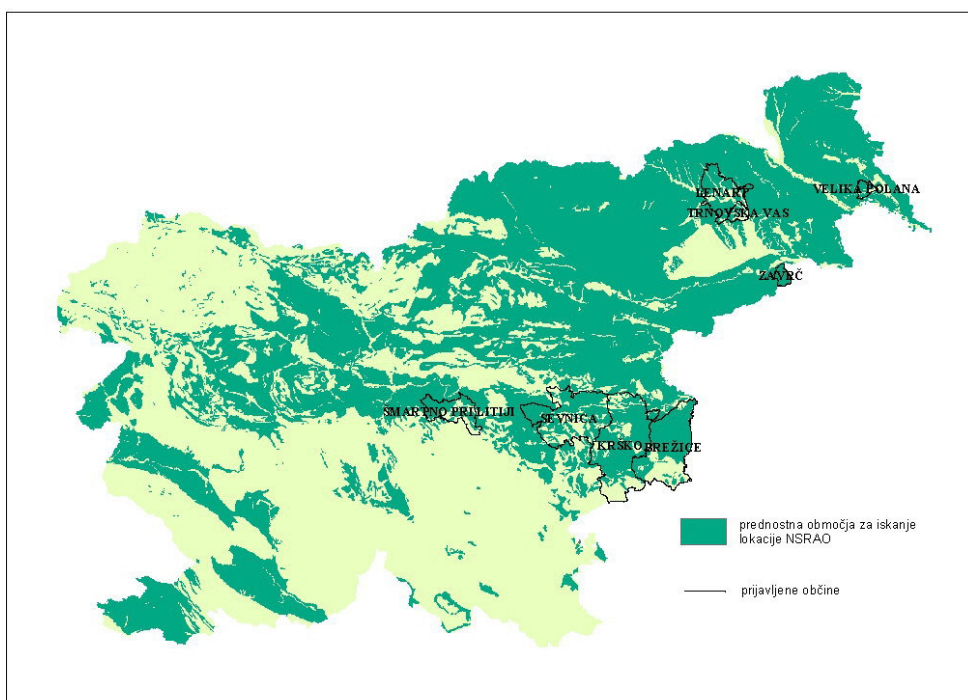
Figure: Cross-linking scheme of the mixed-mode site selection process and spatial planning procedure.

The methodology for the assessment of public acceptability included factors that could influence social aspects of the life of individuals (subjective parameters) and the people’s attitudes in the whole local community (objective parameters). The only exclusion parameter in public acceptability was the eventual rejection of participation in the siting procedure by a local referendum.

The assessment of technical aspects followed the selection of potentially suitable sites approved by local communities. The areas in communities which had not proposed the site by themselves were analyzed by using environmental, spatial and safety arguments. Water protection areas, catastrophic flooding regions, areas inside Natura 2000, areas inside 500 meters from continuously populated areas, community or national borders, were excluded from further assessment. ARAO defined 11 potentially suitable sites in 4 local communities, and one was proposed by the fifth local community.

The proposed 12 sites were assessed from the point of view of passive safety, technical functionality, economic, environmental and spatial aspects. The methodology criteria and evaluation approach were prepared for each of these aspects, and assessment parameters were defined. The results of the expert assessments based on cabinet data and field visits were used for the comparison and evaluation of proposed potentially suitable sites. The sites were

classified first by ranking local communities by the public acceptability criterion. In the second step, all other aspects were considered equally and the sites were ranked again. If the potential site was excluded only because of one aspect it was excluded from further evaluation. In this way selection of the three most promising ones for further field investigations was performed. The pre-feasibility study was finished in October 2005 and 3 local municipalities were proposed for further field investigations by the Government of Slovenia.



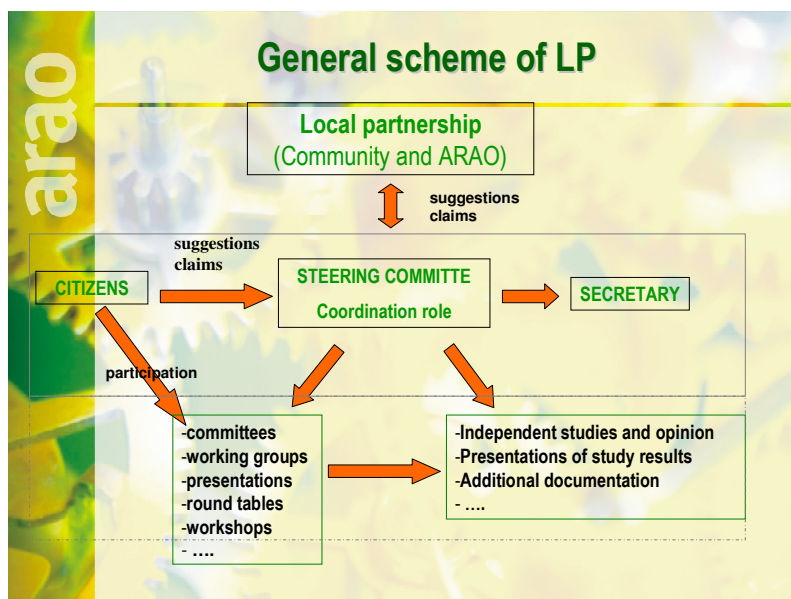
The final 3 local communities which were selected for the further field investigations were obtained by taking into account also technical assessment in addition to the public acceptability criterion. After the decision of Slovenian Government in November 2005 local partnerships were formed with local communities in Posavje (municipalities of Sevnica, Krško and Brežice).

Local partnership

Local partnerships which were established in 3 local communities in Posavje serve as an umbrella for all activities during site characterization and confirmation of potential sites and give also the platform for cooperation and for decision making of local stakeholders. The local partnerships consider the characteristics and expectations of the individual local community but for each of them the form and mode of work, decision making contents, mode of independent studies, consultations and verification, time dependence and results of cooperation on individual steps are defined.

Although local partnerships are formally agreements between ARAO and each of the communities (Communes) they provide framework for participation and cooperation of

people - citizens in the site selection process. The general scheme, given in the figure, foresees the establishment of local partnership through the steering committee which has the role to coordinate and to facilitate the participation and involvement of citizens. To involve as many people as possible different tools can be chosen such as organizing different committees, working groups, presentations, round tables, workshops or any other appropriate way to involve locals. When establishing local partnership clear program has to be prepared and accepted by all partners which define the purpose of local partnership, principles, goals, participants, functioning, information accessibility, decision making, funding and time frames.



Functioning of local partnership is formal in the administrative proceedings like the preparation of National location plan for LILW repository, EIA process and similar, and informal with discussions on field investigations, design solutions for LILW repository, safety aspects of nuclear facility, environmental impacts, development possibilities due to compensation for the limited land use, societal and health issues and all other aspects which are relevant or interested for individual local community. The work of local partnership is public therefore the minutes, invitations and documents are published in the web page or on locally usual way. Local partnership has funds for its functioning, informing of public, expenses for work of reporters and reviewers and for independent expert opinions and studies. The funds are limited for individual year and defined by ARAO, but decision on the use of the funds is taken by the local partnership. The decision making process stays with local council and other bodies of local autonomy, local partnership has advisory role.

Different approaches in 3 local communities

LP in Sevnica: In February 2006 steering committee with 9 members on mayor proposal and council approval was formed. In the beginning of March strong civil initiative movement started to oppose the decision on local community participation in site selection process. In March 2006 the local council decided to withdraw from the site selection process on the mayor proposal and ARAO stopped all activities.

LP in Brežice: Several presentations for citizens, different groups of public and decision makers started just after the decision of Government. The steering committee was formed

with 9 members nominated by council, mayor, locals and ARAO in the March 2006. The local partnership accepted program with activities and started with work (information activities, visits, presentations, independent studies, organization of working groups,...). In May 2006 strong civil initiative movement against application of local community formed. Due to pre-election time (summer 2006) the community council decided to withdraw the potential location, but to stay in local partnership and to identify new potential location. The identification of new potential locations is underway, they will be presented to the steering committee, to the mayor and the local council. In case they will support the proposal, the local council will decide on potential locations. ARAO will then do the prefeasibility study on the assesment of potential sites.

LP in Krško: Several presentations for citizens, decision makers and local politicians were made early in spring. The mayor has shown a very strong and clear involvement to participate in the site selection process as his community is where all the radioactive waste is already located. A program of activity was prepared and adopted and working groups/committees were set up for sustainable development, technical issues, for environment and health, limited land use and for consideration of Aarhus convention. Latent civil initiative became member in the partnership.

2. Which are expected key milestones for the governance of radioactive waste management in the next 10 – 15 years? (if necessary, explore alternative scenarios)

The future key milestone are presented and accepted in the National program for radioactive waste and spent fuel management (2005, adopted by Slovenian Government) which is to be developed by 2015 with more detailed plan for the period 2005-2009 and more general for 2010-2015. It provides information on needed measures, financial estimations and time dependence. It takes into account current and future RAW streams in Slovenia, present and planned waste management practices, planned life time of NPP Krško (2023) and valid legislation, strategic documents and policy on radioactive waste management. The main activities in this period are site selection and construction of LILW repository, assurance of stable functioning of public service of RWM for small producers together with the operation of Central interim storage facility, safe on site radioactive management of all waste from NPP Krško, decommissioning of uranium mine which is now under closure and revision of decommissioning programs for nuclear facilities. Spent fuel disposal is not a priority while it is planned to be developed only in 2065.

The key milestones in near future are:

Area	Activity	When
Public service of RWM from small producers	Operational licence for CISF (Central Interim Storage Facility)	2007
	RAW characterisation	2006
	T&C possibilities	2008
	transportation	2006
Site selection and construction of LILW	Site characterisation	2007
	Site selection	2008

repository	Project documentation	2009
	Construction	2013
RŽV (Uranium mine Žirovski vrh) decommissioning	Decommissioning and remediation	2009
	Permanent supervision	2010
	Maintenance	2010
Decommissioning	Revision of the documents	2009

3. Who are the key players currently involved in the decision-making process and what are their formal functions and strategic roles at local / regional / national levels?

- **Are there missing players?**
- **If yes, what should their functions / roles be?**

Different stakeholder groups have different roles in the site selection procedure for the repository. On one hand there is an interest of the government to safely solve the problem of radioactive waste management and to construct the proper facility for its long-term management. The governmental interest is realized through the implementers' activities to locate and build the repository by complying with legal and legislative norms and standards inspected by regulatory bodies and competent authorities. The involvement of regulatory bodies and the competent authorities depends on the development of the siting/safety case, but at all times it has to be assured that the discussions are fair and respectful. The implementer needs a rightful, independent and competent regulator in the decision-making process in order to build trust in the other stakeholders about the management of the safety case process. One very important special target group that could significantly support the site selection and decision-making process is the national and international scientific community. Their views should be carefully and appropriately input in the process.

On the other hand there is the local community who will host the site for the repository. The community is the key stakeholder in the process and more or less in all countries it has to provide social acceptability to the planned radioactive waste repository. The local community is represented by many actors, formal actors like the mayor and municipality council representatives, and informal like the local public opinion makers, local NGOs, associations or other individuals. Their role in the safety case could be very different, contradictory and also variable. Different factors that could influence the acceptability of repository in the local community, such as a lack of trust in the governmental institutions, fear and also the local community interests, should be considered.

A special role in the safety case and in the process also goes to the media, reporters, journalists working for magazines, newspapers, TV and radio stations, and public opinion makers who represent a very strong information source for general public opinion and consequently influence all other stakeholders. Since nowadays the media are commercially oriented, frequently "the only news is the bad news". Although the contents of a report or contribution might be fair and well-intentioned the title itself often reflects suspicious meanings. In parallel, different special target groups of stakeholders, such as NGOs, political parties in opposition, etc., have a special role in the site selection process, and have to be properly addressed.

It has to be stressed that although the interest of the stakeholders at first sight seems to be clear, defined and definitive, their role and position can often change very quickly and depend on different parameters that reflect the political, social and economical situation. Also it must be borne in mind that external factors should also be considered, as for instance: origin of the waste, high tension between the centre and periphery, and foreign examples and practices.

Players differ depending on the level of observation: general, basic and local. Undoubtedly the State (through its different bodies) is involved, as well as local communities and NGOs. More concretely, on some basic level we have the following actors or groups of them:

- Agency for Radwaste Management (ARAO) and other official bodies of Ministry for planning and environment, including technical experts;
- Nuclear sector, mainly the NPP Krško
- Local communities, involved in the siting procedures;
- NGO on local or state level; expert communities, political parties.
- Media.

ARAO is formally responsible for the radioactive waste management in Slovenia but it implements the policy of the Ministry for the Environment. Governmental policy on RWM was inconsistent from the very beginning but now it has firm bases due to the National program on radwaste and spent fuel management (adopted in 2005).

The nuclear sector is economically strong, though it is state owned. The open question is joint ownership between Croatia and Slovenia of NPP and unsolved issue of decommissioning fund in Croatia. It is influencing the siting process through interaction with the state and local politics.

The role of local communities involved in the siting process is often diverse and ambivalent due to the public opposition to the facility being sited in their community, but wishing to receive high compensation offered by the state to the community willing to accept the facility. Presently local partnership is to be founded in 3 local communities (Krško, Sevnica, Brežice) which already host NPP or are bordering to the NPP location.

In Slovenia there is a number of NGO's focusing on environmental problems. Their activity is not coordinated and their power depends mainly on the level of harmonization of their attitudes with that of the concerned public. The government and/or local communities financially support most of them. With regard to nuclear energy they are mainly opposed to it. It is possible that during the siting process some new groups will emerge. The problem is, that some of them wishing to get political recognition through defending NIMBY attitudes in the local population stimulate the opposition to the siting of the repository by using rather controversial views and manipulating people.

Regarding attitudes toward RWM process, different media play different roles, depending on the occasion and nature of the event. They are not leading consistent policy with regard to RWM, but mainly emphasize the problems (what is in principle not bad), while not supporting search into the solution to the problem. Some of the reasons for this lie in inconsistent governmental policy toward the issue of RWM.

The role of political parties is not transparent enough, but most often at the local level most parties are following the predominant public opinion on the siting of the disposal although at the national level their position is different.

4. What are the key mechanisms (local committee, partnerships, focus groups, round tables, forums,...) supporting the implementation of local democracy and citizens' participation at the local, regional and national levels?

The key question in supporting local democracy is how to inform people and how to involve public in two ways information streams. One of the possible answers to those questions is to involve the media. ARAO did include the media relation as one of the most important issues in the public relation work. Although there is a lot of information of different official sources like ARAO, ministries, nuclear safety administration, NPP,..., media is not reporting without the reasons. Therefore happenings or events have to be organized and then the media are reporting.

In the preparation of local partnerships such approach was included and is used. Each activity in local partnership is carefully planned and prepared. A presentation following the activity is prepared in the one of the following forms : workshop, focus group, presentation, round table, discussion with experts, visit,..., with press release and sometimes press conference. Different media paths are used like newspaper, TV, radio,..., on national and local levels. Also other, more informal sources of information distribution are used, like decision and opinion makers discussions.

However the reporting in media is not always positive and realistic. Media is also influenced by the commercial rules with the fact that "only bad news is good news". Many times they present the opponents irrespective of the number and arguments as equivalent speakers. They also many times provide rumours and insinuations, sometimes even are having their own hidden agenda. That was found especially among local reporters.

Through the process of local partnership establishment the involvement of people was stimulated as much as possible but it was also clear that is very difficult to involve people in the decision making process or in participation in the area of site selection for LILW repository. On one side there was no interest to participate in presentations, workshops and discussions. On the other hand civil initiatives react very negatively and many times believed that the process is not fair because they were not informed on time though all information, invitations and reports on site selection were public and at disposal on web pages or using locally usual style.

Related questions from the point of view of local stakeholders:

How can local stakeholders influence policy that will be implemented in their territory, now and in the future? Does the process allow sufficient flexibility for this?

Presently the process is at the beginning but it has already shown that the local stakeholders have the possibility to influence the process. As a consequence some of local communities already withdraw the application while the others are still deciding on the application. The process allows the flexibility and is robust enough to adapt to the current situation even the local elections which can and are endangering the site selection.

How can they influence the national policy?

Presently the local stakeholders influence even the national decisions on some occasions. One of such activity from local communities was the amendment in the Regulation on the criteria for setting the level of compensation for limited land use on the territory of a nuclear site. According to this amendment, the Communities of Brežice, Krško and Sevnica are entitled to compensation for restricted land use for storing low and intermediate-level radioactive waste on the territory of the existing nuclear power plant Krško in the amount off the 2.3 mio EUR per year in addition to the 4,3 mio EUR per year for limited land use for NPP Krško.

In fact, some instabilities also came through the fact that Slovenian national regulations are still under development and are still adjusting to the EU system.

How can they become statutory consultees (i.e. consulted in a statutory way) so that they are able to participate in meetings? How can they ensure that their views are taken into account?

All local inhabitants who are interested are invited in local partnerships. There were several presentations in all 3 local municipalities in the phase of establishing of local partnerships in which they were invited, and were given also a possibility to design the partnership according to their opinion and needs. Presently all local partnerships are open to new comers although they accept the rule that new participants can not influence the decision which was already made. The local partnerships have advisory role, but the decision making process stays with local council and bodies of local democracy.

5. What is the influence of local stakeholders in framing, controlling, reviewing and producing expert knowledge relevant to local decisions?

Special account in ARAO is devoted to local partnerships to decide on independent studies, revisions, for experts and similar. The decisions on the applications are taken in local partnerships. They also decide on the experts or organizations within the public procurement law. The amount of money for independent studies and experts is accepted in advance for 1 year period by ARAO Work program and devoted to the local partnership needs. The decision procedure is also clear and accepted by local partnership.

Related questions from the point of view of local stakeholders

As above.

How can they identify and call in an unbiased judge to resolve issues?

How do they have access to independent experts?

Who pays?

In case of mistrust or claims for additional investigations of rumours or similar the local partnerships decide on the study or expert opinion. In frame of this they also decide on procedure. The money is reserved for such situations by special account inside ARAO funds and is coming from decommissioning and LILW and SF management fund for NPP Krško. For some activities the number of possible organizations or institutions is limited as special licenses are required (like for radioactive and environmental monitoring) but still the local

partnership could also decide for a foreign institution. In some cases only institution in Slovenia is specialized like for research of cancer occurrence.

ARAO does not intervene with decisions but has the role to assure legal correctness (respect of Slovenian legislation).

How can they contribute to identify and assess the scientific and technical questions relevant for the decisions to be made?

Similar answer as above.

6. What are the key elements to take into account in your country to strengthen the quality of the decision-making process?

The key elements are to find and ensure public participation in the site selection and to involve through different ways the information to all local population. The other most important element is to ensure trust in the experts, involved institutions and in the implementer.

Related questions from the point of view of local stakeholders

The local stakeholders must ensure the protection of individuals and their public interest. They have to force the implementer to provide all answers to the raised questions or dilemmas and give possibility to local inhabitants to decide on the final decision.

How to create or develop conditions for empowerment of local organisations/committees so that they move from a consultative to an engagement role?

Theoretically the organization of local partnership allows the conditions for real decision of the local public. The local partnership functioning is organized through the local committees (or any other locally accepted way) and steering (sometimes called coordinating) committee and accept the local partnership program. But the real empowerment of locals in Slovenian case stays within the local communities. Some local communities support local partnership very much, the others find the approach just suitable for “fictive” empowerment.

How to organise the different roles of public and private institutions to increase legitimacy and confidence and to avoid conflicts of interest?

