

# Guidance on the Selection of PTA Tools

WP1

For stakeholders involved in radioactive  
waste governance

PTA-2

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# **Guidance on the selection of PTA tools for stakeholders involved in radioactive waste governance**

Final report

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## Abstract

This research on "Guidance on the selection of PTA tools for stakeholders involved in radioactive waste governance" was performed under the umbrella of COWAM2-'Work Package 1' (WP1). Through a dialogue on enhancing involvement at a local level, WP1 allows local stakeholders to examine the issues they face in building a democratic local governance process. WP1 also tests how **Participatory Technology Assessment (PTA)** methods can offer a consensual framework and a platform for deliberative co-decision among scientific and societal actors at the local level. In particular, the COWAM2 – WP1 stakeholder representatives expressed a strong demand for a practical demonstration of a PTA method. In order to meet this demand, this report analyses **a concrete case** (the ongoing siting process in Slovenia) as an illustration of how the choice of a PTA tool can be adapted to the specific profile of communities, and what was learnt from this application. In addition, the report provides an in-depth analysis of the potential for **capacity building and social learning** offered by different PTA techniques.

First, a simple comparative chart (called the 'lens') was developed with the aim of giving stakeholder groups a first rough idea of the choices that might precede the organization of a successful learning experience. The 'lens' starts from the possible **social learning goals** (i.e. the possibility to justify positions, elaborating innovative ideas and/or creative solutions, empowerment and enhancing the access to expertise) that could be activated by PTA methods and then goes on to describe some key characteristics of the **topic** under discussion (i.e. general knowledge of the topic under discussion, complexity, remaining uncertainties and possibly controversy surrounding the issue) to finally arrive at the **PTA technique** that presents itself as a likely candidate for application under a particular combination of 'learning goals' and 'characteristics of the topic' (Section 1 of the present report).

Using this 'lens' as a guideline, it was agreed with Slovenian stakeholders to use one particular PTA technique in order to address the question of local democracy in radioactive waste governance from the point of view of the communities still involved in the process (i.e. in July 2005). The 'focus group' technique was chosen, and the report gives detailed explanations and advice for how a 'focus group' can be organized (Section 2). Using this technique important insights could be derived on the conditions for improving local democracy in radioactive waste governance. Three crucial themes emerged from the discussion (Section 3):

1. Participants in the focus groups often expressed their doubts with regard to the knowledge base developed so far as a support for decision making – be it because the source of the information was not trusted or because some elements were found to be lacking. As resolving conflict and enhancing trust often require dealing with scientific uncertainty through appeals to independent expertise, joint fact-finding on the part of all of the participants, or new research into previously unexplored areas, we strongly suggest an exploration and deliberation with interested stakeholders about how this can be achieved;
2. With regard to information and communication, the analysis of the focus group results clearly revealed that the different participants in the process seem to hold fundamentally different expectations, based on a different ranking of moral principles (autonomy vs. the duty to find a safe, efficient environmentally-friendly solution). These conflicting insights can of course not be resolved in a single focus group exercise. Nevertheless, one gains some measure of insight into the root of moral perplexity and, possibly, even moral outrage;
3. Feelings of being sidelined in the decision-making process and/or the fear of being abused in the interest of local authorities seem to be major threats for successfully initiating local committees (at least for the participants present in our focus group).

All in all, we conclude that the focus group technique proved to be a very effective tool for revealing a lot of insights on local democracy that might contribute to a better overall understanding amongst the parties involved in radioactive waste governance, and possibly also to creative solutions.

# 1 Background

## Reason for the research and assignment

This research is part of COWAM2-'Work Package 1' (WP1)<sup>1</sup>. Through a dialogue on enhancing involvement at a local level, WP1 allows local stakeholders to examine the issues they face in building a democratic local process. It aims at improving the functioning of participating **local committees (LCs)** as well as producing guidelines. WP1 also tests how **Participatory Technology Assessment (PTA)** methods can offer a consensual framework and a platform for deliberative co-decision among scientific and societal actors at the local level.

Regarding the PTA methods, in a first meeting of WP1 the stakeholder reference group (SRG) suggested the following primary orientations for further research<sup>2</sup>:

1. Learn more about what stakeholders can expect from PTA (e.g. knowledge that is produced according to stakeholder wishes; shared knowledge to address common problems...);
2. Learn more about the PTA process (e.g. how to organise a PTA exercise in a given context);
3. Learn more about the impacts of PTA (e.g. changes in organisations, institutions, political culture).

In particular, there was a *strong demand for a practical demonstration of a PTA method*.

Following these recommendations, it was decided to organise the PTA research in WP1 into two different but complementary projects, called PTA-1 and PTA-2. The PTA-1 research (Flueler *et al.* 2006; Krütli *et al.* 2006) investigates some existing PTA methods in order to answer the central question "*Which method can you apply; when can you apply it; and what is required for applying it?*" in the context of local initiatives on RWM. PTA-1 thus gives a descriptive account of some seven PTA techniques in terms of resources needed (requirements, number and type of participants, duration), application (in the different stages of policy development), advantages and disadvantages, as well as a number of assessment criteria and 'framing principles' (see the box below) for PTA techniques. PTA-1 research is presented in a short report and a long report (including more theoretical discussion and background); they are a 'toolbox' for local or national decision makers.

The present research, labelled PTA-2, set out to provide an in-depth analysis of the potential for *capacity building and social learning* offered by different PTA techniques (Section 1 of the present report). One technique in particular offered the possibility to give a PTA experience to stakeholders within COWAM2. This is the 'focussed group interview', or 'focus group' technique as it is commonly called. Section 2 of this report gives details on how a focus group was organized with Slovenian stakeholders and adapted to the specific profile of communities—thereby providing readers with advice and guidance for setting up their own focus group exercise. In Section 3, the lessons learnt during this PTA exercise about radioactive waste governance and local democracy are described.

## Target audience

This report generally targets LCs and takes their point of view, but it can be read by other players in radioactive waste management (**RWM**) governance. It is intended to be useful to both:

- Communities who are building a local committee from the ground up, who may (or may not) have a margin of liberty to define how they want to function in the future (and which participatory tools they want to use to improve this functioning);
- Existing local committees, who want to refine their ongoing practice or want to address specific questions related to their mission in a new way.

<sup>1</sup> 'Implementing local democracy and participatory methods'.

<sup>2</sup> See p. 4 of the "Minutes of the WP1 First Meeting", as distributed to all participants in the working group.

The PTA tools reviewed in the PTA-1 'toolbox' report and represented in the comparative chart of the present report (below) can be used on many different levels of decision making (ranging from the 'local' to the 'national' level) and in many different stages of a RWM strategy (e.g. developing a broad national RWM strategy, making siting decisions, deciding on the implementation of a particular RWM option, etc.) (see also Krütli *et al.* 2006).

## Research focus

PTA-1 rightly points out the failure of the 'decide-announce-defend' (DAD) strategy in a lot of technology-oriented discussions. As a result, the international interest in 'some form' of stakeholder integration in decision making about RWM seems to be large and increasing (cf. NEA, EU Sixth Framework Programme, COWAM...). A lot of advantages are claimed for methods of stakeholder involvement: conflict resolution, networking, mobilising greater public support for possibly contested initiatives, trust building, etc.

Proponents of stakeholder involvement also frequently advance '*mutual learning*' or '*social learning*' as an important goal. Broadly speaking, an involvement process scores well on the social learning criterion when it enhances the *competence* of the involved stakeholders. According to Wildemeersch *et al.* (1998), enhancing competence implies:

1. giving *the possibility to justify a position*,
2. being *creative in the search for solutions to a problem*,
3. having *access to the needed resources* (e.g. expert competence) and
4. increasing *influence on the final outcome of the learning experience* (i.e. 'empowerment').

As stakeholders who will potentially participate in a local dialogue, you enter this dialogue each with your own

- interpretative framework (enabling you to communicate on the reasons and ultimate goals of your actions),
- symbolic and material means (enabling you to realise your proclaimed goals) and
- norms/values (enabling you to justify your actions).

This is what makes the dynamics of social learning inherently uncertain. On the one hand, as stakeholders you are invited to become responsible, but on the other hand, you are bound by 'structures' limiting your action potential. Social learning takes place in a setting inevitably marked by tensions (e.g. between the desire to have an influence on the outcome of any decision and the institutional channels available for doing so, between the desire to justify a position and the technical competences for doing so, etc.).

Our research is an attempt to map out the context of a potential dialogue setting with a view on enhancing opportunities for social learning. By building on, and synthesising a great deal of existing work, we aim to provide a 'lens' through which to see the setting of a RWM decision-making context. The report also includes an example of the application of one PTA technique (the focus group).

## Objectives

In view of the above-mentioned reasons for the research undertaken here, our objectives are the following:

- To *transfer existing PTA knowledge* to the more specific context of RWM;

- To *create a simple comparative chart* (called a 'lens') for the selection of PTA-techniques adapted to a certain context (cf. Section 1.6);
- To *explain one particular PTA-technique (the 'focus group')* in more depth as a practical tool for investigating the decision-making context (cf. Section 2);
- To *give a practical example* of how the 'lens' and the 'focus group' technique were used in a real setting (the 'Slovenian case', cf. Section 3).

### Focus and limitations

At this research stage (and in view of some practical limitations discussed in sections 2 & 3), we have opted for a 'lens' with a 'panoramic' view. The panoramic lens allows us to see the broad structural underpinnings of the context (the different dimensions considered for describing a context are explained in the next section). However, as in any context, there might be particular prominent or significant features that require special attention. In that case, the lens should zoom down from a 'panoramic' to a 'telescopic' point of view, providing more in-depth information on selected issues. This however requires further research.

The 'lens' used for the present research purposes have been developed on the basis of the more extensive list of assessment criteria found in the PTA-1 report and the literature on PTA methods.

### A simple comparative chart ('lens') for the selection of participatory methods (see page 10)

The comparative chart (the 'lens', found below) should give stakeholder groups a first rough idea of the potential difficulties that need to be resolved before a successful (i.e. social-learning-enhancing) learning experience can take place (while of course not predicting the outcome). Moving from left to right, the 'lens' starts from the possible *social learning goals* (as discussed above in section 1.3) that could be activated by PTA methods (these goals are described in the first 4 columns to the left). The 'lens' then goes on to describe the possible *topics* (4 middle columns) to finally arrive at the *PTA technique* that corresponds best to these descriptions.

In this way the chart enables you to identify a potentially interesting PTA technique adapted to your requirements. Further information about that particular technique can then be found in the PTA-1 'toolbox' reports (also available on the COWAM2 website, [www.cowam.org](http://www.cowam.org)). Other assessment criteria to help you choose among PTA techniques (e.g. duration, requirements, description of participants, application and advantages & disadvantages) are also described in the PTA-1 report.

**For those setting out to apply Participatory Technology Assessment techniques:  
Seven Framing Principles (from the PTA-1 'toolbox' reports)**

The PTA-1 'toolbox' reports rightly point out the importance of particular issues such as: timing your PTA exercise to fit in with any political decision at hand, budget concerns, and the general political, institutional and legislative context. These issues should be thoroughly discussed before selecting a PTA method. In particular, we recall here the seven framing principles identified in the PTA-1 research which should be given special attention when choosing a particular PTA tool:

1) *consider the level of decision making*: RWM issues are often an aftermath of historic national decisions – whereas you may be conducting a PTA exercise in a local setting. This asymmetry somehow has to be addressed;

- 2) **guarantee integration into policy making**: make sure that results of a participatory exercise are somehow taken into account in formal decision-making initiatives (preferably in a formalised and legal procedure);
- 3) **consider phase of decision process**: each decision-making phase (from problem recognition to implementation and evaluation of solutions) asks for a different approach;
- 4) **respect degree of escalation**: the character of existing political debate (e.g. polarised positions) has an impact on the choice of participatory tools;
- 5) **prove commitment and accountability**: politicians, public officials and senior management (of the organising institutions) need to show a commitment towards public or stakeholder participation;
- 6) **grant rights and resources**: objectives for, and limits to, involvement have to be defined at the outset of the process so that all potential participants are aware of the scope of applying PTA and can decide accordingly whether they want to participate;
- 7) **ensure continuity and establish adequate mechanisms**: the duration and quality of participatory engagement has to be adequate – small-scale and "one-shot" activities may be useless, whereas fresh administrative and political institutions, with a broad societal composition, may trigger more sustained and fertile dialogue.

