NTW

NUCLEAR TRANSPARENCY WATCH

A first report from the Nuclear Transparency Watch (NTW) BEPPER project

Transparency in Radioactive Waste Management

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Authors: Johan Swahn, Philip Kearney, Nadja Železnik, Vanessa Liston, Gilles Heriard-Dubreuil, Jan Haverkamp, Patricia Lorenz

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Johan Swahn (MKG), Philip Kearney (NTW and CiviQ), Nadja Železnik (REC), Vanessa Liston (CiviQ), Gilles Heriard-Dubreuil (Mutadis), Jan Haverkamp (NTW), Patricia Lorenz (NTW)

* With contributions from CiviQ

Foreword

This is the first report from the BEPPER* project carried out under the auspices of Nuclear Transparency Watch (NTW)†. The goal of the project, which is on-going, is to develop innovative thinking and practice on transparency in the area of radioactive waste management (RWM). Transparency in this context includes processes for public information and communication and public participation and engagement in decision-making.

Since NTW was established at the end of 2013 one of the key activities has been the development of projects within the RWM field. An NTW working group on RWM issues was established at an early stage by a core group of NTW members, who are the authors of this report.

One of the first projects developed within the NTW RWM working group was on transparency and it was named the BEPPER project. This report describes some of the innovative thinking and practice on transparency that has been developed in the project during the first two years. The consultancy company CiviQ‡ has provided valuable contributions into the report. This input is very welcomed by NTW.

During 2015 a consortium of persons and organisations working in the NTW BEPPER project have also produced a report for the European Commission on transparency within radioactive waste management. The results presented in this report have been used as input into the report for the European Commission§.

* BEPPER stands for "Broad Framework for Effective Public Information and Participation in Environmental Decision-making in Radioactive Waste Management".

† http://www.nuclear-transparency-watch.eu

‡ http://www.civiq.eu

§ Tender ENER-2014-D2-675 "Assessment of Good Practices on Transparency in Relation with Management of Spent Fuel and Radioactive Waste"

About the Authors

Johan Swahn is the director of the Swedish NGO Office for Nuclear Waste Review (MKG) based in Göteborg, Sweden[*]. He has an MSc in Engineering Physics and a PhD in Science, Technology and Global Security. In his work for MKG he has written a large number of consultation documents and briefs in the consultation and licence review processes of the Swedish project for a final repository of spent nuclear fuel. Dr Swahn also leads the radioactive waste management work of the European organisation Nuclear Transparency Watch, NTW[†], and is member of the International Panel on Fissile Materials, IPFM. He is a member of the management board of NTW.

Nadja Železnik is a specialist for all aspects of radioactive waste management and for risk perception, communication, education and training in the area. She has an MSc in Reactor Physics and a PhD in Psychology and has more than 27 years of experience in research activities, as civil servant, as of head of planning and development in the Slovene waste management organisation. Dr Železnik is currently managing the Regional Environmental Center for Central and Eastern Europe (REC) country office in Slovenia[‡]. She was responsible for developing of a repository site selection process in Slovenia and was leading public involvement and communication. She is a member of the management board of NTW.

Philip Kearney served as chair of the Aarhus Convention Task Force on Public Participation in Environmental decision-making from 2010-2014 appointed by the Irish Minister for the Environment. He is a researcher with CiviQ[§] specialising in environmental issues and climate. His primary degree is in social science and he has masters degrees in psychotherapy and epidemiology. He is a member of the management board of NTW.

Gilles Heriard-Dubreuil is a mathematician by education and social scientist. Since 1991, he is director of the French independent research group MUTADIS[**]. He is the author of numerous reference publications in the field of risk governance. He has developed several research projects regarding radioactive waste management governance. He coordinated the COWAM (Community Waste Management) European research programme from 2000 to 2009. He has also coordinated the 2012 PIPNA study (Public Information and Participation in the context of Nuclear Activities) commissioned by the European Commission. Since 2008, he is a member of the advisory committee of the ANCCLI (French federation of local commission of information attached to nuclear facilities). He is also co-founder and secretary of NTW since 2013.

Vanessa Liston is co-founder and CEO of CiviQ[††], a company specialising in innovations in public participation, deliberation and open opinion knowledge. She holds a Ph.D. in Political Science and an MSc in Multimedia Systems. Dr Liston's PhD thesis was on the impact of democratic governance structures of international civil society organisations on the political values and behaviours of citizens in host countries. She has a background in management consulting and international development. She is currently Co-Convenor of the Participatory and Deliberative Democracy specialist group of the Political

[*] http://www.mkg.se
[†] http://www.nuclear-transparency-watch.eu
[‡] http://www.rec.org/office.php?id=15
[§] http://www.civiq.eu
[**] http://www.mutadis.org/en/
[††] http://www.civiq.eu

Science Association of Ireland, and member of the Steering Group of the Development Studies Association of Ireland.

Jan Haverkamp is a consultant on nuclear energy and energy policy, among others for Greenpeace and WISE. He is professional group facilitator and teaches facilitation of environmental communication processes at the Masaryk University in Brno. He has actively participated in eight environmental impact assessment procedures and was involved in several complaint procedures to the Aarhus Convention Compliance Committee concerning public participation. He has a long experience in transparency in the nuclear field. He is a member of the management board of NTW. He takes part in the writing of this report representing Nuclear Transparency Watch (NTW).

Patricia Lorenz has worked for a long time as an antinuclear campaigner for GLOBAL 2000 and Friends of the Earth Europe (FoEE), covering most nuclear energy topics (nuclear liability, nuclear safety and EU accession, the EURATOM campaign). Currently she is involved with the nuclear campaigns of GLOBAL 2000 and FoEE, but also is co-author of several studies on nuclear waste programmes, the stress tests and PLEX. As an expert she contributes to the Joint Project, a group of NGOs from Bulgaria, Romania, Czech Republic and Poland active on nuclear energy in their countries[‡‡]. She took part in many Aarhus/nuclear related projects and the IPPA project on nuclear waste. She takes part in the writing of this report representing Nuclear Transparency Watch (NTW).

[‡‡] http://www.joint-project.org

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Executive summary

Effective transparency governance is essential for an enduring and constructive engagement of civil society in the area of radioactive waste management (RWM). Transparency in RWM is important as it can improve the safety of RWM projects, facilities and repositories. Effective transparency leads to better decision-making and can thereby increase civil society's confidence in the quality and fairness of RWM decision-making processes.

National processes for transparency governance in RWM have been developed in the member states of the EU. These commonly reflect national implementation of the Aarhus Convention in environmental and nuclear legislation, but can be of a more or less advanced character. Although there has been much discussion and analysis of what transparency processes are effective, it remains unclear what effective transparency governance in RWM means and how it should be implemented.

With the adoption of the Radioactive Waste Directive (2011/70/Euratom), EU member states have to implement article 10 of the directive that deals with transparency. This opens up the possibility of a common European approach on transparency governance within RWM. As article 10 of the directive is rather vague there is a need for elaboration on what efficient transparency in RWM might mean.

The NTW BEPPER project has developed the NTW BEPPER pillars for effective transparency in RWM. The pillars are based on the Aarhus Convention pillars (access to information, access to public participation and access to justice) and also includes access to resources as well as more innovative processes for communication and decision-making, such as deliberation.

The four NTW BEPPER pillars are:

- Effective access to information and communication
- Effective access to public participation and consultation
- Effective access to justice and decision-making
- Effective access to resources

As well as the pillars the report presents two other approaches to effective transparency developed within the NTW BEPPER project:

- The NTW BEPPER key components
- The NTW BEPPER levels

NTW BEPPER key components
From the enquiries and analysis undertaken by the project team a set of key components for effective transparency in RWM have been collated. They have been influenced by and correlated with the inputs from the NGOs, experts and civil society representatives. The NTW BEPPER key components are presented in chapter 3 and are categorised into Principles, Practice, Resources and Innovation.

NTW BEPPER levels
The NTW BEPPER level system can be characterised as a tool for evaluating transparency in RWM and is presented in chapter 4. For each of the four NTW BEPPER pillars a number of levels of implementation have been identified where higher levels correspond to more advanced implementation. The levels thus reflect degrees of effective implementation in the domain of transparency in RWM.

Towards the end of the report some reflections on comparative evaluation of effective RWM transparency governance are made to indicate possible ways forward for comparing transparency governance in different countries.

Finally, the report offers some general reflections regarding transparency in RWM.

There are also two appendixes to the report summarising relevant research and experience from other processes on transparency in RWM as well as international and European governance on Transparency in RWM.

1. Introduction

Transparency of high quality is essential to an enduring and constructive engagement of civil society in the area of radioactive waste management (RWM). Primarily transparency in RWM is important because it can improve the safety of RWM projects, facilities and repositories. Effective transparency can also lead to more effective and transparent decision-making processes that ensure the involvement of civil society on local, national and international levels. Better decision-making processes can increase civil society's confidence, or trust, in the quality and fairness of RWM decision-making processes.

This report presents some innovative ideas on the subject of transparency in RWM that have been developed in the RWM working group of Nuclear Transparency Watch (NTW) in a project called the BEPPER project.

There are various definitions and levels of understanding of the concept and the practice of transparency. Within the nuclear sector definitions usually include processes for enabling public information and communication and participation and engagement of civil society in decision-making. However, there is, as yet, no single agreed definition of what constitutes effective transparency that leads to good results. In the report a first section attempts to provide an understanding of the concept of transparency in relation to RWM and to describe effective transparency processes. In the section the "NTW BEPPER Pillars for Effective Transparency", i.e., the NTW BEPPER pillar, are introduced.

There are systems of international governance for how transparency, generally and in RWM in particular, could or should be achieved. Of special importance in this regard is the full implementation of the Aarhus Convention in national legislation. In addition there is a need to make available resources to enable robust public participation.

The implementation of such governance at European and national levels as well as experience from various projects studying or developing transparency in practice has led to considerable experience on how transparency can be effectively implemented. In the report this experience is collated and distilled into a set of categories and criteria called the "NTW BEPPER Key Components of Effective Transparency in RWM", i.e. the NTW BEPPER key components.

It is of importance to be able to evaluate the effectiveness of a governance system for transparency in RWM. A key objective of the work of the NTW RWM working group has been to initiate and work towards the development of such a governance system. This report is a major step in that direction. In the third chapter of the report a system of levels is presented describing a progressively better and more effective form of transparency governance. This tool is called the "NTW BEPPER Level System for Evaluation of Effective Transparency in RWM", i.e. the NTW BEPPER levels. The levels are described for each of the fields of public information and communication, public participation and consultation, access to justice and decision-making, and access to resources for participation.

In order to be able to compare different transparency governance systems, for example between countries, some indicators are required. Such indicators could also be used to set criteria for transparency governance, for example in relation to compliance with European legislation regarding nuclear issues. Towards the end of the report some reflections are made on comparative evaluation of effective RWM transparency governance.

Finally the report offers some general reflections regarding transparency in RWM and gives some recommendations for moving forward.

2. The concept of transparency in relation to radioactive waste management (RWM)

In its most fundamental meaning "transparency" is a property of a material that means that it can be seen through, e.g. glass in a window. But the meaning of the word transparency has been figuratively developed in a number of different fields leading to a wide range of definitions and uses[1].

In the nuclear field, and thus also in the field of radioactive waste management (RWM), transparency can be widely understood as pertaining to public information and communication as well as public participation and access to decision-making. But even within the nuclear field there are different approaches to the understanding of what transparency means. These are discussed in this chapter.

There is consensus at all levels that transparency is essential for effective governance in radioactive waste management. A review of evaluations on transparency governance in RWM carried out in different EU research projects as well within the OECD/NEA and the EU Commission project E-TRACK is presented in Appendix A. The review is used as an input, together with the experience of the authors, into the development of the transparency concept in relation to RWM in the rest of this chapter.

It is also important to keep in mind the specific international and European legislation on transparency as well as more specific international and European legislation on transparency with specific relevance to RWM when discussing transparency governance. An overview of such legislation, including the Aarhus and Espoo Conventions, EU directives and the IAEA Joint Convention and other IAEA work is given in Appendix B. The EU Radioactive Waste Directive and the Aarhus Convention are specifically referred to in this chapter.

2.1 Transparency as defined in the Radioactive Waste Directive

In its simplest form, transparency in RWM means that:

1. the general public is given some elementary information about RWM and projects that relate to RWM, and that
2. the general public has the possibility to give its view on RWM and projects that relate to RWM in some sort of elementary consultation process.

However, in order to be effective, transparency needs to be developed beyond its elementary forms[2]. This was recognised when the European Union developed and adopted the Radioactive Waste Directive (2011/70/Euratom)[3].

Recital 31 in the preamble of the Radioactive Waste Directive states:

> *"transparency should be provided by ensuring effective public information and opportunities for all stakeholders, including local authorities and the public, to participate in the decision-making processes in accordance with national and international obligations".*

[1] https://en.wikipedia.org/wiki/Transparency

[2] Transparency in its elementary forms is unfortunately still applied in many countries. The "need" to inform the public about RWM projects has just been seen as part of a process that can be labelled "Decide, Announce, Defend (DAD)". Such processes invariably tend to fail and the acronym could just as well be DEAD. Not much better is the process of having public participation processes with consultation meetings without having any intent of changing the project. This just leads to what has been labelled "Unlimited Nuclear Consultations Leading to Exhaustion (UNCLE)" where the likelihood of failure of the project is very high.

[3] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32011L0070

According to the directive, European member states are required to include a description of their transparency governance in RWM in their national programmes and reports. The directive includes a special article, Article 10, in a section of the directive that covers "Transparency". The article states the following:

Transparency

1. Member States shall ensure that necessary information on the management of spent fuel and radioactive waste be made available to workers and the general public. This obligation includes ensuring that the competent regulatory authority inform the public in the fields of its competence. Information shall be made available to the public in accordance with national legislation and international obligations, provided that this does not jeopardise other interests such as, inter alia, security, recognised in national legislation or international obligations.

2. Member States shall ensure that the public be given the necessary opportunities to participate effectively in the decision-making process regarding spent fuel and radioactive waste management in accordance with national legislation and international obligations.

A principle focus of this report is to undertake a critical explanation or interpretation of Article 10 with a view to establishing shared understanding of the key terms therein.

It is noteworthy that in relation to both making information available and effective public participation in decision-making, adherence to international obligations is required. Clearly this refers to the various relevant EU directives and the multilateral environmental agreements on which they are based including the Aarhus and Espoo Conventions, amongst other such instruments. As the Aarhus and Espoo conventions have been adopted by all member states of the European Union the conventions should also be implemented in national legislation.

It is also noteworthy that the public participation shall give the public the opportunity to participate "effectively" in the decision-making process.

In the following we describe how the "international obligation" requirement can be interpreted and then we move on to discuss what can be seen as "effective" transparency.

2.2 Transparency using the Aarhus Convention as a basis

For European countries, which include the EU member states, the most important international obligation for transparency is the Aarhus Convention. The "Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters", was adopted in Aarhus in 1998 and entered into force in 2001. Currently the convention has 47 parties from across the UNECE[4] region. All EU member states and the European Union are parties[5][6].