Representatives in local partnerships have to be well represented in terms of equality. One of the lessons learnt in Slovenian case of local partnership establishment is that different groups (also of interest) are very important to be present in local partnership because they do balance different interests. ARAO from the beginning of the local partnership establishment advises the local representatives (mainly mayors and council members) to open as much as possible the participation in local partnership for everybody.

Members of steering or coordinating committees are elected or nominated by locals with exception of 2 persons from ARAO.

7. What is the role of local committees in the long-term development of a community?

The role is not yet defined, but it is foreseen that discussion should be conducted in this respect. One of the possibilities is that local partnership will be transformed to a body which will survey the construction and also operation of the repository.

Related questions from the point of view of local stakeholders:

Same as above.

According to their national context, what role could the local community play in the long-term management of a nuclear waste facility?

Long term management of LILW repository is not yet defined but local partnership should be transformed in a way that would have more active role also in the facility management.

To what extent do the local actors of the concerned region(s) share a common vision of the future for their community ?

Common vision that local actors share is in long term and in sustainable development of local community. Although it can be seen that site selection process opens also many other development viewpoints which were before not so clear or were not discussed in public. One of these is the fact that only Krško community is entitled to the compensation for NPP although it is located near to the border with neighbouring Brežice community. The other opened issue is the use of compensation of 4 mio EUR inside local community of Krško, for what project the compensations is used for, and so on.

Annex – Glossary

ARAO	Agency for Radwaste Management
CISF	Central interim storage facility
EIA	Environmental Impact Assessment
IAEA	International Atomic Energy Agency
LILW	Low and Intermediate Level Waste
LP	Local Partnership
NPP	Nuclear Power Plant
PWR	Pressurized Water Reactor
RAW	Radioactive waste
RWM	Radioactive waste management
RŽV	Rudnik urana Žirovski vrh – Uranium mine Žirovski vrh
SF	Spent Fuel
SRS	Socialistic Republic of Slovenia

II.7 - Spanish Group

National Contact Person / Facilitator : Mariano Vila d'Abadal (AMAC)

1. Which were key milestones/events for radioactive waste management in your country over the past 25 years? Why were they relevant?

During the 60s, when the construction of the nuclear power plants began in Spain, in the concrete case of the three power plants of Zorita, Vandellòs I and Santa María of Garoña, the reprocessing of waste fuel of the nuclear power plants was included in the project. Regarding medium and low radioactivity waste, the plan was to store them in Spain although no decision had been made on their concrete location. At that time, the place for the store was not known.

The organism directly responsible for radioactive waste management was the Board of Nuclear Energy, an organism which depends on the Ministry of Industry. Their responsibility also embraced the security of the facilities and issuing the corresponding authorizations.

The reprocessing policy meant the shipment of waste fuel to France, in the case of Vandellòs I, and to England in the case of Santa María of Garoña and Zorita. This procedure lasted until 1983 when the nuclear moratorium was decided, meaning the end of this type of policy.

1980. In that year the Council of Nuclear Security was created by means of a Parliament's Law. The purpose was to separate the control of nuclear facilities from political activity. The creation of the CSN meant the disappearance of the Board of Nuclear Energy, creating a gap of power in relation to radioactive waste management.

1983. The Spanish Parliament approved a National Energy Plan whose objective was to organize the use of nuclear energy but in that period, it was also decided to stop the construction of five nuclear power plants (Valdecaballeros, Lemoniz and Trillo II). As for radioactive waste, the decision was to start a specific policy for waste management and to cancel the reprocessing contracts that existed with England. In the case of Vandellòs I, being a power plant of French technology, its exploitation went on with the same system until its closing in 1989.

1984. By Royal Decree of the Government, the National Company of Radioactive Waste SA (ENRESA) was created with specific competence for managing all the existent radioactive waste in Spain, including waste coming from medical use or from industry, and also for managing the dismantlement of nuclear power plants.

The current system of waste management starts with the creation of ENRESA. So far, ENRESA has elaborated five national plans for radioactive waste. In these plans, actions are designed to carry out the management of high (spent fuel), low or medium activity waste. The most important data in the plans for waste management is: in the first place, the 1991 decision of enlarging the storage capacity on the nuclear sites due to the lack of a centralized storage in Spain as it had been settled in the first national plan for waste. The lack of decision for the construction of an Centralized Temporary Storage (ATC), caused a serious problem for the administration of the nuclear power plants since these had storage capacity only for five years.

In 1991 the Waste National Plan planned the enlargement of the pools, the construction of a centralized temporary storage (intermediate storage) and the construction of a deep geologic storage.

In 1999, the V Waste Plan agreed to remove the construction project of a geologic disposal from National Plans and to bet for a centralized temporary storage, participating at the same time in the international programs of investigation about transmutation and definitive storage.

Apart from the enlargement of the storages on the power plant sites, there is currently a construction project of a centralized temporary storage for the year 2010. Moreover, 2010 should also see the return of the vitrified wastes coming from the fuel reprocessing process of Vandellòs I. Then, in 2012 the storage in the pools of the nuclear power plants at Cofrentes and Ascó will be completed. The lack of a storage system would cause these nuclear power plants to be shutdown.

Another key question is the implication of the municipalities of the nuclear areas, through AMAC, in the search for a decision making system in order to reach a solution for the centralized waste storage, avoiding 7 individual storages. This decision has meant the starting of the program COWAM Spain and the implication in COWAM2.

Just before the conclusion of the project Cowam Spain, which has been developed in parallel of the cowam2, The Spanish parliament (Congreso de los diputados) requested the Government to build the Centralized Temporary Storage (ATC) for the Spanish Spent fuel and high level waste. **This petition was approved by all the political parties which form the Spanish parliament.**

After that, the book “*The democratic management of the Radioactive Waste: Cowam Spain*” was presented on 1st February 2006 in Madrid, in the building of the Spanish Parliament, before a large number of concerned actors.

This book collects the case studies and the recommendations of the project, as practical recommendations to be taken into account to build a democratic and participative Decision Making Process.

These recommendations can be synthesized as follows:

- State Government is the main responsible to find a solution.
- The process should be based on a political and institutional consensus.
- Municipalities and regional governments must take part in the DMP
- The municipalities will take part in the DMP voluntarily. The participation in the DMP will not mean that they will finally accept to host the facility.
- It is recommendable to promote public participation.
- It is of prior commitment the safety of the facility.
- It is recommendable to create a National commission. This body will be in charge of guarantee the transparency and the democratic and participative legitimacy of the process. Its functions should be:

- To define the technical, social, economic and environmental conditions required to host the facility.
 - To invite interested municipalities to take part in the process.
 - To assess the applications and to propose the most suitable candidates (between 2 and 5)
 - To propose a methodology to develop informative and participative processes at local level in the potential emplacements.
 - To guarantee the quality of the whole process, including the operational time life of the facility.
- If one or some emplacements agree to host the facility, the government will pick out one of them.

After that presentation, the parliament requested again to the government to create the “Comisión Interministerial”. This body should have the functions of the “National commission” described in the recommendations of Cowam Spain.

Moreover, this new body should receive the cooperation of a technical body in order to manage the technical work and to solve any technical question during the process. This body (*Oficina Técnica de Apoyo*) will be composed by experts of different disciplines coming from different Spanish universities.

During that time, ENRESA presented the VI Radioactive Waste PLAN to AMAC. After that, Enresa is presenting this document to the government in order to receive its approbation.

It collects the strategies and the activities to be executed in the future with regard to the radioactive waste management and the dismantling of the NPPs.

It is remarkable in this document that the construction of an ATC is of prior commitment in order to store the spent fuel and the high level waste. It is also underlined that this facility will also mean the construction, in parallel, of a investigation technological centre in order to be at the international avant-garde for the radioactive waste studies, with an occupation of 150 employees (scientists, administration...)

With regard to the proposal of ENRESA, AMAC decided to held a congress on 24th, 25th and 26th April in Zaragoza. The objective of this congress was to analyse the document and to define the strategies to be developed by AMAC concerning the Spanish policy for the RWM. The conclusions were the following:

- AMAC municipalities are not in favour of 7 storages. Therefore, they are in favour of the ATC.
- In that sense, AMAC will collaborate with the state government to look for a suitable emplacement. But it is a must to build a process based in the following principles (*like in Cowam Spain*):
 - State responsibility
 - Political and institutional consensus
 - Voluntary participation
 - Promotion of the active participation of the CLIs in the DMP
 - Participation of AMAC

- Information and transparency.
- The construction of the facility has to mean a benefit for the host territory: It has to be a commitment to invest in the area in order to promote the economic development. It has to support the direct compensations received by the municipalities.
- In favour of the collaboration of AMAC with the Government, AMAC will initiate an internal process to define candidates under the principle of voluntariness. This process will respect the internal agreement of transparency in order to define “areas” more than concrete municipalities: Therefore, it has to be a minimum consensus between municipalities of the same area.
- AMAC believes that this process should be started after giving solution to the existing problems:
 - lacks in the emergency plans
 - Funds for the local development of these areas.
- AMAC shows its doubts with the schedule defined in the VI Plan.
- AMAC will support the candidates through its general Assembly and also through municipal plenum.

ENRESA proposed the VI Radioactive Waste Plan to the government and the Ministry council approved it last 23rd June.

In parallel to the approval of the VI plan, the government also approved, at the petition of the Parliament, the creation of the INTERMINISTERIAL COMMISSION.

The president of this body will be the Spanish Secretary General of Energy.

2. What does the governance of radioactive waste management mean today in your national context?

a. Which are key governance issues in your country today?

b. Why are they important?

As it is already mentioned, the wastes are currently stored on the nuclear power plant sites. The main conflicts have taken place in the area of Guadalajara since the construction of a dry storage has been necessary in the nuclear power plant of Trillo I and the construction of another dry storage will be necessary in the power plant of Zorita so that its dismantlement can be possible after the closing on April 30, 2006.

There is a real implication of ENRESA in relation to the search for solutions that do not mean the creation of small storages on each nuclear power plant site. The municipalities of the nuclear territories have been against this policy as it would mean the future mortgage of seven energy locations.

However, political parties keep considering the decisions in this matter as a question of high political cost that hinders the decision making process. And those that produce waste, the electric companies, stay apart from the debate being clearly unwilling to take responsibilities.

The main activity in radioactive waste management is the program COWAM. This program has coincided in time with the growing necessity for finding a solution to nuclear waste. For this reason the local world considered necessary to impel the most possible rigorous debate in order to both establish some bases as well as some guarantees for future decisions and not to be left out of the decision making process. The result was the promotion of the program COWAM Spain before the other agents of the nuclear world so that it became possible to debate on "how" before debating on "where."

In December 2004, in the specific Commission for nuclear management knowledge and control of the CSN, the Spanish Parliament agreed unanimously on asking the Government to begin the procedure for the search of a location and build a centralized storage for high activity waste. This decision can mean an inflection point in the policies carried out up to now.

The conjunction of a decision making process methodology and a real political will as the one manifested by the Parliament could mean that, for the first time, a real procedure for searching a location has begun.

3. Which are expected key milestones for the governance of radioactive waste management in the next 10-15 years? (If necessary, explore alternatives scenarios)

The future key milestone is 2010. As it has been already mentioned, it is the date that should see the construction of the centralized temporary storage for radioactive waste. Therefore, from now on and until then, a key process is being opened up in the decision making process that will condition the future management of the radioactive waste in Spain.

The forthcoming process should be based on the Cowam Spain recommendations in order to solve democratically the problem of finding a location to host the facility. The legitimacy of the application of the recommendations of Cowam Spain is given by the large number of participants (experts, concerned actors...)

Taking into account these premises, from today to the 2010, the key points will be:

1. The creation of the Interministerial Commission.
2. The beginning of the process.
3. The development of local informative and participative processes.
4. The selection of the final candidate.
5. The construction of the facility.
6. The starting of the facility (operational life).

4. For the issues you named in 2a, who are the key players and what are their functions at local / regional / national levels?

- a. Are there missing players?***
- b. If yes, what should their function /role be?***

The key players in radioactive waste management are:

- ENRESA, National Company of Radioactive Waste, responsible for location searches, for the technical solutions, the execution of programs and the planning of the policies to carry out.
- CSN, Council of Nuclear Security, responsible for the security of the nuclear facilities. This organism has to issue the authorizations for all the equipments and facilities that are to be built. Their main function in the process is to guarantee the security and the radiological protection of people as well as of the environment.
- Electric companies. They are the companies which produce radioactive waste. They have been collecting the necessary amounts to maintain the investment funds created by ENRESA for future waste management and the dismantlement of the nuclear power plants from the citizens. The current government policy consists of charging the cost of the radioactive waste management to the companies with no extra charge for the consumer. This change of policy can affect the medium-term administration of ENRESA.
- Regional governments. They are very important at political level. It can be stated that without their acceptance it would be difficult to create a location for radioactive waste. They don't have specific competence in nuclear administration but they do have specific competence in territory organization, environment and in economic activity organization.
- Parliament. Its members are essential to define some consensus policies so that radioactive waste management is not used as a political weapon.
- Government. Issue storage license and assume decisions at all times.
- Municipalities. The main local representatives. They bestow the construction license for the storage and channel local public opinion.
- AMAC, Association of Municipalities in Areas of nuclear plants, their function is to defend local interests and the idea that a centralized storage should not be imposed but issued from democratic decision.
- There is no clear structure of local actors' organization in Spain, but in all the territories we can have different civil organizations participating in the decision making process.

5. For the governance of radioactive waste management today, which are key mechanisms (local committee, partnerships, focus groups, roundtables, forums,...) supporting the implementation of local democracy and citizens' participation at the local and national levels?

6. To what extent do these mechanisms influence local and national decision making processes?

7. Which are the key local mechanisms to influence the decision-making process?

There are no specific mechanisms for the implementation of the local democracy or the participation of the citizens either at local or national levels in Spain. AMAC is impelling the creation of local commissions of information with participation of a local world's wide representation.

The Local Committees of Information should be the forums that impel the participation of the civil society in the decision-making process and guarantee some correct levels of information so that decisions can be made with full knowledge of the facts.

Up to now, the non-existence of local structures for the citizens' information and participation has led to the implementation policy of the "fait accompli". The will of the Mayors is to change these tendencies.

At the moment the only mechanism that the Mayors have in order to influence the decision-making process is political pressure and juridical blocking on the projects. In practice, these intricate procedures prevent citizens from participating.

8. Which is the legislation/regulation framing the decision-making process for radioactive waste management in your country? How is it being implemented?

The radioactive waste management is regulated by the Nuclear Law of 1964 and the Regulation of Nuclear and Radioactive Facilities of 1999. There is also the Decree for the creation of ENRESA and, in addition the Real Decree of 2003 that update the responsibilities of ENRESA. There is also the Ministerial Order of 1998 about compensations for the municipalities that provide a site for radioactive waste storages. Lastly, the Council of Nuclear Security Law of 1980 and its Regulation. It also affects the decisions that can be taken with regard to waste.

This legislation regulates the procedure for issuing licences, the specific competence of the organisms, the security control of the facilities, the responsibilities of each of the parts involved and the publication of the agreements that are being made.

The whole procedure considers the participation of the local world only by means of a merely informative report on the project that is processed issued by the City council of the concerned location. In relation to participation, the only point organized by the legislation is the announcement of the project in the Official Bulletin so that whoever is interested can present their allegations within a one month term.

9. What are the key elements to take into account in your country to strengthen the quality of the decision-making process?

There are enough juridical mechanisms to start a correct decision-making process for the radioactive waste in Spain.

There are two main problems: the first one is the lack of trust among the different actors involved in the project and the second, a traditionally opaque administrative practice, consequence of the lack of democratic culture.

Therefore, it would be necessary to establish constant communication systems among the actors which would lead, on one hand to better relations among each other and therefore better trust and on the other hand to a political decision-making process that ensures some suitable and guaranteed procedures in order to facilitate the actual implication of the local world in the search of a solution for this problem.

11. What is the role of local committees in framing, controlling, reviewing strategies for the long-term development of a community?

The municipalities have exclusive competence in urbanism and soil uses. It means that they are responsible for establishing the general lines of development for the territory. Because of their small size, many Spanish municipalities join strategies so that they can impel projects of some importance and get professional control on the policies to carry out. Actually, the municipalities have all the necessary competence to carry out development policies, although they should logically work jointly with the regional governments that are those that really possess the necessary tools to carry out projects that can change a territorial reality.

It has to be added that the Local commissions of Information (CLIS) can be a very useful tool with regard to the reception and dissemination of information as well as to know which the necessities of the community are during the DMP for the site selection where to build the ATC.

Therefore, it can be another representative local element.

Moreover, the CLI should be in charge of the monitoring of the facility management and to keep informed the civilian at medium and long term.

12. Does your country have specific institutional arrangements for the long-term governance of radioactive waste management?

No, it does not.

13. Which are the COWAM2 issues (above and possibly others) most important for you country? Why?

The participation interest in COWAM2 is:

- To find out how other countries approach the problem of radioactive waste management in a clear and concrete way so that we can find the ideas and instruments that can be applicable to our country.

- To improve the capacity of the local world, through the Mayors in their participation in decision-making processes by means of their implication in the works of the different WPs.
- To contribute with knowledge to the debate process implied by COWAM Spain, extracting parts of the debates that are carried out in COWAM2 and transferring them to COWAM Spain.
- To get involved in the most possible practical elaboration of a "guide" for radioactive waste management.
- To contribute to COWAM2 with experiences by listening to other opinions and helping as much as possible with improving the program and organizing a network of people from different places in Europe.

II.8 - Switzerland

National Contact Person : Thomas Flüeler

The following text was prepared by the National Contact Person. Apart from ETH there was no Swiss involvement in COWAM 2. Both authorities and stakeholder groups forfeited to continue the admittedly good experience with COWAM, particularly the Fürigen Seminar in 2002, albeit for different reasons (see more in section 3.ZZ).