The following paragraphs explain the categories used in the columns of our comparative chart or 'lens'.

#### ***Social learning goals:***

Generally, social learning can be considered a success if the following criteria are met:

- **Possibility to justify positions.** The literature on public involvement generally highlights the dramatic differences between 'expert' and 'lay' understanding and framing of (technological) risk. Not only are expert and lay positions divergent, but also, decision-making processes traditionally have given greater weight to expert points of view. However, it is recognized more and more that both expert and lay positions need to be explained and justified, and that 'lay' or 'local' knowledge can be useful to decision making. The literature suggests that disagreements or conflicts (procedural and/or substantive) over values, assumptions and preferences should be deliberated in a process that assigns value to public understandings of (technological) risks. Deliberations should expose not only the positions held by 'the public', but also the reasons why these positions are held;
- **Contributing innovative ideas / creative solutions.** Stakeholder involvement techniques contribute to this social learning criterion if they contribute information that would otherwise not have been available in 'traditional' expert-based decision making (e.g. risk assessment, cost-benefit assessment). The capacity to contribute new information depends in turn on the capacity to undertake new analyses or to foster a more holistic and integrated way of looking at the problem at hand;
- **Empowerment.** The degree of empowerment potentially supplied by a social learning process can be characterised following the well-known 'participation ladder' developed by Arnstein (1969). Arnstein proposed eight levels of public participation classified within three groups according to the degree of empowerment: 'non-participation' (manipulation); 'degrees of tokenism' (informing, consultation, placation); and 'degree of citizen power' (partnership, delegated control, citizen control). From this nomenclature it is clear that Arnstein does not have a high regard for purely informative or consultative forms of public participation. We however do not necessarily share this point of view, since improving the knowledge base used to determine a course of action might be a worthy objective (provided that this is communicated as such and that no unrealistic expectations are raised concerning the possibility to influence the final decision).
- **Access to scientific expertise.** A final perspective on the quality of social learning comes from looking at how well the public involvement procedure provides access to adequate scientific and

technical resources. This access could be achieved either through the technical training and experience of the participants (internal capacity) or through external technical resources or expertise (external capacity) – e.g. hiring consultants, interacting with technical advisory committees, querying outside experts, etc.

**Topic:**

'Topic' refers to the subject matter that has to be discussed (in our case, RWM) and deals with questions such as:

- To what extent is the subject matter perceived to be **complex**? In scientific literature on the subject, complexity turns out to be very difficult to define (Edmonds 1996). Still, with Edmonds we believe there is a common core in all views on complexity: in order to have a 'complex whole', you need to have two or more components which are joined in such way that it is difficult to separate them<sup>3</sup>. Thus, applied to our subject matter, the question of complexity turns on the degree to which the problem at hand (i.e. RWM) can be described and solved within the 'neat' institutional, organisational or disciplinary boundaries of science, law, ethics, and politics;
- To what extent does the local community already possess a **general knowledge** of the subject matter?;
- To what extent is the subject matter surrounded by (technical, normative, legislative, etc.) **uncertainties** – e.g. uncertainties about health impacts, 'grey areas' in legislation, etc.? A useful distinction can be made between (statistical) uncertainty and ambiguity. 'Uncertainty' comprises different and distinct components and reduces the strength of confidence in the estimated cause and effect chain due to e.g.
  - *variability* of individual responses to an identical stimulus;
  - *measurement errors* caused by e.g. measurements imprecision, modelling or extrapolations (from animals to humans or large to small doses);
  - *indeterminacy* resulting from a genuine stochastic relationship between cause and effect(s);
  - *lack of knowledge and ignorance*

'Ambiguity' denotes the variability of (legitimate) interpretations based on identical observations or data assessments. This does not refer to differences in methodology, measurements or dose-response functions, but to the question of what all this means for human health, environmental protection, and management requirements. Hence, ambiguity relates to the uncertainty of values or (legal) norms with regard to the problem in question;

- To what extent is the subject matter considered to be **controversial**? – e.g. stakeholders have already taken 'strong' positions on the issue so that loosening positions and considering new viewpoints might be difficult.

The chart below is addressed to decision makers who may potentially commission or organize a PTA action. We hope that this 'lens' can help to map out your context. This chart reviews the social learning goals you might have, and the way you describe the topic to be discussed, in order to point to a technique that might suit you. Some techniques are more likely to be organized by larger bodies, e.g. as part of a national process; some techniques are within the reach of smaller bodies, and can be organized on a local scale. As stated above, the PTA-1 'toolbox' reports provide more information about each technique and what is needed to set it up, apply it and hope to see it work.

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<sup>3</sup> To put this in another way, in order for complexity to exist one needs to *distinguish* two or more *connected* elements. Being '*connected*' means that a change in one element will provoke a change in the other elements.



**Comparative chart: The PTA-2 'lens' for identifying techniques that correspond to your social learning goals and your topic**

If you have the following <u>SOCIAL LEARNING GOALS</u> :				And discussions on the <u>TOPIC</u> could look like this:				Then consider this <u>PTA TECHNIQUE</u> :
Possibility to justify positions	Innovative ideas / creative solutions	Empowerment	Access to scientific expertise	Knowledge	Uncertainty	Complexity	Controversy	
You think participants should have opportunity to control the agenda and the activities of the PTA group to address any issues they feel to be relevant	You want to stimulate participants in the search for new problem framings, solutions or innovative approaches	Participants are committed to controlling and carrying the deliberation process. If they reach a consensus this will send a strong message	Participants should be able to choose expert witnesses to address their questions	You want participants who may have no previous knowledge on the topic to develop shared knowledge	Both relatively certain and uncertain topics might be addressed	You are seeking to discuss highly complex issues – i.e. depending on a mixture of many forms of knowledge (e.g. local, traditional, technical, ethical, etc.)	Your topic is not overly controversial, and you have hopes that participants may come to a consensus statement (to be released to decision makers or the public at large)	<i>Consensus conference</i>
You're looking for a dialogue on past and present desires in order to link these to a desirable future vision	You want to elicit new ideas and creative solutions. You can identify participants with a capacity for 'thinking-out-of-the-box'	Participants, organiser and/or policy makers make some commitment to act upon the conclusions reached	Participants are themselves experts in some domain related to the subject matter	You want to bring together a range of different knowledge perspectives on a particular topic (e.g. economics, political science, technical or engineering expertise, etc.)	Yours is a highly uncertain context	You will need to address complex issues – i.e. issues where the future is likely to differ significantly from the present	It would be interesting to create consensus or common visions; however, this is not an absolute requirement	<i>Future search conference</i>
You want participants' position taken into account and they are willing to subject their justifications to expert review	You are seeking the practical resolution of a previously 'intractable' problem and looking for common ground between citizens, experts and policy makers	Stakeholders and policy makers are ready to accept the conclusions of randomly selected citizens, who act as final judges over potential solutions	Experts from different disciplines can be gathered to evaluate the performance of a range of policy options under a number of assessment criteria	Participants are willing to learn from different types of knowledge (e.g. anecdotal, personal, systematic, etc.) and these should all be given weight	The issues at hand are highly uncertain (in both factual and normative terms)	The topic is not too complex and different framings of the problem can be discussed	The topic is not too controversial and participants can consider trade-offs and looking for common ground	<i>Cooperative discourse</i>

SOCIAL LEARNING GOALS				TOPIC				PTA TECHNIQUE
Possibility to justify positions	Innovative ideas / creative solutions	Empowerment	Access to scientific expertise	Knowledge	Uncertainty	Complexity	Controversy	
You are interested in helping ordinary citizens undergo an in-depth learning experience on a particular issue; subgroups can be formed to focus on particular sub-issues	Rather than keeping things wide open, citizens will be asked to deliberate over a carefully focused 'task' (e.g. ranking of possible options, yes-or-no question, etc.)	The method can be tied in with the legislative or decision-making process; the commissioning body is ready to respect the resulting recommendations or to explain why not	Expert witnesses can be brought in to be 'cross-examined' by a citizens' panel	There may be little common knowledge about the topic	Both relatively certain and uncertain topics may potentially be discussed	The topic to be discussed is not too complex, and alternative courses of action and stakeholder interests are readily identifiable	Controversy exists; consensus and common ground should be sought after wherever possible, but sometimes a vote will be necessary	<i>Citizen jury</i>
Participants can go through a process of scoring different options, and have to justify their scores	New options as well as innovative ways to frame the issue (new assessment criteria) should be generated	It is an early phase of a project and you want to obtain advisory views on the overall policy process	Experts, policy makers or stakeholders with some experience may participate	Common knowledge on a list of criteria and indicators has to be developed	The inherent uncertainty of topics should not stand in the way of deliberating about or ranking options	Both complex and less complex topics may be discussed	The topic may be controversial (or not); you don't aim for a consensus solution but rather to 'map' the diversity of views	<i>Multi-criteria mapping</i>
'Peers' can challenge reasons why certain opinions are held but these should not be subject to 'outside' (e.g. expert) review	The idea is to make an initial exploration in order to generate new ideas. It is not necessary to find solutions and/or build consensus at this time.	All that is requested is a relatively unidirectional information flow (from the participants to the commissioning body)	No expertise besides the participants' knowledge should be used	Both specialists and non-specialists can be contacted participate, and they will not be mixed	It is generally unclear how your 'target audience' thinks about a particular topic	Topics discussed are connected to the lifeworld of 'ordinary' citizens	Controversy may exist on some points and is acceptable since you don't seek a consensus or to arrive at decisions	<i>Focus group</i>

The comparative chart or 'lens' above gives a first indication of which participatory method to apply in certain contexts. The table includes the methods discussed in the PTA-1 'toolbox' report, in Renn *et al.* (1994) and Slocum (2003). The 'lens' allows you to compare techniques according to the social learning objectives and topics present in your context. The PTA-1 'toolbox' report contains more in-depth information about applying these participatory methods.

Compared to the PTA-1 study, we have chosen to omit two PTA methods (the 'citizen advisory group' and 'area development negotiation') and include one additional method, namely the 'focus group'. The 'citizen advisory group' in our view does not so much represent a PTA method or tool, but rather a particular institutional setting in which PTA tools could be used to help the advisory group in meeting its objectives. And the 'area development negotiation' method has only limited relevance for our present context of RWM. PTA-1 does not address focus groups because the 'focussed group interview' technique (its full name) was not specifically developed in the context of participatory approaches to technological issues. Rather, it is a methodology stemming from general social research. Also, the focus group technique is not a fully developed 'method' in the sense that a 'method' usually comprises the combination of multiple steps and techniques to arrive at a result. While we agree with this reasoning, we nevertheless see no reason to omit the focus group technique from our 'lens'<sup>4</sup>.

We suggest that when used in the context of (complex) technological issues, focus groups can be introduced as a possible first step, which might uncover information that will help subsequently to choose and set up a more complex participatory method. In the present study, we have used the focus group technique in order to gain better knowledge—for participants and especially for commissioning stakeholders—of a particular RWM setting (the 'Slovenian case'). In agreement with COWAM2 WP1 members from Slovenia, the focus group was organized to investigate the 'starting context' in communities considering the start-up of a local initiative on RWM. The discussion was meant to highlight the favourable conditions, as well as the potential difficulties, that might be encountered if the stakeholders were to engage in some kind of partnership for radioactive waste governance. In this way, the focus group gave insight into the chances, requirements and pitfalls for social learning among the future partners.