The three fundamental rights contained in the Convention are:

- The right of access to information on the environment,
- The right to participate in decision-making affecting health or the environment, and

[4] United Nations Economic Commission for Europe

[5] See http://ec.europa.eu/environment/aarhus/legislation.htm

[6] There is a small complication in the nuclear field in that in the EU the Euratom Treaty is not part of the Aarhus Convention as a result of the failure to integrate the treaty into the process leading to the adoption of the Treaty of Lisbon. This issue is analysed a little further in section 2.6 of appendix B.

- The right to have access to justice when these rights are denied or when acts and omissions by private individuals and public authorities contravene provisions of national law relating to the environment.

These are often called the three pillars of the convention.

The countries that are parties to the Aarhus Convention are obliged to implement the convention in their national legislation. In reality the level of implementation varies considerably and there are a range of constraints and challenges to be addressed. The parties' implementation of the convention is under continual review in a consultative and non-confrontational way. Central to this is the innovative Compliance Committee that examines communications of alleged non-compliance by parties brought by individuals, NGOs and other parties to the convention.

Regarding public participation it is noteworthy that the convention stresses the importance of early public participation when all options are open and the obligation to take due account of the outcome of the public participation.

Most recently the Aarhus Convention Task Force on public participation produced the Maastricht Recommendations on Promoting Effective Public Participation in Decision-making in Environmental Matters (2014)[7]. These recommendations provide valuable guidance to all the relevant stakeholders and are readily applicable to the challenges that arise in relation to radioactive waste management (RWM). The Maastricht Recommendations should be widely circulated and training in their implementation should be provided for all actors in environmental decision-making, including in RWM. As a party to the Aarhus Convention the European Union also has to apply the convention into European legislation. In 2003 the EU adopted two Directives concerning the first and second pillars of the Aarhus Convention. They were to be implemented in the national law of the EU Member States by 14 February and 25 June 2005 respectively and are:

- Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information. Member States were obliged to transpose the 2003 directive into national law by 2005[8].
- Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment[9].

The third pillar of the convention, the right to access to justice, has still not been implemented in EU legislation. There has been a draft directive for many years but there appears to be little progress to have it adopted.

2.3 Effective transparency: "The NTW BEPPER Pillars for Effective Transparency"

The Aarhus Convention provides a good basis for defining what is effective transparency, including what is "effective" public participation in decision-making processes as required by the EU Radioactive Waste Directive. In this report we propose that effective transparency can be described according to four "NTW BEPPER Pillars for Effective Transparency", i.e., the NTW BEPPER pillars. The four NTW BEPPER pillars are:

1. Effective access to information and communication
2. Effective access to public participation and consultation
3. Effective access to justice and decision-making
4. Effective access to resources

[7] http://www.unece.org/environmental-policy/conventions/public-participation/aarhus-convention/tfwg/envppppdm/ppdm-recs.html
[8] http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1448347440395&uri=CELEX:32003L0004
[9] http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1435384826335&uri=CELEX:32003L0035

The NTW BEPPER pillars are based on the three pillars of the Aarhus Convention. In addition there is a fourth pillar called “Effective access to resources”. The BEPPER BTW pillars include extra features such as innovative information and communication methodologies in pillar one, and innovative methods for consultation and decision-making in pillars two and three. The latter two are described in some more detail in section 2.4 on “Towards more innovative transparency processes: from consultation to deliberation”.

The pillars are described below and elaborated upon in the following two chapters – “NTW BEPPER Key Components of Effective Transparency in RWM”, i.e. the NTW BEPPER key components, and “NTW BEPPER Level System for Evaluation of Effective Transparency in RWM”, i.e. the NTW BEPPER levels.

2.3.1 Effective access to information and communication

Most countries have a legal system enshrining the public's right of access to various categories of information. There is thus a “freedom of information act” sometimes as part of the constitution. The importance of access to information goes far beyond the field of RWM or of environmental issues as covered in the Aarhus Convention. Access to information by civil society is ultimately a control mechanism for the power of the state and limits the possibility of corruption. The media benefits from the possibility to scrutinise governance structures and practices on the national and local level.

Effective access to information in RWM allows all issues to be understood and discussed at an equal level by all parties involved. Effective public participation in decision-making relies heavily on effective access to information.

Access to requested information has to be timely. It can be based on a rule that requested information should be made available as soon as possible. There is no reason to have access times longer than a week and it should be possible to have slow response times reviewed and if necessary sanctioned.

There are certain cases where the information requested may fall under secrecy. Most often such secrecy is related to physical security, commercial information or relations with other countries. The use of the possibility to restrict access due to secrecy should be should be restricted and documents should generally be released with only the minimum of information blacked out. There should be a possibility to have access to justice in order to appeal decisions of secrecy to an independent body, preferably to several levels in a legal system.

Legal implementation of access to information does not necessarily make it effective. In order to make the access to information effective a culture of openness to information collection and dissemination is also necessary. In some countries the openness culture may be less developed in the nuclear sector than in other sectors in society.

Ultimately the most innovative public information governance has as an aim to find a broad common understanding of the issues involved and the way to move forward.

2.3.2 Effective access to public participation and consultation

Effective access by civil society to participation in decision-making on RWM can increase the safety implications of decisions taken.

It is important that public participation takes place continuously during all of the different phases of decision-making in RWM, i.e., during RWM national programme development including formation of governance and financing, conceptualisation, reference design, siting, licensing, construction, operation, closure and post-closure.

Early public participation is essential. Consultation processes should initially take place at a stage where all options are still open. Public participation should take place as consultation on pre-licensing scoping and during the development of environmental impact statements as well as during the licensing process itself.

Consultation processes should be as independent and fair as possible and should involve meetings on the local, regional and national level. Access to meetings should be unlimited and there should be no restrictions on what is said. Enough time should be given to consultations to make sure that all voices that want to submit opinions have had the possibility to do so.

International transboundary consultation is also a necessity. There should also be no limitations on individuals from another country participating in consultation.

Most importantly due account has to be taken of the issues raised in consultation processes. It has to be clearly shown how the input has influenced the project or, if this has not been the case, why. There have to be rules that govern the taking into due account of issues that have arisen in consultation processes.

Effective public participation and consultation can benefit from using more inclusive procedures of deliberation, which are discussed further in section 2.4.

2.3.3 Effective access to justice and decision-making

It is essential to have a system of access to justice in order to have effective transparency processes. Effective access to justice is required to underpin and ensure effective access to information and effective public participation and to guarantee that civil society input is taken into due account and impacts the final decisions.

Access to justice can mean allowing NGOs more specific rights to participate in the legal review of license applications and to appeal decisions in a court system.

Specifically access to justice can guarantee that consultation processes have been carried out properly and that due account has been taken of input provided.

There is also the possibility of giving local communities the right to veto decisions regarding RWM that may affect the community. This type of access to justice gives very high incentives for the implementer to gain trust and to carry out a public participation process that is as open and transparent as possible.

Effective access to justice and decision-making can benefit from using more inclusive procedures of decision-making, which is discussed further in section 2.4.

2.3.4 Effective access to resources

Sufficient resources (financial, logistical, expertise, etc.) for involved actors, including implementers, RWM regulatory and decision-making bodies, local communities, and environmental NGOs are necessary for effective public participation and decision-making in RWM.

RWM is a complicated field and effective access to resources is necessary in order to achieve enduring, knowledgeable, rigorous and constructive engagement. Resources are needed for access to expertise and in order to carry out research and to influence research agendas. Resources are also needed for legal advice/interaction/representation.

For implementers and RWM regulatory and decision-making bodies sufficient resources are generally available. The importance of RWM regulatory and decision-making bodies having sufficient resources to be able to do independent and scientifically and societally well-based reviews of the work of implementers cannot, however, not be stressed enough.

The availability of resources to local communities influenced by RWM activities and decision-making is important. Communities have other priorities than participating in RWM decision-making in their economic budgets. In order to be able to engage local communities in RWM decision-making extra resources have to be available for their own independent competence-building and review work. Resources have to be available early in any RWM process. It is vital that any “compensation” money provided to local communities is different from resources provided for participating in RWM processes. Otherwise all parties will not see such resourcing as independent.

In order to reach the highest quality of RWM decision-making the engagement and involvement of civil society is vital. In environmental, and therefore nuclear, decision-making the Aarhus Convention emphasises the special role of environmental non-governmental organisations (NGOs)[10]. But in order to enable and empower environmental NGOs, who also very often have priorities other than RWM issues, and very limited budgets, to engage in enduring long term RWM processes they have to be resourced. Today the only example of RWM NGO resourcing is in Sweden where environmental NGOs have been able to seek funding from the Swedish Nuclear Waste Fund for more than ten years. The Swedish Government's decision to allow NGO resourcing in RWM has had very positive effects on the quality of RWM decision-making, bringing up important issues in consultation and processes for RWM projects[11].

The funding of RWM activities is different in different countries. However, it is vital that the polluter-pays principle is upheld and therefore funds are set aside by the nuclear industry to take care of future costs for RWM activities and decommissioning[12]. Article 9 on "financial resources" in the Radioactive Waste Directive is important in this respect.

If the Government controls the use of RWM funds, as is the case in Sweden, it is relatively easy to set up a system for resourcing of communities and environmental NGOs that is seen as sufficiently independent to ensure that those actors are willing to seek and use the funding. In Sweden the regulator has this role, in other countries it may be necessary to set up a special body if the civil society trust of governmental organisations is lacking. If the nuclear industry or the RWM implementer controls the use of RWM funds, a special system will have to be set up to transfer funds to an independent body that can distribute funds to communities and NGOs. In Sweden the communities and NGOs apply annually for funds and the use of funds is audited to make sure that they have been used as regulated. Regulation of the use of funds is necessary but should not be overly restrictive in order to allow relatively flexible use of resources depending on the interests of the community or NGO.

2.4 Towards more innovative transparency processes: from consultation to deliberation

Achieving robust and mutually accepted transparency requires more than information provision and opportunities to participate in decision-making as specified in the Radioactive Waste Directive. These are the minimum requirements but do not of themselves guarantee a context of transparency, accountability and effectiveness.

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[10] Environmental NGOs are of course only part of civil society, but are likely the organisations that are the easiest to engage in RWM issues. Broadening the resourcing to other parts of civil society would likely further strengthen civil society engagement.

[11] The Swedish environmental NGOs can seek funding up to ≈ EUR 350 000 per year in total. This can be compared to the Swedish local communities with RWM projects that can seek up to ≈ EUR 500 000 per community per year. This can be compared to the total amount paid out from the Swedish Nuclear Waste Fund that is on the order of EUR 140-150 million yearly.

[12] Article 9 on "financial resources" in the Radioactive Waste Directive is rather vague on the responsibility according to the "polluter-pays-principle", stating that adequate financial resources are required to be available for the management of spent fuel and radioactive waste "taking due account of the responsibility" of the waste generators. However, the polluter-pays-principle is enshrined in Article 191(2) of the Treaty on the Functioning of the European Union (TFEU) where the environmental principles are defined:

> "*Union policy on the environment shall aim at high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.*"

http://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:12012E/TXT

To enhance the potential for effective transparency innovative processes of communication and decision-making can be incorporated in all aspects of RWM. These processes maximise the engagement of civil society, construct a culture of openness, promote equality of participation between all stakeholders and encourage collaborative practices. This is an advanced form of transparency building on the legal basis of the Aarhus Convention and the related directives but adding the inclusive procedures of deliberation and open information flows. It is an optimal formulation that cannot always be achieved but it provides a benchmark to aspire to and against which current practices may be measured.

In the following sections we outline how an expanded concept of information provision and newer forms of participation can complement each other to achieve this enhanced form of transparency. Specifically, we advance from seeing public information and participation as separate elements to ones that interact through strong communication processes to support transparency and to legitimate decision processes.

2.4.1 Innovative communication of information for common understanding

Across many domains (international development, government policy, environmental legislation) access to information is seen as the main focus of transparency initiatives. The rationale for opening information is to inform citizens so they can participate in decision-making, promote trust, support accuracy of information and achieve greater accountability of all concerned.

However, the assumption is often that simply making more information available (or giving more precise information) automatically translates into greater transparency. This approach does not address how information is conveyed in a way that is best understood by the public. We argue that a wide range of social stakeholders must also understand the information. This requires broad communication with a variety of participants at all levels in a form that they can understand.

In addition to openness, information transparency requires effective communication based on clarity and honesty. For clarity, information has to be processed, structured, condensed, simplified and put into context in order to become comprehensible. Honesty refers to the degree to which representation of information employed in external communication corresponds to the actual structuring of information adopted internally[13].

Accordingly, to be transparent, RWM bodies need to make information available in a form that is understood across different segments of the public.

However, where communication and information flows happen in one direction only, i.e., from RWM authorities or implementers to citizens, they are of limited effectiveness. Public participation has a particular supporting role to play. First, public participation has a direct function in supporting the communication and translation of information (via NGOs for example). Second, participation, if it is open and multi-directional, ensures that citizen knowledge and perspectives are made visible and form part of the common understanding also required by RWM bodies and other citizens.

Transparency through common understanding of the information and issues by all sectors can support the development of a collective intelligence on all issues relevant to RWM - siting, storage, management processes. Civil society organisations and citizens can question how information was created, question its validity, and contribute their own specific arguments and local knowledge. Hence, information understood through the lens of common understanding comes alive through its social 'processing'. It moves beyond being a static concept (where the requirement is on static information to be conveyed in one direction) to one that is dynamic (critiqued, owned and evolved).

[13] Winkler, B. 2000. "Which kind of transparency? On the need for clarity in monetary policy-making", European Central Bank Working Paper No. 26.

2.4.2 Innovative consultation and decision-making processes

Effective transparency includes competent consultation processes that enable civil society to influence decision-making. Specifically, taking 'due account' of citizens' opinions in a decision-process is seen as a basis for ensuring that participation is meaningful and leads to better and more efficacious decisions. Under the terms of the Aarhus Convention this is a legal obligation.

However, "taking due account" is a vague term open to various interpretations. The common understanding is that it is a process where a consulting body acknowledges all public comments and then incorporates them in the final decision output or provides reasons where a comment does not impact the decision taken. Participation is thus conceived as a linear relationship between the consulting body and individual citizens or civil society organisations. The consulting body "hears" many diverse opinions and may "take due account" of these in reporting the outcome of a decision process. However, there are practical challenges to this approach including:

- Consulting bodies sometimes need to respond to thousands of individual opinions;
- Citizens have many divergent and competing views;
- Citizens can be knowledge-deficient or regarded as such and
- Consultation may be dominated by some participants/stakeholders.

Challenges in this linear approach and a lack of clarity regarding "taking due account" can undermine the legitimacy of decisions and decision processes.

Public participation, however, can support more legitimate decision processes in terms of achieving common understanding on the decision at hand. Specifically, from a broader perspective on transparency, decision processes can move beyond weak information and linear consultation levels to become collaborative and empowering.

An emerging practice that empowers citizens for stronger engagement in decision processes is public deliberation. Deliberation involves discussion among stakeholders and citizens on complex moral and political issues. There are many forms of public deliberation including citizens' juries, deliberative polling and consensus conferences. In most cases, individuals' views are transformed during the process of questioning, listening and engaging with those of alternative views.