Common background

8. Which were key milestones/events for radioactive waste management in your country over the past 25 years? Why were they relevant?
 - Brief history of radioactive waste management in the country (source: Flüeler 2006, updated)
- 1957 The Federal Government statutes in their Message to the Atomic Energy Article in the Federal Constitution: “A task of eminent relevance lies in the formulation of guidelines about the disposition of unusable fission products (so-called radioactive waste, also called ‘atomic ashes’)”. Corresponding regulations were a long time in coming (Federal Decree of 1978).
- 1950s/60s Waste from medicine, industry and research (so-called MIR waste) are “disposed of” via refuse collection, landfills or sewage. Dumping of solid waste is practised until the 1980s.
- 1963 The Federal Office of Public Health organises the first centralised collection. No account of their radioactivity is given until 1973.
- 1967 Local protest is raised against the first interim-storage project, called “definitive storehouse” (Lossy in Western Switzerland).
- 1968 The owners of NPPs under construction, Beznau and Mühleberg, enter into reprocessing with Cogéma (F) and BNFL (UK). No waste has to be taken back by the producers.
- 1969 After a major reactor incident at the Pilot Atomic Energy Plant of Lucens in the Western Canton of Vaud the project of a central storage in the underground reactor cavern is launched. In 1972 it is dropped due to both technical difficulties and severe opposition by the population and the cantonal government (State Council).
- 1969 – 82 Swiss radioactive waste is dumped into the Northern Atlantic Ocean.
- 1969 The first nuclear power plant, Beznau I, goes into operation.
- 1972 The National Cooperative for the Disposal of Radioactive Waste (Nagra) is founded, originally with regard to bearing an interim storage at Lucens. For the Confederation the Statute is signed by the Federal Office of Energy (FOE) (which later on – in the spirit of a separation of promotion and protection in nuclear technology – was superseded by the Office of Public Health).
- from Extensive investigations are carried out, first with the aim of a sub-surface storage
1973 for low-level radioactive waste (LLW, in gypsum and anhydrite), from 1975 with the aim of a deep geological repository.
- 1976 An editor of the SVA Bulletin by the nuclear lobby notes: “It is only a few years

- ago that not the relevance of disposal of nuclear energy [*sic!*] but the corresponding necessary technological and financial effort has been grossly underestimated”.
- 1977 The electricity-producing industry presents a first “Concept for the nuclear disposal in Switzerland”. In 1978 it is revised: The deadline of 1985 – for the “Project Guarantee 1985” with which the NPP waste producers have to demonstrate final disposal in Switzerland – is set due to the Federal Decree of 1978.
- 1978 The Federal Council mandates the ministry in charge “to judicably draw attention to the fact that the [nuclear power] utilities have to be decommissioned if the waste issue is not resolved in a concrete manner by the mid-80s”. This is the key idea underlying the above-mentioned “Project Guarantee 1985”.
- 1978 – 1983 The Swiss NPP operators place baseload contracts with the reprocessing firms Cogéma and BNFL, this time on condition of returning high-level waste. In 1994 they acknowledge: “To maintain the operation of the [nuclear] power plants the [fuel] elements had to be transported ... to an interim storage. Such interim storage services were offered by the reprocessors”.
- 1979 The majority of Swiss voters favour the Federal Decree on the Atomic Energy Act, according to which “the permanent and safe final disposition and disposal of the ... radioactive wastes” have to be “guaranteed”. The polluter pays (causality) principle is stated as well as the extension of the general licensing procedure requirement to disposal projects. The Decree is a so-called indirect counter-proposal of the Government to the (first) anti-nuclear people’s initiative which is rejected by a close vote.
- 1980 Nagra schedules twelve drillings for high-level radioactive waste which are rejected by the population in all but one municipalities.
- 1985 Nagra submits their reports for “Project Guarantee 1985”.
- 1988 The Federal Council decides on “Project Guarantee 1985”: The disposal of low-level and long-lived intermediate-level waste (LLLIW, with the potential site of Oberbauenstock, for the geographical setting see Figure) as well as the safety but not the site of high-level waste (HLW, in crystalline host rock) are viewed to be demonstrated. The Government demands extension of investigations for high-level waste to sedimentary formations.
- 1990 Vote on the two people’s initiatives “Moratorium” (10-year ban on the construction of NPPs) and “Electricity Without Nuclear” (for a stepwise shutdown of the nuclear power stations): Three quarters of all actual voters endorse the statement that “radioactive waste cannot be safely disposed of”. Even the majority (54 per cent) of the ones who reject both anti-nuclear initiatives support this view.
- 1993 The ministry in charge, DETEC, states in a letter accompanying the Bill of a further revision of the Atomic Energy Act: “The disposal of radioactive waste is an eminent national task of the years to come Thereby it gets clear and clearer that the construction of such a repository is rather a procedural and a political than a technical problem”.
- 1994 Nagra selects Wellenberg in the Canton of Nidwalden as their favourite LLW/ILW site (with less long-lived substances). A separate company, the Cooperative for Nuclear Waste Management Wellenberg (GNW) is established. Nagra submits HLW preparatory investigation applications for the sites of Böttstein/Leuggern (crystalline formations) and Benken (sediments: Opalinus Clay).
With the prospect of taking into operation the Central Interim Storage Facility at

- Würenlingen “the Swiss NPP operators agree – for the time being – not to place any further reprocessing contracts”.
- 1995 The independent geoscientific expert group KNE (Commission on Radioactive Waste Disposal) judges crystalline host rock in Northern Switzerland to be “unfavourable”.
- The electorate of Nidwalden rejects the GNW application for LLW/ILW exploration and construction licences at Wellenberg by 52 per cent. A survey at GNW’s behest reveals a month later that over 60 per cent would have voted in favour of a submission for an exploratory gallery only and if the general concept had included controllability and retrievability.
- 1996 After a debate with the Federal Nuclear Safety Inspectorate HSK and KNE, Nagra decides to dislocate the planned crystalline investigations westward (to the Mettau Valley in the Canton of Aargau) and to restrict them to seismic tests for the time being. The preparatory application for a calibration borehole and other field trials in the Opalinus clay (of the so-called Zürcher Weinland or Zurich Vineyard Region, Benken site) in turn is granted for by the Federal Council.
- Constructing the Central Interim Storage Facility “has markedly abated time pressure” on Nagra’s disposal programme.
- 1998 Nagra postpones their investigations in the crystalline area.
- 2000 EKRA proposes the concept of “monitored long-term geological disposal”, an extension of the traditional concept of final disposal by integrating controllability and retrievability.
- Media response: “Way out of the impasse ... suddenly an end to the ongoing thick of battle for or against disposal ... in sight ... progress in radwaste debate ... first link”.
- The cantonal government of Nidwalden installs a “Cantonal Expert Group Wellenberg” (KFW) for their advice. After debating with KFW, HSK and the regional opposition group MNA, GNW elaborates a revised application for Wellenberg: It deals solely with an exploratory gallery; the concept of EKRA shall be implemented.
- The ministry (DETEC) makes another attempt to revise the Atomic Energy Act: In the Nuclear Energy Act to be set up the disposal concept shall be codified on the basis of the recommendations of EKRA.
- 2001 Application by GNW for a concession for an exploratory gallery.
- 2002 The Nidwalden electorate refuses to grant a licence for an exploratory gallery at Wellenberg by almost 58 per cent. GNW abandons the potential site. In a press release of the very day of defeat it states that the “operators of the Swiss NPPs have asked the Swiss Federal Government to provide for a political and legal environment which will enable them to solve the problem The problem is a purely political one”.
- Nagra submits the project “Entsorgungsnachweis” (demonstration of feasibility and siting of disposal) to the Federal Council. The documentation is to demonstrate how and where spent fuel (SF), high-level radioactive waste (HLW) and long-lived intermediate-level waste (LLILW/TRU) can be safely disposed of in Switzerland. Around 2006, the Federal Government, on the basis of an extensive review, will have to take a decision on the further procedure.
- 2003 In a national ballot the Swiss electorate rejects two new popular initiatives on phasing out nuclear power: the initiative on a phase-out by 66 per cent, the initiative on a continuation of the moratorium by 58 per cent.
- 2005 The (revised) Nuclear Energy Act comes into force. It is based on the EKRA

concept mentioned above.

The project “Entsorgungsnachweis” (demonstration of feasibility and siting of disposal) was reviewed by the technical bodies (until summer) and submitted to public consultation (autumn).

2006 The Federal government accepted the technical demonstration of feasibility for HW/SF/LIW in June 2006. At the same time, however, it rejected Nagra’s proposal to focus their work on Opalinus Clay in the Zurich Weinland. The site selection procedure for concrete locations (for HW and LW repositories) shall be started in 2007, after a broad consultation on the selection concept to be approved in summer 2007 by Government.

The milestones and events show the line of reasoning and/or delineate a “turn-around” in radioactive waste governance.

- Which are the types of waste (LLW, ILW, HLW) at stake and decisions to be made for them?

No long-term depository, for any waste type, has been found yet. As mentioned, the potential LLW/ILW site at Wellenberg was rejected in two cantonal referenda, in 1995 and 2002. The sedimentary formation of Opalinus Clay in the Zürcher Weinland was investigated for HLW, with technically good results. Nagra’s plea for demonstration of feasibility was accepted by the Federal Government in 2006. Upon an analysis of alternatives the Federal Government will decide, in 2007, on the concept (number of depositories) and narrowing down the potential site regions.

- Which is the legislation/regulation framing the decision-making process for radioactive waste management in your country?

Until 2002 the Federal Decree of 1978 to the Atomic Energy Act of 1959 was applicable; it required the waste owners to guarantee “the permanent and safe final disposition and disposal of the ... radioactive wastes”. Extensive activities thereto have been performed to date though no site has been approved (LLW) or chosen (HLW and spent fuel, SF). Since February 2005 the revised law, the Nuclear Energy Act, is in force. It mentions procedural issues, but the decision-making process is to be specified in a so-called sectoral plan (Sachplan, plan sectoriel) based on the Law of Spatial Planning. The conceptual part (on the criteria) of this plan is in debate and will be approved by Government in summer 2007.

- Which are the current and prospective sites?

See figure overleaf.

LLW/ILW programme: no sites envisaged any more (or yet), programme to be started up again.

HLW/SF programme: Nagra wants to focus on the northern part of Zurich, the regulatory bodies demand a broader option analysis, at least to all sedimentary formations investigated.



Locations of potential sites. The now-abandoned low-level siting programme contained four localities in the semi-final round: BDG Bois de la Glaive, PPG Piz Pian Grand, OBS Oberbauenstock, WLB Wellenberg (this one remaining in the final round and rejected twice by vote). The current high-level programme focuses on sediments (light hatching): Opalinus Clay, whose top priority area according to Nagra is the "Zürcher Weinland" or Zurich Vineyard Region with the borehole of Benken (black area), and Lower Freshwater Molasse as their 2nd priority region (dark hatching). The former focus was the Crystalline Basement in Northern Switzerland (dark grey, lately with the Mettau Valley). Underground research laboratories are: GTS Grimsel (crystalline rocks), MT Mont Terri (sediments, Opalinus Clay). Source: Nagra.

9. Which are expected key milestones for the governance of radioactive waste management in the next 10-15 years? (if necessary, explore alternative scenarios)

In 2005 the regulators, advisory committees and other technical experts reviewed Nagra's documents on the so-called disposal feasibility of HLW/SF. It was to demonstrate the feasibility of disposal in a defined geological setting but not to preclude the choice of a dedicated site. The Federal Government decided positively on this issue in summer 2006. It will decide, in 2007, on the further procedure to be specified in the sectoral plan mentioned. This should lead to a decision on narrowing down siting regions to one site so that the facility (for HLW/SF) can be operational from 2040. The procedure on the chosen site will undergo regular general licensing, with the need for approval by the Parliament and, according to the new law, the possibility of an optional but, if taken, committal national referendum. As for alternatives, "enlarged" final disposal as the concept of choice is widely accepted; the choice of a site depends on the appraisal of the existing options.

10. Who are the key players currently involved in the decision-making process and what are their formal functions and strategic role at local / regional / national levels?

The table on page 101 presents players (stakeholders) and decisional strategies in radioactive waste governance (RWG). For different periods one may identify different issues (*e. g.*, from underground disposition via final disposal to monitored long-term geological disposal) and different types of problems (*e. g.*, from construction technology to long-term performance assessment including institutional aspects, see the two bottom lines of the table). Certain propo-

sitions can be made on the basis of the evidence obtained from historic insights. One may discern a progressive opening up of the debate: from the industry's expert organisation (*i. e.*, a "closed" expert) to an open expert community with so-called counter-experts. As a consequence thereof, the problem definition (line 7) extended from the internal technical problem of waste deposition in the 1960s and early 1970s to the conceptual debate (concerning issues ranging from final disposal to monitored long-term geological disposal) with the ensuing specification: Aspects under discussion became clearer and more outspoken. Whereas initially the resources were with the nuclear power utilities and, partly, with the regulatory body, mediation attempts were started after the electorate's acceptance of a moratorium of nuclear power construction in 1990, although these proved to be futile. Following the – negative – referendum on the proponent's (GNW's) application for a repository at Wellenberg in Central Switzerland in 1995, the trials were expanded to negotiations and, from 1999 onwards, to pluralistic expert discussions. Consistent with this, eventually the decisional conditions (line 6) widened from the insular existence of the construction technologists all the way to a strategic and inter-expert discourse; the power of defining the issue and framing increasingly moved away from the industry to include additional stakeholders (line 9). The problem horizon (second last line) initially was confined to construction technology, then developed to include long-term safety and, finally, has made RWG both a technically and institutionally complex, long-term issue and programme.

a. Are there missing players?

It is inherent to the Swiss political system that actors may and do come in, but usually not with the will of the official parties. Until 1980, "third parties", who did not belong to either implementers/proponents, regulators or hired experts, were not involved in the decision process. The linear model of "Decide–Announce–Defend" prevailed. The "nuclear establishment" of industry, the Federal administration, incl. the regulatory body, and politics was a closed circle. External bodies either acted as the initial impetus or encouraged others on decisive issues, *e. g.*, the first independent geoscientific expert group, the "Subgroup Geology" (1980-1987): criticism of programming, non-traceability of the siting process, extensive duty of publication, reviewing, participation of the public; KNE (from 1988): criticism of the programme "crystalline", extension of investigations to sedimentary host formations, programme management; EKRA: acknowledgement of non-technical aspects to be justified, integration of controllability and retrievability as a part of the repository concept; KFW: exclusion criteria, discussion of inventory (for both see below), specification of the EKRA concept, transparency of reasoning, active involvement of additional stakeholders.

The broad public forcefully obtained their "involvement" in popular votes and referenda. Thus, they could exert pressure on change and concept modifications. It was only after the nuclear "moratorium" vote of 1990 that representatives of "non-official" experts were admitted into the decision-making process (within the so-called "Action Programme 'Energie 2000'"). Even with the semi-direct democratic system it is difficult for truly local stakeholders to have a say in this federally regulated issue. Ironically the focus of GNW on the prospective siting municipality of Wolfenschiessen (for Wellenberg) led to stiff resistance in the neighbouring communities. Due to the small size of the country, in terms of citizen-friendliness, cantonal interests may be compared to municipal interests in large countries.

At a generic level, what is missing is the voice of the unborn because it is insecure whether local stakeholders or NGOs, or the regulators for that matter, indeed represent intergeneratio-

nal interests. Kasperon and colleagues called for a “public defender of the future” in 1983 and Posner advocated a “Council of the Future” in 1990.

Patterns and strategies of decision in radioactive waste governance. KORAs: Conflict-solving Group Radioactive Waste. For the other abbreviations and acronyms refer to the text. *Source:* Flüeler, 2002, pp. 166-167.

	- 1972	1975/76	1978/79	1980 – 1995	1995	1995 – 1999	1999 –
(Main-) Stakeholders	Energy Utilities (Local opposition)	Utilities, Nagra Nuclear safety authorities (Regional opposition)	Utilities Nagra Safety authorities Science Regional opposition Environmental organisations Parliament Public	Nagra, later on also GNW Safety authorities Advisory committees National opposition Environmental organisations Parliament	Public (electorate of the Canton of Nidwalden) National/regional opposition Environmental organisations Nagra/GNW Safety authorities	National/regional opposition Environmental organisations Advisory committees Nagra/GNW Safety authorities	Canton of Nidwalden (challenges the Federal administration, – 2002) Federal Council EKRA (1999 – 2002) KFW (– 2002) Nagra Safety authorities Regional opposition
Types of stakeholders	Engineers Construction technologists	Expert organisations Construction/Geo-technology Authorities	Politics Closed expert community, earth sciences	Politics Partly open expert community Counter experts	Open expert community, counter experts	Dialogue groups (e. g., Energy Dialogue)	Regional government Committees Open expert community
Resources	Industry	Industry Authorities	Industry Authorities Media	Attempt to mediate by Federal administration (KORA)		Negotiations (involvement of the environmental organisations), Resource reduction at Nagra	Pluralistic topical discussions
Decisions	Disposal as a duty Establishment of Nagra	Final disposal, Deadline of 1985 for “Project Guarantee”	Federal Decree to the Nuclear Act, “Guarantee”	Commissioning of “Conflict solving groups” by federal administration (1990, after acceptance of the moratorium initiative)	Vote on the application for Wellenberg (rejected)	International Waste Convention 1997 (national duty) – Search of industry for solutions abroad	Revision of the final disposal concept: Monitored long-term geological disposal
Decision types	Technical constraint	Conceptual issues, Decide–Announce–Defend	Political premise, “Objective” orientation	Political bargaining	Political premise, pressure on conceptual discussion	Economic argumentation (resource reduction, waste disposal fund)	Conceptual committee (EKRA) appointed by the federal administration, Substantive negotiation, Integrated process: widening of scope
Decisional condition	Insula	Corral	Fundamental positioning, confrontation Polarisation		Polarisation	Disintegration of traditional lines of position	Strategic and substantive discourse
Problem	1 (Disposition)	2 (Final disposal)	2a (Specification of	(3) (Topics like cont-	3a (Topics of 3 of-	3b (Discussion of	4 (Monitored long-term

definition			2)	rollability/retrievability)	officially set on the agenda)	3)	geological disposal)
Types of problem definition and - areas	Internal expert problem	Expert problem proponent/authorities	Legal requirement, Actual perception of public	Expert and political problem openly debated under pressure	Expert problem politically supported (topics of 3)	Concept issues openly debated	Expert issues openly debated
Power of definition	Industry	Expert organisation, authorities	Expert organisation, authorities, Electorate	Authorities, Expert community	Opposition Electorate	Industry (solution abroad, resource reduction with Nagra) Committees Intern. agencies (NEA, IAEA)	Committees International agencies (NEA, IAEA)
Problem horizon	Construction technology	Construction technology, Safety analysis	Long-term safety	Long-term safety	Long-term safety vs. retrievability	Long-term safety, retrievability, and controllability No "demonstration of long-term safety": "set of arguments", Chronic problem, material flux	Institutional and objective long-term project, Complexity
Main paradigm	Landfill	Final disposal	Final disposal	(Final disposal)		?-disposition	"Extended" final disposition (EKRA)

b. If yes, what should their function / role be?

In order to have a comprehensive societal discourse, the first step is to discuss the issue from all conceivable angles. “Involvement of stakeholders” cannot mean to call for as many individuals but for as many perspectives as possible so as to incorporate all relevant facets in the multi-dimensional discourse. The aim is to lay all pertinent aspects (values, norms, context, evidence ...) on the table, to have respective pros and cons thoroughly scrutinised, and to successfully “close” certain issues and proceed to the following step, stage or phase. The diversity of perspectives gives a fuller picture of the total complex, enlarges the context and strengthens the arguments a “society” puts forth towards future societies. Who may fulfil this function, however, is a matter of debate.

Governance issues from the local perspective

11. What are key mechanisms (local committee, partnerships, focus groups, roundtables, forums,...) supporting the implementation of local democracy and citizens’ participation at the local and national levels?

See 3. Up to active players, votes – on different levels – may be or may not be included in the process. Votes (the approval of the moratorium in 1990) forced the traditional stakeholders to include national NGOs in policy planning. The votes in Nidwalden induced major changes in the Wellenberg programme (1995: stepwise procedure, controllability, retrievability) or even brought it to a complete halt (2002). Other, “modern”, participatory techniques are only sporadically utilised in Switzerland. Within the “Action Programme ‘Energie 2000’”, after the 1990 vote, they were applied in a rather non-professional way. The passage on participation of the cantons (and “the neighbours abroad”) in the Nuclear Energy Act forces the official stakeholders to specify further engagement (in the sectoral plan mentioned above).

Related questions from the point of view of local stakeholders :

How can local stakeholders influence policy that will be implemented in their territory, now and in the future? Does the process allow sufficient flexibility for this?

Current legislation stipulates that nuclear facilities are integrated in the (cantonal) structure plan, in the (local) land use plan and are entered in the (local) land register. This gives the respective stakeholders some say but the decision in principle (on whether or not to site a facility in their place) is left to the national level. The Canton of Nidwalden bypassed this situation by reverting to their right of the (geological) underground as laid down in the Federal Constitution. Such tactics have been forbidden with the revised Nuclear Energy Act. This new law, nevertheless, leaves room for manoeuvre (see above).

How can they influence the national policy ?

The example of Wellenberg (and the canton of Nidwalden) shows that political will is essential. The Federal Government repeatedly asserted that they would not impose a facility on a region against their will. In the past, the proponent also used compensation to “convince” local deciders; it could be an instrument to exert local influence as well.