Section 2 gives more details about the focus group methodology, including the reasons why this methodology was chosen for our particular case study. Section 3 provides an analysis of what was learnt in the focus group organised with representatives of Slovenian communities who potentially could be involved in radioactive waste governance in the (near) future.

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<sup>4</sup> Slocum (2003) also takes up the focus group in a list of PTA methods.

## 2 Focus group methodology

Focus groups are among the most widely used research tools in the social sciences. Focus groups have become an increasingly frequent research tool for applied social scientists such as those who work in program evaluation, marketing, public policy, advertising and communications.

What distinguishes the focus group technique from the wider range of group interviews (such as the more conventional "brainstorming") is its explicit reliance on group dynamics to produce data and insights that would be less accessible without the interaction found in a group. This is the key distinguishing feature of focus group research and this is what makes it an interesting technique to use. According to Morgan, "...focus groups are useful when it comes to investigating what participants think, but they excel at uncovering *why* participants think as they do..." (Morgan 1988, p. 25). Focus groups can achieve this because participants not only articulate their views about a particular topic, but also explain to the group members the reason why they hold these views. In the focus group discussion, participants question each other, or even challenge views which might differ from their own. Participants are requested to expose the reasoning behind their own opinions, allowing the researcher or moderator to explore and record such interaction.

Participants speak in their own vocabulary, drawing upon their own lifeworld experiences, to answer questions on a particular topic (i.e. in our case local initiatives on RWM) introduced by the researcher. Information obtained through the use of focus groups is therefore essentially qualitative, limiting its use for the purposes of generalisation. The richness of the information gained, and the satisfaction felt by participants when they feel that their views have been properly heard and recorded, are positive points that encouraged us to propose this method for a COWAM2 experience in PTA. More detailed information about the strengths and limitations of the focus group technique is provided in [Annex 1](#).

### Why a focus group for the PTA-2 research?

For numerous reasons, we consider the focus group methodology to be particularly relevant for our purposes (i.e. mapping out the social context before considering the start-up of a local initiative on RWM, in order to given an idea of the possible requirements or pitfalls for social learning to occur):

- *Pragmatic considerations*: through group interaction, focus group research can generate a lot of information on an issue (based on the lived experience of people) in a limited amount of time. Focus group research is thus very 'cost-efficient';
- *Effectiveness considerations*: focus group research is able precisely to reveal the lifeworld experience and/or expectations of local people regarding local initiatives on RWM. To achieve this, the research should not be guided too much by the researcher's frame of reflection (as is the case in more quantitative forms of social research, like polling with a pre-determined questionnaire). In focus group research the participants are asked to be the author of their own stories, within the broad framework provided by the research questions. (The facilitator or researcher does not firmly direct the discussion, but uses the 'semi-directive' interview style, indicating topics and then drawing persons out about the ideas they express.)<sup>5</sup>
- *Interpretative considerations*: focus group research reveals the logic, the rationales, and the perception etc. of the participants themselves, formulated in their own words. The methodology specifically allows the development of an interpretative understanding between the participants and the researcher (e.g. the researcher is able to probe participant's answers for the reasons why they hold particular views, and possibly confront them with other views in the group) that would not be available from quantitative or 'closed' social research approaches.

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<sup>5</sup> In this way, our focus group research can even be regarded as meeting the requirements for 'effective participation' as described in the PTA-1 research.

## Planning focus groups

This section will address the practicalities and the decisions that must be considered in setting up focus groups, including a consideration of group dynamics, and deciding on the format (such as the structure of the group, the size of each group if many persons are to participate, and the source of participants).

### *Group dynamics*

Since focus group results are determined by interactions between people in a group, it is essential to have a basic understanding of group dynamics in order to appreciate the types of bias that might be introduced. This understanding of group dynamics generates some guidelines for group construction and for conducting the focus group interviews. It is not our intention here to discuss the socio-psychological aspects of group dynamics in great detail; we will just give an indication of some of the most relevant factors that might contribute to creating a more 'comfortable' atmosphere for people to express their opinion more freely:

- *Personal traits*: the focus group moderator should be able to take into account rather quickly the personal traits of the participants. Timid people for instance should be actively encouraged to pronounce their point of view; dominant people on the contrary should be restrained somewhat in order to give the floor to other people;
- *Interpersonal relationships*: the focus group moderator should be able to detect quickly the nature of the interactions between people, e.g. in order to defuse possible interpersonal conflicts;
- *Demographic variables*: e.g. age, sex, profession, education, religion, etc. In particular, socio-economic variables such as education levels, professional occupation, social standing, etc. should be taken into account when composing a group. Groups composed of people taken from similar socio-economic strata generally favour communication and interaction;
- *Physical characteristics*: obviously, these cannot be controlled by the moderator, but socio-psychological research has shown that these play a role in perceptions (e.g. attractive people are considered to be more sociable);
- *The lay-out of the discussion locus*: participants should not be intimidated too much by the settings of the focus group, e.g. in an 'impressive room' (e.g. an expensive hotel); the discussion locus should be perceived as 'neutral' territory;
- *Social power*: a major influencing variable, as people will generally tend to conform to the opinions of participants with a perceived high social power and status (e.g. experts on the topic). The moderator should be aware of this and encourage the production of new ideas rather than conformity with the 'dominant' view.

Similarly, the number of observers should be very limited, and their presence should not introduce any bias (they should not show approval or disapproval of what they hear; they should not be wearing 'impressive' clothing, nor be introduced to the group as important dignitaries).

### *Developing thematic questions*

As mentioned before, focus group discussions are centred on certain themes proposed by the research team. These themes structure the discussion without fully determining the subjects covered in the discussion, which should be to a large extent left open to the initiative of the participants. The themes should be translated into questions which may be raised by the moderator. Questions should be readily understandable for participants, and they should also relate in some way to their personal experiences. In general, the following guidelines apply:

- Questions should be "open-ended" to provide a wide variety and depth of responses. Simple "yes/no" questions can provide very specific information but, generally, do not help stimulate discussion or exchange of ideas;
- Questions should be clearly stated so that participants are not confused or misled;
- Questions should be neutral to avoid influencing the responses of participants;

- Questions should be ordered from easy, general questions to more complex ones to help participants develop their ease in answering them.

Developing the list of potential questions is not the task of the researcher alone, but rather this should be a collaborative effort along with the persons commissioning the research. Thus, the list of thematic questions (see [Annex 2](#) to this report) was developed in close consultation with the Slovenian WP1 stakeholders and other expert resource persons.

### *Structure*

By 'structure' we mean the extent to which the discussion is led and managed by the moderator. At one end, there can be a very high level of structure with a timed agenda for each topic; at the other extreme is a "brainstorming" model in which participants are free to discuss any topic they feel is important within the boundaries of the announced theme. In the case of the practical exercise proposed to Slovenian stakeholders, we had to introduce enough structure to ensure that participants would cover certain key topics. On the other hand, the opportunity to listen to the participants' perspectives must not be squandered. Too much structure may bias the focus group to what the moderator wants to hear.

Focus groups including participants who are more familiar with a certain topic will require less structure than those with people who have little prior knowledge about it. In the latter case, some thought will need to be given to giving the potential participants some basic information, so that they can reply with their point of view about the topics that seem interesting or important to them. In any event the prime objective is not to *tell* them what they ought to think but to *listen* and *learn* from them.

In general, focus group discussions have to be structured so that:

- The group as a whole feels concerned by the topic (the topic has to be pertinent to them); and participants have the feeling that their input in the focus group is important (participants should have a clear idea of what is going to happen with the focus group output – how what they have said will be used);
- Questions relate to the general level of understanding of the focus group participants – e.g. participants can find illustrations or examples taken from their daily experience;
- Participants in the focus group accept each other's input; this is a minimal requirement for group cohesion.

Participants must feel confident, and trust that what they say during the conduct of a focus group will be treated with the same confidentiality as the responses made on a survey questionnaire. Therefore some practical requirements must be met, and participants must receive assurance that:

- No one besides the research group conducting the focus groups will have access to the participants' names;
- No one besides the research group conducting the focus groups will have direct access to the participants' comments the tape recording or typed transcript, necessary for analysing the discussion afterwards, will not be released to outside parties).

Similarly, ground rules must be posted and discussed with participants, including:

- Participate fully;
- Respect comments of all participants;
- 'What is said here, stays here'.

### *Level of moderator involvement*

Closely linked to the issue of structure is that of the involvement of the moderator who has a key role to play in creating a climate where participants are willing to share their feelings and experiences. By and large, the moderator should keep his/her own comments and speeches at a necessary minimum. The goal of all focus groups is after all to gather insights arising from the interactions between participants.

However, moderators must also ensure that all topics are covered, and that the groups are managed to ensure the best performances from the participants. This requires the moderator to exhibit some degree of control over the sessions. The moderator is in fact gently steering conversation into topics of interest, rather than posing a list of questions. Respondents must be left as free as possible to express themselves, and the moderator's job is to intervene only as much as necessary to be sure that participants have made their views, and the reasons for these, clear.

Next to a moderator, it is often fruitful to have an 'observer' present. This observer does not participate directly in the discussions, but rather devotes his/her attention to following the list of thematic questions, noting when or how they are discussed, key moments in the discussion (e.g. strong reactions of participants to particular questions), etc.

Focus group discussions are usually recorded in order to facilitate interpretation afterwards.

In our case, focus groups were moderated by an experienced social scientist, prof. Drago Kos, University of Ljubljana. Prof. Kos participated in COWAM2 WP1 and was hired to moderate the group by the Slovenian waste management organisation ARAO (of which one member was a regular participant in COWAM2 WP1 discussions and meetings). Researchers from SCK•CEN (the primary authors of this report) were present as observers. The discussion was translated simultaneously in English (heard only by the observers) and recorded for analytic purposes.

### *Source of participants*

Focus groups are usually conducted using samples of participants selected from certain categories and sources. Thus, whatever category of participants formed the PTA-2 focus group, the major issue to be addressed was whether to mix participants from different categories (e.g. socio-economic backgrounds, experts and non-experts, etc.) or run separate focus groups for each category. This problem arises from the need to maintain a reasonable amount of homogeneity within groups in order to foster discussion. Mixing different groups in the same focus group may induce confusion and deteriorate the quality of the discussion. However, it should be considered that running separate group sessions, due to background or role-based differences, have the cost of requiring more groups (see below 'size of groups/number of groups').

Once the timeframe and the issue of participant selection are decided, the logistics for conducting the focus group must be completed. This step includes coordinating rooms, dates, and times, as well as contacting the participants so that they can block out their calendars. This recruitment and organisation of the focus group logistics was in our case done by the Slovenian WP1 partners.

### *Size of group/number of groups*

There are both practical and substantive considerations when determining the size of groups. On the practical side, small focus groups run the risk of being less productive and more costly, in relation to time and travel costs and in time spent analysing the focus group results. Small groups could also be less productive, as they are more sensitive to dynamics among the participants, e.g. in terms of one dominant participant monopolising the discussion. On the other hand, larger groups may be harder for the moderator to control, with a greater risk of shy people being squeezed out, subgroups developing and the quality of conversation deteriorating.

Examination of the literature reveals that 4 is the minimum size for a group, 12 the upper limit and 6-8 the average number of participants. However, whatever the chosen size of the group, it is important to over-recruit in order to cover for people failing to turn up.

There is no hard-and-fast rule about how many focus groups are enough. Deciding on the right number of groups usually depends on the amount of information sought after. A focus group session is likely to last between 1.5 and 2 hours (shorter does not give enough time to go into depth, and longer will be tiring for all). If the recommended average size is of 6-8 people + moderator, then the amount of time available to each participant is of the order of 10-15 minutes. This may therefore be enough to cover 2-3 key themes (see [Annex 2](#)). Hence, following this rule of thumb, the list of thematic questions for one group should be

limited to 2-3 key topics. If there are many more themes to consider, it may be necessary to organize more groups (or a second group meeting).