Public deliberation towards a decision aims specifically to promote common understanding between all social perspectives in a given context. It involves all actors supporting their claims, acknowledging others' positions and thereby achieving outcomes with the maximum level of collective endorsement.

At a meta-level, public deliberation can also contribute to an enhanced public sphere, defined as one where there is informed and quality debate among a broad and diverse range of stakeholders. As such, the presence of public deliberation confers greater legitimacy than "taking due account" as it includes active engagement of all social perspectives in the decision process. Decision-making processes thus need to show a common understanding of stakeholders' various positions and an outcome that reflects this understanding. It can be said that these modalities enhance and exceed the requirements of the Aarhus Convention.

Such participatory decision processes are already generating a broad range of innovations in RWM including decision-mapping [14], dynamic decision processes [15] and a deliberative mapping trial

[14] Drew C.H. et al. 2004. "Promoting Transparency of Long-Term Environmental Decisions: The Hanford Decision Mapping System Pilot Project." *Risk analysis* 24(6), pp. 1641-1664.

[15] Krütli P. et al, 2010. "Functional-dynamic public participation in technological decision-making: site selection processes of nuclear waste repositories." *Journal of Risk Research* 13(7), pp. 861-875.

commissioned by the UK Committee on Radioactive Waste Management (CoRWM)[16] The latter method has been used in the development of the UK's radioactive waste management policy consultation[17].

2.4.3 Deliberation – the method of choice for achieving transparency.

The lack of a clear and broad conceptualisation of transparency limits the possibility for its effective implementation. If a broader definition of transparency were to be attempted it would need to:

- accommodate the complexity of the term;
- be sufficiently broad and flexible in conception to accommodate and stimulate activities and innovations into the future; and
- allow for different social and cultural contexts.

The innovatory practices outlined above are initial steps towards a new definition of transparency that will be sufficiently broad to allow for the necessary interplay of public participation (as a social act) and information (social processing and understanding) in achieving effective transparency governance. In evaluating transparency in the nuclear sector across EU Member States, the question to be asked is the extent to which they have policies, processes and supports that enshrine this formulation and implement it in practice.

In summary, the important step-forward in our conceptualisation of transparency is that it is based on a complementary relationship between information and public participation that provides the optimal context for effective and legitimate decision-making. Deliberative approaches are currently the method of choice for delivering these outcomes. Such an approach is critical to developing more robust and effective transparency measures essential for the complexity of nuclear waste management.

2.5 Using the NTW BEPPER pillars to develop "key components" and a "level system"

In chapters 3 and 4 we make use of the NTW BEPPER pillars to present two other analytical concepts developed in the NTW BEPPER project, the "NTW BEPPER Key Components of Effective Transparency in RWM", i.e., the NTW BEPPER key components, and the "NTW BEPPER Level System for Evaluation of Effective Transparency in RWM", i.e., the NTW BEPPER levels.

[16] Chilvers J. & Burgess J. 2008. "Power relations: the politics of risk and procedure in nuclear waste governance." *Environment and planning A*, 40(8), pp. 1881-1900.
[17] Burgess J. et al. 2004. *Citizens and Specialists Deliberate Options for Managing the UK's Legacy Intermediate and High Level Radioactive Waste: A Report of the Deliberative Mapping Trial*, June-July 2004.

3. The "NTW BEPPER Key Components of Effective Transparency in RWM"

There is a lot of knowledge and experience available on how a well-functioning governance system for effective transparency can be set up. There is considerable analysis of what can be considered effective transparency as is described in Appendix A. In the NTW BEPPER project this analysis as well as the experience of the authors of this report has led to the development of the "NTW BEPPER Key Components of Effective Transparency in RWM". The components are divided into three sections, categorised as Principles, Practices and Innovation in resources and transparency assessment.

3.1. Principles

3.1.1 Building societal confidence, or trust

A prerequisite for effective transparency is building societal confidence, or trust, Effective transparency processes can lead to better decision-making and can thereby increase civil society's confidence in the quality and fairness of RWM decision-making processes. A high degree of trust needs to be established and maintained within the public realm to give transparency processes legitimacy and accountability. This will be achieved and enhanced if the policies and practices contained in this report are established and receive political, institutional and economic support.

Similarly, access to comprehensive information may enhance public trust in bodies such as governments and industries that provide this information, especially if they do so in an open and transparent way.

3.1.2 Multi-generational perspective

The context of radioactive waste management involves time scales that are beyond those usually contemplated. It is a distinctive and challenging feature of this domain of activity. Engaging stakeholders, such as local communities, governments, officials, to address such challenges can be extremely difficult as the public's current lack of response to the threat of climate change illustrates. A way must be found for the legacy of the waste to be acknowledged and collectively and responsibly 'owned'. Appropriate incentives and rewards for this contribution to the common welfare must be provided.

A long-term intergenerational 'contract' must be built between the host local communities and the national level. However it is far from clear how this is best done. Other patterns of cross-generational remembrance, e.g. of wartime losses, may offer some creative avenues.

The opinions and contribution of younger people, including children, could and should be sought, as they will bear the longer-term consequence of current decision-making.

3.1.3 Safety and risk

It is critical to recognise the public's perceptions about nuclear risks and to realise how different they are from those of the nuclear industry, the nuclear regulators and the NPP operators. These concerns include: the invisibility of radioactivity; the complexity of nuclear technologies; the lack of direct social control of nuclear projects; society being excluded from decision-making and the catastrophic aspect of nuclear accidents. They need to be addressed and all stakeholders should be consulted and involved in decision-making processes aiming at consensus on key issues.

The understanding of the process of risk acceptance and risk-benefit trade-off, as well as of a whole range of factors involved therein, can aid in the development of trust and better communications and decision-making processes that reduce the disparity between the technical definition of risk and the lay perception of it.

3.1.4 Energy policy

When articulating/debating energy policy nuclear should be addressed as one of the spectrum of energy sources rather than isolated as if it is a discrete entity. However, the ways in which it is different must also be acknowledged - the multi-generational time-scale and the perceptions of risk.

Waste issues should also be included in all discussion of nuclear energy as early as possible and particularly so in any decision procedures and associated public participation that will lead to the production of radioactive waste, e.g. energy strategies, implementation programmes, nuclear installation licensing and re-licensing and/or extension processes, etc.

3.2. Practices

3.2.1 Enhancing dialogue

'Safe' spaces for dialogue and participation with a pluralistic ethos are essential to effective transparency practices. This means that they must be genuinely inclusive with conscious and continuous attention to making them jargon-free with equality of status, entitlement and voice.

Entering such contexts can be most intimidating to the uninitiated or those with partial education or other disadvantages. Those on the inside can be blind to such barriers. It is worth reiterating Article 3.9 of Aarhus that states:

> *'Within the scope of the relevant provisions of this Convention, the public shall have access to information, have the possibility to participate in decision-making and have access to justice in environmental matters without discrimination as to citizenship, nationality or domicile.'*

The task is to build spaces for trusted and balanced dialogue between institutional actors and local and national stakeholders in order to identify the common concerns, themes and conditions of multilevel, inclusive governance of RWM.

3.2.2 Demystify and democratise

It is essential to open up the expert systems and the research agendas to wider participation, new perspectives and innovation. This means:

- Give civil society access to expertise to enhance its engagement in the process while developing its own understanding of the issues at stake and preserving autonomy;
- Have flexibility in the design of the dialogue process in order to give opportunity to the stakeholders to adapt that process to their needs and constraints;
- Organise power-sharing within the dialogue process;
- Develop the inclusiveness of the process to encourage the participation of all stakeholders who have an interest in or who would be affected by decisions;
- Ensure the independence of the dialogue process;
- Ensure the responsiveness of decision-makers engaged in the process;
- Develop a collective learning process in which every engaged person and/or organisation can learn from other participants.

It is vital to ensure that participants have sufficient resources to allow effective interaction.

3.2.3 New decision-making processes

Deliberative decision-making and social media for broad and interactive communication should be employed to a much greater extent.

Alternatives to majoritarian either/or referendums can also be explored. There are non-majoritarian, multi-optional, inclusive methods available which are less adversarial and divisive[1]. These will increase public involvement and move it up the participation ladder.

There are other emerging ideas in the decision-research literature, e.g. following a multi-criteria decision support perspective that can facilitate the complex decisions often encountered in the nuclear energy sector. Equally the absence of such sophisticated methods is very likely to result in sub-optimal decision-making in many circumstances.

Decision-making should be performed through iterative processes, providing flexibility to adapt to contextual changes, e.g. by implementing a stepwise approach that provides sufficient time for developing a competent and fair discourse.

On-line deliberation and the use of social media could be possible tools for decision-making in the future but online deliberation yet has yet to be demonstrated as effective and inclusive.

3.2.4 Horizontal as well as vertical information exchange

Often information flows are conceived as linear and in one direction only - from the expert to the layperson. A positivist assumption of what knowledge is leads to citizens being regarded as 'knowledge-deficient'. Information flows in a linear fashion from expert bodies to citizens and citizens/organisations feedback via the consultation process. This linear approach to knowledge sharing is a common feature of participatory and consultative processes. For example, public submissions are submitted privately by individuals/organisations. The information or views contained therein are published only after the consultation is closed and decisions have been made.

This linear channel of information exchange and communication between the expert body or public authority and citizens means the individual influence is limited during the consultation period to the bounded information they hold at that point. The structure of the consultation itself does not promote learning from other citizens while the sphere of influence is open.

To address this, consultation processes should be structured to ensure the accommodation of all knowledge types, by promoting open consultations where submissions are published during the consultation period. Horizontal knowledge sharing expands the type of knowledge that public involvement in decision-making processes should facilitate, e.g. by promoting constructive and high-quality communication between individuals with different knowledge, beliefs, interests, values and world-views as well as between experts and individuals.

Information flows that are linear and in one direction only positions citizens as being in "knowledge-deficit". It is now widely recognised that framing of knowledge is an essential component of how it is constituted. As such an exclusive focus on vertical knowledge transfer will be limited in its ability to accommodate the broader range of information types that are directly relevant to the complexity of RWM decision-making.

3.2.5 The importance of implementing access to justice

Access to justice remains the most problematic of the Aarhus pillars as reflected in the National Implementation Reports of the Aarhus Parties and also the anecdotal evidence of the NGOs participating in this study. The failure of the EU to agree a Directive on Access to Justice over many years has contributed to a continuing weakness of implementation and lack of vindication of the other two access rights in some contexts.

This has been counterbalanced to some extent by decisions of the European Court of Justice and national legislation in some Member States. The on-going work of the Aarhus Convention Compliance Committee also addresses this gap to some extent.

[1] See for example the work of the de Borda Institute, http://www.deborda.org

It should remain a continuing important priority for the European Union to complete the transposition of all of the key elements of Aarhus, including access to justice, into EU law.

3.3. Innovation in resources and transparency assessment

3.3.1 Make sure that civil society has the resources to participate

For effective public participation it is vital that civil society, i.e. local communities and environmental NGOs, has the resources needed to participate. The field of radioactive waste management is broad and complicated and the processes involved in decision-making are long. It is a challenge to build up a system that allows civil society to have access to resources so that well-resourced and enduring actors are available to represent civil society in public participation and decision-making. This issue was developed further in section 2.3.4 above.

3.3.2 Create the conditions for civil society access to expertise

For effective public participation it is also vital for civil society to develop its expertise in order to duly address the technical and complex issues of RWM and also to be able to follow the interactions between implementers, regulators and their technical support organisations (TSOs) during processes containing safety case review. Taking advantage of the experience of several Member States, one could think here of benchmarking several complementary approaches such as for instance, providing civil society with dedicated funding to hire experts on a permanent or temporary basis to review the decision making processes. This could be achieved both at local or national level as in respectively, Belgium or Slovenia (local partnership), France (local Commission of Information) or Sweden (resourcing a national NGO to allow independent safety case review). Civil society access to the expertise of the TSOs should also be considered on the basis of the French experience of the "Openness to society" policy of IRSN[2], or on the basis of the considerations developed by the SITEX Network regarding civil society participation through different stages of the safety case review or in the development the SITEX R&D agenda[3].

3.3.3 Engage experienced and widely trusted facilitators

Experienced and widely trusted facilitators should be engaged to run public participation processes and/or train others to do so in various locations. This could be an international team of specialists who can be deployed to various locations as required or it may be better to use or train local practitioners. Perhaps a single EU agency could do both. There are templates for this in either the international development agency sector or management consultancy practices.

3.3.4 Libraries, compendia, websites of good practices, etc.

Libraries, compendia, websites of good practices, etc. have been developed in a variety of contexts. There is some doubt as to whether these databases provide adequate guidance and expertise to civil society organisations seeking support and expertise in engaging in public participation and decision-making in RWM. Further research is required to establish whether this method of collating data is a valuable resource.

A more effective arrangement might be online access to independent experts who could assist local communities to understand projects and proposals and to develop responses and inputs tailored to local circumstances.

[2] http://www.irsn.fr/EN/Pages/home.aspx

[3] http://sitexproject.eu

3.3.5 Standards for transparency assessment

There is a need for new initiatives to enhance transparency in RWM by creating a system of reliable, formalised and rigorous standards for effective transparency governance. Monitoring and following up of such standards would be a way to guarantee on-going re-evaluation and improvement of procedures and practices.

The NTW BEPPER levels, as presented in the next section, are a possible tool and a substantial step towards the creation of a set of standards. Through exploratory application these can be improved using the feedback from all stakeholder groups.

4. The "NTW BEPPER Level System for Evaluation of Effective Transparency in RWM"

The development of a methodology for the assessment of the quality of effective transparency in radioactive waste management is the central object of this report. In this chapter such a system is described. It is titled the "NTW BEPPER Level System for Evaluation of Effective Transparency in RWM" or NTW BEPPER levels[1].

The NTW BEPPER levels have been developed for each of the four NTW BEPPER pillars for effective transparency:

1. Effective access to information and communication
2. Effective access to public participation and consultation
3. Effective access to justice and decision-making
3. Effective access to resources

The levels are a first attempt to capture the degree of effectiveness or quality of legal and practical implementation of the four pillars. They are graded from lower to higher levels of implementation. One important aspect is that lower levels often concern legal implementation of transparency while the higher levels concern implementation in practice of an information and public participation culture where openness and actual taking into due account of issues raised is evident in practice. In the highest levels more innovative forms of communication or decision-making are used.

It has not been found possible to bring in all the issues that are important for effective transparency into the level system. Thus there are also a number of supplementary issues for each level. Where implementation takes into account these supplementary issues a higher quality of transparency is indicated.

4.1 Effective access to information and communication

Level Info 1 (LI1): No public access to information from RWM decision-making bodies

In order to make the "NTW BEPPER framework" comprehensive it is necessary to include the situation where there is no public access to information. This is certainly the case in some countries in the world.

Of importance here is that there may indeed be a freedom of information act in a country, but in practice due to "exceptions" there is still no access to information for civil society in the nuclear or RWM field.