H How can they become statutory consultees (i.e. consulted in a statutory way) so that they are able to participate in meetings? How can they ensure that their views are taken into account?

Consultation has never been the problem in Switzerland. By way of (non-binding) local vetoes and clear mandates for Oversight Committees they may increase their influence.

12. What is the influence of local stakeholders in framing, controlling, reviewing and producing expert knowledge relevant to local decisions?

See above. If “regional” also means “local”, cantonal/state influence can still be considerable.

Related questions from the point of view of local stakeholders:

How can they call in an unbiased judge to resolve issues?

Apart of the assumption that there are no “unbiased judges”, the technical emphasis must be laid on pluralistic and open and transparent expertise (see KFW in the Wellenberg case). Politically, locals may convince upper-level authorities that a facility built against their will does not receive sufficient backup in the region with consequent detriments (since many more, also subordinate, licences will have to be issued, the proponent’s way might be barred over and over again).

How do they have access to independent experts?

See above. Wolfenschiessen, in the case of Wellenberg, did not want counter-expertise; the other local communities entrusted the Cantonal Council, the state government, of Nidwalden, who, in turn, established a body advisory to them solely (KFW). By way of appropriate mandates, local committees may raise their influence, also by commissioning independent expertise. The neighbouring municipalities in Northern Zurich formed an *ad hoc* association (“Forum Opalinus”) which entered negotiations with the Federal administration (Office of Energy) and Nagra to commission – ongoing – studies on the socio-economic impacts of a potential disposal facility. The terms of reference were co-authored and endorsed by the local communities.

Who pays?

The independent advisory body KFW was nominated by, and reported to, the Cantonal Council of Nidwalden (state government). It was also paid by the state which was reimbursed by the proponent, GNW. No undue influence was exerted. The mentioned socio-economic studies are paid by Nagra.

How can they contribute to identify and assess the scientific and technical questions relevant for the decisions to be made?

On the technical side, it is advisable to demand pluralistic, open and transparent expertise, best by co-writing mandates and contracts. As for politics, votes – even if only consultative – have the effect of integrative reviewing of technical matters.

13. What are the key elements to take into account in your country to strengthen the quality of the decision-making process?

A. The perspectives of the concerned/affected parties were historically not adequately appreciated in risk management. Both proponents for radioactive waste disposal and authorities have largely acted according to a restricted technical, natural-science based definitions of rationality and risk assessment procedures. Consequently, the decision process was linear.

B. The radioactive waste issue is oft misused as a political vehicle by both opponents and proponents of nuclear energy use: “insolvability” as an “argument” for phasing out *versus* “solution” as a “proof” of the legitimacy of a prolonged use of nuclear power.

C. The insight that a rigorous mathematical proof of long-term safety is not feasible has led to the special emphasis of a stepwise procedure. The needed “set of arguments” referred to by the Nuclear Energy Agency (NEA) comprises technological approaches as well as institutional components (quality assurance, inclusive reviewing procedures). Technical proxies are: controllability (with test facilities), retrievability (built into the design), exclusion criteria, diverse and graded safety indicators, or traceability of reasoning. Separation of promotion and oversight, extensive publication of documents, stepwise and phased procedure, external reviewing serve as proxies for procedural issues.

Related questions from the point of view of local stakeholders:

- *How to create or develop conditions for empowerment of local organisations/committees so that they move from a consultative to an engagement role?*

Learning on the side of official stakeholders was induced by programmatic impasses, such as difficulties in the crystalline formations of Northern Switzerland with respect to HLW investigations, or political pressure like the rejection of applications as in the case of the potential LLW/ILW site in Wellenberg. The range of instruments for learning is

poorly developed (information, media, plebiscite, few additional participatory formats). Here the local level should step in to encourage the “political class” to develop ways of interaction. Attention must be given to regulative governance in the nuclear field to be specified in the sectoral plan as mentioned.

- *How to organise the different roles of public and private institutions to increase legitimacy and confidence and to avoid conflicts of interest?*

The broad societal discourse has to be organised, *e. g.*, by a widely credible and trustworthy body. Flüeler 2002 suggested a “National Council for the Safe [and Secure] Governance of Radioactive Waste“ as the guardian of the process, the Swiss expert committee EKRA foresees a “Disposal Council” – an idea in the meanwhile embraced by the Federal authorities (currently its conception is being developed). It is prudent not to choose the Government or the Parliament to be the “guardian of process integrity”– as RISCUM proposed in 2004 – but a pluralistically composed body, independent of the “nuclear community” yet knowledgeable about the issue and not driven by daily politics (key word of “NIMTOO”, Not In My Term Of Office). Since no other institution than a state or state-like entity is likely to maintain some basic stability, the envisaged guardian would have to be embedded in the state structure.

14. What is the role of local committees in the long-term development of a community?

Depending on the definition of “long term” (30 years, 300, or 300,000 years?) the answer turns out different. At the most, local committees can be established for several years. They have to be well legitimised in their political context, actively seek contact with the local institutional and public arena, and have direct access to pluralistic expertise. In view of the other players, they constantly have to analyse and “stretch” them. Further extrapolations are speculative.

Related questions from the point of view of local stakeholders:

- *According to their national context, what role could the local community play in the long-term management of a nuclear waste facility?*

The local community “lives” with the repository (depository). In 1998 the IAEA made a thrilling comment on the control issue: It “must ... contribute to making the storage [even disposal, *tf*] site a social reality, *i. e.*, the control should be implemented in an ‘active’ way, allowing the stakeholders involvement in it”. Who else than the local (including regional) level is eligible best for that?

- *To what extent do the local actors of the concerned locality share a common vision of the future of their community?*

This is a formidable question and maybe not answerable at all. From an integrative perspective it is sought to achieve “robust” radioactive waste governance. In general, a system is robust if it is not sensitive to significant parameter changes. According to Rip 1987 it is “socially robust” if most arguments, evidence, social alignments, interests, and cultural values lead to a consistent option. Therefore, the concerned and deciding stakeholders have to eventually achieve consent on some common interests. The broader the debate is led the higher are the chances to have sufficient “common ground”. This holds at all levels, also at the local one.

Reference

Flüeler, T. (2006): Decision making for complex socio-technical systems. Robustness from lessons learned in long-term radioactive waste governance. Series Environment & Policy, Vol. 42. Springer, Dordrecht NL. (extensive apparatus included)

GLOSSARY

BNFL	British Nuclear Fuel Ltd
DETEC	Department of the Environment, Transport, Energy and Communications
FOE	Federal Office of Energy
GNW	Cooperative for Nuclear Waste Management Wellenberg
HSK	Federal Nuclear Safety Inspectorate
HLW	High level waste
ILW	Intermediate level waste
LLW	Low level waste
KFW	Cantonal Expert Group Wellenberg
KNE	Commission on Radioactive Waste Disposal
NAGRA	National Cooperative for the Disposal of Radioactive Waste
NEA	Nuclear Energy Agency
NGO	Non Governmental Organisation
NPP	Nuclear Power Plant
RWG	Radioactive Waste Governance
SF	Spent Fuel
TRU	Transuranic waste

II.9 - UK Group

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NOTE ON THE PRODUCTION OF THIS REPORT

The content of this report is based on meetings and correspondence between the UK group participants in response to the questions prepared by the WP5 group. The draft report containing the views of these stakeholders on these questions was then circulated to other UK national bodies for comment. Additional items for clarification and to update the document were then added as a result. It should be noted that during the period in which this report was produced radioactive waste management in the UK progressed very rapidly. Two national radioactive waste management reviews took place in this time period, with the outcome of one review being published in autumn 2006, and the other expected in early 2007. This report is therefore not a detailed report of everything that took place during this period.

Common background

1. Which were key milestones/events for radioactive waste management in your country over the past 25 years? Why were they relevant?

• Brief history of radioactive waste management in the country

1972 The London Dumping Convention voted to suspend sea dumping of radioactive wastes until such time as scientific studies into the environmental effects had been completed. The UK Government and MoD took the view that this vote was not binding.

1976 Royal Commission on Environmental Pollution Report (Flowers Report) advises that long-term radioactive waste management needs to be addressed in the UK.

1978 RWMAC committee formed to advise Government on radioactive waste management issues.

1981 Exploratory drilling programme to look for HLW repository sites halted due to opposition. HLW policy was then confirmed to be to store for at least 50 years so there was no urgency to find a site.

1982 NIREX formed to be in charge of disposal of ILW and also a small fraction of LLW that could not be accommodated at the current LLW disposal facilities because of its high alpha inventory.

1983 The Government declared a moratorium on sea disposal and the practice was never again used.

Later in 1983, two sites were announced by Nirex for investigation as potential sites for land-based disposal of LLW and ILW:

- the former Central Electricity Generating Board (CEGB) depot at Elstow for LLW and "short-lived" ILW; and
- the disused Imperial Chemical Industries (ICI) anhydrite (calcium sulphate) mine at Billingham, offered for purchase by ICI, for the disposal of long-lived ILW.

1984 Authorising Departments publish 'Disposal facilities on land for low and intermediate level radioactive wastes: principles for the protection of the human environment', otherwise known as the 'Green Book' and containing a risk target of one in a million for the post closure phase.

1985 NIREX became a limited company – United Kingdom Nirex Limited, known as Nirex

Following strong opposition by the local community, the Billingham project was abandoned at the request of Government.

Also the Government asked Nirex to select and identify at least two further potential near-surface disposal sites for investigation, in addition to Elstow.

1986 Nirex identified three further sites for investigation, at Bradwell, Fulbeck and Killingholme.

Later that year the Government announced that, in response to the views expressed by the House of Commons' Environment Committee and by the four communities around the potential near-surface disposal sites, "a near-surface site should only be used for what is broadly described as low-level wastes"

1987 Secretary of State for the Environment (Mr Nicholas Ridley) announced that he accepted Nirex's conclusions that disposal of low-level radioactive waste (LLW) in a multi-purpose repository (i.e. along with intermediate-level waste (ILW)) would be

preferable on economic grounds to near-surface disposal, thereby bringing to an end the investigations at Bradwell, Elstow, Fulbeck and Killingholme for a near-surface LLW repository¹⁵. He also explained that Nirex would therefore concentrate on identifying a “suitable location for a deep multi-purpose facility” for both ILW and LLW [16].

LLW disposal facility (near the village of Drigg) upgraded from trenches to concrete vault.

In November 1987 a new site selection process for an ILW/LLW repository was started when Nirex launched a public consultation exercise in the form of a publication "The Way Forward - A Discussion Document" [17]. This was designed to promote discussion and to seek constructive contributions to the task of ensuring that radioactive waste is managed safely.

1989 Sellafield and Dounreay were identified as candidate sites.

1991 Sellafield identified as preferred site. Detailed site investigations begin at Sellafield.

A capacity review of the LLW facility near Drigg mean that most LLW could continue to go to it.

1992 UK signs Convention for the Protection of the Marine Environment of the North East Atlantic (OSPAR), which influences future approach to marine discharges.

Nirex consultation document proposes development of a rock laboratory (known as the Rock Characterisation Facility (RCF)) at Sellafield to investigate the geology further.

1994 UK formally accepts indefinite ban on sea disposal of LLW and ILW.

Cumbria County Council reject Nirex’s planning application.

1995 Nirex appeal against refusal of the planning application for the rock laboratory. A public inquiry is held.

Command 2919, A Review of Radioactive Waste Management Policy: Final Conclusions, was published. This assumed a deep geological repository would be the preferred management option for radioactive wastes.

1996 Authorising departments publish ‘Disposal facilities on land for low and intermediate level radioactive wastes: guidance on requirements for authorisation’, an update to the Green book and otherwise known as the GRA.

1997 Secretary of State for the Environment refuses Nirex appeal against refusal of the planning application.

1998 An internal MOD study, ISOLUS (Interims Storage of Laid Up Submarines) Investigation, was approved to consider the options for interim storage of radioactive material from decommissioned nuclear powered submarines until a final national waste management facility becomes available.

1999 House of Lords review radioactive waste management policy.

2000 MOD announces review of strategy for decommissioned nuclear powered submarines. First of three public consultations on their ISOLUS project set up.

2001 Nirex publishes lessons learned from its experiences.

¹⁵ Originally these sites were investigated for the disposal of short-lived ILW as well as LLW.

¹⁶ Hansard, *Parliamentary Statement by the Secretary of State for the Environment, Mr. Nicholas Ridley*, Vol. 115, HC Deb., 1 May 1987, Col. 504.

¹⁷ United Kingdom Nirex Limited, *The Way Forward – A Discussion Document (on) The Development of a Repository for the Disposal of Low and Intermediate-Level Radioactive Waste*, 1987.

Government launches Managing Radioactive Waste Safety Programme (MRWS, see Figure 1) stage 1. A consultation paper on how future waste management policy should be decided is issued and it is announced that there will be a wide ranging review, involving public consultation.

Statement to Parliament on the concept of setting up the Nuclear Decommissioning Authority.

2002 Government announces it will set up a committee to oversee the evaluation on long-term waste management options. The committee's priority task was identified as, "to recommend what should be done with the wastes for which no long term management strategy currently exists - that is, high and intermediate level waste now in storage or likely to arise over the next century or two, and some low level waste unsuitable for disposal at Drigg". It will carry out the consultation and recommend waste management option(s) in July 2006.

Government launches a consultation paper 'Managing the Nuclear Legacy' to review how nuclear clean-up is managed. The Government proposes to set up a body to oversee decommissioning in the UK.

RWMAC put "in abeyance".

The Liabilities Management Unit is set up in the DTI to look at the issues relating to the clean-up of nuclear sites and in preparation for the Nuclear Decommissioning Authority.

Government publishes UK strategy for radioactive discharges 2001-2020. This fulfils an OSPAR commitment and establishes Government involvement in such national strategies.

2003 MRWS Stage 2 starts. Members of the Committee on Radioactive Waste Management (CoRWM) appointed. Their first task (Mar-Sept 2004) was to brief themselves, draw up a long list of options and consult on how to consult. Second task (Oct 2004 – July 2005) was to consult on the long list of options leading to a shortlist of options, to be subject to further investigation and consultation. Next phase (Aug 2005 – Mar 2006) was to assess the options and propose a workable option or options. Generic siting issues would also be considered. Finally CoRWM was to make recommendations to government in July 2006.

BNFL submit safety case for the disposal of LLW at the disposal facility near the village of Drigg to Environment Agency as part of regular authorisation review. A planning application is being considered by Cumbria County Council for developing vault 8 and a further application for future engineered vaults will be considered in 2006, possibly leading to an Inquiry.

Nirex's independence from the nuclear industry is announced by Margaret Beckett.

Second of three public consultations on MOD ISOLUS project.

2004 Closure dates for all remaining operational Magnox power stations announced.

Improved regulatory arrangements put in place. Licencees must assess disposability of waste packaging as part of safety case submission to regulators. The means of achieving this is for licensees to seek a Letter of Compliance assessment from Nirex.

Strategic environmental assessment Directive comes into force. (Requires environmental assessment of plans and programmes.)

Government decides to implement waste substitution in relation to reprocessed overseas spent nuclear fuel, allowing HLW to be returned instead of ILW.

The Energy Act comes into force in the UK outlining the role of the Nuclear Decommissioning Authority (NDA) and when and how it will be set up. The NDA is also empowered to dispose of radioactive waste.

2005 A Government review of LLW policy starts and runs in parallel to the CoRWM process, looking at low level and short lived wastes not considered by CoRWM. This was also to make recommendations on policy in 2006.

Nuclear Decommissioning Authority (NDA) starts its work on April 1st. It has strategic responsibility for the decommissioning and clean-up of all 20 of the UK public sector civil nuclear sites. Current site operators act as contractors to NDA.

The NDA issues a draft strategy for consultation, including an environmental assessment, prior to submitting final strategy to Government in December. The deadline for Government approval is the end of March 2006.

Nirex is made independent of the nuclear industry.

In March UKAEA carried out a BPEO (Best Practicable Environmental Option) study to underpin its case for a LLW disposal site at Dounreay and it involved 19 stakeholders and two groups of UKAEA employees. However, UKAEA decided to pursue the option of sending the waste to the LLW repository near Drigg, at least for the 5 years it would take to build it.

In May, Ministers at the Scottish Executive blocked plans to ship low-level radioactive waste from Dounreay to the LLW repository near Drigg by directing the Scottish Environment Protection Agency (SEPA) to refuse an application for permission to transport solid waste from Dounreay to the national low-level waste (LLW) facility at Drigg in Cumbria. This meant that Dounreay will need to build new facilities on site for the waste.

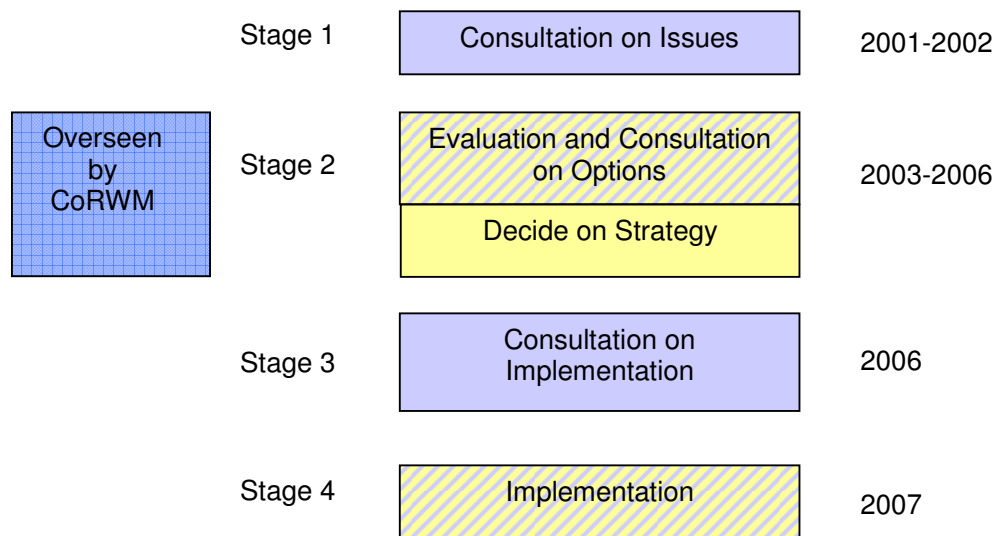
2006 The Government approves the NDA strategy.

CoRWM publishes its final recommendations in July the key points are:

- In the long term, disposal of radioactive waste deep underground, an option known as geological disposal;
- Robust interim storage, in recognition of the fact that the process leading to the creation of suitable facilities for disposal may take several decades;
- An equal partnership between Government and potential host communities based on a willingness to participate;
- The immediate creation of an oversight body to begin the process of implementation.

Government accepts CoRWM's recommendations in October and will develop more detailed implementation proposals following the planned public consultation in the first part of 2007. CoRWM membership will be reconstituted to reflect its role in the next stage of the "Managing Radioactive Waste Safely" programme: to advise on the implementation of a geological disposal programme. Nirex will become part of NDA.

Figure 1: Overview of the Government's Managing Radioactive Waste Safely Programme



- **Which are the types of waste (LLW, ILW, HLW) at stake and which respective decisions were taken or should be taken?**

LLW disposal policy is clear, but implementation is weak. The LLW repository near Drigg repository has a radiological limit that means that a historic stock of high alpha LLW cannot be disposed at it.

The long-term management option for LLW that cannot go to the LLW repository near Drigg, ILW and HLW is not yet decided and therefore there is uncertainty in the UK about these wastes. There is a void in government policy. However, under the improved regulatory arrangements, intermediate level wastes are being packaged now against standards and specifications for ILW set by Nirex, derived from a phased geological repository concept. Work has shown the packages are compatible with other waste management options.