It may be logical to foresee a series of focus groups, if some 'naturally' different populations are wanted to respond to the themes. In this way, it might be meaningful to foresee groups composed e.g. of young people, or of women, or of persons from a single town, or of persons with some specific experience or interest, etc.

Furthermore, for the PTA-2 research, we were limited by some practical considerations: focus groups had to be conducted in the time span of one afternoon (hence, no more than two focus groups could be conducted), and the number of groups was determined by the number of people found willing to participate on that afternoon.

### *Analysing focus group results*

Numerous techniques exist for analysing focus group results, with varying levels of sophistication (e.g. discourse analysis, copy/paste technique, etc). For our purposes, a simple synthesis of focus group results seems sufficient. Based on the transcript of the focus group discussion, statements by participants are coded according to the themes of discussion. Then, statements coded alike are brought together. In this way, each theme is elaborated by bringing in more and more statements taken from the focus group transcript, building up a rich and diverse picture of people's thoughts. Attention should also be given to non-verbal communication (e.g. to check whether certain statements are made with or without approval).

Interpretations can be validated first by referring to the transcript and testing whether they hang together in a logical way with what is understood when reading the discussion. Second, it is also useful to have another person (e.g. the observer) who performs his/her own analysis. Feedback to the focus group participants, in order to obtain their comments or corrections, is also a generally applied validation technique; however, this was not organized for the PTA-2 focus group participants because of language barriers.

### **Conducting focus groups**

This section offers some guidance on the most appropriate ways for moderators to conduct focus groups sessions. The management of the sessions and other techniques used during the group interview will be examined here.

### *Different styles of moderation*

The style of moderating the focus group depends on a lot of factors (see 'group dynamics'). There are no simple recipes which will work in all circumstances. Moderators will generally have to choose and compromise *in situ* among different possibilities:

- *Supportive style ("laissez-faire")*: concerned with the general 'wellbeing' of the participants, leaving ample room for spontaneous remarks, questions, etc. There is a risk of losing the focus of the discussion;
- *Autocratic style*: keeping a close eye on the research protocol, formulating precise questions, etc. Here, there is a risk of losing 'spontaneous' answers and imposing the researcher's own categories upon the respondents;
- *Participative style*: supportive of exchanges between people, focussed on the participants' perspectives but ensuring that each participant gets to voice his/her opinion;
- *Performative style*: going deeper and deeper into particular questions, enticing the group to produce new ideas, etc.
- *Intimate style*: in some cases (e.g. when there is a general embarrassment to discuss a question), a moderator may choose to share a personal experience. One should however take care not to introduce bias.



### *Introducing the focus group*

The first few moments in a focus group discussion are critical. In a brief time the moderator should create a thoughtful, permissive atmosphere. Literature suggests that much of the success of group interviewing can be attributed to this 2-4 minute introduction. Excessive formality and rigidity can stifle the possibility of dynamic interaction among participants. By contrast too much informality and humour can cause problems in that participants might not take the discussion seriously. The recommended pattern for introducing the group discussion consists of the following:

- Welcome
- Overview, introduction of the topic, purpose of the research
- Guidelines or ground rules ( guideline on how the discussion should be guided: number of questions, level of moderator involvement, anonymity)
- Opening question (typically an open-ended question that allows participants to tell about how they see or understand the phenomenon under investigation, without making them feel they are being 'examined'. The question might ask for a definition or an explanation. In our case, we asked participants in the focus group whether they felt people had good access to public information on RWM).

### *Asking questions*

It will be helpful for the moderator, researchers and those commissioning the focus group to design beforehand a thematic question list, arranged in a logical order that might be followed during the discussion. Then, during the meeting:

- Questions should be carefully phrased and appropriately sequenced;
- Questions should be asked in conversational manner;
- Moderators should alter the sequence of questions or topics if some of them have already been discussed or answered in previous discussion.

Following the above guidelines it is also wise for moderators to be aware of time constraints. As already mentioned focus groups are typically 60 to 120 minutes long. Two hours of concentration however constitute a physical and psychological limit for most people. Thus, it is prudent not to surpass the 2-hour limit, unless there is a special event circumstance that makes it comfortable for participants, such as providing lunch or dinner. Another issue that needs to be addressed when conducting focus groups sessions is that some questions can be answered in a matter of seconds while others demand additional time. It is useful, therefore, for moderators to consider the categories of questions and their time requirements when finalising question topics for discussion. Generally speaking, if a focus group becomes larger or if participants are already greatly experienced with the topic (and therefore may have a lot to say), then it is better to keep the number of questions to a minimum.

### *Listening*

One of the greatest challenges for novice moderators is to make the distinction between people talking and people answering the question. It is dangerous to assume that participants are answering the question that was asked just because they are talking. Therefore:

- When the discussion shifts off topic, moderators should pull it back to the original intent by posing an appropriate question once again;
- Moderators should consider the type of the question, the importance of that question, whether participants are becoming redundant in their answers, and the remaining time, to decide when enough has been said on a particular question/topic and when to lead the group to the next one.

### *Closing the discussion*

The moderator has several options for closing the focus group discussion. The most common ones are:

- Summarise briefly the main points of view, then invite comments, amendments or corrections;
- Ask if the participants have any final questions (hearing what participants are curious about can provide insights that can be incorporated into subsequent focus groups—you may identify a new discussion theme, or an organizational problem that need to be addressed).

### *Debriefing the discussion*

As soon as participants leave, the moderator and other members of the research team (observers, those commissioning the research) should debrief the discussion. This procedure can vary from 10 minutes to as long as an hour, depending on the complexity of the past discussion and the interests of the research team. Useful questions for debriefing include:

- What were the most important themes or ideas discussed?
- How did this differ from what moderators expected?
- How did the discussion, or emphasis on various topics, differ from what occurred in earlier focus groups?
- What points need to be included in the written report?
- What quotes should be remembered and possibly included in the report?
- Were there any unexpected or anticipated findings?

### **Using the focus group method: Summary and conclusions**

A focus group is a tool used to gather information. Like a survey, a focus group provides data for analysis, but because the data are gathered using an open-ended, more informal technique, a focus group discussion can be like a good conversation. The format of the focus group provides an opportunity for participants and the facilitator to exchange information related to the topic or group of topics for which the data are being collected. As with a survey, a focus group conversation is private and confidential. In the face-to-face setting, participants and their ideas must be treated with respect and integrity. Focus groups can be powerful tools for planning and decision making. The insights and data produced by the interaction of participants in focus groups can provide feedback to initiate change, confirm satisfaction with services, or help generate new hypotheses.

This section on practical details of planning and conducting focus groups should help to ensure that the most appropriate types of approaches are employed and the most productive results obtained. Pitfalls or limitations were signalled to help avoid them as much as possible, and maximise the usefulness of the focus group as a technique.

The following Summary Tables 1 & 2 list all the aspects relating to focus groups which should be considered in making decisions on approach, techniques and planning. The factors listed cannot be considered in isolation from each other. Planning the focus groups should involve considering all these aspects together, balancing conflicting issues against each other and making informed decisions.

<b>SUMMARY TABLE 1: PLANNING AND CONDUCTING FOCUS GROUPS</b>	
<b>A. PLANNING FOCUS GROUP SESSIONS</b>	
1. Structure of Groups	Plans for the order of discussion should not be too rigid. Focus groups are more useful for exploratory purposes and appropriate for discovering new ideas and for accessing participants' own views, values, ideas and interests
2. Level of Moderator Involvement	Less structured groups require the moderator to gently guide the discussion to desired themes and draw out participants' ideas Level of moderator involvement (speaking up, giving examples...) should be kept at a necessary minimum Respondents must be left as free as possible to express themselves
3. Source of Participants	Participants should be selected according to criteria pertinent to the research and should have different backgrounds However, mixing different categories of participants may induce confusion Ensure that participants share some but not all features
4. Size of User Groups	Smaller groups easier to control and manage effectively Smaller groups more costly and time consuming Suggested figures: min. 4, max. 12; average: 6-9 Over-recruit to ensure that enough participants will be present
5. Number of user groups	As many as required to answer the research questions Generally, the less structured the groups are, the more sessions may be needed to explore all the intended research themes
<b>B. CONDUCTING FOCUS GROUP SESSIONS</b>	
1. Managing Group Sessions	Register users Ask questions Listen to answers Keep the discussion alive Summarise the findings End Analyse / debrief

<b>SUMMARY TABLE 2: Advantages and disadvantages of FOCUS GROUPS METHODOLOGY</b>
<b><i>Advantages</i></b>
Cheap, quick and easy to conduct
Ensure direct interaction with participants Ensure that priority is given to respondents and their experiences, values, needs, problems etc.
Deeper levels of meaning can be achieved Important connections can be made Subtle nuances of participant expressions can be identified
A synergistic atmosphere can be achieved Participants can be aware of their perspectives (through disagreement and consensus building upon discussion)
Flexible, since they are used to examine and obtain data for a wide range of topics
Focus groups results are easy to understand
<b><i>Disadvantages</i></b>
Small number of respondents limit generalisation of findings to a larger population
Relatively chaotic data collection
Open-ended nature of responses often makes summarisation and interpretation of results difficult

### 3 Results of the COWAM 2 Slovenian focus group exercise

#### **Background on the Slovenian situation with regard to RWM (July 2005)**

The activities regarding the low and intermediate level waste (LILW) site selection in Slovenia are planned to meet the requirements of the 'Act on Ionising Radiation Protection and Nuclear Safety', especially the requirement that the site for a repository should be selected by 2008 and the repository should be in operation by 2013. In November 2004, the official administrative procedure for the siting of the repository started with the first public conference on spatial planning procedure. It was carried out by the Ministry of the Environment and Spatial Planning and ARAO (the national waste management organism). Immediately after the conference the 'Program for the preparation of a detailed plan of national importance' for the LILW repository was accepted by the Ministry. At the beginning of December 2004, ARAO invited all Slovenian local communities to participate in the site selection process and volunteer a site or area in their local community for further investigation.

At the beginning of 2005, the first phase of the bidding process was concluded. ARAO received applications from eight local communities. Later, three of those dropped out of the site selection process, so that at the beginning of July 2005 (when we conducted the focus groups), 5 communities were present in the process: Krško (the community hosting the nuclear power plant), Brežice (a neighbouring community), Sevnica (another neighbouring community), Šmartno (a community near the capital Ljubljana) and Lenart. A pre-feasibility study to define three of the most promising locations was conducted because only three locations are foreseen by the 'Program for the preparation of the detailed plan of national importance'. Methodologies were prepared for the assessment of different parameters of technical, financial, environmental and spatial suitability as well as public acceptability. Comparative, preferential and also exclusion criteria for the respective parameters were defined. The results of the desk study and field research were compared and further assessed in order to identify up to three local communities with three potential sites in which the probability of siting the LILW repository seemed to be highest (this decision was forthcoming at the beginning of July 2005). Local partnerships with selected candidate local communities were planned to be established which would serve as an umbrella for all activities during site selection and confirmation and would also be the platform for cooperation and for decision making of local stakeholders. Each of the selected candidates can still opt out of the process at any time if they wish to do so. Furthermore, Slovenian law foresees a compensation (0.23 MEuro/year) for communities participating in the site selection process, as well as a higher compensation for the community that decides to accept the final repository (0.23 MEuro/year during construction; 2.3 MEuro/year during operation).