Supplementary issue Info 1 (SII1): Partly no public access to information due to structural organisation of RWM system

In some countries there is a limitation to access of information because all the RWM organisations in a country are not public bodies that have to follow a freedom of information legislation. Most often this can be the case where the implementer is incorporated as a private commercial entity. Such a situation can strongly limit effective access to information in RWM.

Article 1 of the Aarhus Convention states:

> *'In order to contribute to the protection of the right of every person of present and future generations to live in an environment adequate to his or her health and well-*

[1] Work in this report referring to the NTW BEPPER project references the report "Transparency in Radioactive Waste Management: A first report from the Nuclear Transparency Watch (NTW) BEPPER project", Nuclear Transparency Watch, December 2015.

being, each Party shall guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters.'

As guaranteeing safe RWM is necessary to ensure human health and well-being it should not be possible for any important actor in RWM to limit access to information. The RWM governance system in a country should guarantee that every entity with a responsibility for implementation, official advice or oversight, regulating or decision-making implements effective access to information.

Level Info 2 (LI2): Public access to information from RWM decision-making bodies but non-existent or poor registration of documents and communications

Even if there is a legal possibility to access information in a country according to a freedom of information act, real access to information is severely limited if the registration system for documents and communications at an official RWM actor is non-existent or very poorly implemented. There is a big difference between having to ask general questions regarding the existence of documents and communications compared to being able to look in a registry in order to find issues or follow issues, with associated documents, as they develop.

In order to allow effective access to information there has to be a registry of documents and communications that allows the general public or media to search for and find important information for RWM decision-making.

Supplementary issue Info 2 (SII2): Vagueness of rules or the inadequate implementation of rules for registering documents and communications in a registry

Even if a registry for documents and communications exist in a RWM decision-making body the rules for registering documents and communications have to be strict and implemented. There will always be a need for some limitations on access to "working documents" or "work in progress" as well as to internal communications within a RWM organisation. Here the openness culture of the organisation becomes especially important. If the culture of allowing access to information to civil society is an open one, the staff of a RWM decision-making body will register all documents and communications that give insight into RWM issues under consideration.

Supplementary issue Info 3 (SII3): Anonymity of the requestor and no need to justify requests

For effective access to information it should be possible to request information anonymously and without having to justify the request. (Aarhus article 4.1)

Supplementary issue Info 4 (SII4): Availability of access to justice in order to challenge decisions to deny access to information

There are legitimate reasons for some limits to access to nuclear information due to for instance physical security or for commercial reasons. But rules to limit information should both be justifiable and interpreted as narrowly as possible and decisions to limit access to information should be able to be challenged in a court system.

The availability of a legal system to allow for challenge of a decision not to give access to information is essential for effective access to information.

Level Info 3 (LI3): Public access to information from RWM decision-making bodies with registration of documents and communications, but limited access to the registry

Even if there are working systems of registries for documents and communications the registries may primarily be available within the RWM decision-making body. This could be a significant obstacle for members of civil society if it is necessary for them physically to visit the RWM decision-making body in order to access a registry to see what documents are available and what communications have taken place. The registry may not even be digitalised and therefore not easily searchable even if on site at the RWM decision-making body.

Supplementary issue Info 5 (SII5): Timeliness of access to information

Access to information should be provided as quickly as possible. The request for information should be handled immediately and responded to within a day or two[2]. There may be special circumstances that may delay the response to a request, but there should be a system for access to justice in order to allow sanctions for unnecessary delay in providing access to information.

Supplementary issue Info 6 (SII6): Affordable access to information

Access to information should be affordable to civil society. In the case that only hard copies can be provided, they should be free up to a number of pages and then limited to the cost of printing/copying. Digital copies should always be provided free of charge.

Level Info 4 (LI4): Public access to information from RWM decision-making bodies with registration of documents and communications and with an online searchable registry.

In order to give effective access to information from RWM decision-making bodies the registry with documents and communications should be available online and be searchable. This allows civil society to find relevant documents and communications easily and to follow the handling of issues by the RWM decision-making body. Documents can then easily be requested from the RWM decision-making body.

Level Info 5 (LI5): Public access to information from RWM decision-making bodies with registration of documents and communications and with the documents in the online registry available for download.

A step up from the availability of a searchable registry of documents and communications is the possibility to retrieve all the registered information directly as files by clicking a link in the online registry.

Supplementary issue Info 7 (SII7): Proactive delivery of information by RWM decision-making bodies

In order to make it easy for civil society to follow the work of RWM decision-making bodies it is necessary for these bodies proactively to provide general information on the existence of new documents of importance for public participation in the RWM field. It should be easy to follow the work of RWM decision-making bodies as reports, consultation documents, plans and programmes and other information are published and the possibility to receive information about new documents by e-mail should be implemented.

Level Info 6 (LI6): The use of innovative communication and information governance with the aim of reaching common understanding.

The ultimate goal of an effective public information and communication governance system is to strive for a common understanding of the issues involved amongst all parties and an agreed outcome as to which way to move forward. When the access to information is so open that all communication and documentation is available to everyone, the use of innovative communication methods can enhance the possibility for common understanding.

4.2 Effective access to public participation and consultation

Level PP 1 (LP1): No access to public participation in RWM

For completeness sake, in a similar manner as for the levels for access to information, Level PP1 applies when there is no public participation in the RWM field. This is certainly the case in some countries in the world.

[2] The Aarhus Convention requirements give longer response times, but with a properly kept registry the response time should not need to be longer than a day of two. It cannot be considered effective access to information to have 15, 30 or 60 days legal limit to allow a decision for access to information. Such limits only open up for unnecessary secrecy that impedes effective public participation.

Level PP 2 (LP2): Public participation in RWM in the form of information-only distribution of material and/or information-only meetings

In some countries informing about plans for siting or implementation of projects is regarded as constituting sufficient public participation. This is done by distribution of information or by having information meetings. When information meetings are held the audience can sometimes ask questions, but these are answered at the meeting and not noted as an input into the decision-making process.

Level PP 3 (LP3): Public participation in the form of requests for written questions, issues and comments, but with no response

In order for public participation to be effective it is necessary not only to inform about a project, but also to obtain questions, issues or comments from civil society. The request for such input in a consultation process can be restricted to written input only. At this level the response from the consultation process is only noted and not acknowledged with documentation of the questions, issues and comments raised and how they are answered.

Supplementary issue PP 1 (SIP1): Public participation early in the decision-making process

For public participation to be effective it is necessary to carry out consultation processes early in the decision-making process. If public participation starts late in the decision-making process many decisions may already have been made and the possibility for civil society actually to influence decisions will be much more limited.

Supplementary issue PP 2 (SIP2): Proactive efforts to increase public participation

For more effective public participation it is necessary for the RWM organisations proactively to seek out stakeholders that may be interested to make inputs into the decision-making process.

Supplementary issue PP 3 (SIP3): Availability of Internet consultation

For more effective public participation the possibility to provide input to a consultation process using the Internet may be used in addition to allowing written input. The use of Internet questionnaires may make it easier to provide input, but it is important that such questionnaires are developed for open input and without bias in the formulation of questions or statements.

Level PP 4 (LP4): Public participation in the form of requests for written questions, issues and comments and also with public meetings, but with no response

This level is similar to level PP3 in those questions, issues or comments that are raised or made in writing or given during a public meeting are not acknowledged or responded to in writing. However, the addition of public meetings to the possibility of written input improves the public participation in that it gives the public present an insight into how other participants see the issues.

Supplementary issue PP 4 (SIP4): Openness, enough time and fairly moderated public meetings

In order for public meetings to be an effective instrument for public participation the meetings have to be open to all. In addition enough time has to be allotted to receiving input, apart from time used to inform the participants. The public meetings should also be fairly moderated so as to encourage input from the public. A moderator independent from the RWM decision-making body should be used if circumstances indicate that this would be beneficial.

Supplementary issue PP 5 (SIP5): Local, national and international/trans boundary consultation meetings

In order for public participation to be effective it is not enough to have consultation meetings only in the local communities directly affected by RWM siting or RWM projects. RWM siting and RWM projects are of national interest and to have local consultation meetings only restricts national participation. In addition in many cases the national consultation meetings will be an opportunity for international/trans boundary consultation and national consultation processes should be open to this. International/trans boundary consultation should of course be carried out according to the Espoo Convention.

Level PP 5 (LP5): Public participation in the form of requests for written questions, issues and comments, and with the input documented and responded to

This level is similar to level PP3 but differs in one important way. The input from the written consultation is also acknowledged in that it is documented and a response is given to each question or issue raised, or comment made. For effective public participation the documented consultation process output is given due account in the further development of the RWM project and in the environmental impact statement for the project.

Level PP 6 (LP6): Public participation in the form of requests for written questions, issues and comments and also with public meetings, and with the input documented and responded to

This level is similar to level PP4 but differs in one important way. The input from the written consultation and public meetings is also acknowledged in that it is documented and a response is given to each question or issue raised, or comment made. For effective public participation the documented consultation process output is given due account in the further development of the RWM project and in the environmental impact statement for the project.

Level PP 7 (LP7): The existence of a public participation process where questions, issues and comments raised or made in the consultation process are taken into due account

Optimally effective public participation is not reached unless the questions, issues and comments that are provided during consultation are taken into due account. A public participation process where it is ensured that input is taken into due account is vital for effective decision-making.

Supplementary issue PP 6 (SIP6): Public participation is carried out continuously during the different phases of decision-making in RWM

For public participation to be effective it has to be carried out continuously during the different phases of decision-making in RWM, i.e., during RWM national programme development including formation of governance and financing, conceptualisation, reference design, siting, licensing, construction, operation, closure and post-closure.

Supplementary issue PP 7 (SIP7): Public participation is widespread in the RWM governance system

In order for public participation to be effective it has to be widespread within the whole RWM governance system. Public participation is not only important in siting processes or in consultation before decision-making on RWM projects, but also for example in developing RWM legislation and financial systems for RWM. It is not only the implementer of RWM projects but also other RWM decision-making bodies that should carry out public participation processes.

Supplementary issue PP 8 (SIP8): Existence of an independent entity to organise consultation processes and development of environmental impact statements

In order to have effective public participation it may be favourable to have independent entities that carry out public participation processes and that, for example, develop environmental assessment statements.

Level PP 8 (LP8): The existence of innovative consultation processes to facilitate the taking due account of input in the public participation

There are innovative consultation processes, e.g., deliberative approaches described in section 2.4 above, that facilitate the taking due account of questions, issues and comments raised or made in the consultation process.

4.3 Effective access to justice and decision-making

It is important to have a system of access to justice in order to have effective transparency processes. Effective access to justice should ensure effective access to information, effective public participation and that consultation input is taken into due account.

Level J 1 (LJ1): No access to justice

For completeness sake, in a similar manner as for the levels for access to information and access to public participation, the first level for access to justice is when there exists no access to justice in the RWM field. This is certainly the case in some countries in the world.

Level J 2 (LJ2): Access to justice for access to information and timeliness of information

An important part of effective access to justice is the access to judicial means to ensure access to information and that such access is timely.

Level J 3 (LJ3): Access to justice to review the public participation process

An important part of effective access to justice is the access to judicial means to review and find satisfactory or unsatisfactory the public participation carried out in the implementation of a RWM project.

Level J 4 (LJ4): Access to justice to determine if due account has been taken of input into the public participation process

An important part of effective access to justice is the access to judicial means to ensure that input into the public participation process has been taken into due account in the decision-making for RWM projects, for example, in a license application or in an environmental impact statement.

Level J 5 (LJ5): Access to justice regarding participation in judicial licensing reviews

An important part of effective access to justice is the possibility for civil society to participate in judicial licensing reviews.

Level J 6 (LJ6): The use of innovative decision-making processes

In order to achieve the most effective decision-making it is important to use innovative decision-making processes that, as far as possible, are inclusive of all participants' perspectives.

Supplementary issue J 1 (SIJ1): Affordable access to justice
An important part of effective access to justice is that it is affordable for civil society.

Supplementary issue J 2 (SIJ2): Limited right to veto by local communities
For effective access to justice in RWM a local community must have a right to veto a RWM project in the community. This veto can be limited by certain constraints and if so, is less stringently implemented than if a full veto right is ensured.

Supplementary issue J 3 (SIJ3): Full right to veto by local communities
For effective access to justice in RWM a local community must have a right to veto a RWM project in the community. This veto right can be full.

Supplementary issue J 4 (SIJ4): Implementation of a referendum by local communities
For effective access to justice in RWM it must be possible to hold a referendum by a local community on the acceptance of a RWM siting or RWM project. Such a referendum could be binding or advisory, but with clear rules on how the result should be taken into account.

4.4 Effective access to resources

Level R 1 (LR1): No access to resources

For completeness sake, in a similar manner as for the levels for access to information, access to public participation and access to justice, the first level for access to resources is when there exists no access, or very limited resources, even for decision-making bodies in the RWM field. This can be the case in some countries in the world.

Level R 2 (LR2): Effective access to resources for decision-making bodies

In this level of effective access to resources there is adequate access to resources for the decision-making bodies. It is especially important that decision-making bodies that review RWM siting decisions and license applications by RWM bodies, often regulators or courts, have adequate access to resources.

Level R 3 (LR3): Access to resources for local communities

Effective access to resources is important for local communities that participate in processes regarding RWM. The resources for local communities for effective participation in decision-making processes should be completely distinct from any financial compensation for local community commitments in RWM.

Level R 4 (LR4): Access to resources for local NGOs through local communities

Local communities can provide effective access to resources to allow local NGOs to participate in RWM decision-making processes.

Level R 5 (LR5): Access to direct resources for local and/or national NGOs

Effective access to resources for local NGOs and/or national NGOs allows participation in RWM decision-making processes.

Supplementary issue R 1 (SIR1): Access to resources from an independent source

In order for access to resources to be effective it is preferable that they come from an independent source, i.e., a nuclear waste fund controlled by the government of a country.

Supplementary issue R 2 (SIR2): Restrictions on how resources can be used and for how long

The more the access to resources is limited in how they may be used or for how long they can be received, the less effective is the access to resources. RWM projects take a long time to develop and implement, as does the building up of enduring competence for participation, whether it be in decision-making, in local communities or in local or national NGOs.

5. Some reflections on comparative evaluation of effective RWM transparency governance

The NTW BEPPER levels can be used to evaluate effective transparency in radioactive waste management (RWM). The levels can be seen as a significant step towards development of an assessment system that will (I) ensure on-going monitoring of practices and (ii) enhance governance, accountability and safety in the RWM field. It is a prototype with potential for use at local, national and international levels. The NTW BEPPER level system will require further refinement through critique, field-testing and evaluation.

However, already in its present form, the NTW BEPPER levels, as well as the NTW BEPPER Key components, can facilitate the evaluation of Article 10 of the Radioactive Waste Directive. The NTW work can be used as a basis for discussion on what is necessary for an effective national or international transparency regime, including the effective access to justice and effective access to resources.

However, it is clear that EU Member States have very varied quality in their present transparency governance. There is therefore a need for a process for continual improvement to move up in the NTW BEPPER level system.