The LLW repository near the village of Drigg continues to operate, but it is filling up and is subject to licensing and planning review. Waste that is not suitable for the LLW repository near Drigg is therefore being stored at the site where it is generated. HLW continues to be vitrified with a 2015 target for completion, but there is no agreed route until the Government makes a decision following CoRWM's recommendations.

- **Which is the legislation/regulation framework for the decision-making process for radioactive waste management in your country?**

In the UK radioactive waste management is a devolved issue, that means that Government decisions involve Government officials in London, the Scottish Executive, the National Assembly of Wales and the Northern Ireland Assembly. In September 2001 a joint programme was launched to help to develop Government policy on long-term radioactive waste management called Managing Radioactive Waste Safely. This is a 4 stage programme as outlined in Figure 1.

As a result of the Stage 1 consultation the Government decided to set up an independent committee to oversee the evaluation of waste management options. The Committee on

Radioactive Waste Management (CoRWM) was set up to oversee the evaluation and consultation on long-term waste management options.

Command 2919 (published 1995) and the supplementals relating to it outline Government policy on radioactive waste management. Command 2919 says waste should be “*disposed of at appropriate times and in appropriate ways ... in a manner that commands public confidence*”. It also says that site selection is very difficult and will need to be readdressed later. The policy for the decision making process is now set out in the consultation paper setting up CoRWM and their terms of reference. Details are lacking: it only sets out the timetable for development of government policy, not the implementation of it. In its final Report before it was put “in abeyance” RWMAC has drawn attention to many gaps in policy.

Stage 3 of the MRWS programme will be a consultation on how to implement the chosen option(s)

A nuclear site licence is granted by the regulator, the Nuclear Installations Inspectorate within the Health and Safety Executive, under the Nuclear Installations Act 1965. The licence must be in force before a site is used for the purpose of installation or operation. The licence application needs to contain:

- Safety case – documentation that the proposed activities will be carried out safely, and are ‘justified’ under the Basic Safety Standards Directive (see below).
- Management prospectus – demonstration that the organisation has an adequate management structure, capability and resources to be a licensee.
- Location details – demonstration that the proposed location is fit for purpose. We understand that a nuclear site licence will not be granted for a location that does not already have planning permission to carry out the proposed activities.

Before radioactive waste can be disposed of, an authorisation must be granted by the regulator, the Environment Agency in England and Wales or the Scottish Environment Protection Agency in Scotland, under the Radioactive Substances Act 1993.

Justification is one of the fundamental principles of the International Commission on Radiological Protection (ICRP) and has been incorporated in the EU Basic Safety Standards Directive and transposed in the UK in the Justification of Practices Involving Ionising Radiation Regulations 2004. It requires the Government to ensure that the benefits of practices using ionising radiations in a particular situation outweigh any detriment to health that may be caused. Decisions on justification issues are made by the Department of Trade and Industry.

The transport of radioactive material by road and rail in the UK is covered by the Radioactive Material (Road Transport) Regulations 2002 and Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2004, containing the requirements of the ADR and RID international agreements. The legislation sets out the approvals required for designs and shipments, and the tests required to be carried out. The regulators in Great Britain are the Department for Transport and the Health and Safety Executive.

Article 37 of the Euratom Treaty requires that the UK must make a submission to the European Commission of an assessment of the potential impact on other Member States of proposed disposals of radioactive waste from nuclear facilities. Timescales for this work are 6 to 9 months although resource requirements are relatively small.

- **Which are the current and prospective sites? (if possible, provide a map)**

Currently no specific site is being considered to host a long-term radioactive waste management facility. CoRWM's assessment of options will not consider potential radioactive waste sites, but CoRWM may consider issues regarding siting (eg should local communities have a veto, should they be given compensation) and may make recommendations to Government on them. The Government is expected to make a decision, based on CoRWM's recommendations in late 2006. After this a Government consultation will take place on the site selection process (~2007) and then implementation will start in around 2008.

In the 1980s Nirex short-listed sites as possible locations for a radioactive waste repository. The process started by considering 537 potential sites in the UK and ended with research focusing on a site in West Cumbria. The old site selection process ended in 1997 when the Secretary of State upheld refusal of planning permission to build a Rock Characterisation Facility at the site in West Cumbria. Since then no potential sites have been considered.

Radioactive waste is currently stored at 34 major sites around the UK these are shown in the map below. The MOD maintains interim storage of decommissioned nuclear powered submarines afloat at Devonport and Rosyth until a solution is developed to dismantling them, and a national facility for disposal becomes available.

A new site selection process will start once Government has decided on waste management options. As outlined in Figure 1 there will be a consultation about how the site selection process should proceed and what criteria should be used to evaluate potential sites.

The NDA has instructed its contractors to base their site plans on the assumption of

1. ILW disposal starting at an unspecified location in 2040, and
2. HLW disposal starting at an unspecified location in 2075.

LLW continues to be disposed at the LLW repository near Drigg, the Dounreay capability is being restored. VLLW continues to be disposed at specially licensed landfill sites that take non-radioactive wastes as their principal infeed.

Figure 2: Current Waste Storage Sites in the UK.



2. Which are expected key milestones for the governance of radioactive waste management in the next 10 – 15 years? (if necessary, explore alternative scenarios)

End 2006	Final policy statement issued from the LLW policy review
~2007	Government decision on waste management strategy. MRWS Stage 3 expected to start. This will consider implementation of the preferred option(s) including site selection criteria and process.
~2008	MRWS Stage 4 expected to start. Including selection of a preferred site and implementation of preferred option(s).
~2008/09	Planning application needed to extend the current capacity at the LLW repository near Drigg.
~20??	Planning application to build radioactive waste facility(s)

3. Who are the key players currently involved in the decision-making process and what are their formal functions and strategic roles at local / regional / national levels?

CoRWM was a key player. Its function was to consult nationally and develop recommendations on national waste management policy for spent fuel, plutonium, uranium, HLW, ILW and LLW unsuitable for shallow disposal.

Other key players are NGOs (local and national interests), local government (representative of both nuclear and non-nuclear communities) – which last year formed a Special Interest Group (of the Local Government Association) to ensure a coordinated response on Radioactive Waste and Decommissioning issues. The group is called NuLeAF – The Nuclear Legacy Advisory Forum

There are 3 main regulators who oversee radioactive waste in the UK:

- The Nuclear Installations Inspectorate (NII) which is part of the Health and Safety Executive (HSE) is responsible for looking at health and safety issues on nuclear sites.
- The Environment Agency is responsible for the protection of the environment by regulating discharges from sites in England and Wales.
- The Scottish Environment Protection Agency (SEPA) is responsible for the protection and enhancement of the environment by regulating discharges from sites in Scotland

The Office for Civil Nuclear Security (OCNS) and Department for Transport (DfT) also have regulatory roles.

The Government has established the Nuclear Decommissioning Authority (NDA). The NDA is responsible (from April 2005) for decommissioning nuclear facilities in the UK. It will achieve this by having contractors on sites who undertake the work. The NDA is responsible for ensuring that sites are cleaned up safely and effectively and that the waste is packaged and stored safely until a long-term management option is chosen and implemented. The NDA strategy also puts priority on better approaches to interim storage of ILW and disposal of LLW. The NDA is also empowered to dispose of waste and the future relationship between it and NIREX has yet to be made clear.

Nirex is responsible for developing standards and specifications and providing packaging advice to the waste producers and site licensees through the Letter of Compliance Process. As part of the regulatory arrangements in the UK site licensees are required to assess

disposability of waste packaging as part of safety case submissions to the regulators. This is achieved by Nirex assessing the waste packaging proposals against the standards and specifications it has developed from a phased geological repository concept.

Local Liaison Committees (LLCs), which transformed into Site Stakeholder Groups (SSGs) under the NDA, are used at the local level and CoRWM has invited these groups to its Round Table meetings to contribute to discussions at the national level.

In the UK radioactive waste management is a devolved issue, that means that Government decisions involve Government officials in London, the Scottish Executive, the National Assembly of Wales and the Northern Ireland Assembly.

The Radioactive Waste Policy Group (RWPG) has representatives from UK Government departments, the devolved administrations, the NDA and the principal regulatory bodies, and meets regularly to discuss radioactive waste management policy and regulatory issues.

a) Are *there* missing players?

Yes

b) If *yes*, what should their functions / roles be?

There is no involvement of future generations, who could be involved by means of a staged approach to decision making in radioactive waste management.

There is also a tendency to under-represent young people and economically disadvantaged communities. These groups could be engaged more. In order to achieve this however, logistical issues must be managed, for example varying the places and times of meetings to include evening and weekends as well as daytime meetings, and providing creche facilities, and travel and subsistence payments. It requires a very large commitment for NGOs etc to get involved. This has led to an ethical issue concerning funding participation of all these organisations, including local councillors (who are unpaid). There has been some effort in addressing these issues. Members of the public involved in focus group research have been paid in the past. Citizens panels, who did get paid, have been used by Nirex and CoRWM, and CoRWM used weekend meetings for citizens panels. CoRWM had a short time period however so this approach needs to be continued at later stages of the Managing Radioactive Waste Safely programme. CoRWM did recommend a continued programme of public and stakeholder engagement to build trust in the proposed long-term management approach, including siting of facilities.

A suitable mechanism needs to be established to allow local communities, that may be willing to host a repository, to become involved in the next stages of the decision making process. CoRWM's recommendations included community involvement based on the principle of volunteerism, and supported by the provision of community packages that are designed both to facilitate participation in the short-term and to ensure that a radioactive waste facility is acceptable to the host community in the long-term.

Some statutory consultees (now called consultation bodies) such as English Heritage and English Nature have not been involved in the CoRWM process, though it is not clear whether or not they were invited. The Consultation bodies in England are: English Nature and the Countryside Agency (together now forming part of Natural England), English Heritage, and the Environment Agency; in Northern Ireland: the Department of the Environment; in Scotland: Historic Scotland, Scottish Natural Heritage, and the Scottish Environment Protection Agency; and in Wales: Cadw (Welsh Historic Monuments), Countryside Council for Wales, and the Environment Agency Wales.

Other groups which are not involved are Local Government Association Special interest Groups (LGA SIGs) other than NuLeAF (Nuclear Legacy Advisory Forum, formerly the Radioactive Waste Management and Nuclear Decommissioning SIG), regional assemblies and regional spatial strategy developers.

Governance issues from the local perspective

4. What are the key mechanisms (local committee, partnerships, focus groups, round tables, forums,...) supporting the implementation of local democracy and citizens' participation at the local, regional and national levels?

Each nuclear site formerly had a Local Liaison Committee (LLC) that discussed issues relevant to the site including waste management proposals. They tended to be fora where the industry announced its plans to local councillors. However some sites underwent independent review of the LLCs, which changed the way they ran, and then the NDA (set up in April 2005) reshaped all the LLCs into Site Stakeholder Groups (SSGs). These SSGs have extended membership to cover all local "stakeholders" and the industry will use them more as a focus for engagement where a solution is discussed and agreed together. They have an independent chairman and open meetings.

Planning applications for decommissioning existing nuclear sites and waste management facilities can be 'called in' for a public inquiry at which all parties can put their case and an inspector (or inspectors with assessors for the major cases) will make a decision or, on major issues, a recommendation to Government. Site licensees involve stakeholders through Best Practicable Environmental Option (BPEO) studies and consultations relating to these cases before applying for planning.

CoRWM is currently consulting the public on waste management options using a website, consultation documents, meetings around the country and a national stakeholder group. The CoRWM consultation is set up to influence directly Government policy on waste management.

Local liaison committees have had some influence on the choice of option or the design of the option for plant on nuclear sites in some cases, but not all. It is not yet clear how the NDA and its national and Site Stakeholder Groups will influence the CoRWM outcomes and issues around the pace of decommissioning.

In West Cumbria (the area around Sellafield) Local Government, the regional economic development body – The North West Development Agency (NWDA) and Government have signed a comprehensive Memorandum of Agreement setting out how stakeholders will work together and have secured the setting up of a West Cumbria Strategic Forum to ensure that adverse changes from nuclear decommissioning and the ending of UK reprocessing by around 2013 are managed.

Related questions from the point of view of local stakeholders:

How can local stakeholders influence policy that will be implemented in their territory, now and in the future? Does the process allow sufficient flexibility for this?

Through the local government planning process, planning inquiries and involvement in Local Liaison Committees / Site Stakeholder Groups, and by lobbying central government.

How can they influence the national policy?

Through participation in National Dialogues, active engagement with the open CoRWM process, and involvement in lobbying for legislative change that takes into account local economic and other impacts.

How can they become statutory consultees (i.e. consulted in a statutory way) so that they are able to participate in meetings? How can they ensure that their views are taken into account?

Groups can be recognised by forming a collective voice such as the NuLeAF organisation. The way to become statutorily involved is to be referred to in the legislation, eg NDA legislation refers to 'consult local government'. As noted in question 3, some statutory consultees have not been involved in the CoRWM process although CORWM did use their website and public consultations to invite comments.

There is concern about the concept of a statutory consultee as this can be counterproductive. The system needs to be flexible and inclusive. There is also concern about the level of representation provided by local authority councillors given that there is not a reasonable salary for the job.

5. What is the influence of local stakeholders in framing, controlling, reviewing and producing expert knowledge relevant to local decisions?

There is considerable influence in some SSGs, but not all. The public inquiry system allows significant influence. "Expert" knowledge has been developed in communities near major sites, and has had a major impact on the way national policy is developing in the UK.

Related questions from the point of view of local stakeholders :

How can they identify and call in an unbiased judge to resolve issues?

How do they have access to independent experts? Who pays?

How can they contribute to identify and assess the scientific and technical questions relevant for the decisions to be made?

The NDA budget contains provision for the support of site stakeholder groups. It is not clear whether there is sufficient provision for participation in the consultation process and the build up of local expertise. NFLA (Nuclear Free Local Authorities) and NuLeAF have some competence already, but there is a need for the equivalent in Scotland and Ireland. Also, the NDA

addresses decommissioning and operation of the LLW disposal site near the village of Drigg in Cumbria. There is therefore some need for a parallel network in the UK on implementing other aspects of radioactive waste policy, and new build.

If the public are expected to participate then they need knowledge, which must include a wide range of viewpoints not just that of the industry. There is a need to commission independent reports. There is also a need to avoid cases of mixed messages, which can confuse, for example the case of waste from Dounreay and the proposal to send it to the LLW repository near Drigg (this was a regulatory requirement on Dounreay to develop the route for LLW to meet a short term need. The perceived potential for this to become a long term permanent solution may have been one of the factors why the proposal caused objections). One suggestion is that the regulator should become a people's resource ie an independent source of information but this implies a higher level of resourcing for the regulators. A more open regulatory process would also provide better access to information.

NGOs in Sweden now get funding from a National fund. While some NGOs do have plenty of funds, an imbalance in funding between NGOs and Industry has been brought up before and is not just a nuclear industry problem. One solution could be to set up a dedicated fund similar to that in Sweden run by the state with the regulator to decide on the distribution of the fund. Another part of the solution could be to appoint a Commissioner, cf the children's commissioner. Groups would apply to them as a distributor of funds and as an arbitrator, accessible to all stakeholders other than the industry.

6. What are the key elements to take into account in your country to strengthen the quality of the decision-making process?

Ensuring that the consultation is wide ranging and that the proposed policy is acceptable to as many different viewpoints as possible. Capacity building to provide local expertise and financial help to support initiatives (such as NuLEAF) is a major concern.

Related questions from the point of view of local stakeholders :

How to create or develop conditions for empowerment of local organisations/ committees so that they move from a consultative to an engagement role?

Legislation provides the key to empowering local organisations, eg strategic environmental assessment, the Aarhus convention, and EIA. This enables the existing resources to be better used. Again part of the problem is the need for increased resources (money, time etc) to help with empowerment.

How to organise the different roles of public and private institutions to increase legitimacy and confidence and to avoid conflicts of interest?

A good example of this is making Nirex independent of the nuclear industry. If organisations can embrace a range of views in the local community perspective, a good example of this being NuLeAF, this should increase confidence.

There is some concern that there is a conflict of interest if long term radioactive waste management policy is developed while ongoing nuclear power is still on the agenda.

7. What is the role of local committees in the long-term development of a community?

Following on from the Local Liaison Committees, the new SSGs will look at the development plans for all aspects of nuclear sites – which will be described by the NDA in Life Cycle Baseline (LCBL) and Near Term Work Plan (NTWP) reports. Major proposals are likely to feature in the “Local Development Frameworks” (LDF) prepared by local government with wide consultation – though these spatial planning frameworks have to take full account of government guidance set out in “Planning Policy Statements”. They have a 15 year time horizon. If something is in the LDF then it is much more likely to receive planning consent without a public inquiry. LDFs need to fit within the Regional Spatial Strategies that will also be developed. The government can over-rule local plans by imposing strategies.

Related questions from the point of view of local stakeholders:

According to their national context, what role could the local community play in the long-term management of a nuclear waste facility?

Working groups could become involved with the implementers on decision making for the evolution of a site, as happens in Sweden. Such groups could have a role in decisions on monitoring, scrutiny, recovery from problems, stretching the implementor, vigilance, keeping local knowledge and disseminating it. They could act as a critical friend (or even an enemy if pushed).

An example of this happening can be seen at Sellafield/West Cumbria, where a sub-group of the SSG looks specifically at the end state for the local sites. However, generally the site stakeholder groups set up by NDA do not have this function. The stakeholders are not partners so the SSGs are not partnerships working to a common end.

Local and national government need to work together towards a common goal of radioactive waste management. Once a site is selected the role would then become one of scrutiny. Further work on this would be beneficial.

To what extent do the local actors of the concerned region(s) share a common vision of the future for their community ?

Local authorities develop community strategy through local partnerships. However, at the regional level there may well be widely different visions. This is particularly true for Scotland at the present as the communities are so different from each other.

There is currently an adversarial situation between some local stakeholders and the industry, which is likely to continue while there is a possibility of more nuclear energy in the future.

GLOSSARY

BNFL	British Nuclear Fuel Ltd
BPEO	Best Practicable Environmental Option
CoRWM	Committee on Radioactive Waste Management
DTI	Department of Trade and Industry
DfT	Department for Transport
HSE	Health and Safety Executive
HLW	High level waste
ILW	Intermediate level waste
LLW	Low level waste
LLC	Local Liaison Committee
MoD	Ministry of Defence
MRWS	Managing Radioactive Waste Safely
NDA	Nuclear Decommissioning Authority
NII	Nuclear Installations Inspectorate
NFLA	Nuclear Free Local Authorities
NGO	Non Governmental Organisation
NULEAF	Nuclear Legacy Advisory Forum
NWDA	North West Development Agency
OCNS	Office for Civil Nuclear Security
RCF	Rock Characterisation Facility
RWMAC	Radioactive Waste Management Committee
RWPG	Radioactive Waste Policy Group
SSG	Site Stakeholder Group
SEPA	Scottish Environment Protection Agency
UKAEA	United Kingdom Atomic Energy Authority

III. National Sessions: feedback on the process

III.1 - Belgian Group

Summary of discussion of the national session of Belgium during the COWAM2 annual seminar in Antwerp, 5 July 2006

The answers reflect the common view of both ERP's and stakeholders, unless specifically indicated.

1) Have you developed new and more informed relationships with stakeholders from your country over the past 2 years and a half?

Yes. Although the Belgian involvement process with regard to RWM siting (LILW) was going on and went through important milestones during the period of COWAM2, the COWAM2 process enabled extra potential for networking on a national level, especially between the partnerships of the two different regions.

2) Has the COWAM process enhanced your appreciation of key governance issues related to RWM in your country ? Illustrate your answer.