#### **Original focus group design**

In agreement with representatives from ARAO and the University of Ljubljana, it was decided to target focus group discussions towards conditions for improving local democracy (see the list of thematic questions in Annex 2). This focus was felt to be most important at that time since local partnerships were planned to be installed in three local communities. The original idea was to organise one focus group per potential host community (5 in total), in order to have more or less homogeneous groups. Potential participants in the focus groups were chosen from an existing list of 'opinion leaders' in the five candidate communities and contacted by ARAO with an invitation letter (see [Annex 3](#)). In this letter, it was stressed that the focus groups were part of a European research programme and thus had no direct link with the Slovenian siting process.

#### **New focus group design**

Because of limited response from the persons contacted, it was decided to organise only two focus groups on one day (4 July 2005), thus mixing 'opinion leaders' from different communities in a focus group. One

focus group was to unite representatives from the neighbouring communities of Krško, Sevnica and Brežice; in the other focus group representatives from Šmartno and Lenart were to have a seat. However, despite having been reminded by telephone of their commitment to participate in the focus groups, on the 4<sup>th</sup> of July fewer participants turned up so that dividing those present into two groups would have resulted in an uncomfortably small session. Therefore, it was decided to join all participants in one focus group. There were 4 representatives from Sevnica, 3 from Šmartno and 4 from Lenart (11 in total). The 3 representatives from Šmartno were all members of a civil initiative opposed to the siting of a LILW repository in their community, and opposed moreover to any technical investigations taking place there.

The focus group was moderated by prof. Drago Kos from the University of Ljubljana (Department of Sociology). Two observers from SCK•CEN were present (Gaston Meskens and Erik Laes). For the observers' benefit, discussions were translated simultaneously in English and recorded for later analysis.

### **Reflections on focus group dynamics**

The very fact that some local community representatives who confirmed their commitment to cooperate finally cancelled participation merits reflection. Although they did not explain why they chose not to come it is plausible to believe that the missing members understood their participation in focus group discussion as a threat to their position in the siting process. Namely, missing participants were from Krško<sup>6</sup> and Brežice<sup>7</sup>, who were already involved in LILW siting procedures and RWM in general, and had had so far quite a lot of opportunities to express their opinions. Participants from Šmartno, Lenart and Sevnica<sup>8</sup> were 'newcomers', i.e. so far had not been included in siting procedures. All invited were opinion makers in their communities where the location of LILW is possible according to geological and technical criteria. The education and professional structure as well as political orientations vary much across the communities. It was also evident that stakeholders from the same communities who know each other represent different (political) options and that this influenced their discussion.

As local opinion leaders each participant was informed about the LILW facility siting issues but from the beginning of the discussion it was obvious that the stakeholders differed in their general opinions and attitudes on LILW issues and nuclear questions in general. Clearly, their positions influenced their motivation and style of discussion to a considerable extent. Especially those who oppose the idea to locate LILW in their community were so emotionally involved that the exchange of different opinions was sometimes difficult. It was evident that the participants did not take the discussion to be part of an academic research (cf. Section 3.5), but rather, as an important chance to express themselves regarding the national process. .

Discussion dynamics appeared to be influenced very much by the general context, i.e. low trust in public institutions, and especially by the prior history of repository siting efforts in Slovenia, which had contributed to reducing the credibility of experts and most of the 'nuclear institutions'<sup>9</sup>. During the focus group discussion, the level of trust expressed for expert risk assessment was low (in fact some participants did not "believe the experts" at all). The strongest disbelief in expert opinion indeed was expressed by the more educated participants (architect, teacher of physics) with high communicative competence. In this way, trustworthiness of experts was a very important theme in the discussion, both as a factor in attitudes towards the siting process, and also, as a concern regarding stakeholders' very participation in the July 4 focus group.

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<sup>6</sup> The NPP host community, where the great majority of the LILW is temporally stored.

<sup>7</sup> The neighbouring community, very close to NPP.

<sup>8</sup> Another neighbouring community but due to geographical configuration less exposed to NPP location.

<sup>9</sup> See the detailed discussion in another COWAM2 WP1 report,

## Analysis of results

The focus group philosophy and objectives were briefly recalled by the moderator (prof. Drago Kos). Prof. Kos reminded the participants that the focus group was organised as a research project within COWAM. He explained that COWAM was a European research project uniting researchers, experts and institutes from a number of European countries who deal with the question of RWM, and more specifically research ways of improving local democracy in RWM decisions, which in the past have often been characterised by conflict. Next, he introduced the topic of the focus group – a search for opinions on a 'maximally democratic procedure'. Finally, Prof. Kos reminded participants that discussions would not be quoted individually, and that the audio recording would only be used for research and analysis.

In what follows, we will summarise the main themes emerging in turn from the focus group discussion: comments on the focus group initiative, information needs, issues of trust, acceptability of LILW repository, and conditions for a democratic procedure.

### *Comments on the focus group initiative*

Interestingly enough, the focus group set-up itself quickly became a subject of discussion and even some controversy. Generally, the representatives from the civil initiative in Šmartno were most sceptical towards the focus group set-up. They interpreted this initiative as evidence of ARAO's incompetence in guiding the whole site selection process:

*"...So the agency is participating in the organisation of this focus group which means that the procedure has not been carried out and that we are looking for better [procedures?]. This discussion really is a proof that the agency and other people do not exactly know how to lead the whole thing..."*

Despite efforts by the moderator (and as explained in the invitation letter) to guarantee that the focus group was something apart from the ongoing site selection process and the applications which had recently been submitted by the 5 municipalities:

*"... If this focus group had been made before the applications it would have been positive but now this is late, which means that the agency is really too early with the tenders..."*

*"...But we here because of the applications. The people here are the ones that are somehow affected. We cannot simply discuss things at a theoretical level because what I see is my own situation, which is similar to your situation. I cannot simply step out and think at a theoretical level. So all the people present here have these applications in their heads and we are somehow burdened by them. We are under the influence of the events that happened..."*

Other participants present in the discussion were more supportive of the focus group initiative. They recognised that ARAO had relatively little previous experience with public involvement in a complex issue such as RWM, and therefore framed the focus group as part of a more encompassing learning experience:

*"...If the municipality or the agency does not have the procedures worked out yet, it is probably because they are learning..."*

*"...I do not feel it is bad that we are discussing now because we have a chance to say what we think and all of us can say we go this far and not further, so nothing has been lost yet..."*

If anything, this discussion shows that the selection and timing of a particular PTA method cannot be a 'neutral' activity. Experiences in earlier stages of the decision-making process will inevitably feed into the discussions. In this case, it was clear that the representatives from the civil initiative reacted against a perceived injustice of the procedure as it had been carried out so far. As a result, they saw the focus

group as an opportunity to air their frustration about the present state of affairs. To prevent such feeling from arising in the first place, it would probably have been better to organise a series of focus groups or other techniques for non-binding, qualitative consultations with representatives from local communities at an earlier stage in the decision-making process. However, other people present in the focus group, whilst still showing some reservations with regard to the procedures followed by ARAO (cf. following paragraphs), recognised the need for mutual learning. And this support for learning implies a certain tolerance for 'errors' on the road towards the 'right' procedure.

### *Information needs or wants*

The question on the information needs of the public provoked a lively discussion. In general, participants in the focus group agreed that the public at large was not very well informed about LILW management – for instance because the difference between low- and high-level waste is not understood:

*"...You tell somebody that this is not for spent fuel elements, he will not believe me so this has to be told to the people from the top down. 98% of the people do not know that..."*

Nevertheless, whilst this diagnosis was largely shared, different opinions existed on the preferred 'cure'. A first group of opinions was supportive of the idea that, whilst everyone involved or wishing to be involved in the process of finding an adequate location for a radioactive waste repository should have access to a common and comprehensive knowledge base about the principles of RWM, it is not necessary for everyone to go too deeply into technical details. The general feeling was that it could be counterproductive to offer people more than they can understand. The basic idea can be summarised as follows: each person participating or willing to participate in the RWM process should be provided with information relevant for that person's circumstances and in such a way that this person can reasonably be expected to be able to assimilate the information. In this view it is therefore unavoidable that some part of the information at least should be adjusted according to particular group characteristics. The idea was that there should be a wide spectrum of information from which every possible participant could take the information he/she needs. In this respect, the 'farmer' and the 'physics teacher' often functioned as exemplars in the discussion:

*"...For a farmer, it is important that he learns the things that are relevant for him, for his life. Whether his farm will lose in value or gain in value. For example one farmer is asking whether he would not be able to sell his apples in Ljubljana any more - this is important for farmers..."*

However, some participants in the discussion (most often, the representatives from the civil initiative) had a much more active, two-way view of building up a knowledge base. Instead of talking of 'information needs', they framed the question as one of 'information wants' thus stressing a much more subjective approach to the duty to inform the public. The general idea is that specific informational 'wants' differ according to individual situations, which cannot be captured by 'standardised packages'. Rather than a 'spectrum' of information packages tailored to the needs of specific groups (local authorities, journalists, farmers, educators, etc.) this group of opinion evoked the idea of a multi-layered information architecture, structured so that everyone should be able to go into as much detail as he/she feels appropriate. Representatives from the civil initiative in Šmartno clearly indicated that this view, rooted in strong respect of the autonomy of people, provided the original impetus to found a civil initiative:

*"...We live in a time of information and we know that you can manipulate that information, so you present just one kind of information. I feel in these things, it is important that all the information be presented to the people and then they can choose. So we talked about the consequences, the media has the possibility of influencing and they present only what they are interested in. Just an example, as local people have a personal will, they saw on television reports about the local constructions, about digging and so on and then the need for civil initiative came out..."*

This reference to subjective of 'information wants' implies a different model of communication than the one followed until now. The representatives from the civil initiative resented the fact that most of the

communication activities organised by ARAO were in their opinion targeting specific publics. They also resented the fact that ARAO did not integrate the feedback given about their concerns in the general information presented to other communities. They gave the example of a 'free tribune' organised by the civil initiative to which they had invited ARAO, but which ARAO did not attend. They saw this as an example of how ARAO might systematically try to avoid any critical discussion of their basic assumptions:

*"...If there were presentations in the municipalities, those were the target groups and if we have our question they answer the question individually not in connection with other groups, the teachers, and so on..."*

These participants recognised that they held a very demanding view with regard to the autonomy of citizens. However, they did not deem this view to be unrealistic, provided that the waste management agency ARAO or the government would take up its responsibilities for communicating in a timely and correct manner, and making sure that everybody understands the issue at stake:

*"...First at a State level, information to the media, that everybody learns that this is being prepared, that we have waste, that this has to be put somewhere, that in 6 months there will be a public tender and the municipalities can apply. I think this is the key element. Slovenia is a small country, everybody would have to know about it, from one or the other side of Slovenia. So everybody should be interested..."*

However, other participants disagreed and brought up the problem of getting people interested in an issue such as RWM:

*"...How to motivate people, make them interested? For example, people will read something on the surface and they say: 'Oh, this is something, that does not affect me', but then when someone reads this in Ljubljana, a counterexample, I already got a telephone call from somebody asking me: 'What does this mean, I intended to buy some land there'. When there was nothing there before you have to make people interested..."*

Expectations about information were supported by a moral appeal to a higher principle, i.e. the 'right to know' principle enshrined in the Aarhus Convention. Representatives from the civil initiative expressed the opinion that the procedure followed thus far by ARAO violated this principle:

*"...We know that the Aarhus Convention determines that for these important things like finding a location for such an important facility, you have to inform at the earliest possible phase, if necessary, each individual person..."*

However, other people in the focus group were of the opinion that the principles of the Aarhus Convention were not violated by the procedure followed so far. For instance, one participant mentioned that it was no problem for him that the mayor of his municipality had submitted an application without really consulting with the concerned public. He believed it was everyone's personal decision to get information or not, depending on one's needs – provided of course that information is available:

*"...I am not here a proponent of any procedure and so on, but our Mayor submitted an application. It is something I do not like very much but sometimes it is necessary that a decision is made. But what is happening then? If you make an application then they need have the information available. Now it is up to me whether I would be looking for it by myself whether I would be satisfied by what I am told or I would be looking for further possibilities. We can communicate with the whole world through the Internet and so on this information is coming in, it is accessible..."*

This reference to the Aarhus Convention is interesting, since the 'right to know' concept is also explicitly invoked by ARAO as the basis for its information activities (e.g. in Železnik *et al.* (2005)). Hence, while all participants in a public participation process may agree that disclosing information is the *sine qua non* of effective public participation, the adoption of quite different standards of disclosure will underlie what one believes is the morally adequate exercise of this duty. Some of the participants in the focus group also resented the fact that they had to learn through the local media about ongoing site investigations in their municipality or the fact that their municipality had presented itself as a candidate for site selection, rather than being informed for instance by ARAO or the mayor (cf. further discussions). In general, the



participants in the focus group had a largely negative view of the role of the local media, stating that these were largely responsible for a greater degree of escalation in the conflict.