In addition there are pre-existing resources and emerging initiatives that parallel and complement the levels. These include the following:

- Maastricht Recommendations on Promoting Effective Public Participation in Decision-making in Environmental Matters[1]
- Bali Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters[2]

The Bali Guidelines have provided the basis for innovative international research projects undertaken by the World Resources Institute[3] (WRI), a Washington DC-based NGO. The projects include:

- The Environmental Democracy Index[4] (EDI). This is the first online public platform that tracks countries' progress in enacting national laws to promote transparency, accountability, and citizen engagement in environmental decision-making. It also provides some key insights into areas of practice through the use of indicators.
- The Aarhus Convention Index. This is currently in development both as an evaluative tool for measuring countries' levels of legal compliance with the Convention and a means for promoting on-going improvement. It is staffed by expert environmental lawyers and is intended to have a high degree of rigour and accuracy. It is due to be rolled out in 2017.

These indexes are potentially valuable templates and initiatives that can complement the use of the NTW BEPPER levels. In due course this will lead towards a comprehensive set of quality assessment tools that, especially if administered by an appropriate and independent agency, will allow for a quality assurance regime for transparency in RWM to be put in place.

[1] http://www.unece.org/environmental-policy/conventions/public-participation/aarhus-convention/tfwg/envppppdm/ppdm-recs.html
[2] http://www.unep.org/civilsociety/Portals/24105/documents/Guidelines/GUIDELINES_TO_ACCESS_TO_ENV_INFO_2.pdf
[3] http://www.wri.org/
[4] http://www.environmentaldemocracyindex.org

6. Moving forward with transparency in RWM

The present report is intended to collate existing expertise, to build on it and to propose development and innovation in the practice of transparency in RWM. It is offered as a guide and an inspiration for further work in this sector both within Nuclear Transparency Watch and in co-operation with other actors at all levels - local, national, European and international. In this final section we attempt to summarise the most important points rose in the report and give some ideas on how to move forward.

Some general reflections regarding transparency in RWM:

- All applicable international regimes should be implemented and continuously strengthened on the national level.
- Planning and decision-making processes on activities that can have detrimental effects on society and the environment – including nuclear activities – need high degrees of transparency and civil society engagement.
- It follows, therefore, that planning and decision-making processes in radioactive waste management (RWM) also require national transparency regimes. Even though there are specific challenges for RWM transparency processes such as heightened safety risks, intergenerational timeframes, etc., RWM transparency governance is for the most part comparable to general transparency governance in environmental decision-making.
- Effective transparency regimes for RWM will give better decision-making processes leading to higher safety and possibilities for higher trust.
- As part of civil society, environmental NGOs have a special role to play in transparency processes. If properly resourced they can provide organised and qualified input that improves decision-making leading to more robust and acceptable outcomes.
- An effective and advanced transparency regime can build on the NTW BEPPER pillars:
  - Effective access to information and communication
  - Effective access to public participation and consultation
  - Effective access to justice and decision-making
  - Effective access to resources (human, financial and expertise)
- There is a large knowledge base on how effective transparency processes can be developed. Even though there are cultural and social differences between countries much of the experience can be transferred if there is willingness to do so.
- The NTW BEPPER key components collate research findings and other analyses and provide elaboration to assist the development of effective RWM transparency governance.
- The NTW BEPPER levels are designed to assess the scale of effective transparency within each of the NTW BEPPER pillars and thereby offer a method to indicate the possibilities to improve RWM transparency governance.

- *Moving forward on the European level*
- Although national RWM transparency governance is an EU member state responsibility, the Radioactive Waste Directive provides an important opportunity for the European Commission to interact with member states to raise the level of effective RWM transparency governance in the European Union. The procedures and recommendations contained in this report can provide the European Commission with the means to review and follow up the member states' reports and National Programmes required under the directive.
- The long-term goal should be for the European Commission to establish standards for compliance. Support should therefore be given to refine criteria for the assessment of implementation of RWM transparency governance in member states. This will entail adopting a set of parameters, such as the NTW BEPPER levels, and applying them in a rigorous, but exploratory, manner in the first instance. Through a series of iterations an agreed set of benchmarks will be established to measure transparency governance in RWM. In due course and with the necessary rigour this will result in a set of quality control standards for transparency in RWM.

Resources and expertise for the civil society

- To achieve the required improvement in transparency in RWM it is essential that the resources available to members of civil society (local communities and civil society organisations (CSOs) including environmental NGOs) working and participating in this area be substantially increased. Without such improvements there cannot be constructive, collaborative and enduring involvement.
- Levelling the "playing-field" in the domain of RWM is important so that all stakeholders have the capacity to participate in an informed, engaged and influential manner. This does not imply equality of resourcing but it does mean establishing the minimum requirements for effective involvement and ensuring that these are in place.
- Particular attention should be given to the effective access of CSOs to expertise in order to support their effective engagement in the RWM. Benchmarking with Swedish, French or German experience should be considered here.

Innovations in communication, deliberation and decision-making

The following innovations in practice are particularly recommended:

- Shift from vertical information flows - civil society to authorities and back -to horizontal information flows where the contributions of all stakeholders are shared and valued - i.e. all submissions should be open and all actors should be seen as resources for each other.
- Deliberation to be encouraged as the preferred modality of participation. This involves facilitated procedures encouraging greater engagement predicated on an openness to being influenced by the other's perspective. Deliberative techniques enhance collective learning, participation and efficacy. They also provide a significant democratic dividend.
- Explore multi-optional and other innovatory decision-making methods to enhance the inclusiveness and pluralism promoted in deliberation.
- Create a pool of experienced and independent facilitators to organise deliberative public participation processes and to train CSOs and communities in these skills.

Appendix A: Relevant research and experience from other processes on transparency in RWM

1. Introduction

Already in the 1990s, just after the end of several unsuccessful processes of site selections for radioactive waste repositories in different countries, e.g. Sweden, UK, Belgium and Slovenia, the responsible institutions agreed that something should be changed in their approaches to site selection. Therefore national research and investigation started in different countries to analyse what were the main reasons for failures, how to overcome them and what might be more successful approaches. Soon it became clear that this is not an easy task and that there is a need for joint international research and coordination projects in the RWM field with the aim to identify key issues to be addressed regarding society and governance, who are the stakeholders to be involved, what possible interactions should be established and what are the roles to be applied under such processes. It became clear that any site selection of a radioactive waste (or even spent fuel) repository is both a technical challenge and even more a societal challenge and needs to be addressed within both of these frames. So a series of research projects was undertaken which reflected these new considerations. The most relevant results and recommendations are presented in this appendix.

2. Overview of European Commission framework research projects

The European Commission has supported many different projects dealing with transparency in recent decades with research framework programmes. Some of these projects were dedicated to radioactive waste management issues as this was the main concern of member states, especially the challenge of the siting of repositories either for radioactive waste or for spent fuel. The projects included:

- Community Waste Management: Improving the Governance of Nuclear Waste Management and Disposal in Europe - COWAM (2000-2009)[1] a network and cooperative research programme focused on radioactive waste management and sharing the possible approaches and challenges to be overcome including involvement of all different stakeholders: implementers, regulators, researchers, local citizens, local authorities and NGOs;
- Arenas for Risk Governance - ARGONA[2] (2006-2009) - a project investigating how approaches of transparency and deliberation relate to each other and also how they relate to the political system in which decisions, e.g. on the final disposal of nuclear waste, are ultimately taken;
- Implementing Public Participation Approaches in Radioactive Waste Disposal - IPPA[3] (2011-2014) - a project focused on the establishment of safe spaces where stakeholders can engage with each other to increase their understanding of the issues involved in radioactive waste disposal and also of their respective views; and
- International Socio-technical challenges for the implementation of geological disposal - INSOTEC[4] (2011-2014) - investigated key challenges for radioactive waste management as the intersection of generic, technical management concepts and the real world environment in which such concepts are to be implemented. It aims to generate a better understanding of the complex interplay between the technical and the social in radioactive waste management and, in particular, in the design and implementation of geological disposal.

[1] COWAM web site: http://ec.europa.eu/research/energy/print.cfm?file=/comm/research/energy/fi/fi_cpa/waste/article_2525_en.htm

[2] ARGONA web site: http://www.argonaproject.eu

[3] IPPA web site: http://www.ippaproject.eu

[4] INSOTEC web site: http://www.insotec.eu

The different projects in transparency demonstrate that it is actually possible to improve decision-making processes by engaging concerned parties in the preparation of decisions and in the oversight of nuclear activities. The analysis of the case studies clearly pointed out that the effectiveness of stakeholder involvement relies on two major transformations: a stronger role for new categories of actors, including local and regional governments and institutions; and an opening up of the institutions from the perspective of stakeholder involvement in the decision-making process in the nuclear sector. These transformations proved to be practical and achievable. Although they imply significant changes from the various actors, they are by no means "revolutionary", but rather manifest a progressive evolution that is respectful of existing institutional structures.

3. The IPPA project

The project Implementing Public Participation Approaches in Radioactive Waste Disposal (IPPA) was implemented between January 1, 2011 and January 1, 2014, under Grant Agreement No. 269849, coordinated by Karita Research AB. It was co-funded by the European Commission under the Seventh Framework Programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities.

The project showed why it is important to include consideration of the Aarhus Convention's provisions on public participation in environmental decision-making, analysed the obligations and opportunities stipulated in relevant Aarhus articles from the point of view of RWM in Europe and outlined essential findings that emerged from dedicated case-centred sessions in the Czech Republic, Poland, Romania, Slovakia and Slovenia. Within the project a special publication on RWM and Aarhus Convention was published[5].

The project investigated issues raised by the implementation of the Aarhus Convention in the field of RWM, with reference to specific cases. The important objectives were to:

- identify, together with stakeholders, key issues related to practical implementation of the Aarhus Convention in their country;
- analyse the issues identified – notably aspects related to difficulties in the practical fulfilment of Aarhus Convention requirements;
- identify follow-up activities that could substantively improve application of the Aarhus Convention or otherwise improve stakeholder empowerment in the democratic governance of RWM in IPPA countries; and
- propose findings, observations and recommendations that can be transmitted to national authorities, the EU, and the Aarhus Convention secretariat.

3.1 Main issues identified by the IPPA project related to the three pillars of the Aarhus Convention

The information pillar

The Aarhus Convention supports the active provision of information by public authorities. Relevant questions in this context are:

- How does this pertain in an RWM context?
- What is considered as 'environmental information'?
- What should be the content and scope of such information, and what kind of tools can be developed to support active information provision from the side of authorities and operators?
- How can citizens get the data and information they need to understand nuclear waste management issues?

[5] Decision making for the future: Applying the Aarhus Convention in Radioactive Waste Management, IPPA report, 2013: http://www.rec.org/publication.php?id=428

- How can citizens then explore and recommend follow-up procedures to decision makers?
- What kind of difficulties do authorities experience when they receive requests for access to information or actively provide information to the public?
- What obstacles do citizens face when practising their right of access to information?

Access to information, according to the Aarhus Convention, recognises some exemptions of confidentiality in which a request for environmental information may be refused. There are cases when the disclosure of information would adversely affect certain legal interests, but these are exceptions to the general rules of high-level transparency and serving the public interest. When information is claimed to be confidential, it is necessary to inquire about the legal or political process involved in order to assess its relevance and, when needed, to challenge the confidentiality claim or eventual decision.

The public participation pillar

To date, RWM facility siting is the process that most often requires the implementation of participation approaches. Issues that have been identified are:

- What are the key challenges and which tools and processes provide effective means and opportunities for the public?
- What is the earliest possible stage at which participation can exert actual influence on the decision-making process, both at local and national levels?
- What is the capacity of the local communities to assess the relevance of a facility in their constituency?
- How can local democracy be organised to ensure the participation of both elected representatives and the public or public concerned?
- How can participation lead to better and more transparent decisions?
- How should public participation procedures be organised for long-term decision-making processes?

European participatory research projects such as COWAM and ARGONA have stressed that the governance of nuclear waste management is a local and national issue, and not limited to siting.

COWAM in particular emphasises new challenges associated with the long-term dimension of nuclear waste management. The following issues were raised:

- What are the implications of this when implementing participation approaches?
- Does facility monitoring and oversight provide opportunities for information and participation over the long term?

Facility siting is usually followed by planning and construction activity. The Aarhus Convention's Article 6 on public participation in decisions on specific activities is relevant for regulating the public involvement requirements in decision-making procedures on permitting and licensing or for environmental impact assessment (EIA). The requirements should be implemented in practice in the RWM decision-making procedures, including involvement in early stages when it is still possible to influence the decision, and to provide reasonable timeframes for public participation at different phases of decision-making.

A number of issues were identified, e.g., is it possible to move beyond single-window opportunities for the public, what is meant by 'reasonable timeframes', 'effective information' and 'due account' and what are the methods and techniques for arriving at such definitions. These requirements should be applied also in RWM issues, and practical approaches should help to interpret the legal requirements for procedures that are technically complex, involve long-term decision-making, and have multigenerational implications.

The access to justice pillar

The access to justice pillar often comes into play as a last resort for implementing the first two pillars. There may be specific issues on this topic in the field of radioactive waste management, given that the decision-making processes are long and develop in a stepwise manner. The process entails several stages of decision-making and authorisation – involving parliament, safety authorities, local and central

government officials, plus building, operating safety permits and licenses – that can go on for several years.

A number of issues were identified:

- Do the provisions of the Aarhus Convention apply to each step?
- What is the role of justice in guaranteeing the provision of information, public participation and administrative or judicial redress when rights of the public or public concerned are infringed or national environmental laws are breached?
- What other opportunities are there to challenge decisions on policies, programmes, plans and legislation?
- Is the right of candidate municipalities to remove themselves from the site selection process by veto reflected in legal practices?

3.2 Proposed actions from the IPPA project

Proposed actions (as a basis for discussion within a pluralistic stakeholder group) aim at facilitating identification of common stakes between local communities, national communities and the European level in a long-term perspective. This could notably be achieved through:

- Including RWM issues as early as possible in decision procedures and attached public participation that will lead to the production of RWM – energy strategies, implementation programmes, concrete nuclear installation licensing and re-licensing and/or extension processes, etc. - in forms that will lead to broadly carried frameworks and decisions concerning production and management of RWM;
- Setting up 'safe spaces' of dialogue at the national level (like CoRWM in the UK, COWAM Spain, the COWAM In Practice or ARGONA stakeholder groups, the permanent stakeholder group set up by ANCCLI on Radioactive waste and materials management in France, etc.) with a pluralistic steering committee;
- Pluralistic dialogue and advisory forums created by the administration and attached to public policies (e.g. the National Plan for Radioactive Waste and Materials Management in France);
- Creating a 'library' of available experiences to identify good practices with stakeholders at local, national & European levels;
- Creating a pool of experienced and widely trusted facilitators who will be available to run public participation processes and/or train others to do so in various locations; and
- Creating a set of quality control standards for public participation in RWM and an independent means of applying them.

4. The PIPNA report

The European Commission (DG ENER) in 2011-2012 contracted the assessment of good practices on the participation of civil society in the development of nuclear activities that produced the PIPNA report. The aim of the assessment was to define an appropriate framework for the promotion of transparency in the management of nuclear activities, incorporating the recommendations and good practices identified by the ENEF and taking into account cultural diversity in Europe. This includes different nuclear activities, like discharges and radioactivity in the environment, nuclear power plants, emergency preparedness and response, decommissioning and also radioactive waste management, RWM[6].