Outside of the COWAM2 project, the Belgian stakeholders were already heavily involved in the governance issues related to RWM in Belgium. Thanks to the more theoretical parts of the research within COWAM2, they were able to reflect on issues such as compensation and long term governance in a broader context. These insights could in their turn then be translated again to the Belgian context.

3) Has the COWAM process enabled your national group to identify common governance questions relevant for your country at the present moment?

The actual Belgian process is limited to governance of low and intermediate short-lived waste. The networking within the COWAM2 community offered the stakeholders the possibility to exchange views with countries that are in an involvement process for the siting of high level waste. This gave them the opportunity to analyse differences and similarities. Through this exchange of experience, it became clear that national approaches can vary significantly.

4) Has the COWAM process enhanced your appreciation of key governance issues related to RWM in Europe? Illustrate your answer.

See question 3. In addition, participants regretted that there were not that much possibilities to discuss international joint initiatives with regard to RWM, despite of the fact that this issue becomes more and more relevant in a globalised and liberalised energy environment

5) Related to the COWAM process, please give examples of good practices that you have recognised in the democratic processes, the mechanisms of local influence on national decision-making processes, the quality of the decision-making processes and the long-term governance in other countries?

It is clear that some European countries have more experience in practices of 'direct democracy' (such as referenda and citizen forums) than Belgium. Different approaches to public consultation, such as in France and Sweden, can certainly inspire the Belgian process. On the other hand, other countries could be inspired by the way Belgian local communities were engaged in the involvement process without the necessity to fix financial matters of compensation from in the beginning.

6) Has the COWAM process enhanced your appreciation of your own role in the RWM decision-making process in your country? If so, what did it change in your understanding of your national context? Did this change the way you act or your relations with other stakeholders in your country? How?

Again, due to the fact that the Belgian involvement process was already well developed independently from the COWAM2 process, the roles of the various actors did not really change in the last three years. One could say however that the local stakeholders became more 'vocal' during the process thanks to their international expertise through COWAM2. The process gave participants the opportunity to gain deeper understanding of the broader social and ethical context as well as the typical political national contexts of the participating countries. This knowledge could be used in the first stage of the involvement process and will of course also be useful in the next stages after the site selection.

7) Can you characterize how the different arenas of discussion (WP meetings, National sessions, coffee-break discussions, other contacts?....) have each contributed to what you have described above ?

The WP meetings were of course useful for the deeper discussions on issues such as compensation and long term governance. The national sessions were opportunities for exchange of insights, but were not essential for the strengthening of the involvement process in Belgium as such. Especially the Expert Resource Persons regretted that not more time and effort was put into more theoretical reflections on the ethics of compensation and on ethics in relation to long term governance, as they think that these kind of reflections among the stakeholders are essential for the robustness of the practical approach as such.

Answers by the National Contact Person

1) What was the involvement of the stakeholders from your country in the various packages? Please specify for each WP, and try to explain the possible evolutions.

From the start of COWAM2, only the partnership MONA and the Federal Agency for Nuclear Control (FANC) became directly involved in the process. The partnership STOLA (later STORA) and PaLoFF were not involved directly in COWAM2, but were invited by the NCP (SCK•CEN) to take part in the discussions in the frame of the WP5 work. NIRAS/ONDRAF, the Belgian national waste agency, preferred not to be directly involved in COWAM2, but participated also in the national discussions in the frame of WP5.

2) Is there evidence that stakeholders have developed new and hopefully more informed relationships with their fellow countrymen over the past two years and a half?

Yes. The kick-off meeting of the discussion on the national insight report was the first occasion in the history of the Belgian stakeholder involvement process where the three partnerships met each other in relevant working conditions. The WP5 work has contributed to the networking and strengthening of relations especially between the French speaking and Flemish speaking partnerships. Unfortunately, due to the withdrawal of PaLoFF out of the process, this networking was not continued.

3) In the task of preparing the National Insights what were the key issues in terms of process (engagement, difficulties,...)? Can you describe in half a page how the process did go (You can base on your own answers to the questions for the July 2006 National sessions, below)? As a NCP, what are the lessons you draw from this experience?

The main difficulty was the fact that not all Belgian stakeholders were directly involved in COWAM2, but that they, on the other hand, had to be convinced that their input was valuable in the process of analysis in WP5 and in the research of the other work packages. While for many countries COWAM2 was not only an arena for learning and exchange of experience, but also a dynamic process that could facilitate the own national process, this was clearly not the case for Belgium. Due to the fact that in Belgium, a 'real' siting process with involvement of the stakeholders was already going on (and was even finished in a first stage before the end of COWAM2), the Belgian stakeholders often felt more as 'expert resource persons' than as stakeholders (which was not the case for COWAM1, as that was perceived by them as a real learning experience). However, stakeholders of MONA said that their participation was certainly useful in the frame of the ongoing national process, as they were able to refresh their insights and views based on exchange of experience on an international level, and that this certainly will be useful in the follow-up process in Belgium.

As NCP, we observed the typical difficulties with regard to balance of interests, and the way an international research and networking initiative such as COWAM2 cannot influence this national political process. However, we state that also COWAM2 itself suffered to a certain extent from this 'blurring' of interests and the different related expectations. Some stakeholders felt more like ERP's, while other stakeholders participated in COWAM2 in the hope that it would solve their national problem. In addition, some ERP's came to COWAM2 to perform engaged research in the first place, while others see themselves rather as supporters and facilitators of (national) involvement processes. Both ERP approaches are of course acceptable and even necessary, but they sometimes resulted in communication problems on expectations with regard to the outcome.

4) Have the national sessions in the COWAM seminars been helpful for other purposes (forming a national group, greater awareness and autonomy, others...)? How?

Yes; see question 2.

5) Can you provide evidence of stakeholders developing new relationships or new projects in your country as a result of the COWAM process?

No, but this has nothing to do with the COWAM2 process itself, but with the ongoing involvement process in Belgium, and the decisions taken in this frame. The fact that the council of ministers decided to opt for a surface disposal site for the disposal of low and medium level short-lived waste in the municipality of Dessel has of course changed the roles of the involved stakeholders significantly. However, the participation of the Belgian 'non-business' stakeholders (those who represented the local communities in the partnerships) has certainly strengthened their self-confidence in their role in the process, and this will hopefully result in new initiatives from out of the communities as such.

III.2 - French Group

The French group lacked time in which to respond to each item of the process questionnaire. On the other hand, it did take the following question as a basis for general discussion: “*Has COWAM changed your approach to and grasp of questions of governance in the field of radioactive waste management, and of action in your local and/or national environment?*”

Giving more meaning

The French participants are involved in different workpackages. The discussion, within the group as a whole, enabled the sharing of reflections on the four themes of local democracy, the influence of local actors in the national decision-making process, the quality of the decision-making processes and the longer term, with special attention to making links between the different reflections. This contributed to bringing out the coherence of the various research tasks.

As importantly, this inter-French discussion established relationships between what was said in COWAM 2 Workpackages and the on-going situation in France. The analyses and proposals were put into context and practical implications emerged. Project outcomes became thereby the more pertinent, as they took on meaning in the light of actual experience in France.

Furthermore, the work in COWAM made it possible to put matters into a context which had previously been less well understood. A common language was built up around the notions of governance within the field of waste management. Reflection was based on concrete examples of European cases studies, all the while making reference to concepts which were essential for analytical purposes.

Space for dialogue

COWAM 2 brought together, within a European space for dialogue, a number of French participants who had diverse and, on occasion, conflicting concerns. This forum was at distance from the hot discussions raised in the last few years of preparatory work on the French legislation on radioactive waste management. This distance enabled participants to “de-dramatise,” and to learn to work together, to change their vision of things and their perceptions, while listening to the concerns of the other actors. This aspect was particularly favourable for dialogue between technicians and non-technicians.

The importance of the issue of waste management in France in the last two years was however on occasion loudly resonant in French working group sessions. Now that the legislative process is over, there appears to be a space wide open for debate and discussion. It might be interesting from this point of view, on completion of the COWAM 2 project, to continue to rely on the matrices developed by the different workpackages, to further analyse the French situation.

Better understanding one's role

The confrontation with other points of view, and the shedding of light on foreign case studies which were substantially different from the French, highlighted the complexity of governance situations in the field of radioactive waste management. This enabled all involved to stand back, to take stock individually, and better understand their roles within a new and changing context.

This was particularly true as regarded to the role of expert opinion, which was key in the strictly technical field. The idea of sharing expertise, of having procedures by which to place divergences on the table for open discussion, was not one unanimously shared under the French system. The examination of pluralistic approaches within a European framework gave an insight into how things took place elsewhere, made it possible to identify the good practice of the various actors concerned, from experts to decision-makers, to local communities, associations, etc..

For the experts, in particular, confrontation with stakeholders was no easy matter, as some emphasised. It was important to be immersed in these discussions, in order to understand, and possibly re-position oneself within one's field of expert responsibility, whilst seeking also to communicate information of potential use to society. IRSN experts bore witness to the fact that their involvement made it possible to observe what was happening outside French borders, and threw a different light on the field of waste management research. This was welcomed, as it gave them a better grasp of approaches to questions that were other than technical and scientific.

What contribution to the French debate?

COWAM made it possible to bring forward a number of reflections and recommendations on questions of governance and gave a legitimacy such that, at individual country level, the actors concerned with radioactive waste management were able to include these issues and raise the request that the question of governance to be included in the decision-making process. ANCLI and Bure CLIS were inspired by what was said in COWAM, in particular in regard to their request for the creation of a Permanent Pluralistic National Commission, which gave rise to a draft amendment in the French Senate.

Over and above the public debate organised around CPDP, a number of participants regretted that the question of governance was insufficiently dealt with in the preparatory stages of the parliamentary discussion of the draft law, and that too little attention had been paid to the COWAM work, at a time when the key issue was to ensure the inclusion of problems of governance in the new legislative arrangements. Contacts were made in 2005, by the coordinator, with national decision-making bodies, to disseminate information on the project. However, the contacts made were relatively unresponsive. In this regard, comparison with the situation in the UK is of interest. Here the British government gave a mandate to the Committee for Radioactive Waste Management (CORWM) – 2004-2006, to undertake an inclusive process of reflection on the projected content of any programme for radioactive waste management. Members of CORWM actively participated in COWAM working groups, which enabled them to enrich their own recommendations, with the feedback from European experience.

Others noted that when a comparison was made between the law of 1991 and the new law of 2006, there was progress in terms of governance, notably the adoption of a stage by stage approach, with precise timelines. Reflection on reversibility for waste disposal, which is one

way of taking into account the longer term, gave French Members of Parliament food for thought. The stance they adopted was to defer decision-making to a later date, setting a specific timetable, whilst taking into account new outcomes of research in the future. Law-makers were also concerned to ensure that sufficient financial resources were made available, providing for research, the construction of long term management arrangements and for financing local economic support. Finally, in the law on transparency, the law-makers were determined to clarify the role of a number of actors.

Some organisations expressed reserves in regard to the principle of participation in a European project, or in regard to a having a French group placed within the framework of a European project. At CLIS level, representatives of environmentalist associations voted against the CLIS taking part in COWAM, arguing that this was research on governance whose actual purpose was to seek acceptance for deep underground storage. Others brought to the fore that fact that the actors were not sufficiently representative for the group to be able to claim comprehensive points of view on aspects of governance proper to France. Representatives of ANCLI noted that the law-makers did not take into consideration elements put forward by the ANCLI White Paper on the governance of radioactive waste. As a result, an extremely broad programme for reflection and forward-looking thinking remains open, in regard to what might usefully be set up in France, both at the national level and out in the field.

The COWAM 2 project also made it possible to demonstrate that democracy is a difficult exercise wherever it takes place in Europe, and requires constant attention. Citizenship advances step-by-step. Above all discussion is vital, and should be sustained. Reflections and proposals on questions of governance require translation into each particular context. Furthermore, they require the appropriation by and support from actors who have identified that giving consideration to these questions is essential for the responsible and sustainable management of existing waste.

III.3 - German group

Introduction

Six persons attended the national session in Antwerp, four of them being German COWAM 2 participants (including the National Contact Person - NPC), while two were guests from Germany and Switzerland respectively¹⁸⁾. The participants decided not to discuss and answer in detail the questions as suggested by leader WP 5, because they felt, that - due to the poor participation of German (and Swiss) stakeholders in the COWAM project and the composition of the session's participants - the answers would be more incidental and individual rather than explanatory for the effects of the COWAM process on the perception of waste governance issues by German stakeholders. The composition of the group is far away from being representative for the spectrum of German (and Swiss) stakeholders in the field of radioactive waste management. Also, being observers rather than representatives of their respective organisations and institutions, the COWAM members can only present an informal view of the topics to be addressed. Therefore, the attendants decided to share their views about recent developments and the actual situation in Germany and Switzerland respectively in the field of radioactive waste governance. The basis and the outcome of this discussion is resumed in the following sections. Apart from this, the discussion within the national session allows for some partial answers or comments on the topics addressed in the questions, which are briefly summarized in the appendix from the NCP's view.

Switzerland

Pius Krütli gave a review of the actual situation in Switzerland, where the Federal Government has launched a comprehensive process of nationwide and international communication before implementing a new siting process for at least one repository for radioactive waste in geological formations ("Sachplan Tiefenlager"). The process design is partially based on considerations of the German AkEnd¹⁹⁾. Apart from minor deficiencies, the proposed process is generally seen as a good approach integrating most of the essentials of decision making according to the actual state of art. Many groups of different actors / stakeholders, also from neighbouring countries are involved. However, as compared to the former siting approach (resulting in the Benken area in the "Zürcher Weinland"), the strong influence of the local citizens used to have on the final result of the site decision by veto, was heavily reduced by an amendment of the Swiss Atomic Law. Now the final decision, to be taken by the Swiss parliament, may be subject to an optional nationwide referendum, if applied for, but is no longer subject to a local (cantonal) referendum.

One of the major reasons for development and implementation of a new siting process in Switzerland was the protest of the German states, counties and municipalities neighbouring the "Zürcher Weinland" against a repository in their proximity. The protest was adopted by the German Federal Ministry in charge, BMU²⁰⁾, pointing out, that the long lasting former

¹⁸⁾ COWAM members: Detlef Appel (NCP), Wilhelm Bollingerfehr, Eckhard Kruse, Jürgen Wollrath.

Guests: Pius Krütli (Switzerland), Matthias Sering

¹⁹⁾ Arbeitskreis Auswahlverfahren Endlagerstandorte (Committee on Site Selection Procedure)

²⁰⁾ Bundesministerium/Bundesminister für Umwelt, Naturschutz und Reaktorsicherheit - Federal Ministry/Minister for the Environment, Nature Conservation and Nuclear Safety

siting process was not in accordance with relevant principles and rules of the process as suggested by the AkEnd in December 2002. Thus, BMU asked the Swiss government for a new siting process with strong participation of German actors.

Germany

In Germany there is a no-go situation regarding as well the investigation of the Gorleben salt-dome ("Gorleben Moratorium") as the implementation of an new siting process for the identification of alternative repository sites. The start of the new siting process for a radioactive waste repository as proposed by the AkEnd in December 2002 had failed in 2003. During late 2004 and 2005 BMU attempted to implement a siting process by means of a legal act and a corresponding technical regulations. Drafts of both were published via internet in summer 2005, but never discussed in the public or in the German parliament. This was the status at the time of the last national session during the 2nd annual COWAM seminar in Ljubljana.

In September 2005 federal elections resulted in a "big coalition" in the German parliament between the conservative (CDU) and social-democratic (SPD) parties. In their coalition agreement the partners stated their incompatible views on the future of nuclear energy in Germany, but announced to find a solution for the problem of final disposal of radioactive waste within the actual election period. Since then, exponents of the different positions within the government, particularly BMU and BMWi²¹⁾, and major stakeholder groups disperse their arguments pro and contra a new siting process and the end of the Gorleben moratorium. However, while there are some rumours that a new siting process is under design by BMU, there is no visible movement in the direction of a new siting process.

This general picture of the actual situation in Germany was compiled from the more detailed contributions of the participants of the national meeting based on their knowledge about activities in the background and their individual evaluation of the situation. Despite their different views on nuclear energy and the necessity of alternatives for the Gorleben site, all German participants expressed their larger or smaller disappointment or even frustration about the situation.

When comparing this situation to that in Switzerland, it is strange enough, that Switzerland has started a comprehensive process of nationwide and international communication to implement an new siting process, partially based on considerations of the German AkEnd and triggered by pressure exerted by the German side, while Germany is not able to make any efforts to solve the radioactive waste problem. Both, the no-go situation in Germany and the discrepancies to the obvious progress (so far) in Switzerland were the basis for speculations about the reasons for the German situation and the evaluation of chances to overcome it:

It seems obvious, that a fundamental precondition for a comprehensive decision making process in the field of radioactive waste governance is not fulfilled in Germany - the common interest and will of all responsible, particularly political actors to solve the problem. As a result, there is no overall effective political support for a specific solution, because any option

²¹⁾ Bundesminister für Wirtschaft und Technologie - Federal Minister of Economics and Technology

might impair political positions or the interest of specific stakeholder groups. Instead, the question of a new siting process seems to be used as an instrument to apply power in other political fields. With regard to the actual political constellation in the German parliament it is difficult to imagine, that and how the diverging interests could be brought together to promote a decision making process in line with democratic principles and the quality requirements on decision making processes as developed within the COWAM project.

Answers by the National Contact Person

- 1) Have you developed new and more informed relationships with stakeholders from your country over the past 2 years and a half?

Due to the fact, that all German COWAM 2 participants belong to organisations/institutions being "officially" or "informal" in a way involved in work and decision making respectively in the field of radioactive waste governance, they are generally well aware of the specific roles of these organisations. However, as long as there is no decision making process (see question no. 3) there are no relationships between stakeholders in the sense of the COWAM process that could be improved. However, it must be pointed out, that the COWAM process has provided an environment clearly improving the communication among participants and their mutual understanding.

- 2) Has the COWAM process enhanced your appreciation of key governance issues related to RWM in your country ? Illustrate your answer.

See question no. 3.

- 3) Has the COWAM process enabled your national group to identify common governance questions relevant for your country at the present moment?

Not really. The German situation has been a COWAM 2 topic at the very beginning of the project (1st annual seminar in Berlin), when the so called AkEnd process was presented and discussed. At that time, there was some hope in Germany for the implementation of this process, but later on this approach failed. Therefore and in principle, COWAM cannot contribute significantly to the identification of common governance questions in Germany as long as the most relevant issue in Germany is not solved and specific governance questions are not tackled in an open decision making process. That is due to the lack of any noticeable (to say nothing of a consensual) decision making process towards the solution of the radioactive waste problem. This question is out of scope of COWAM. What can be said is, that specific results of the COWAM process would help to deal with such questions once a siting process is established.

On the other side, the national session in Antwerp gave opportunity for the participants to discuss the situation in Germany, particularly with regard to the potential reasons for the lack of a decision making process.

- 4) Has the COWAM process enhanced your appreciation of key governance issues related to RWM in Europe? Illustrate your answer.

To some extent. COWAM clearly improved the knowledge about the radioactive waste management situation in the participating countries, particularly in those countries hosting the annual seminars and those, which have been dealt with in detail in working groups. On the other side, it can be derived from recent experiences in Germany and elsewhere, that "key governance issues" are political and societal ones, because they determine the goal of a decision making process and the kind of its realisation, but was - with good reason - out of the specific scope of the COWAM project. On the other hand, when comparing the situations in the field of nuclear energy and radioactive waste management in different European countries, it is open, if there are common "key governance issues related to RWM in Europe" - with the exception, that the waste problem has to be solved (this appraisal, of course, excludes the responsibility and position of the European Commission)

- 5) Related to the COWAM process, please give examples of good practices that you have recognised in the democratic processes, the mechanisms of local influence on national decision-making processes, the quality of the decision-making processes and the long-term governance in other countries?