As explained by Železnik *et al.* (2005), the communication activities of ARAO have two main aspects:

1. *cognitive aspect*: to improve a general understanding of the principles of radioactive waste management;
2. *opinion-making aspect*: to assure the public acceptance of a radioactive waste repository by the general public.

Furthermore, Železnik *et al.* (2005) specify that the 'two-way communication activities' (carried out by an independent mediator functioning between ARAO and local communities), which were organized to achieve the second goal, were emphasised towards the final stages of the siting process (i.e. the site characterisation and confirmation stages). As the LILW management process is now moving into these latter stages, the focus group findings are very useful to further articulate the different views on 'information needs and wants' held by the participants in the process.

### *Issues of trust*

All participants in the focus group thus agreed on the general principle that the duty to provide information (in some form or another) to the public is a cornerstone for effective public participation. But of course, fulfilling one's duties to inform, to dispel ignorance, and to increase understanding does not necessarily guarantee the acceptance of that information. Participants may not believe what is provided or may be unwilling to change contestable beliefs, since the truth-value of evidence offered against these beliefs is relative to a framework it presupposes. Literature on the subject has shown that trusting the information source is a key factor in acceptance. The focus group discussion provided ample support for this position.

On the one hand, the very strong opinion was voiced by the representatives of the civil initiative that relationships based on trust with ARAO had virtually become impossible as a consequence of past experiences. This distrust even extended to all experts in nuclear science, for they were all perceived to have an interest in the issue. For instance, one participant gave the example of how (according to him/her) the first years after the construction of the nuclear power plant in Krško there was an intensive information campaign, but later on almost nothing:

*"... So this is a fault in the procedure, in the approach: not first the application but first the will. Trust is built on past events, so if you have positive references, then you can be trusted, if you fulfilled the previous promises..."*

*"... The first thing is that we want this and then we will decide who we will trust but a priori I do not want to have the repository, so the expert regardless of his expertise will not be able to convince me..."*

According to this opinion, trust can only be regained by a very demanding 'proof' of being trustworthy. One participant invoked the idea of 'triangulation' to express what he/she felt to be a trustworthy piece of information:

*"... What I would want, like my neighbour said, is different opinions, 3 opinions of 3 different institutions and these opinions are in accord. If these 3 opinions were in consensus with the necessary proof, for example..."*

It is clear that this is (again) a very demanding view, since many sources of information on radioactive waste and nuclear power issues in general exist. For instance, the same person wanted an explanation of why one comes up with so much conflicting evidence when searching the internet – e.g. why different radiation protection norms were used in different countries, why the distance between inhabited areas and a waste repository differed in these countries, etc.

Other views expressed in the focus group were more lenient with regard to standards of trustworthiness. In this view, the need for an independent review of information presented by ARAO was seen as a

precondition for trust. ARAO was not described as presenting wrong or misleading information, but still it was felt that since ARAO is a state agency, one could expect their information to be rather one-sided:

*"...I agree that on the basis of one opinion which is usually directed on one side it is not something you would react on or believe. I do not know who to trust, we have a lot of information from the agency but you do not know who to turn to for second opinion without money, so how can you get a neutral opinion from an institute in Europe if you do not have the money through local partnership? Who will be a member there from the agency? How will they be chosen? Will these people be opponents? This money, this 10% of the later funding will be used for assessment?..."*

Still others expressed a more 'resigned' feeling of trust – one has no choice but to trust the experts (even if you can reasonably expect them to have some interest in the issue at stake). In this view, the local initiative or the protest groups in general (the 'Leftists') are accused of not really presenting an alternative:

*"...How do you get informed, if you do not trust the professionals? I do trust them. I do not trust the Leftists..."*

Trust was shown in the focus group discussion to be a very complex and multi-dimensional issue. A number of related concepts seem to emerge: i) for some participants, trust depends on whether the actions of the waste management agency are perceived to be consistent with the values held by a particular participant (trust as a matter of **value correspondence**); ii) for others, it is more a matter of a sense that the process undertaken by the agency is perceived to be legitimate (trust as a matter of **public accountability**); iii) for others still, trust is more 'virtual' – i.e. you have no choice but to trust the waste management agency or nuclear experts since they are the professionals. People holding this view explained that they were not explicitly 'for' or 'against' any procedure followed so far; they often expressed both moral engagement ('the waste is here and we have to do something about it') and feelings of doubt or anxiety in the same rhetorical sequence (trust as a matter of a **devil's bargain**):

*"... So I am not for or against, I am just trying to get through..."*

### *Acceptability of a LILW repository*

Having recourse to adequate information from trusted sources is of course but one factor which might be helpful in securing acceptance of a LILW repository in a local community. Within this theme, participants in the focus group discussed further factors which according to them could possibly influence the acceptance or rejection of a LILW repository. The topics discussed were very diverse, ranging from highly symbolically and emotionally charged references to healthy living conditions and the care for future generations, across safety concerns, and finally to the more down-to-earth concern for falling real estate prices.

Health as an overriding concern was apparent from statements like the following:

*"...So the first question is about health: "What will we eat?", "What will we drink?", "Will our salad be radioactive?"..."*

These health-related concerns, and in particular the concern for the health of children, were mostly activated by participants who were already very concerned about other environmental problems in their local community. In some cases, these safety and health-related concerns consequently lead to impossible demands of '1000% safety' (as expressed by one of the participants). There was some disagreement whether it was 'proven' that nuclear activities in Slovenia had a serious impact on public health. A representative of the civil initiative claimed that it was 'a fact' that in the Krško area an 80% increased cancer incidence prevailed. Another participant disagreed, stating that he/she knew a lot of people working in the Krško nuclear power plant who were perfectly healthy.

During the discussion of the safety theme references to accidents/incidents in nuclear power plants came up. One participant referred to a temporary storage in the United States where according to him/her a

leakage remained undetected for some 30-40 years. The Chernobyl reactor accident was also brought up, but participants disagreed on its relevance for the present discussion:

*"...If we have a Chernobyl situation in the nuclear power plant, we do not need to talk about [the repository risks]. I think that is a much greater danger. The procedure, the process we are in does not look so terrible to me..."*

Concerns about safety were linked by some participants to readily available meaning-generating experiences. Even in the case of a LILW repository – an issue that is unfamiliar to most participants – there seem to be more relevant experiences (e.g. 'common building practice in Slovenia' or the 'common wisdom' of not locating a LILW repository next to a water catchment area) than one would expect at first:

*"...In Slovenia, we do not have sufficient experience. When they are building or constructing a road, the road is never constructed in the right way, when a school is built, when whatever is built, long and short life..."*

*"...And where the repository should be located, there is a water catchment area. The municipality could ensure potable water there but once the repository is built there, this is not possible anymore..."*

Whilst health & safety were the overriding concerns for all focus group participants, there was also a concern for 'symbolic' contamination – i.e. the risk that real estate prices would decrease or that products coming from a community where a LILW repository would be located would sell less well on the market:

*"...We were talking about real estate devaluation. 70 and 60 square meters around the house could be sold for a million [Slovenian] dollars. We asked somebody, a real estate agent where is the repository. I would try to sell it for 15 million, I would be able to get maybe 12 million maximum. So the question is if, we say, people will not be in danger, we come to this difference, so who is responsible for this difference?..."*

Again, there was no agreement on the importance of this 'symbolic contamination' – for instance, one participant was of the opinion that an economically healthy community, even when hosting a nuclear facility (e.g. Krško) did not suffer from lower sales (of apples) and, because the nuclear power plant offers jobs to people with high education, real estate prices are actually higher than in similar locations.

In any case, this discussion logically fed into a discussion on the compensations foreseen for a community hosting a LILW repository. Some participants brought up a concern that small municipalities looking for money would 'sell themselves' and even trade off safety measures in order to stand a higher chance of being selected as a host. Others did not think that they were 'selling themselves', provided that the compensations would not simply 'get lost' in opaque transactions at the municipal level, but would be used for the 'common good' of the community (e.g. social objectives, youth initiatives):

*"...Is it the program that the Mayor will be working for and its value for young people, for jobs? I am afraid that all this money will simply get lost..."*

The compensation issue proved to be a very sensitive point of discussion with multiple links to the perceived conditions for a democratic procedure (see next paragraph). One participant summed up the situation in what he/she perceived to be the fundamental 'paradox' about compensation: if the repository is not harmful in any meaningful way (including 'symbolic contamination'), then why should a community get compensations for hosting it?

### **Conditions for a democratic procedure**

The final theme discussed in the focus group was the conditions for a fully democratic procedure (the question was introduced by the moderator as the search for a procedure so that 'all the involved or affected parties would feel satisfied'). The discussion revolved around three central topics: i) the overall architecture of a democratic procedure (i.e. from the selection and development of a procedure at the national level to the final site confirmation stage); ii) conditions for local democracy (i.e. the functioning

of local committees or LCs); and iii) the 'right' procedure for arriving at a final decision in a potential host community.

On the first topic (the overall architecture of a democratic procedure), there was a general agreement that the procedure should start with building up a sense of a shared responsibility for the radioactive waste – 'it is **our** problem, and **we** need to do something about it':

*"... I think we need to start at the general level, street level media and present this as an issue. So not looking for new locations right away but present the repository as an issue that this is something that we cannot export. We actually present this issue to the people that this is our problem, we cannot simply put it to somebody else and then we start talking about the possibilities of locations following a professional opinion and then the third round would be the tender..."*

People also agreed that not enough had been done at the national level to frame the issue of LILW management as a common responsibility. One participant speculated from personal experience on the reasons why this has been the case – the widespread 'fear' for all things nuclear:

*"... We did not get much information. I think this presentation should be made at different levels from the side of different institutions. What general information can you find on the Internet so that this would be evaluated at the level of Slovenia and then also at the lowest level, local level? First you have general information at the national level to eliminate the fear because people in general have this stereotype thinking about nuclear as being dangerous. Why do we hide it, why do we not present this? Somebody talks to me in the street: 'Do not talk about this to me, people will be scared', but these are facts. These are things that are happening. You are not frightening anybody..."*

As a result, some participants claimed that they had only become informed about the issue (generally by the local media) only after their mayor had taken a decision to file an application of a potentially suitable site to ARAO, without really consulting the concerned public. This was not the case in all communities represented in the focus group however, since other participants claimed that their mayor had consulted representatives from the localities where the LILW repository could possibly be sited. In any case, 'solo' actions by a mayor were seen to be very detrimental to the democratic quality of the whole procedure:

*"... The municipality is a national institution, it is not the private property of anybody and then through this lack of trust towards the municipality, you lose trust for the state. But if at the local level, the state is actually not acting properly then the whole system is breaking down..."*

*"... The agency, this way that has been taken, has been shown to be very irresponsible towards the local communities. We feel we have been forced ..."*

Discussion on the second topic (the possible functioning of local committees) revealed a large degree of uncertainty. Participants in the focus group were generally unaware about the overall structure of the 'local partnerships' proposed by ARAO and who would be represented in them. In particular, the issue of the various funds to be provided to these local committees, in part notably for obtaining 'independent expertise', provoked a lively debate:

*"... Who will be a member there from the agency? How were they chosen? Will these people be opponents? This money, this 10% of the later funds, will it be used for assessment?"*

*No, the way I know the matter, this will be strictly be money intended for the research only, maybe I am not informed well, but as far as I know.*

*So we have different information here. My information is that municipality will be able to do with a smile whatever they will want to.*

*This is different money. It is possible that in your local community, they interpret things differently. Our interpretation is such: a certain amount of money will be intended for the local community at the time of research. They can do whatever they want to, maybe they can divide this among different communities, it depends on how they decide. A*

*certain amount of money is intended only for research and would not come to the local community and local partnership unless you can prove what it will be used for.*

*We did [not] hear about this, it is a question what the amount will be, who will be deciding and where we will order these studies, and for how much money? What you presented to us was not told to us. What are we doing now, losing trust? I think we are missing here a professional approach..."*

According to us, this is very significant. Previous experience and research in participatory mechanisms clearly suggest that confidence in a participatory process is one of the key factors leading to high-quality deliberations and outcomes. Deliberations leading to a clarification of the practical functioning of the LCs envisaged by the organisers of the procedure thus seem to be clearly needed.