The PIPNA study proposed generic inclusive governance patterns as the basis for possible reference standards in the context of RWM. They are based on describing the specific features and stakes for the concerned categories of actors in the local, national or European context of RWM and grounded on the

[6] Public information and participation in nuclear activities (PIPNA), MUTADIS Consult, Final report, 2012, http://ec.europa.eu/energy/en/studies/public-information-and-participation-nuclear-activities-pipna

available return of experience and European research in the field of RWM. The proposed approach included:

- identifying common stakes and framing of the RWM issues at the national level with all concerned stakeholders;
- identifying common ground and understanding of the issue between the national community and local communities (actually or potentially hosting RWM facilities in the perspective of shared accountability and memory in the long term);
- articulating energy policy debate and RWM debate;
- introducing a plurality of expertise sources in the debate on RWM issues (including for economic and social issues); and
- facilitating international exchange of stakeholders from civil society among the EU Member States.

Within the site selection process for RW repository and also more broadly, during other stages of RWM, different objectives can be identified which need to be openly discussed:

- to build a shared understanding between stakeholders (including institutional actors of RWM) of quality criteria for RWM decision-making processes. However, this does not imply consensus building on a particular technical solution at the European level;
- to identify conditions and means for a legitimate and efficient contribution of the European level to the long-term accountability and memory of the "nuclear legacy" of radioactive waste complementary to the contribution of the national and local levels;
- to build spaces for trusted and balanced dialogue between institutional actors and local and national stakeholders in order to identify common stakes and conditions of multilevel, inclusive governance of RWM. As a condition for this, conditions should be set up for opening expert systems to stakeholders and building dialogue around the research agenda with a pluralistic participation;
- to combine the perspectives of territorial development and the delivery of RWM services to the national community in an intergenerational time frame;
- to build a common understanding of the long-term issues shared by national and local actors;
- to take into account the legacy of the waste in a responsible way (from the present perspective and from an intergenerational perspective). This can be done by building a long-term intergenerational 'contract' between the host local communities and the national level;
- to set up the conditions for an active and sustainable engagement of territorial actors in the vigilance and memory conservation regarding the RWM facilities; and,
- to maintain the engagement of local stakeholders hosting RWM at the national level.

5. Overview of OECD/NEA activities and findings on transparency

The Nuclear Energy Agency, NEA, of the OECD began studying specific aspects of the issue of nuclear energy and civil society two decades ago, and in recent years several of the Agency's standing technical committees have launched activities that aim to analyse national and local experience in RWM and to communicate lessons learnt.

In 2002 a study was published under the title "Society and Nuclear Energy: Towards a Better Understanding"[7] which provided a set of obvious but until then not so accepted recommendations on consultation with the public; understanding the process of risk acceptance and factors which influence the perception; the role of trust and transparency; the importance of formal processes; and access to information and involvement in the decision-making process.

[7] https://www.oecd-nea.org/ndd/reports/2002/nea3677-society.pdf

The main findings and recommendations of the study were:

- In democratic societies concerns about the risks associated with potential release of radioactivity need to be addressed and all stakeholders should be consulted and involved in decision-making processes aiming at consensus on key issues;
- The understanding of the process of risk acceptance and risk-benefit trade-off, as well as of a whole range of factors involved therein, can aid in the development of communication and decision-making processes that reduce the disparity between the technical definition of risk and the lay perception of it;
- The public perception of nuclear energy risks differs markedly from the scientists' view of these risks and is rather high today. The subjective, non-scientific criteria that affect public perception of risk regarding nuclear energy include: the invisibility of radioactivity; the complexity of nuclear technologies; the lack of direct, social control on nuclear projects; the catastrophic aspect of nuclear accidents; the lack of clear need for, and benefit from, nuclear energy in countries where security of electricity supply is of no immediate concern;
- The opening-up of new decision-making processes, for example via web-based approaches, may help push public involvement further up the participation ladder;
- A high degree of trust and transparency needs to be established and maintained within the public realm to give public participatory processes legitimacy and accountability;
- Formal processes that are based on ideas developed in the decision-research literature, e.g. following a multi-criteria decision support perspective, can usefully support the complex decisions often encountered in the nuclear energy sector. Indeed, the absence of such support is very likely to induce sub-optimal decision-making in many circumstances;
- It is of critical importance to bring a full understanding of intuitive judgements vis-à-vis decision processes into play, even in cases where structured support methods are applied;
- Two main features of public opinion and concerns about nuclear energy issues can be identified: first, in several cases, public attitudes towards nuclear energy do not seem to be reflected in the national energy policy pursued by governments, e.g. phase-out or moratorium; second it seems that people are interested in having access to more information on nuclear energy. Recognising that knowledge is important to allow the public to understand better nuclear energy issues, this declared interest offers opportunities to eventually enhance confidence in nuclear energy through better information; and
- Access to comprehensive information may enhance public trust in the bodies - such as governments and industries - that provide this information, especially if they do so in an open and transparent way. Building trust through information sharing and effective communication is essential for further use and development of nuclear energy.

In addition, in 2003 NEA published a review report on transparency in RWM called "NEA, Public Information, Consultation and Involvement in Radioactive Waste Management: An International Overview of Approaches and Experiences, 2003"[8].

[8] https://www.oecd-nea.org/rwm/reports/2003/nea4430-publicinfo.pdf

The NEA work on risk perception and transparency has also been carried out within the Forum on Stakeholder Confidence (FSC)[9]. The overall purpose of the FSC is to outline ways of integrating waste management programmes and socio-political considerations, and analyse successful and unsuccessful experiences in interacting with stakeholders. Three overarching principles[10] have been found to be essential elements of any decision-making seeking broad societal support:

- Decision-making should be performed through iterative processes, providing flexibility to adapt to contextual changes, e.g. by implementing a stepwise approach that provides sufficient time for developing a competent and fair discourse;
- Social learning should be facilitated, e.g. by promoting interactions between various stakeholders and experts; and
- Public involvement in decision-making processes should be facilitated, e.g. by promoting constructive and high-quality communication between individuals with different knowledge, beliefs, interests, values and worldviews.

Based on the NEA FSC work the following actions were recommended[11] in order to achieve better stakeholder confidence and understanding:

- Shift from information and consultation towards partnership;
- Shift from a passive to an active role of local communities: from resigned acceptance to collaboration, volunteering and veto;
- Variety of administrative formats for collaboration;
- Recognition of the need for, and legitimacy of, community empowerment measures and socio-economic benefits; and
- Emergence of new ideals and bases for collaboration (mutual learning, adding values to region and host community and sustainable development).

Recently NEA has a presented a new brochure on PIP in RWM[12].

6. The Aarhus Convention and Nuclear (ACN) initiative

The Aarhus Convention and Nuclear (ACN) initiative was established in 2008 by Association Nationale des Comités et Commissions Locales d'Information des activités nucléaires (ANCCLI)[13] and the European Commission Energy Directorate (DG-ENER) to assess the concrete implementation of the Aarhus Convention in the nuclear domain in Europe. The ACN process brought together a broad range of stakeholders, including institutional actors (regulators, operators, and experts), elected officials and civil society organisations involved in the daily monitoring of civil nuclear activities at local, national and European levels.

Four European thematic roundtables were held:

- First ACN European roundtable on radioactive waste management (RWM), 8-9 April 2010 in Luxemburg;
- Second ACN European roundtable on access to expertise and competence building, 20-21 January 2011 in Luxemburg;
- Third ACN European roundtable on the management of nuclear emergencies and post-accident situations, 15-16 February 2012 in Luxemburg; and

[9] https://www.oecd-nea.org/fsc/
[10] Learning and adapting to societal requirements for radioactive waste management: Key findings and experiences of the Forum on Stakeholder Confidence, OECD2004, NEA No. 5296, ISBN 92-64-02080-2
[11] https://www.oecd-nea.org/civil/
[12] https://www.oecd-nea.org/rwm/fsc/docs/transparency-a4.pdf
[13] http://www.anccli.org

- Fourth ACN European roundtable on nuclear safety, 4-5 December 2012 in Luxemburg.

The ACN process examined both obstacles and good practices regarding access to information and public participation in nuclear-related issues. It had demonstrated that improved access to information and public participation in decision-making contributed to the quality and implementation of decisions concerning nuclear safety. It also showed that the Aarhus Convention provides a supportive framework for different stakeholders to work together to improve nuclear safety, without prejudice to their positions on nuclear energy itself.

A final summarising roundtable was held together with the Aarhus Convention's Task Force on Public Participation in Decision-making on 12-13 March 2013, in Luxemburg[14].

7. The European Commission E-TRACK project

The "Energy–Transparency Centre of Knowledge" (E-TRACK) is a joint initiative of the Directorate-General for Energy (DG ENER) and the Joint Research Centre (JRC). It was established in 2013 with an original vision of the project to become a central point of reference for monitoring, disseminating and sharing information on practices of public participation in energy policy implementation across the EU.

The E-TRACK project was to investigate transparency – public information and participation – in multiple energy sources through multiannual projects. Projects were to be developed according to the need for public participation in specific and controversial areas, current and proposed EU legislation, and relevance to energy policy (carbon capture storage, wind farms, radioactive waste management, shale gas, smart grids, etc.). Each project was to relate to a "Stakeholders Network" which was to include a wide range of actors relevant to the area of work and taken from civil society, national/subnational authorities, pertinent international organisations, regulatory and supervisory bodies, industrial and commercial interests.

The first project of E-TRACK deals with public participation and Radioactive Waste Management (RWM) and works as a pilot project for the whole centre of knowledge. In 2014-2015 three studies were conducted.

The first study was the creation of a Stakeholders Map and related report[15].

In July 2015 an E-TRACK report[16] was published on lessons learnt from the EURATOM projects on RWM related to public participation. One of the important issues stressed in the report is also the availability of resources for capacity building and for compensation in connection to development strategy. This includes the financial support to the local municipalities and to NGOs.

In the autumn of 2015 the E-TRACK project a report synthesising the learning and guiding principles coming from the work within the Forum on Stakeholder Confidence of OECD Nuclear Energy Agency[17].

During the autumn of 2015 the ambitions of the E-TRACK project were scaled down regarding the establishment of an interactive web portal on transparency.

[14] http://www.anccli.org/wp-content/uploads/2014/07/Luxembourg-roundtable-report.pdf

[15] Radioactive Waste Management Stakeholders Map in the European Union, Meritxell Martell & Gianluca Ferraro, JRC, Report EUR 26692 EN, 2014

[16] EURATOM Projects, radioactive waste management and public participation: What have we learnt so far? A synthesis of principles, Gianluca Ferraro & Meritxell Martell, JRC, Report EUR 27278 EN, 2015

[17] The OECD Nuclear Energy Agency's Forum on Stakeholder Confidence, radioactive waste management and public participation - A synthesis of its learnings and guiding principles, Marleen Brans, Gianluca Ferraro and Ulrik von Estorff, JRC Repo EUR 27449 EN, 2015

Appendix B. International and European governance on Transparency in RWM

In this section the different international conventions that deal with transparency in general are described. The Aarhus and Espoo Conventions as well as their implementation in European legislation are the backbone for the development of European transparency in environmental matters generally and also within the nuclear field. Most recently the Aarhus Convention Task Force on public participation produced the Maastricht Recommendations on Promoting Effective Public Participation in Decision-making in Environmental Matters (2014)[1]. These recommendations provide valuable guidance to all the relevant stakeholders and being readily applicable to the challenges which arise in relation to radioactive waste management (RWM). The Maastricht Recommendations should be widely circulated and training in their implementation should be provided for all actors in environmental decision-making, including RWM.

There has been work done with relevance for transparency in the nuclear field and specifically in RWM both within the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency (NEA), a specialised agency within the Organisation for Economic Co-operation and Development (OECD).

Of special importance for European developments was the adoption of the radioactive waste directive (Council Directive 2011/70/Euratom) in 2011. The directive includes an article on transparency and also specifies that EU Member States must include a description of national governance on transparency in RWM when reporting to the European Commission as well as in the National Programmes for RWM.

2.1 Early developments

The United Nations Conference on the Human Environment met in Stockholm in 1972, and can be said to be the first international conference on the environment. Already at that time the importance of civil society's involvement in issues involving environmental matters was recognised. The preamble to the Stockholm Declaration states:

> *To achieve [the environmental goal of the declaration] will demand the acceptance of responsibility by citizens and communities and by enterprises and institutions at every level, all sharing equitably in common efforts. Individuals in all walks of life as well as organizations in many fields, by their values and the sum of their actions, will shape the world environment of the future.*

The United Nations Conference on Environment and Development met at Rio de Janeiro in 1992, building on the Stockholm Declaration.

Principle 10 of the Rio Declaration established the framework for the practice of citizen engagement in environmental matters as follows:

> *'Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.'*

[1] http://www.unece.org/environmental-policy/conventions/public-participation/aarhus-convention/tfwg/envppppdm/ppdm-recs.html

The Aarhus and Espoo Conventions and their implementation in European Union legislation directives, which are all described below, can be said to be the legal enactment of Principle 10 of the Rio Declaration.

2.2 The Aarhus Convention

The Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters was adopted in Aarhus in 1998 and entered into force in 2001. Currently the convention has 47 parties from across the UNECE[2] region. All EU countries and the European Union are parties[3].

Ban Ki-Moon, the UN Secretary-General, has summarised the importance of the Aarhus Convention as follows[4]:

> *'The Aarhus Convention remains the most ambitious venture in the field of environmental democracy under the auspices of the United Nations. The Convention is the only international legally binding instrument giving the public broad and concrete rights of participation in decision-making and access to information and justice regarding the environment.*
>
> *The Aarhus Convention's twin protections for environmental and human rights, and its focus on involving the public, provide a mechanism for holding governments to account in their efforts to address the multi-dimensional challenges facing our world today, including climate change, biodiversity loss, poverty reduction, increasing energy demands, rapid urbanization, and air and water pollution.'*

The three fundamental rights contained in the Convention are:

- The right of access to information on the environment (Articles 4 & 5);
- The right to participate in decision-making affecting health or the environment (Articles 6, 7 & 8); and
- The right to have access to justice when these rights are denied or when acts and omissions by private individuals and public authorities contravene provisions of national law relating to the environment (Article 9).

The Convention provides the legislative and procedural basis for effective transparency in all matters affecting the environment, including RWM. Together with the Espoo Convention, described below, it establishes a set of provisions that, if fully and successfully implemented, would deliver high levels of publicly accessible information, participation and engagement leading to quality decisions and increased safety in the nuclear sector.

In reality levels of implementation vary considerably across Parties and there are a range of constraints and challenges to be addressed. The Parties' implementation of the Convention is under continual review in a consultative and non-confrontational way. Central to this is the innovative Compliance Committee (2.2.3) that examines communications of alleged non-compliance by Parties brought by individuals, NGOs and other Parties.

In addition, Parties must report on their progress in implementing the Convention at regular intervals, including through the submission of comprehensive national implementation reports (NIRs 2.2.5) to sessions of the Meetings of the Parties every three years. This on-going review helps to ensure that the Aarhus access rights remain political priorities at the national level and are continuously strengthened. All of these processes require and permit high levels of transparency.