It is somewhat difficult, to highlight good practices because every process is governed by the legal regime and the democratic culture of the respective country. Most of the modern approaches show elements of "good practices in the democratic processes". One of these, e. g., is the Belgian approach of "partnerships", because the local actors are not only just involved in decision making, but have influenced the result of the process to a large extent. However, when looking closer, one can see, that within approaches being in line with good practices, there are often elements representing an older status of not so "good practices in the democratic processes". In the Belgian case this is the governments decision, that waste hosting municipalities are the only target areas for a repository (because an earlier country-wide siting approach has failed).

- 6) Has the COWAM process enhanced your appreciation of your own role in the RWM decision-making process in your country? If so, what did it change in your understanding of your national context? Did this change the way you act or your relations with other stakeholders in your country? How?

As long as there is no RWM decision making process there is no role of stakeholders defined with respect to a decision making process in the sense of COWAM. During this phase, the acting of stakeholders is determined by gaining influence in the political realm. See also question no. 3.

- 7) Can you characterize how the different arenas of discussion (WP meetings, National sessions, coffee-break discussions, other contacts?....) have each contributed to what you have described above ?

Different arenas have contributed in different ways and to different extents: The individual interpretation of what is going on in other countries with regard to

methodological and democratic standards of good practices of course - on the one hand - depends on the specific details of the respective decision making process and of its presentation within the COWAM 2 process. This is kind of an "official view". On the other the individual evaluation of the situation in other countries depends strongly on how the atmosphere between different actors seems to be and how - in a more informal way - the situation is described by different stakeholders. The effect of these descriptions on the own perception depends not at least on the circumstances under which the information and impressions are provided. Therefore, all arenas contributed to the perception of what is going on in the respective country, and how.

III.4 - Hungarian Group

Answers by the Hungarian stakeholders

1) Have you developed new and more informed relationships with stakeholders from your country over the past 2 years and a half?

Yes. We developed new and stronger relationships with other public information and oversight associations.

2) Has the COWAM process enhanced your appreciation of key governance issues related to RWM in your country ? Illustrate your answer.

In 2005 the four Information Associations have begun a joint lobbying process for the modification of the Atomic Energy Act with the need of the broader availability of the state subsidies. The former regulation permitted only the financing of communication activities. On 20 December 2005 the Parliament accepted this modification. The new regulation authorised the Associations to use the subsidies also for other purposes, including municipal services as well as local and regional development tasks.

3) Has the COWAM process enabled your national group to identify common governance questions relevant for your country at the present moment?

Yes. See above.

4) Has the COWAM process enhanced your appreciation of key governance issues related to RWM in Europe? Illustrate your answer.

Yes. The West-Mecsek Public Information Association joined to the GMF and plays an active role in the preparation of the GMF communication strategy.

5) Related to the COWAM process, please give examples of good practices that you have recognised in the democratic processes, the mechanisms of local influence on national decision-making processes, the quality of the decision-making processes and the long-term governance in other countries?

No answer.

6) Has the COWAM process enhanced your appreciation of your own role in the RWM decision-making process in your country? If so, what did it change in your understanding of your national context? Did this change the way you act or your relations with other stakeholders in your country? How?

Yes. The COWAM process confirmed our opinion about the importance of public information and involvement. It made clear that the opinion of the affected population is key in the site selection process. In Hungary a joint lobby would be a new approach for local governments and NGO's.

7) Can you characterize how the different arenas of discussion (WP meetings, National sessions, coffee-break discussions, other contacts?....) have each contributed to what you have described above ?

We have learned about the problems and solutions of other countries. We discussed the current situation in Hungary. It was clarified that we have a lot of common issues (operation of associations, compensation, lack of information, etc.).

Dissemination activities:

Győző Kovács Mayor of Boda expressed warm support for Cowam 2 and WP1 during his keynote presentation to the OECD NEA Forum on Stakeholder Confidence (FSC) Hungary workshop on 14 November 2006. Thirty-three representatives of institutions in 12 countries and international organizations were in attendance, as well as over thirty Hungarian stakeholders from PURAM agency, the Atomic Energy Authority, and local settlements. From the podium he greeted WP1 ERP and WPL present in the room. Mayor Kovács stated: “The COWAM 2 program influenced our local committee (WMPIA). It was very helpful to learn about the thinking and practices in other countries. We were able to tell our colleagues new things as well, as we have worked since 1996 and may be in advance of other countries on certain points. We hope that the WP1 Roadmap will be published on internet”.

Mayor Kovács also gave a presentation on Boda’s COWAM2 participation during the local Harvest Festival in October 2006.

Answers by the National Contact Person

1) What was the involvement of the stakeholders from your country in the various packages? Please specify for each WP, and try to explain the possible evolutions.

Hungarian stakeholders are involved only in WP1. The Hungarian participants represent a local NGO of Boda and the West-Mecsek Public Information Association (the head of the association is the mayor of Boda, the candidate host community for a HLRW repository).

The main goal of their participation was to learn about the practice of local communities and partnerships in other European countries and about the accessible “best practice”. They joined the project only in its second year (2005). The mayor of Boda gave a presentation at the second Annual Seminar in Ljubljana and took part very actively at the WP1 meetings in Madrid, Ljubljana and Bucharest.

2) Is there evidence that stakeholders have developed new and hopefully more informed relationships with their fellow countrymen over the past two years and a half?

In Hungary the four public information and oversight associations work in the affected regions, where operating and planned nuclear sites are located. In 2005 the associations organised a joint lobby action for the modification of the Atomic Energy Act. They also coordinate their actions more carefully than before, and according to the stakeholders participating in COWAM2, this development is to a large extent a consequence of the COWAM learning experiences.

3) In the task of preparing the National Insights what were the key issues in terms of process (engagement, difficulties,...)? Can you describe in half a page how the process did go (You can base on your own answers to the questions for the July 2006 National sessions, below)? As a NCP, what are the lessons you draw from this experience?

At the National Sessions we analysed the social aspects of the national processes in radioactive waste governance, because we have partners only from the local communities, and it is not possible to debate the different arguments. The key issues in the Hungarian situation are the financing and/or compensating of the local committees, as well as communication and trust. These issues have also played the most important role in the interviews conducted with the stakeholders, on which we have based the National Insight.

4) Have the national sessions in the COWAM seminars been helpful for other purposes (forming a national group, greater awareness and autonomy, others...)? How?

National sessions were recorded and videos were played at the meetings of the West-Mecsek Public Information Association. Some of the recorded material was also published in local newsletters and other media. Even the radioactive waste implementer (PURAM) used the COWAM logo in their 2005 annual report (in spite of the fact that they did not wish to participate in COWAM2 activities). According to the views of both the NCP and the participating stakeholders, participation in COWAM2 has increased the self consciousness of the local actors.

5) Can you provide evidence of stakeholders developing new relationships or new projects in your country as a result of the COWAM process?

Thanks to their active participation at COWAM meetings, our stakeholders were invited to participate in the activities of GMF.

III.5 - Romanian Group

Answers by the National Contact Person

- 1) What was the involvement of the stakeholders from your country in the various packages? Please specify for each WP, and try to explain the possible evolutions.

There are three Romanian stakeholders participating in COWAM2, which represents the main actors at this moment in the decision making process. According to the Memorandum of agreement, the distribution on the WP is:

- a. WP 1 – 2 delegates (from ANDRAD and Cernavoda Local Council)
- b. WP 2 – 1 delegate (from ARIN)
- c. WP 3 – 1 delegate (from ANDRAD)
- d. WP 4 – 1 delegate from (ANDRAD)

In fact, participation and involvement of the stakeholders in the WPs evolved along the time. If at the beginning, they were equally interested in all 4 WPs, (as a reflection of their need for knowledge), at the end their interest was focused mainly on WP1, namely on the participation of local community in the decision making process. The main reasons could be:

- i. ANDRAD's proposal for the law for radioactive waste management and decommissioning fund and
- ii. obtaining of the land ownership for the LIL waste disposal. For these reasons, at the WP1 meeting hold in Bucharest, not only all COWAM stakeholder participated and but also other stakeholder organizations.

- 2) Is there evidence that stakeholders have developed new and hopefully more informed relationships with their fellow countrymen over the past two years and a half?

Nevertheless, for Romania COWAM 2 facilitated the dialog between and the information of the most important players: ANDRAD (the implementer), the Local Communities (Cernavoda town and Saligny village) and the civil society (represented by the ARIN). Before COWAM2, there was not a real dialog between the Romanian local and national stakeholders involved in the radioactive waste management, mainly because the national implementer was missing. ANDRAD, one of the first stakeholders in COWAM2, was created in 2004 and it started to act one year after. In the field of decision making process, it was trained in the COWAM meetings.

The local representatives learnt also from COWAM 2 what could be their role and their rights in the decision making process, whereas the national stakeholders learnt that their attitude should be flexible and fair in order do not block the disposal process. The dialog was therefore initiated starting from the same level of knowledge, from a common understanding based on the experience of other countries.

- 3) In the task of preparing the National Insights what were the key issues in terms of process (engagement, difficulties,...)? Can you describe in half a page how the process did go (You can base on your own answers to the questions for the July 2006 National sessions, below)? As a NCP, what are the lessons you draw from this experience?

I've started the process of National Insights elaboration by the preparation of a first draft, based on my own knowledge gain in my experience in the radioactive waste management field. Before the first annual seminar, I've sent it to the stakeholders but at this early stage, I had no feed-back to it. The first national session brought the first reaction and the National Insights was improved by ARIN contribution regarding the legislative and democratic frame allowing the implementation of local democracy and citizens' participation at national level. The contribution of Romanian stakeholders increased with their involvement in COWAM and with the deepening of their understanding of the governance process. Therefore, ANDRAD's contribution brought information on the legislation in RWM and about their activities regarding the involvement of the local communities in the decision making process related to the construction of the new repository for LIL waste from Cernavoda NPP.

The answers to the questions regarding the involvement of local stakeholders have been mainly formulated by the representative of the Cernavoda Local Council.

All these have been included in the version discussed in the second national session by all stakeholders involved in COWAM. They agreed that the document accurately reflects the present situation in Romania. It was a base for discussion on what each organization should do in the future to promote a real involvement of all players in the decision making process (i.e. organization of a local committee in Cernavoda region, initiation of a communication program addressed to the local community, etc.).

The lesson I've draw from this experience? Governance of the radioactive waste management is a very sensitive process and not very well understood. The final solution should be a common concept; it should be not imposed by one of the participants from the beginning. The dialog should look for the optimum solution; this raises the participation and contribution of participants. The real participants in this process are those direct interested and really concerned by this problem.

- 4) Have the national sessions in the COWAM seminars been helpful for other purposes (forming a national group, greater awareness and autonomy, others...)? How?

The national sessions helped to create a nucleus, a small national group, having now a broader image and a better understanding of the whole process, which increased the awareness not only of each member, but the awareness of the each organization represented. The open and honest discussions in a in-formal frame increased the confidence in equity and fairness of the ongoing disposal process in Romania.

As an example, since the last national session (Ljubljana, 2005) the Romanian COWAM group met at each important national event in the radioactive waste or nuclear field (SIEN'05, FOREN, GMF, NucInfo Days, JRC Info Event, etc). We've also supported events and initiatives launched by the Cernavoda Local Council.

- 5) Can you provide evidence of stakeholders developing new relationships or new projects in your country as a result of the COWAM process?

The most important achievement as result of COWAM process could be the agreement between the Mayor of Saligny village (the owner of the proposed disposal site) and ANDRAD regarding the siting of the new LIL repository on its territory.

Answers by Romanian stakeholders

- 1) Have you developed new and more informed relationships with stakeholders from your country over the past 2 years and a half?
- 2) Has the COWAM process enhanced your appreciation of key governance issues related to RWM in your country ? Illustrate your answer.
- 3) Has the COWAM process enabled your national group to identify common governance questions relevant for your country at the present moment?
- 4) Has the COWAM process enhanced your appreciation of key governance issues related to RWM in Europe? Illustrate your answer.
- 5) Related to the COWAM process, please give examples of good practices that you have recognised in the democratic processes, the mechanisms of local influence on national decision-making processes, the quality of the decision-making processes and the long-term governance in other countries?
- 6) Has the COWAM process enhanced your appreciation of your own role in the RWM decision-making process in your country? If so, what did it change in your understanding of your national context? Did this change the way you act or your relations with other stakeholders in your country? How?
- 7) Can you characterize how the different arenas of discussion (WP meetings, National sessions, coffee-break discussions, other contacts?....) have each contributed to what you have described above ?

Answers by Mariana Mircea, Cernavoda Community

1. Cernavoda community gathered the villages around the nuclear facilities and tried to express a common view. A special relationship was developed with Saligny municipality due to the decision of the government to built the Medium and Low Radioactive Waste repository between Cernavoda and this village.
2. The COWAM process created a special way of training by getting people from different countries together and gave the opportunity to discuss about this kind of waste. It is a mechanism not developed yet in Romania.
3. It is too much saying that we have a national group to identify common governance. This is mostly due to the fact that nuclear authorities do not encourage this type of relationship and also because public opinion and NGO's are in a "childhood" period.

4. In a way, yes. But not as much as we hoped. I still think we are waiting and hopping for a common language. Communication is sometimes hard between people with different education, experience, culture.
5. We found that Slovenian experience is something applicable for us. Maybe because people from Krsko and ARAO were very open and our communication was close to perfect. I am convinced that we could have better understanding with all the countries but it is just a matter of time to communicate better. As an average, we understood better each other with the communities from former communist countries (Slovenia, Hungary, Czech) and also Spain.
6. In Romania, it is very hard to get communities in the decision making process, especially in the nuclear field. But yes, by having this COWAM experience, we found new methods to express our will. We have organized many national official meetings and one international, in order to convince the nuclear authorities that communication should be developed in Romania more and more, to get a European level. We recently had the idea of organizing public debates to disseminate minimum information between members of the communities. This kind of debate had an important impact on nuclear authorities. Also, we expressed our will to participate in the public debates organized in other Romanian nuclear territories. More, we create a legislative project, similar to the Slovenian one, to be applicable in Romanian communities – stakeholders in RWM)
7. No, it is not easy to say which process changed our behaviour related to RWM.

Answers by ANDRAD

1. Yes. Taking into account the Slovenian experience (learnt in the Annual Seminar in Ljubljana) ANDRAD became aware that the problem of public information and involvement in the siting process must be treated very carefully.
2. Yes. The ANDRAD's policy is foreseeing the application of some key issues.
3. ANDRAD identified the need to establish, together with the local players, the necessities for sustainable development of the local communities hosting future disposal facilities in order to sustain them. The Governmental Decision 31/2006 stipulates the allocation of a financial support for the development of a social program for the communities surrounding a waste repository.
4. Yes
5. - volunteer application for the siting of a new repository
 - partnerships
 - assignments for limited land use or for solidarity reasons
 - projects for sustainable developments
 - supporting the activity of Local Committee
6. We realized that ANDRAD is only a part of the decision-making system, system comprising other institutions, local communities, NGOs, and all of them should be informed and consulted when decisions regarding new nuclear facilities are considered.
7. Second Annual Seminar - information
 WP1 Bucharest meeting – very important – ANDRAD met for the first time face-to-face their partners of dialogue and established a fruitful partnership with the local communities of Cernavoda and Saligny

Answers by ARIN

1. Yes
2. ARIN identified new ways regarding the implementation of Aarhus Convention, the Law on Public Access to Information and other significant national laws.
3. Yes
4. ARIN could compare different cases for different countries and learn more about what “good governance” means.
5. – raising-up “local committees”
 - LCs to be funded by the nuclear industry
 - Ways of interaction between LCs and their stakeholders
 - ARIN’s perception is that in none country the quality of decision-making process is fair (especially because of the high financial force and political influence of the nuclear industry) but it can be improved according to the development of democracy and “l’esprit communautaire”. The option AGAINST nuclear energy was not considered so in ARIN’s view discussions were somehow manipulated.
6. Yes. ARIN understood better:
 - how LOW is “l’esprit communautaire” in Romania.
 - how HUGE is the hostility of Romanian authorities against the idea of local democracy

ARIN enlarged the collaboration with the NGOs focused on human rights and development of democracy.

Mass media consults more and more frequent ARIN in issues as “nuclear problems”, “waste management”, “risk”, “public participation”. Also authorities more and more perceive ARIN as a partner.

7. - WP meetings – helped to understand how large and complex is the area of problems in different countries and how different the solutions could be
 - national Sessions – helped to a better understanding of the national context and to create an image of the SWOT analysis
 - Coffee-break discussions were very useful in clarification and development of different (misunderstood) aspects
 - Plenary sessions helped to integrate punctual problems in the European context and to imagine further development of Romanian issues in this context
 - Other contacts meant for ARIN a future information sources and collaborations.

III.6 - Slovenian Group

Answers by the National Contact Person

- 1) What was the involvement of the stakeholders from your country in the various packages? Please specify for each WP, and try to explain the possible evolutions.

There are 10 Slovenian stakeholders participating regularly in different COWAM2 activities, which represents the main actors at this moment in the decision making process. According to the Memorandum of agreement, the distribution in the WP is:

- e. WP 1 – 6 delegates (1 from ARAO, 3 local communities in Posavje region: Sevnica, Krško, Brežice, 2 experts from University of Ljubljana)
- f. WP 3 – 3 - 5 delegates (from ARAO and media representative and from LC)
- g. WP 5 – 1 delegate from ARAO
- h. Annual seminars – all involved stakeholders from local communities, ARAO, university, moderator, media representative, occasionally even more people (up to 30 in Ljubljana annual seminar)

In fact, participation and involvement of the stakeholders in the WPs evolved along the time. Also participants changed with the time. Slovenia coordinator ARAO proposed to the stakeholders that at the beginning they would participate in WP1 implementing local democracy and PTA and in WP3 quality of decision making process. On the other hand the stakeholders were also encouraged to participate also in other WP once they became familiar with the goals of the project. At the end all participants stayed with 2 WP (WP 1 and WP 3) as at the beginning but they also became familiar with activities in other WP-ies. Some of participants decided to change their participation to another WP and vice versa.

- 2) Is there evidence that stakeholders have developed new and hopefully more informed relationships with their fellow countrymen over the past two years and a half?

It is evident and clear that all stakeholders are now much more involved in the process. One of reasons is also that the site selection process for LILW repository in Slovenia has been proceeding very actively in parallel to the COWAM 2 project. In November 2004 first special planning conference took place after which all Slovenian local communities were invited to participate in siting and to volunteer their community. In April 2005 the bidding process was closed with 8 applications of local communities. In the period of assessment of suitability of application ARAO stayed with 5 local communities. Finally in November 2005 the Government of Slovenia decided on 3 local communities in Posavje region in which site selection should proceed further. Those local participants were also involved in the COWAM 2 project.

Therefore also the active role of stakeholders from those communities in COWAM2 supported the process itself, on the other hand it provides also a good tool for obtaining more information, for exchange of international practices, for help to list possible solutions to different questions on public participation which arose during the process. The local representatives learnt also from COWAM 2 what could be their role and their rights in the decision making process, whereas the national stakeholders learnt that their attitude should be

flexible and fair in order do not block the disposal process. The dialog was therefore initiated starting from the same level of knowledge, from a common understanding based on the experience of other countries.

It was found out also that participation in COWAM 2 helped local democracy a lot: different stakeholders inside local communities learnt from the other participants the approaches and the relationships what influenced local partnerships establishment and empowered the partners.