On the final topic (the 'right' procedure for arriving at a final decision in a potential host community), representatives from the civil initiative showed a strong preference for a referendum, stating that acceptance or rejection of a LILW repository should be based on a majority of inhabitants in a municipality – not just those who would choose to participate in the referendum. But here again, there was a lot of disagreement among the participants in the focus group on the practical feasibility and value of a referendum as a means of closing the deliberations. There were also some participants who vehemently opposed the idea of a referendum, stating that in case of a referendum the people who would be least affected by the LILW repository would vote in favour of it (because they would gain from the compensations offered without having to suffer the inconveniences). A central issue in the discussion seemed to be whether 'special' decision-making powers should be accorded to people living in the close vicinity of the LILW repository. On the one hand, the relevance of administrative borders (i.e. the municipality borders) for delineating final decision-making responsibilities was questioned by some participants:

*"... The real distance from the potential location is the decisive one regarding referendum for decision making..."*

On the other hand, the practical feasibility of this suggestion was questioned, since it is the administrative border that determines decision-making powers (and mayors cannot be expected to renounce these powers for the benefit of another municipality). Overall, the discussion was not conclusive, as suggestions for decision-making responsibilities ranged from a 'traditional' decision by the municipal council over a referendum with an absolute majority required in the area around the potential LILW repository site (participants however recognised the difficulty of objectively defining this area) to a referendum at the level of the municipality (with either an absolute or relative majority requirement).

### **Closing remarks on the context at the time of drafting this report (November 2006)**

It is interesting to see how the analysis of the focus group results compares to a broader analysis of the present situation in LILW management in the Slovenian context (summary in 11 main points kindly provided by Drago Kos):

1. Public opinion surveys prove that prevailing negative attitudes and evaluations of the RW are still present and harm the normal communications with local communities.
2. The relations between all protagonists are still not transparent and consolidated. ARAO did not succeed to occupy the leading position in RW management. Because the siting processes has been going on for almost two decades the common sense interpretation that there is no real need to hurry is accepted in public.
3. The change of the technocratic approach to a more democratic and communicative one did not considerably change general negative public attitudes towards the 'nuclear lobby' and its connected partners and activities.
4. Because global problems in energy supply are rising (security of supply, greenhouse gas emissions, etc.) also the aspirations of the 'nuclear lobby' are rising. At the same time the will to communicate with all concerned parties is getting weaker again.

5. The promised compensations have an ambiguous effect. On one side this perspective motivated local communities to participate in the siting process on the other side it stimulated different speculations and even new threats: RW must be very dangerous if such generous compensations are offered.
6. Well coordinated, consistent, flexible and differentiated long term communication on all levels appears to be too high a standard and is beyond the capacities of the involved institutions. Communication with general and local public is interrupted often with political changes and institutional reorganisations.
7. The new siting process was formally confirmed but real support from the competent political bodies is missing. To understand the development the formal/informal divide has to be considered; any communicative activity is divided into a formal and informal one.
8. The personal connections of local stakeholders with political institutions on the national level are an important, sometimes decisive factor in understanding the development.
9. The credibility of expert argumentation is still getting lower, although in some cases even basic understanding of the technical characteristics of the siting process and repository facility is still missing.
10. Stakeholders participating in the siting procedures are very different. Some are informed and even have their communication activities, others are missing even basic information.
11. The groups of stakeholders can be differentiated today according to following dimensions:
  - well informed – little informed – uninformed about the technical characteristic of RW and siting procedures,
  - high or low communicative competences,
  - high or low motivation to participate in siting procedures,
  - using formal or/and informal channels to influence siting procedures,
  - well-organised or improvised organisation.

Some of the dynamics observed in the focus group are reflected in the wider dynamics; it is also the case that some of these wider dynamics allow us to put the focus group results into perspective (cf. Section 3.7).

## **Conclusions and recommendations**

In this final section we want to reflect on what can be learnt from this focus group experience, both for the Slovenian stakeholders and for the wider stakeholder community involved in COWAM.

### *Comments on the use of the focus group technique*

While limited in extent, this particular focus group experience serves well to illustrate both the advantages and disadvantages of the focus group technique (cf. Summary table 2 & 3 and Annex 1). Since we were unable to bring together enough participants for more than one focus group, we could not do full justice to some of the methodological requirements for 'ideal' group compositions and representative sampling (e.g. selecting representatives from a number of different groups within the 5 communities, age categories, gender, social class, etc.). For instance, the presence of representatives of the civil initiative in Šmartno as the only representatives of this community meant we could not hope for an 'accurate' picture of the range of public opinion in this community. In order to validate the results of our focus group experience, a further exploration of the same thematic questions with other groups would of course have been beneficial. Nevertheless, as we hope to show in the following paragraphs, this single focus group already generated a lot of 'food for thought' from which some provisional conclusions and recommendations could be drawn.

Before turning our attention towards the focus group discourse and what can be learnt from it, we first want to reflect on the use of the technique in the context of RWM. Several features of focus group research invite a careful consideration of the exact timing and framing of such research in a wider strategy for RWM, as also witnessed by some of the remarks conveyed in our focus group. A focus group, like any other forum for public interaction, is not a neutral medium. For instance, since the flow of information in a focus group experience is unidirectional (from the participants to the organiser of the

exercise), it is clear that the interpretations of the participants concerning the rationale and use of the focus group technique will be determined for a large part by the previous relations existing between the participant and the 'absent' organiser. When trust is lacking (as was evident for instance from the reactions of the representatives of the civil initiative), participants might be inclined to use the focus group as a forum for re-iterating previous statements or positions, rather than taking the opportunity to listen, exchange and learn from other perspectives. On the other hand, when trust is not destroyed, people seem more willing to accept the focus group as a learning experience for both sides. Everything else remaining equal then, this finding seems to suggest that, since focus groups are not very useful for trust-building purposes, this technique should best be used at the early stages of a public involvement procedure for information gathering purposes. Especially in a complex issue such as RWM it needs to be recognised that the first phase (i.e. deciding on an overall procedure) is decisive as here problems and opportunities in particular must be identified. In a decision problem with high stakes, i.e. various involved stakeholder groups, this entails, at the outset, joint problem definition by all those involved. The focus group results clearly indicate that, according to the participants, not enough has been done to really position RWM as a joint problem at the national level. Further research into the specific involvement mechanisms used so far might indicate whether this view is justified, and if so, might indicate a possible space for improvement.

However, while this might have been a missed opportunity, a lot can still be learnt from the focus group in the sense that the overall participatory process was moving into a more intensive phase of public involvement at the time when the focus group was planned (i.e. selection of three candidate host communities and constitution of LCs was forthcoming). Looking ahead to this next step, the focus group discussions did reveal some interesting embryonic ideas and 'wants' which deserve further attention in the process.

### *Learning from the focus group discussion*

With regard to the 'focus of the focus group' – improving conditions for local democracy – we believe three crucial themes emerge from the discussion:

1. Participants in the focus groups often expressed their doubts with regard to the knowledge base developed so far as a support for decision making – be it because the source of the information was not trusted or because some elements were found to be lacking. Resolving conflict and enhancing trust often require dealing with scientific uncertainty through appeals to independent expertise, joint fact-finding on the part of all of the participants, or new research into previously unexplored areas. For these reasons we strongly suggest an exploration and deliberation with interested stakeholders about how such a shared knowledge base can be achieved. Needless to say, this also implies that enough time and resources are devoted to the proper functioning of the future LCs;
2. With regard to information and communication, the different participants in the process seem to hold fundamentally different expectations. Hence, when ARAO schedules public meetings to inform the public or launches information campaigns, and they are charged with moral wrongdoing for 'failure to listen' or 'failure to modify procedures based on stakeholder participation', it is likely that they will be morally perplexed. So also is the public participant. We believe that this perplexity is based on the various participants' expecting a different moral ranking of principles. Stakeholders do not expect the moral principle of autonomy to be superseded by that of the moral duty to find a safe, efficient and environmentally friendly solution to the LILW problem. Nuclear industry and agencies often do, basing their ranking on policy-based tasks. Among these tasks, respecting highly demanding versions of autonomy seems to take a back seat to these other moral duties. These conflicting insights can of course not be resolved in a focus group exercise. Nevertheless, one gains some measure of insight into the root of moral perplexity and, possibly, even moral outrage;
3. Feelings of being sidelined in the decision-making process and/or the fear of being abused in the interest of local authorities seem to be major threats for successfully initiating LCs (at least for the participants present in our focus group). For the earlier stages of the procedure a less

intensive public involvement might have been justified (e.g. selection of geologically suitable areas is mostly a technical matter). But the selection of a final site out of a set of options based on a collaboratively developed knowledge base requires an intense cooperation among experts, the public and decision makers. There are strong demands for a fair and competent procedure. In this regard, the 'Roadmap for Local Committee Construction' (another output of the COWAM WP1<sup>10</sup>) seems to be a useful initiative, as participants expressed a clear need to learn from experiences in other countries. Initiating a fair process probably also involves considering the possibilities of giving the people most affected (i.e. nearest to the host site) a guaranteed voice in the process – be it through mandatory representation in the LC, direct votes (i.e. a referendum) or any other mechanism.

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<sup>10</sup> The COWAM 2 WP1 "Roadmap for Local Committee Construction" is available on [www.cowam.org](http://www.cowam.org)



## 4 Overall conclusions and recommendations

This report has offered a view on the use of PTA techniques for fostering social learning about complex technological questions such as RWM. Above all, we have argued that PTA techniques should not be seen as simple 'technical fixes' for strained social learning dynamics. On the contrary, the usefulness of PTA techniques will greatly depend on a careful investigation of wider social dynamics, including the institutional setting of any participatory platform. Indeed, initiating a PTA experiment without carefully considering possible consequences might come at the cost of further deteriorating stakeholder relations.