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[2] United Nations Economic Commission for Europe

[3] See http://europe.eu.int/comm/environment/aarhus/

[4] http://www.unece.org/fileadmin/DAM/env/pp/Publications/Aarhus_brochure_Protecting_your_environment_eng.pdf

2.2.1 The most relevant articles of the Aarhus Convention

The aim of the Aarhus Convention is 'to contribute to the protection of the right of every person of present and future generations to live in an environment adequate to his or her health and well-being' (Article 1).

The Convention also: clearly links environmental rights and human rights; acknowledges that we owe an obligation to future generations; establishes that sustainable development can be achieved only through the involvement of all stakeholders; links government accountability and environmental protection and promotes synergy between representative and participatory democracy.

Rights are granted to the 'public' and the 'public concerned' and these terms are defined in the Convention (Article 2,4 & 2.5) The rights are irrespective of citizenship, residence or domicile (Article 3.9) i.e. they also apply across borders.

Articles 4 & 5 enshrine the right to access to information and the responsibilities of public authorities to make information available.

- Article 6 on public participation on decisions on specific activities requires:
- Early, adequate and effective notice;
- Reasonable times-frames when all options are still open;
- Access to all relevant information;
- That the public is entitled to comment & be heard;
- That due account is to be taken of the public participation; and
- That prompt notice of the decision be given

The list of activities covered by Article 6 is given in Annex 1 of the convention. It includes 'Nuclear power stations and other nuclear reactors including the dismantling or decommissioning of such power stations or reactors'. It can be noted here that the construction and operation of nuclear power plants inevitably leads to the production of radioactive waste. It can therefore be argued strongly that during every Strategic Environmental Assessment for introduction or expansion of nuclear power in a country and every Environmental Impact Assessment for a nuclear power station, radioactive waste management has to be taken into consideration from the outset.

In fact, early transparency is vital also in the general development of energy plans and programmes in national energy policy where continuation of, expansion of, or introduction of nuclear power is being considered as such programmes inevitably lead to the production of radioactive waste. A discussion of radioactive waste management therefore has to be part of the procedure.

Article 7 concerns public participation in plans, programmes and policies relating to the environment. It incorporates many of the elements of Article 6 but there is a somewhat less rigorous level of obligation.

Article 8 covers executive regulations and legal rules and each Party must 'strive to promote' effective public participation in this area.

Article 9 provides for access to justice, i.e. to judicial or administrative review procedures if the provisions of the first two rights are not honoured.

2.2.2 Application of the Aarhus Convention to radioactive waste management (RWM)

In the area of radioactive waste management (RWM) the following are all subject to the requirements of the convention:

- Specific RWM activities;
- Plans, programmes and policies relating to RWM; and
- Legislation and other generally applicable legally binding rules relating to RWM.

The following specific RWM activities are subject to Article 6:

- Installations designed:
  - for the production or enrichment of nuclear fuel;
  - for the processing of irradiated nuclear fuel or high-level radioactive waste;
  - for the final disposal of irradiated nuclear fuel;
  - solely for the final disposal of radioactive waste;
  - solely for the storage (planned for more than 10 years) of irradiated nuclear fuels or radioactive waste in a different site than the production site (Article 6(1)(a) and annex I, para. 1); and
- Any other RWM activity which may have a significant effect on the environment (Article 6(1)(b))

The following issues are of particular relevance for RWM:

- Early public participation when all options are still open;
  - Includes the "zero option" of not engaging in the activity at all (this is not equal to "no action", but includes a comparison with reasonable alternatives for the activity);
  - Identification of the public concerned;
    - Includes not only public that may be affected on day-to-day basis, but also in case of emergency situations, including accidents that go beyond the design level of the project;
    - Includes foreign public;
- Access to all information relevant to the decision-making;
  - Any exceptions to be interpreted in a restrictive way, taking into account the public interest served by disclosure and taking into account whether the information requested relates to emissions into the environment;
  - Presumption that entire environmental impact assessment (EIA) will be made available to the public; and
- Obligation to take due account of the outcome of public participation.

2.2.3 The Compliance Committee

The Convention has an innovative compliance review mechanism that allows members of the public, as well as Parties, to bring issues regarding a Party's compliance before a committee made up of independent experts. The Compliance Committee underpins the openness and transparency of the Convention. It works in a non-confrontational, non-judicial and consultative way and provides a crucial interface between the public and the Parties through which issues of compliance can be addressed. It has reached a number of significant findings (see 2.2.4) and has been instrumental in helping to ensure that Parties meet their obligations and, when necessary, change their legal and administrative systems to ensure that people's environmental rights are upheld. A Party, the Convention secretariat or a member of the public can trigger this mechanism.

2.2.4 Relevant findings of the Aarhus Convention Compliance Committee

The Compliance Committee has dealt with nuclear-related cases concerning the following obligations:

- To ensure early and effective public participation when all options are still open and when reconsidering/updating a nuclear permit's operating conditions;
- To ensure sufficient time for the public to prepare and to participate effectively in decision-making on the draft national energy strategy;
- To ensure the effective public participation of the foreign public when deciding to permit a nuclear activity;
- To provide access to all information relevant to the decision-making to permit a nuclear activity;
- To ensure the effective public participation of the public of another Party when deciding to permit a nuclear activity; and
- Of a Party whose public consider they are affected by a decision made by another Party to permit a nuclear activity.

All findings (and related documentation) are available in English, French and Russian[5].

2.2.5 The National Implementation Reports/Synthesis Reports

The implementation of the Convention is kept under continuous review on the basis of the National Implementation Reports (NIR) that Parties to the Convention are required to submit to each triennial Meeting of the Parties (MoP). The Convention secretariat prepares a synthesis report collating all the NIRs. It summarises the progress made and identifies significant trends, challenges and solutions. There have been some consistent trends across the four reporting cycles thus far. The most recent was to MoP 5 in 2014[6].

2.2.6 The Implementation Guide

The second edition of the Guide was published in 2013. It is an invaluable resource for those seeking to understand the detail of the Convention. It has been updated to reflect the practice experience gained at all levels since the entry into force.[7]

2.2.7 The Maastricht Recommendations on Promoting Effective Public Participation in Decision-making in Environmental Matters

The Maastricht Recommendations[8] were produced by the Aarhus Convention's Task Force on Public Participation in a process under the UNECE and are based on existing good practice. They are intended as a practical tool to improve the implementation of the Convention's provisions on public participation in decision-making to be used in two key ways:

(a) To assist Parties when designing their legal framework on public participation in environmental decision-making under the Convention;
(b) To assist public officials on a day-to-day basis when designing and carrying out public participation procedures on environmental decision-making under the Convention.

The Recommendations are also of value to members of the public, including non-governmental organisations and the private sector involved in decision-making on environmental matters. They provide helpful guidance on implementing articles 6, 7 and 8 of the Convention, and especially how to address a number of key challenges identified by the Aarhus Convention Compliance Committee and others. They are neither binding nor exhaustive and, depending on the recommendation and the wide range of circumstances in different Parties' territories, they are not necessarily the only means of complying with the Convention. The recommendations are not an official interpretation of the Convention, but they are an invaluable tool through which expertise and good practices can be shared, and they can assist policymakers, legislators and public authorities in their daily work of implementing the Convention.

2.3 The Bali Guidelines

In 2010 the United Nations Environment Programme (UNEP) produced the Bali Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters[9]. They were agreed in the lead up to the Rio+20 Conference and in an effort to further recognise and consolidate the values and commitments articulated in Principle 10 of the original Rio Declaration of 1992. The purpose of the Guidelines was to provide guidance at a global level

[5] http://www.unece.org/env/pp/pubcom.html
[6] http://www.unece.org/fileadmin/DAM/env/pp/mop5/Documents/Category_II_documents/ece.mp.pp.2014.6_aec.pdf
[7] http://www.unece.org/env/pp/implementation_guide.html
[8] http://www.unece.org/environmental-policy/conventions/public-participation/aarhus-convention/tfwg/envppppdm/ppdm-recs.html
[9] http://www.unep.org/civil-society/Portals/24105/documents/Guidelines/GUIDELINES_TO_ACCESS_TO_ENV_INFO_2.pdf

to states, primarily developing countries, on promoting effective implementation of Principle 10. They are not legally binding but they offer recommendations for good practice that corresponds to and complements the three Aarhus pillars.

2.4 The Espoo Convention and developments

The UNECE "Convention on Environmental Impact Assessment in a Transboundary Context" was adopted in 1991 and entered into force in 1997. It sets out the rights and duties of countries when the environmental impact of a planned activity is expected to cross a border. Given the history of nuclear accidents and the wind-borne spread of released radiation, this Convention is of particular relevance in the current context. The Espoo Convention applies not only to the listed activities but also to any major changes to these activities that may have a significant adverse impact across borders. There are 45 Parties including all EU member states[10].

The Convention is designed to promote environmentally sound and sustainable development while also enhancing international cooperation in assessing environmental impacts, particularly of a transboundary nature. The Convention requires that an environmental impact assessment is carried out for an activity planned in the territory of one Party that is likely to have a significant environmental impact within an area under the jurisdiction of another Party. It specifies what has to be considered at an early stage of planning and also lays down the obligations of the Parties concerned to notify and consult each other and the public of such an activity. It refers several times to the right to public participation in the EIA procedure. Distribution of the relevant documentation and the involvement of the public in decision-making are required in both the 'country of origin' and the affected country/ies.

Authorities and members of the public in a potentially affected country can inform the Convention's Implementation Committee if they believe a State Party is failing to fulfil its obligations under the Convention. The Implementation Committee reviews Parties' compliance with their obligations under the Convention with a view to assisting them fully to meet their commitments. Information from the public can form the basis of a Committee initiative. The source of such information may be a non-governmental organisation, a local government body, a private company or a member of the public.

The most recent EU legislation incorporating the key elements of the Espoo Convention is Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.

2.4.1 The SEA Protocol to the Espoo Convention - The Kiev Protocol

The Kiev (SEA) Protocol requires its Parties to evaluate the environmental consequences of their official draft plans and programmes.

Strategic environmental assessment (SEA) is undertaken much earlier in the decision-making process than project environmental impact assessment (EIA) and it is therefore seen as a key tool for sustainable development. The Protocol also provides for extensive public participation in government decision-making in numerous development sectors.

The Protocol was adopted by an Extraordinary meeting of the Parties to the Espoo Convention, held on 21 May 2003 during the Ministerial 'Environment for Europe' Conference (Kyiv)[11]. Its features include:

- Notification and consultation with adjacent countries where projects are likely to result in environmental impacts across boundaries and the promotion of public information in relevant decision-making processes; and
- Recognition that sustainable development can be achieved only if there is broad public participation in decision-making.

[10] http://www.unece.org/env/eia/eia.html
[11] http://www.unece.org/env/pp/prtr.html

2.5 EU legislation implementing the Aarhus and Espoo Conventions

2.5.1 Directives implementing Aarhus

In 2003 the EU adopted two Directives concerning the first and second pillars of the Aarhus Convention. They were to be implemented in the national law of the EU Member States by 14 February and 25 June 2005 respectively and are:

- Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information. Member States were obliged to transpose the 2003 directive into national law by 2005[12].
- Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment[13].

Provisions for public participation in environmental decision-making are furthermore to be found in a number of other environmental directives, such as Directive 2001/42/EC of 27 June 2001 on the assessment of certain plans and programmes on the environment.

Both Directives 2003/4 and 2003/35 contain provisions on access to justice.

Although an EU Directive on Access to Justice in environmental matters was proposed in 2003 it has proven impossible to achieve agreement on this piece of legislation. In the interim the European Court of Justice has made a series of rulings which go some way to fill this gap but there is still a strong feeling within civil society and among environmental lawyers that[14]:

> *'Unified EU rules for access to justice would ensure that anyone affected by environmental problems can ask for an independent and impartial body to make a binding decision on future project plans or prevailing pollutions. Without such a directive, the EU is missing a fundamental safeguard to become the "area of justice, freedom and security.'*

This statement was issued in response to a EU decision to declare the 2003 proposal "obsolete".

2.5.2 The Strategic Environmental Assessment Directive

The EU is a party both to the Espoo and the Aarhus Convention and thus has to adhere to the standards laid out there for transparency and access to justice concerning environmental plans and programs. Implementation of the Espoo Convention is included in the structure of the "Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment", the SEA Directive[15]. The SEA Directive follows the general approach taken by the SEA Protocol to the UNECE Convention on Environmental Impact Assessment in a Transboundary Context.

2.6 The Aarhus Convention and the Euratom Treaty

Every member state and the EU are bound to the Aarhus Convention in all its dealings. Euratom as a treaty, however, has never accessed the Aarhus Convention, but is bound to issues of access to information, public participation and access to justice in environmental matters according to art. 106a Euratom. This article was added after the Lisbon Treaties (TEU and TFEU) were signed and organises the relationship of Euratom with the TEU and TFEU. The main problem is not with the Member States (who

[12] http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1448347440395&uri=CELEX:32003L0004
[13] http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1435384826335&uri=CELEX:32003L0035
[14] http://www.justiceandenvironment.org/_files/file/2014/Press%20Release%202%20of%202014%20A2J%20proposal%20withdrawal%20final.pdf
[15] http://ec.europa.eu/environment/eia/sea-legalcontext.htm

always fall fully under the Aarhus Convention anyway), but the institutions of Euratom (which are also always institutions of the EU: the Commission, the EESC, the European Council, the European Court of Justice). For example the parts of the European Commission in the Energy Directorate (DG-ENER) working with nuclear issues including RWM perceive to have judicial difficulties with transparency.

One of the cases where this has become a problem is with the implementation of art. 41 to 44 of the Euratom Treaty, which prescribes notification by the Member State of any new nuclear project to the European Commission, and the Commission to prepare a viewpoint on the project, which has to be positive if the Member State wants to apply for Euratom Loan Facility funding for the project. The European Commission has refused public access to this documentation.

It is possible that the European Commission in a similar way could refuse public access to the member states' reports and National Programmes submitted to the commission according to the Radioactive Waste Directive. How the commission decides to deal with this issue is still an open question. There is certainly the possibility for the commission to voluntarily act and argue for transparency in a similar way that ENSREG decided to release the nuclear reactor stress reports from the member states as a result of the Fukushima accident.

2.7 The Radioactive Waste Directive

The EU Radioactive Waste Directive (Council Directive 2011/70/EURATOM of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste[16]) was created with the aim of establishing a legal framework for the management of spent fuel and radioactive waste.

The directive includes an Article 10 on "Transparency" that states:

> *Member States shall ensure that necessary information on the management of spent fuel and radioactive waste be made available to workers and the general public. This obligation includes ensuring that the competent regulatory authority shall be made available to the public in accordance with national legislation and international obligations, provided that this does not jeopardise other interests such as, inter alia, security, recognised in national legislation or international obligations.*
>
> *Member States shall ensure that the public be given the necessary opportunities to participate effectively in the decision-making process regarding spent fuel and radioactive waste management in accordance with national legislation and international obligations.*

In addition the directive states (Article 12) that the National Programmes shall include "*a transparency policy or process as referred to in Article 10 (12.1.j)*" and (Article 13) "*within 6 months of the date of notification, the Commission may request clarification and/or express its opinion on whether the content of the national programme is in accordance with Article 12*".