- 3) In the task of preparing the National Insights what were the key issues in terms of process (engagement, difficulties,...)? Can you describe in half a page how the process did go (You can base on your own answers to the questions for the July 2006 National sessions, below)? As a NCP, what are the lessons you draw from this experience?

When preparing the National Insights report we first prepared on open discussion with Slovenian delegation in Berlin annual seminar 2004. The debate was quite good and raised different views of the participants especially from participants from university on one hand and on the other hand from local communities.

In annual seminar 2005 Ljubljana first more accurate and formal draft of the national insight started. ARAO prepared the first draft in autumn 2005 and sent it to all participants of Cowam2. The draft was originally written in English, although the stakeholders were invited to prepare the additions and suggestions in Slovenian. The draft includes the expert knowledge and process information on the present site selection for LILW repository. The first three questions were drafted by ARAO and experts from university, the answers to question 4-7 were gathered by the media representative. The responses of involved stakeholders, especially from local communities were very moderate. The process of collecting the remarks and additional viewpoints was than repeated in spring 2006. Again the draft National Insight was sent to all members from local communities, and to the local partnerships which were started to be developed in the spring 2006. The document was debated also in annual seminar in July 2006. The report was presented and some remarks were included in the report, especially on the development of the local partnership. By the September 2006 the contributions came from one local community (Sevnica), mainly to the questions 4-7. They were submitted in Slovenian (the original is at ARAO in project documentation on Cowam 2) and translated. The whole National insight – the final translated draft with new development on local partnerships was sent to all stakeholders in November 2006 for final remarks and approval. The response was moderate again but we have to take into consideration that one of local community decide to withdraw the participation for site selection in March 2006, the other two are still re-establishing the forms of local partnerships.

The lesson I've draw from this experience? Governance of the radioactive waste management is a very sensitive process and not very well understood. The final solution should be a common concept; it should be not imposed by one of the participants from the beginning. The dialog should look for the optimum solution; this raises the participation and contribution of participants. The real participants in this process are those direct interested and really concerned by this problem.

- 4) Have the national sessions in the COWAM seminars been helpful for other purposes (forming a national group, greater awareness and autonomy, others...)? How?

The national sessions helped to create a core group which are well informed about the process itself, about the practices abroad and are now serving as experts in the field. While creating new local partnership those experiences could be also introduced in new committees in the partnerships structure. National sessions also provide the possibility for all stakeholders to understand the different role in the process and get to possibility to obtain the direct contacts with the people involved.

- 5) Can you provide evidence of stakeholders developing new relationships or new projects in your country as a result of the COWAM process?

Although the local partnership idea in Slovenia was introduced before COWAM 2 project started it is clear that the site selection project was supported also by the results of COWAM 2 activities. All opened questions and approaches in Slovenia could be compared and improved by COWAM project. Participants from local communities were actively involved in WP 1 and WP 3, where 2 very good documents were elaborated and can be used in development of local partnerships.

III.7 - Spanish Group

Answers by the National Contact Person and Spanish stakeholders

- 1) What was the involvement of the stakeholders from your country in the various packages? Please specify for each WP, and try to explain the possible evolutions.

Some mayors of AMAC, as representation of the local level, as well as some experts and representatives of concerned national institutions (ENRESA and CSN) have been participating in the Cowam 2 seminars and also in each thematic WP.

We have been counting with the active participation of the University *Autònoma de Barcelona* and also with Enviros Spain (consultants).

From the Spanish participants' point of view, Cowam2 has successfully achieved one of its objectives: to maintain alive a network of stakeholders concerned with the governance of Radioactive Waste Management in order to exchange experiences among the members of this network and to learn more from past experiences and from experts' opinions. Therefore, we do believe it has been very profitable.

Concretely:

- i. In WP1, the participants have exchanged experiences concerning both the creation and the functioning of a CLI. All this is shown in its "Road Map".
- j. In WP2, the guidelines to influence the National level are very useful for all the countries, of course, always taking into consideration each national characteristic (laws, culture...).
- k. With regard to the WP3: the recommendations for taking part in a robust Decision Making Process can be taken into account to execute the forthcoming National Decision Making Process concerning the site selection for a centralized temporary storage for the Spanish nuclear spent fuel.
- l. We do understand that it is necessary to be considerate towards the future generations. In that sense, the Spanish delegation compiled some ethical guidelines and definitions from the WP4 in order to be considered in the national DMP.
- m. The national points of view have been discussed in WP5 and we have also put in common the Spanish voice with regard to the national situation. WP5 made it also possible to share the progress of each thematic WP among the Spanish participants.

Some Cowam 2 information of each WP has been used for the development of the Cowam Spain programme, which can be taken as the national framework. It has to be taken into account that most of the final documents of the Spanish programme have been explained in each WP with the objective of sharing information (knowledge, culture, know-how...) with all Cowam2 participants.

- 2) Is there evidence that stakeholders have developed new and hopefully more informed relationships with their fellow countrymen over the past two years and a half?

Not new but stronger ones, with higher flux of information, especially because there is a process in Spain in relation to site selection for the spent fuel in a centralized and temporary storage. Moreover, Cowam 2 information has been spread among the concerned actors for a better execution of the Cowam Spain, which has been developed in parallel to the European program. We hope it will contribute to develop correctly the mentioned forthcoming process.

- 3) In the task of preparing the National Insights what were the key issues in terms of process (engagement, difficulties,...)? Can you describe in half a page how the process did go (You can base on your own answers to the questions for the July 2006 National sessions, below)? As a NCP, what are the lessons you draw from this experience?

It can be guessed that we still have to carry out concrete actions in order to improve the Spanish situation with regard to compensations, regional development of the affected areas and also with regard to the information, transparency and participation of the concerned local actors in the DMP.

Actually, Spanish institutions are currently working on and aiming at these democratic principles in the next DPM for the site selection for the centralized temporary storage.

With regard to the development of the WP5 objectives, the experience has been very positive: we could collect the opinion and the knowledge of the concerned actors, and spread our situation, opinion and knowledge.

- 4) Have the national sessions in the COWAM seminars been helpful for other purposes (forming a national group, greater awareness and autonomy, others...)? How?

Yes, it has been possible to focus the discussions on our problem (current Spanish situation), taking into account the Cowam 2 knowledge (conclusions, guidelines and recommendations of each WP) and, in that way, draw the strategic guidelines to solve that problem.

- 5) Can you provide evidence of stakeholders developing new relationships or new projects in your country as a result of the COWAM process?

It has been useful to improve the interaction between the diverse national stakeholders, and also to meet other actors from other countries to exchange experiences and to find applicable best practices.

- 6) Have you developed new and more informed relationships with stakeholders from your country over the past 2 years and a half?

Yes. The quality and quantity of information has been greatly improved thanks to a higher flux of information, but the relations have remained the same. Therefore, our relationships have been improved during Cowam 2 process.

Nevertheless, we believe that nuclear energy producers and the governments (decision makers) should be also involved in the project.

- 7) Has the COWAM process enhanced your appreciation of key governance issues related to RWM in your country? Illustrate your answer.

Cowam 2 process has made possible to recognise the key elements on governance of RWM. And it also became evident that some of them must be carefully considered so that future mistakes can be avoided, as well as social and political conflictive situations both in local and national level. If democratic principles are the base of the DMP, the final solution will be agreed by most of the participants of the DMP and, consequently, better accepted by the social and political network.

Therefore, in that sense, we are now more aware of the RWM problems thanks to the Cowam 2.

- 8) Has the COWAM process enabled your national group to identify common governance questions relevant for your country at the present moment?

Yes. The national discussions made possible a common agreement on Spanish recommendations (conclusions of the Cowam Spain program). The Seminars of Cowam Spain were profitable as they allowed us to work on the Cowam2 questions from a national perspective.

These conclusions are the fruit of the approach of the key elements mentioned above.

We are talking about a national problem to be solved in a concrete municipality.

For that reason, it was needed to determine the role of each institution.

Everybody agreed that it is the government's decision to start the process.

It was also agreed that the potential candidates can participate in the process even though they are not the final host site.

In that way it was agreed, and it is also one of the most important points, to create a National Commission so that the fair play of the DMP is guaranteed and the process is regulated by strong democratic principles.

- 9) Has the COWAM process enhanced your appreciation of key governance issues related to RWM in Europe? Illustrate your answer.

The Cowam process means an enhancement of the governance of the RWM in Europe by itself. Consequently, in general, it has contributed to improve our appreciation with regard to the RWM.

From our point of view, European Commission should take it into consideration in order to work on the harmonisation of the democratic principles for the correct development of a Decision Making process for the GRWM because of the nature of the RW.

European Commission should regulate the fundamental principles for the correct RWM not only in relation to the technical aspects but also in relation to the societal aspects.

10) Related to the COWAM process, please give examples of good practices that you have recognised in the democratic processes, the mechanisms of local influence on national decision-making processes, the quality of the decision-making processes and the long-term governance in other countries?

It is difficult to answer this question because the characteristics of each country are very different.

All the examples exposed during the project have positive aspects in each of the subjects.

The promotion of the CLIS to take part in the DMP is a good practice because it keeps people informed and increases the knowledge of the local level and, consequently, it means better acceptance of the concrete emplacement.

WP1 underlined that the CLIs are good tools for the local level to take part actively in the DMP. The WP1 road Map can be very useful because it shows a lot of examples of most of the countries which have participated in Cowam, and it explains in details some elements like the composition of a CLI, how it should be financed, managed, which its mission should be, goals, role and how to workout and to achieve these goals.

We take the examples from Sweden, France and Belgium as the most advanced countries in that matter.

We also find some underlined elements in WP2: the existence of a national framework for decision-making, the recognition of the need for transparency and good communication, the recognition of the need for community benefits to thank its contribution as well as the recognition of the limits of local autonomy. For that reason, it is a must to establish robust and democratic structures, to respect environmental justice and human rights and also to cooperate in order to approach the decision making process under common and democratic rules.

We could find advanced countries where the application of these elements exists (France...) and other countries like Rumania, where the application of these recommendations can help them to improve the local level in all senses: their participation in the processes, their economic situation, their infrastructures...

New good examples are the Slovenian and the Hungarian. The local authorities of that countries are highly influencing the national level, trying to guarantee the local necessities of information, economic development... Of course, the mentioned countries in last point are also advanced in that one.

Concerning the quality of DMP, WP3 disseminate some recommendations: the quality of a DMP means that it is a robust Decision making process and also to have democratic guarantees both for transparency and for participation of all concerned actors in all steps of the DMP.

We can find good practices both in the Belgian and in the Sweden process. And we found that Hungary is also working in a successful way.

Moreover, the local level coincided on the necessity of compensations and of governmental involvement for the sustainable development of the affected areas.

From the Spanish delegation, there are some good practices that should be considered:

- a. Participation of the local level from the beginning in the DMP
- b. Promotion of CLIS as a tool to keep people informed, to disseminate information and to increase the capabilities of the civilian to take part in the DMP
- c. To define the functions of the body in charge of guarantying the fair play of the process.
- d. To involve the Regulatory Body in the process because its independency and its legitimacy should contribute giving understandable response to the (technical) doubts of the civilian. It has to do a pedagogical effort.
- e. Creation of another body to solve questions concerning the process (Independent Expertise support; for instance, from different universities).
- f. Involve from the beginning the municipalities which already has the waste.
- g. To give enough time.

11) Has the COWAM process enhanced your appreciation of your own role in the RWM decision-making process in your country? If so, what did it change in your understanding of your national context? Did this change the way you act or your relations with other stakeholders in your country? How?

The background given by the participation in the Cowam program and, more concretely, the fact of reading and discussing the documents given by the experts, without any doubt, had a positive influence on all the participants and it contributed to approach positions.

On the other hand, we believe that the relations between stakeholders of different levels should be increased and improved. In Cowam2, there is a lack of involvement of the nuclear energy generators (they are the waste generators as well and they are placed in a concrete municipality). Moreover, we truly believe that local level, especially local authorities, should have better relation with other concerned agents of the regional and national level.

With regard to the Cowam Spain, the National framework permitted greater involvement in the national project (Parliament, Senate, universities, concerned associations, Regulatory Body, Implementer, Local authorities...), and the discussions were very sensitive with the different positions. Cowam 2 has been given great added value to the Spanish programme.

12) Can you characterize how the different arenas of discussion (WP meetings, National sessions, coffee-break discussions, other contacts?....) have each contributed to what you have described above ?

The seminars and the WP meetings have been a very positive contribution because we could take part in interesting debates, exchanging good experiences. Even more, the coffee-break discussions gave us the opportunity to find out about informal information (personal ideas, personal recommendations...) which have also influenced our position and improved our background.

It can be seen that there are different levels: experts, local stakeholders, operators... and we believe that the project has not been dynamic and practical. There were several repetitions of contents. There were not enough technical visits.

From our point of view, different interests have been met in Cowam 2. It is good, but has to be treated carefully.

In conclusion, Cowam 2 has meant the opportunity to the Spanish local stakeholders to participate in a European project. In that sense, we believe that Spanish efforts (large number of participants) should be better recognised. And, as said before, we also believe that there should be higher involvement of the local level (to complete the network of European local stakeholders), of the waste producers (nuclear energy producers), of the regulators and of the governments of each involved country.

In addition to that, it has to be taken into account that stakeholders are not researchers: local stakeholders have the problem and are the solution. The research has to give them the opportunity to implement the process correctly, basing it on democratic principles.

III.8 - Swiss Group

Answers by the National Contact Person

- 1) What was the involvement of the stakeholders from your country in the various packages? Please specify for each WP, and try to explain the possible evolutions.

Apart from ETH there was no Swiss involvement in COWAM 2. Both authorities and stakeholder groups forfeited to continue the admittedly good experience with COWAM [1], particularly the Fürigen Seminar in 2002, albeit for different reasons. The Federal Office of Energy reverted to their participation in NEA's Forum on Stakeholder Confidence (FSC) and to limited human resources, whereas the regional stakeholders lost their interest in the issue after the second rejection at Wellenberg shortly after the Fürigen seminar in 2002. Following the launch of a cooperative project between ETH and Swissnuclear, the umbrella body of the NPP operators and the waste implementer Nagra, (in late spring 2006) interest was tweaked but participation in the final COWAM 2 seminar was disregarded due to seemingly late notice.

- 2) Is there evidence that stakeholders have developed new and hopefully more informed relationships with their fellow countrymen over the past two years and a half?
- 3) In the task of preparing the National Insights what were the key issues in terms of process (engagement, difficulties,...)? Can you describe in half a page how the process did go (You can base on your own answers to the questions for the July 2006 National sessions, below)? As a NCP, what are the lessons you draw from this experience?

There is a need to intensify the possible added value of a project such as COWAM 2. But if the will is not there chances are small even in a situation where a new programme or decision-making process is set up (as is the case in Switzerland with the so-called sectoral plan as a tool for site selection).

- 4) Have the national sessions in the COWAM seminars been helpful for other purposes (forming a national group, greater awareness and autonomy, others...)? How?
- 5) Can you provide evidence of stakeholders developing new relationships or new projects in your country as a result of the COWAM process?

The reference of ETH to the international research project COWAM 2 undoubtedly was an asset in the award of the contract with Swissnuclear.

Annex 1 – Main Questionnaire for the National Insights

Common background

1. Which were key milestones/events for radioactive waste management in your country over the past 25 years? Why were they relevant?
 - Brief history of radioactive waste management in the country
 - Which are the types of waste (LLW, ILW, HLW) at stake and which respective decisions were taken or should be taken? *The National Insights are not expected to report all decision processes for the different types of waste. They should rather focus on the processes where stakeholders' participation is the most advanced or hindered and where the quality of the decision-making process is most debated.*
 - Which is the legislation/regulation framework for the decision-making process for radioactive waste management in your country?
 - Which are the current and prospective sites? *(if possible, provide a map)*
2. Which are expected key milestones for the governance of radioactive waste management in the next 10 – 15 years? (if necessary, explore alternative scenarios)
3. Who are the key players currently involved in the decision-making process and what are their formal functions and strategic roles at local / regional / national levels?
 - a. Are there missing players?
 - b. If yes, what should their functions / roles be?

Governance issues from the local perspective

The following questions reflect the governance issues addressed in COWAM 2. In this section it is expected that you consider these issues from the perspective of stakeholders at local level. On the basis of your participation in COWAM 2 on the one hand and your experience of local and national decision-making processes on the other hand, please highlight the perspectives of local actors in your country to participate in and contribute to the decision-making process. These perspectives can be either a description of the existing practices and advances made in the recent years, or proposals for a better participation in the future, taking into account the specificities of your national context.

4. What are the key mechanisms (local committee, partnerships, focus groups, round tables, forums,...) supporting the implementation of local democracy and citizens' participation at the local, regional and national levels?

Related questions from the point of view of local stakeholders:

How can local stakeholders influence policy that will be implemented in their territory, now and in the future? Does the process allow sufficient flexibility for this?

How can they influence the national policy?

How can they become statutory consultees (i.e. consulted in a statutory way) so that they are able to participate in meetings? How can they ensure that their views are taken into account?

5. What is the influence of local stakeholders in framing, controlling, reviewing and producing expert knowledge relevant to local decisions?

Related questions from the point of view of local stakeholders :

How can they identify and call in an unbiased judge to resolve issues?

How do they have access to independent experts?

Who pays?

How can they contribute to identify and assess the scientific and technical questions relevant for the decisions to be made?

6. What are the key elements to take into account in your country to strengthen the quality of the decision-making process?

Related questions from the point of view of local stakeholders :

- *How to create or develop conditions for empowerment of local organisations/ committees so that they move from a consultative to an engagement role?*
- *How to organise the different roles of public and private institutions to increase legitimacy and confidence and to avoid conflicts of interest?*

7. What is the role of local committees in the long-term development of a community?

Related questions from the point of view of local stakeholders:

- *According to their national context, what role could the local community play in the long-term management of a nuclear waste facility?*
- *To what extent do the local actors of the concerned region(s) share a common vision of the future for their community ?*

Annex 2 – Process Questions

Questions for the National Contact Person

- 1) What was the involvement of the stakeholders from your country in the various packages? Please specify for each WP, and try to explain the possible evolutions.
- 2) Is there evidence that stakeholders have developed new and hopefully more informed relationships with their fellow countrymen over the past two years and a half?
- 3) In the task of preparing the National Insights what were the key issues in terms of process (engagement, difficulties,...)? Can you describe in half a page how the process did go (You can base on your own answers to the questions for the July 2006 National sessions, below)? As a NCP, what are the lessons you draw from this experience?
- 4) Have the national sessions in the COWAM seminars been helpful for other purposes (forming a national group, greater awareness and autonomy, others...)? How?
- 5) Can you provide evidence of stakeholders developing new relationships or new projects in your country as a result of the COWAM process?

Questions for the National Sessions in Belgium (to be included in the agenda of the National Sessions in July 2006)

- 1) Have you developed new and more informed relationships with stakeholders from your country over the past 2 years and a half?
- 2) Has the COWAM process enhanced your appreciation of key governance issues related to RWM in your country ? Illustrate your answer.
- 3) Has the COWAM process enabled your national group to identify common governance questions relevant for your country at the present moment?
- 4) Has the COWAM process enhanced your appreciation of key governance issues related to RWM in Europe? Illustrate your answer.
- 5) Related to the COWAM process, please give examples of good practices that you have recognised in the democratic processes, the mechanisms of local influence on national decision-making processes, the quality of the decision-making processes and the long-term governance in other countries?
- 6) Has the COWAM process enhanced your appreciation of your own role in the RWM decision-making process in your country? If so, what did it change in your understanding of your national context? Did this change the way you act or your relations with other stakeholders in your country? How?
- 7) Can you characterize how the different arenas of discussion (WP meetings, National sessions, coffee-break discussions, other contacts?...) have each contributed to what you have described above ?