With these considerations in the back of our mind, we constructed a simple comparative chart (called a 'lens') which points out some of the relevant contextual givens and relates these to potentially interesting PTA tools adapted to these particular settings. Using this 'lens' as a guideline, it was agreed with Slovenian stakeholders to use one particular PTA technique (the 'focus group' technique discussed at length in the report) in order to address the question of local democracy in radioactive waste governance from the point of view of the communities still involved in the process (i.e. in July 2005). Using this technique important insights could be derived on the conditions for improving local democracy in radioactive waste governance. Three crucial themes emerged from the discussion, which we reiterate here:

1. Participants in the focus groups often expressed their doubts with regard to the knowledge base developed so far as a support for decision making – be it because the source of the information was not trusted or because some elements were found to be lacking. Resolving conflict and enhancing trust often require dealing with scientific uncertainty through appeals to independent expertise, joint fact-finding on the part of all of the participants, or new research into previously unexplored areas. For these reasons we strongly suggest an exploration and deliberation with interested stakeholders about how such a shared knowledge base can be achieved;
2. With regard to information and communication, the analysis of the focus group results clearly revealed that the different participants in the process seem to hold fundamentally different expectations, based on a different ranking of moral principles (autonomy vs. the duty to find a safe, efficient environmentally-friendly RWM solution). These conflicting insights can of course not be resolved in a focus group exercise. Nevertheless, one gains some measure of insight into the root of moral perplexity and, possibly, even moral outrage;
3. Feelings of being sidelined in the decision-making process and/or the fear of being abused in the interest of local authorities seem to be major threats for successfully initiating local committees (at least for the participants present in our focus group).

All in all, we conclude that the focus group technique proved to be a very effective tool for revealing insights on local democracy which might contribute to a better overall understanding amongst the parties involved in radioactive waste governance and possibly also creative solutions.

## References and selected bibliography (for further reading)

- Arnstein, S. (1969), "A ladder of citizen participation", *Journal of the American Institute of Planning*, Vol. 35, pp. 216-224.
- Edmonds, B. (1996), "What is complexity", in F. Heylighen and D. Aerts (Eds.), *The Evolution of Complexity*, Dordrecht: Kluwer.
- Flüeler, T., Krütli, P. and Stauffacher, M. (2006), "Tools for local stakeholders in radioactive waste governance: Challenges and benefits of selected Participatory Assessment techniques", Institute of Human-Environment Systems, ETH Zürich.
- Kitzinger, J. (1994), "The methodology of Focus Groups: the importance of interaction between research participants", *Sociology of Health and Illness*, Vol.16, No.1, pp: 103-121.
- Krueger, R. (1998), *Moderating focus groups*, London: Sage Publications.
- Krueger, R. (1998), *Developing questions for focus groups*, London: Sage Publications.
- Krütli, P., Stauffacher, M., Flüeler, T. and Scholz, R. (2006), "Public involvement in repository site selection for nuclear waste: Towards a more dynamic view of decision-making processes", in *Proceedings of the VALDOR 2006 Conference*, pp. 97-106.
- Morgan, D. (1988), *Focus groups as qualitative research*, Newbury Park: Sage Publications (Qualitative research methods series).
- Morgan, D. (ed.) (1993), *Successful focus groups: advancing the state of the art*, Newbury Park: Sage Publications.
- Morgan, D. (1998). *The focus group kit: The focus group guidebook*, London: Sage Publications.
- Morgan, D. and Krueger, R. (1998), *The focus group kit: Planning focus groups*. London: Sage Publications.
- Renn, O., Webler, Th. and Wiedemann, P. (Eds.) (1994), *Fairness and Competence in Citizen Participation – Evaluating Models for Environmental Discourse*, Dordrecht/Boston/London: Kluwer Academic Publishers.
- Ruyter de Ko (1996), "Focus versus nominal group interviews: a comparative analysis", *Marketing Intelligence and Planning*, 14/6, pp: 44-50.
- Slocum, N. (2003), *Participatory Methods Toolkit. A Practitioner's Manual*, Brussels: King Baudouin Foundation / Flemish Institute for Science and Technology Assessment (viWTA).
- Stewart, D. and Shamdasani, N. (1990), *Focus groups: theory and practice*, London: Sage Publications (Applied social research methods series).
- Wildemeersch, D., Jansen, T., Vandenabeele, J. and Jans, M. (1998), "Social learning: a new perspective on learning in participatory systems", *Studies in Continuing Education*, Vol. 20, No. 2, pp. 251-265.
- Železnik, N., Mele, I. and Kralj, M. (2005), "Integral communication activities in support of the repository site selection in Slovenia", paper presented at the 17th International Meeting of Nuclear Communicators (Paris, 13-16 Febr.).

## **Annex 1: Advantages and limitations of the focus group technique**

A broad range of objectives may be addressed with the focus group. Focus groups can be used in various phases of social research, e.g. in the setting-up of a research project, in fieldwork research, or in the interpretation of research results acquired through another technique (e.g. quantitative questionnaires). A literature search reveals the following possible uses and/or objectives:

- Information gathering;
- Formulation of hypotheses to be tested in further research;
- Generating new ideas and concepts;
- Evaluation of public policy programmes;
- Generating a deeper understanding of the 'common sense' comprehension of a particular topic;
- Suggestions for decision-making initiatives;
- Market research.

### *Advantages*

Examination of the literature identifies the following advantages relative to other types of information-gathering:

1. Focus groups provide data from a group of people much more quickly and at less cost than would be the case if each individual were interviewed separately. Participants also can be assembled on much shorter notice than that required for a more systematic, and larger survey;
2. Focus groups allow for direct interactions between participants and between the researcher and participants. This provides opportunities for the clarification of responses, for follow-up questions, and for the probing of responses. Respondents can qualify responses or give contingent answers to questions. In addition, it is possible for the researcher to observe non-verbal responses such as gestures, smiles, frowns, and so forth, which may carry information that supplements (and, on occasion, even contradicts) the verbal response;
3. The open-response format of a focus group provides an opportunity to obtain large and rich amounts of data in the respondents' own words. The researcher can gain access to deeper levels of meaning, make important connections, and identify subtle nuances in expression and meaning;
4. Focus groups allow respondents to react to and build upon the responses of other group members. This synergistic effect of the group setting may result in the production of data or ideas that might not have been uncovered in individual interviews;
5. Focus groups are very flexible. They can be used to examine a wide range of topics with a variety of individuals and in a variety of settings. Furthermore they can be used for different objectives;
6. Focus groups may be one of the few research tools available for obtaining data from children or from individuals who are not particularly 'literate'. Participants do not have to comply with restrictions such as the level of education, familiarity with a specific subject, etc.;
7. The results of a focus group are easy to understand. Researchers and decision-makers can readily understand the verbal responses of most respondents. Focus groups results reveal a form of 'common sense'. However, this is not always the case with more sophisticated survey research that employs complex statistical analyses;
8. Focus group settings can create a more 'comfortable' atmosphere for participants, making it easier to voice their opinions. Participants can for instance experience that an opinion they do not dare to voice (e.g. in a face-to-face interview) is shared by other participants in the focus groups, and thus gain confidence from this observation. The group dimension thus possibly relieves some of the tensions experienced by individuals when asked for their opinions.

### *Limitations*

Although focus groups are valuable research tools and will offer a number of advantages, they are not a panacea for all research needs and they do have their limitations. Many of these limitations are simply the negative sides of the advantages listed above:

1. The small numbers of respondents that participate even in several different focus groups, and the convenience (instead of 'statistically representative') nature of most focus group recruiting practices, limit significantly generalisation to a larger population. Focus group results reveal the dynamics of a particular interaction between people, in a particular setting, at a particular moment in time. There is no guarantee even that reconvening the same focus group again would yield exactly the same results;
2. Since focus groups bring together only a small number of people taken from a larger population, the results of focus group discussions cannot be seen as 'representative' of this larger population;
3. The 'live' and immediate nature of the interaction may lead a researcher or decision-maker to place greater faith in the findings than is actually warranted. There is a certain credibility attached to the opinion of a live respondent that is often not present in statistical summaries;
4. The open-ended nature of responses obtained in focus groups often makes summarisation and interpretation of results difficult;
5. Even a very experienced moderator may introduce bias by (intentionally or not) providing cues about what types of responses and answers are desirable.

Thus, it could be underlined that focus groups offer important disadvantages (e.g. 'subjective', 'not representative', 'no hard data'); however, these disadvantages should be put into perspective with the objectives of focus groups. Focus groups are used most often as a preliminary stage in a larger research program that includes a larger, more representative survey of the population, or as a means for adding insight to the results obtained from a survey (e.g. the 1998 opinion poll in the Slovenian case). It is true that focus groups yield qualitative data obtained from relatively small numbers of respondents who interact with one another; yet, this is exactly their purpose. There are cases in which this kind of data, and therefore focus groups alone, may provide a sufficient basis for decision making. The focus group is one tool in the PTA toolkit and it should be used where it is appropriate and for the purposes for which it was designed.

## **Annex 2: Thematic questions for the Slovenian focus group**

(major questions/themes are possibly followed up by sub-questions/themes, indicated in small letters)

**Introduction:** to present purpose of the focus group: to discuss public participation in the siting procedure and not the selection of the site

1. Do you agree that public has to have **access to all information** of the RW and technical description of disposal in the decision-making process? Do you agree that public **has to have access to all information and has to understand** all basic characteristics of RW and technical description of disposal in the decision-making process?
  - Is this possible to achieve, and how is this possible to achieve?
  - Who should give the information? Whom do you most trust, who is the most responsible to provide information on technical characteristic of the RWD and the siting process?
  - What kind of information is required (e.g. technical / legislation / foreign examples, etc)
  - In what format? When?
  - Should the information be repeated at regular time intervals?
  - What is acceptable information?
  
2. In your opinion what are the most likely reaction of the people to information that your municipality fits all technical criteria for the radioactive waste repository?
  - Would you trust such information?
  - Would people trust such information?
  
3. According to your knowledge of the situation/ people in your municipality, is it possible to organise democratic, rational and fruitful discussing on these questions?
  - What are threats in such discussion?
  - What should be done to stimulate such discussion?
  
4. What would be the conditions, which would have to be met before you would consider participating?
  - Safety guarantees?
  - Emergency planning?
  - Control, monitoring, follow-up?
  - Financial compensations?
  - Socio-economic benefits for the region?
  
5. Who should make the final decision on RWM?
  - Should the decision be consensual, if not
  - What majority would be legitimate?

**Additional question:** What are your personal hesitations on RW and its siting in your municipality?

- Health risks/Ecological risks/ Risks during construction / exploitation?
  - Emergency planning ?
  - Short-term / Medium-term / Long-term risks?
  - Socio-economic risks?
  - Uncertainties, predictability?
6. Any further remarks, questions, reflections?

### **Annex 3: Invitation letter (English translation)**

Dear Madam, Sir,

On behalf of the COWAM2 network, we would like to invite you for a focus group discussion. This group discussion will be organised on Monday, the 4<sup>th</sup> of July 2005 at the hotel Mons (directions included).

COWAM2 is a network composed of different stakeholders in the European radioactive waste governance area (local community representatives, researchers/experts from inside and outside the nuclear establishment, implementers, regulators, etc.). COWAM2 was set up with the explicit aim to develop and evaluate alternatives measures and governance processes in radioactive waste management (RWM) and to contribute to the development of decision processes that are perceived as fair and equitable by stakeholders involved.

In this context, we would like to take the opportunity to learn from you about your ideas for improving conditions of local democracy for RWM. In order to develop ideas on this, we thought it would be useful to invite people from the x communities in Slovenia which have shown an interest in being a possible host for siting a waste management facility. The focus group technique is especially designed to elicit comments and viewpoints in a structured way, thus helping us to clarify the particular issues which are at stake. In addition, we hope the feedback we will give on the focus group exercise (a summary report on all focus group discussions will be send to you afterwards) and the experience of listening to and discussing ideas with other people will also be helpful to you for your own circumstances.

The focus group discussions will be hosted by ARAO; however, no representative of ARAO will be present during the discussions, allowing you to speak freely. The focus groups will be moderated by Mr. Drago Kos (University of Ljubljana), and two representatives of the Belgian nuclear research centre (Erik Laes and Gaston Meskens) will act as observers and reporters for the COWAM2 network.

Hoping that we can count on your valuable participation,

On behalf of COWAM2,

(signatures: ARAO, Faculty, SCK-CEN)