There are no further explanations on the implementation of the transparency requirements in the directive.

2.7.1 The ENSREG Guidelines for reporting

In 2014 the European Nuclear Safety Regulators Group (ENSREG) developed guidelines[17] to assist Member States to fulfil the requirement of Article 14.1 of Radioactive Waste Directive to report to the Commission on the implementation of this Directive for the first time in August 2015. Although it is explained that the guidelines do not constitute legal requirements they provide suggestions for a standardised format to encourage uniformity in the structure, content and material being presented.

[16] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:199:0048:0056:EN:PDF
[17] Final Guidelines for MS Reports to the Waste Directive, HLG_p(2014-27)_137, ENSREG, 2014

With regard to article 10 of the Radioactive Waste Directive the ENSREG guidelines suggest that the following information is delivered, but with a note that this should not include a description of the transparency policy or process as this is a mandatory element of the national programme specified in Article 12.1(j):

- A description of the legal arrangements that establish the requirements for:
  - making information available to the public and workers on the management of spent fuel and radioactive waste, including: and
  - enabling effective public participation in the decision-making process regarding spent fuel and radioactive waste management;
- An overview of the regulatory authority's communication strategy, including descriptions of:
  - how the regulatory authority provides information and communicates in its fields of competence to the general public and to workers (e.g. via website, reports, workshops, conferences, interaction with the media, etc.);
  - the type of information provided and the languages used (e.g. translation into English);
  - the frequency of information provision including arrangements for ensuring that the information provided is up to date and easily accessible;
  - particular arrangements for providing information in emergency situations; and
  - the categories of information that are not being provided and the legal basis that is limiting the access to information and appeal mechanisms.
- An overview of public participation in the decision-making process, including
  - opportunities for the public to participate effectively in accordance with national legislation and international obligations (e.g. consultations, hearings); and,
  - how the views of the public are taken into account.

The influence of the Aarhus principles and procedures are clearly evident in both the Radioactive Waste Directive and the ENSREG guidelines. This is an innovatory development in the area of RWM where the importance of transparency is now explicitly stressed and the requirements for access to timely and adequate information and effective and accountable participation in decision-making is spelled out in unequivocal terms. The enhanced role of the public in its various forms (communities, NGOs, individuals, etc.) and the responsibilities of the authorities and developers are given a significant restatement in these documents.

2.7.2 ENEF Guidelines for National Programmes

In 2013 the Working Group Risk within the European Nuclear Energy Forum (ENEF) published a document on the guidelines for the establishment and notification of National Programmes[18] that are to be developed by the Member States in the scope of the EU Radioactive Waste Directive. The document provides an overview of the considerations in formulating a National Programme that is required by article 12 of Radioactive Waste Directive. The objective of the guide is to provide a descriptive, but non-exhaustive, tool to the Member States to assist in the establishment, documentation, communication and notification of National Programmes for the safe and responsible management of spent fuel and radioactive waste, which satisfies both the needs of national actors and the requirements of the Waste Directive.

Transparency, i.e., public information and participation, is mentioned in several places in the text. By defining the milestones and the associated timeframes, the National Programmes should consider steps and decision points for public involvement in decision-making, stressing that experience has shown a successful waste management programmes - especially disposal - relies on a well-defined and implemented programme for public involvement. The requirement (j.) of article 12.1 is further analysed

[18] Guidelines for the establishment and notification of National Programmes under the Council Directive 2011/70/Euratom of 19 July 2011 on the responsible and safe management of spent fuel and radioactive waste, ENEF Working Group Risk, Working Group on National Programmes NAPRO, January 2013

and the guide suggests that transparency needs to be systematically implemented at an early stage. The national framework will provide for the generic and legal provisions for transparency –public information and effective participation – in the decision-making process. In this context, the National Programme should in particular describe:

- Who provides which information, when, how and to whom?
- Who has access to which information, and when?
- Who takes part in which decision-making, when and how?

In Annex 2 one of the quality indicators for National Programmes includes an item on Transparency (number 7) that states that the National Programme should be accessible to all stakeholders except where this would compromise safety, security or justified economic interests. In Annex VI the transparency policy for public information and public involvement processes is one subchapter suggested for the proposed general structure of the lead document.

The guide was developed mainly by radioactive waste management organisations and the nuclear industry without participation of other stakeholders like, for example, civil society organisations.

2.8 Transposition into national nuclear and environmental legislation

The provisions of the EU directives implementing the Aarhus Convention discussed in section 2.5 and the article 10 on transparency in the Radioactive Waste Directive have been transposed into national legislation by EU member states to varying degrees and using a variety of different interpretations. Most commonly the requirements for transparency are included in the following national laws:

- Nuclear safety and radiation protection act ("Nuclear or Atomic Act") where requested documents from directives are defined (e.g., national programme on radioactive waste and spent fuel management), and also other documents requested for nuclear safety and radiation protection (like a safety report). The act usually also prescribes the licensing process and defines the interconnection with other documents (e.g. Environmental Impact Report, Spatial Planning documents, etc.). Usually also indications are given as to the documents which are restricted to the public for security reasons. In some countries, this law contains specific limitations to access to information related to nuclear security;
- Environmental protection law where the provisions from the Aarhus and Espoo Conventions are laid down and requirements from SEA Directive are included. As part of this law the public participation mechanisms are set with time-frames and minimum possibilities for public engagement as well as the information that must be provided to the public for different environmental issues;
- Spatial planning law defines the necessary documents and the process for the selection of sites for different facilities. It defines that radioactive waste and spent fuel management facilities are facilities of national importance for which a special procedure is prescribed; and
- Legislation on access to information in the public interest ("Freedom of Information Act") is a basic act under which the public may request access to information elaborated within the public sector and defines the time-frames for the process. It introduces the information "ombudsman" who has the decision-making right in the case of complaints.

All this legislation is also where the access to information and public participation and access to justice provisions of the Aarhus Convention are included, in those countries that are parties to the Convention, i.e., all EU member states and the EU itself.

2.9 IAEA Joint Convention and reports

In last decade also the International Atomic Energy Agency developed and adopted many policies with respect to information-sharing, communication activities, management and stakeholder involvement related to the life cycles of various nuclear facilities, including also RW and SF facilities. The most relevant findings and recommendations are given below.

2.9.1 The Joint Convention

The Joint Convention on the Safety of Spent Fuel Management and Safety of Radioactive Waste Management (JC) was adopted in 1997 by diplomatic conference at the IAEA. Currently 69 countries worldwide are parties to the JC, among them all EU member states.

The Joint Convention applies to spent nuclear fuel and radioactive waste resulting from civilian nuclear reactors and their applications. It also applies to spent nuclear fuel and radioactive waste from military or defence programmes if and when such materials are transferred permanently to and managed within exclusively civilian programmes, or when declared as spent nuclear fuel and radioactive waste for the purpose of the Joint Convention by the contracting party. The obligations are based to a large extent on the principles contained in the IAEA Safety Fundamentals document "The Principles of Radioactive Waste Management" from 1995[19]. The Joint Convention imposes obligations in relation to the safety of spent fuel and radioactive waste management at all stages from planning, design, construction, operation and closure of facilities.

The Joint Convention does not include any requirements regarding public participation, although it obliges the authorities to make information on the safety of such a SF or RW facility available to members of the public. In the national reports from some of the parties to the Joint Convention strong emphasis is put on the information dissemination and also public engagement. This can also be observed by the Fourth Review Meeting report[20] where it is stated:

> *'The public is often greatly concerned with nuclear issues, e.g. in the case of the Fukushima accident. Good and prompt communication with the public and the need to ensure they are well informed were found to be crucial and essential elements of the management of spent fuel and radioactive waste.'*

In the findings the report states that:

> *'The Contracting Parties present showed good practices in many areas including the public engagement and sharing of information with neighbouring countries.'*

Also in the summary report from fifth review meeting of the Contracting parties[21] the importance of maintaining and increasing public involvement as well as their engagement in waste management is stressed, with the aim to provide public confidence and acceptance. Among the important points raised on participation, sharing of information, transparency in communication and continuity of activities, contracting parties also emphasized the need for independent regulator and independent stakeholder technical expertise.

These promising conclusions are however to a certain extent contradicted by what is observed from civil society organisations, as presented in this report. The reason for differences in perspective probably lies in the fact that national Joint Convention reports are prepared by responsible authorities (nuclear and radiation authorities together with waste management organisations) and provide only their interpretation of experiences.

2.9.2 INSAG-20 report

The IAEA INSAG-20 report[22] on stakeholder involvement in nuclear issues establishes links between issues of stakeholder involvement and safety that were previously disconnected. Previously such involvement was considered as mainly connected to the issue of acceptance of nuclear facilities without

[19] International Atomic Energy Agency, Safety Series No. 111-F, Vienna (1995)

[20] Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, Fourth Review Meeting of the Contracting Parties 14 to 23 May 2012, Vienna, Austria, FINAL SUMMARY REPORT

[21] Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, Fifth Review Meeting of the Contracting Parties, 11 to 22 May 2015, Vienna, Austria, FINAL SUMMARY REPORT

[22] Stakeholder Involvement in Nuclear Issues, INSAG 20 - International Nuclear Safety Group report, IAEA, Vienna, 2006

links to safety. With the INSAG-20 report, the rationale for favouring stakeholder engagement in nuclear issues changes. This engagement is now considered also as a contribution to safety. The main emphases from the report are:

- Recognition of the different decision-making mechanisms in different countries, cultural and societal differences etc. Nonetheless, public participation is strongly recommended in all cases;
- Instruments are required to facilitate opportunities for stakeholder involvement. New mechanisms for involvement and participation in decision-making are needed:
- Stakeholder involvement leads to:
  - Substantial improvements in safety;
  - Enhancement of the general acceptability of the ultimate decisions made; and
  - Better appreciation of risks and benefits;
- Regulators should establish procedures for meaningful stakeholder interaction; and
- Involvement of stakeholders in nuclear issues leads to substantial improvements in safety:
  - Operators and regulators confronted with questions and concerns from stakeholders may have to re-examine the basis for previous decisions;
  - Answering such questions in a thoughtful and deliberate manner may require the gathering of technical data or the conduct of further analyses;
  - Investigating such questions provides clarity, prevents complacency, and may expose unforeseen problem areas;
  - Stakeholder involvement may result in attention to issues that otherwise might escape scrutiny; and
  - Public confidence is improved if issues that are raised by the public are taken seriously and are carefully and openly evaluated.

2.9.3 IAEA general guidance on stakeholder involvement

Another important document that presents general guidance on stakeholder involvement for different kinds of nuclear facilities including the radioactive waste and spent nuclear fuel facilities is the IAEA "Stakeholder involvement throughout the lifecycle of nuclear facility"[23]. In the document the role of stakeholder involvement at different stages of a facility's life cycle is discussed, with suggestions on developing the components of a comprehensive stakeholder involvement plan. Guidance on focusing communication with certain stakeholders is included, applying various stakeholder involvement techniques and introducing messages that should be communicated. It recognised that there is no standard procedure and each stakeholder engagement technique should be adjusted to the relevant decision-making processes and context; that there should be accountability exhibited according to the roles in the process; and that the purpose of stakeholder involvement should be recognised together with understanding of their issues and concerns and the importance of trust.

The report stresses open and transparent communication with stakeholders but also warns about the tension between openness and security of information. It recognises four stages of nuclear facilities life cycles (planning, operation, expansion or extension and decommissioning and closing) and for each stage a proper stakeholder involvement process should be developed.

2.9.4 IAEA regulator guide on communication and consultation

Based on several reports and collected recommendations from member states, the IAEA in 2014 developed a draft safety guide on "Communication and Consultation with Interested Parties by the Regulatory Body"[24]. This guide represents the standard that the IAEA must use in its own operations. States can apply this guide by means of their regulatory provisions for nuclear and radiation safety. The

[23] Stakeholder involvement throughout the lifecycle of nuclear facility, IAEA Nuclear Energy Series, NG-T-1.4, IAEA, Vienna, 2011

[24] Communication and Consultation with Interested Parties by the Regulatory Body, DRAFT SAFETY GUIDE, DS 460, IAEA, Vienna, 2014

guide provides practical guidance and recommendations for regulatory bodies concerning communication and consultation with the public and other interested parties about the possible radiation risks associated with facilities and activities and about processes and decisions of the regulatory body. The guide is primarily intended to be implemented by the national regulatory body, but also by other governmental institutions. Besides overarching recommendations presented in other documents like independence, earning trust, provisions for implementing of communication and consultation on radiation risks, it also addresses "transparency and openness":

> *'Transparency and openness should be concepts underlying the strategy of the regulatory body to communicate and consult with interested parties so that trust in its independence, competence, integrity and impartiality can be established (para 2.4).*
>
> *The regulatory body should be committed to implement a high level of transparency and openness. This implementation should be based on proactive public communication and initiating dialogue, and on willingness to listen and respond to a broad variety of concerns, as well as genuine public participation in informing the regulatory decision-making processes (para 2.5).'*

The guide also emphasises access to information concerning safety that is held by the regulatory body for every interested party. The regulatory body should facilitate and encourage public awareness and participation by making information widely available. It should be acknowledged that some sensitive information cannot be disclosed (e.g. with regard to nuclear security, physical protection and proprietary information), but any restriction on information should be minimised and fully justified on the basis of national legislative criteria.

The regulatory body should have responsibility for providing information about:

- Its programmes, activities and results, positions and decisions;
- The radiation risks associated with facilities and activities; and
- Accidents, incidents and abnormal occurrences in facilities and activities.

The regulatory body should make the results of the evaluation of its organisation and performances through external assessments, such as the Integrated Regulatory Review Service (IRRS) missions available to the public. The regulatory body should also ensure that information on access to administrative and judicial review procedures is available to any interested party.

The guide also discusses mechanisms, the means and provisions for effective communication and consultation with interested parties. These may include where appropriate:

- Mechanisms for involving interested parties in relevant decision-making processes, including provisions to inform interested parties in a timely and effective manner (e.g., either by public notice or individually as appropriate) of:
  - the proposed action (e.g., issuing a licence);
  - the nature of possible decisions or the draft decision;
  - the procedure, including how this information can be provided; and
  - whether the activity is subject to a national or transboundary environmental impact assessment;
- Reasonable time frames for the different phases of the regulatory process, allowing sufficient time for informing interested parties and for them to prepare and participate effectively.

These guidelines mirror the Aarhus requirements very closely.

Further the guide gives approaches for having effective leadership, describes provisions for developing and implementing a communications strategy, provides guidance about methods for effective communication and consultation with interested parties and also presents examples of a communication strategy template and a communication plan template.

It is planned that the safety guide will be adopted in 2015 and will ensure clear orientation of the future responsibilities of regulatory bodies regarding communication and consultation. We can say that the described content and approaches are very modern and based on results of research on risk communication and the latest approaches to public participation. Possible problems could of course arise with the implementation of these recommendations.

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