

Stakeholder Involvement in Radioactive Waste Management Decision Making

Annotated Bibliography
Forum on Stakeholder Confidence (FSC)

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NUCLEAR ENERGY AGENCY

Radioactive Waste Management Committee

STAKEHOLDER INVOLVEMENT IN RADIOACTIVE WASTE MANAGEMENT DECISION MAKING

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FOREWORD

The Forum on Stakeholder Confidence was created under a mandate from the OECD Nuclear Energy Agency's Radioactive Waste Management Committee to facilitate the sharing of international experience in addressing the societal dimension of radioactive waste management. It explores means of ensuring an effective dialogue among all stakeholders, and considers ways to strengthen confidence in decision-making processes.

Techniques for involving stakeholders in complex decision-making processes are continuously being developed. They respond to the ever-growing demand for participation by stakeholders, to the experience and knowledge gained as processes move forward and to new possibilities and demands introduced by the rise of social media.

In order to support practitioners in both public and private organisations, and in any socio-technical fields, the Forum provides *Stakeholder Involvement in Decision Making: A Short Guide to Issues, Techniques and Resources* (OECD/NEA, 2015) and this complementary annotated bibliography. The Forum on Stakeholder Confidence does not support one specific methodology over another, but intends to raise awareness and facilitate access to useful online resources (handbooks, toolboxes and case studies).

To keep pace with the fast-growing experience and literature of stakeholder engagement, the Forum plans to periodically update this annotated bibliography. Suggestions and input – particularly from those helping the Forum to cover the scholarly and practical work available in other world languages – are welcome. They should be addressed to fsc.secretariat@oecd-nea.org.

LIST OF ABBREVIATIONS AND ACRONYMS

AA1000 SES	AccountAbility AA1000 Stakeholder Engagement Standard 2011
Aarhus Convention	UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters
ACN	Aarhus Convention and Nuclear
ADR	Alternative dispute resolution
CARL	Citizen stakeholders, Agencies responsible for radioactive waste management, social science Research organizations, Licensing and regulatory authorities
CNDP	Commission nationale du débat public
COM	Commission (European Commission document code)
COWAM	Communities and Waste Management Project
CRPPH	Committee on Radiation Protection and Public Health
DIALOGIK	Non Profit Institute for Communication and Cooperation Research
E8	An international group of 8 of the world's leading electricity utilities
EAGLE	Enhancing Education Training and Communication Processes for Informed Behaviors and Decision-Making Related to Ionizing Radiation
EC	European Commission
EGSIOS	Expert Group on Stakeholder Involvement and Organisational Structures
EIA	Environmental Impact Assessment
EPA	(US) Environmental Protection Agency
ESA	United Nations Department of Economic and Social Affairs
EU	European Union
EUROPTA	European Participatory Technology Assessment
FP7	(EU's) Seventh Framework Programme for Research
FSC	Forum on Stakeholder Confidence
GIS	Geographic Information System
GMO	Genetically modified organism
HSE	UK Health and Safety Executive
IAP2	International Association of Public Participation
ICCR	International Centre for Cross-disciplinary Research
ICT	Information and communication technologies
INERIS	Institut National de l'Environnement Industriel et des Risques
INEX 3	Third International Nuclear Emergency Exercise on Consequence Management
IPPA	Implementing Public Participation Approaches in Radioactive Waste Disposal
IRGC	International Risk Governance Council

IRSN	Institut de Radioprotection et de Sûreté Nucléaire
PBL	Netherlands Environmental Assessment Agency
NDA	UK Nuclear Decommissioning Authority
NEA	OECD Nuclear Energy Agency
NGO	Non-governmental organisation
NRC	US Nuclear Regulatory Commission
NRC	US National Research Council
OECD	Organisation for Economic Co-operation and Development
PTA	Participatory technology assessment
RCRA	Resource Conservation and Recovery Act
REC	Regional Environmental Center for Central and Eastern Europe
RISCOM	Enhancing Transparency and Public Participation in Nuclear Waste Management
RWM	Radioactive waste management
SCK•CEN	Studiecentrum voor Kernergie - Centre d'Étude de l'Énergie Nucléaire
SEA	Strategic Environmental Assessment
SKB	Swedish Nuclear Fuel and Waste Management Company
SME	Small and medium-sized enterprise
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme

INTRODUCTION

As a companion document to the 2015 OECD Nuclear Energy Agency's (NEA) Forum on Stakeholder Confidence publication *Stakeholder Involvement in Decision Making: Short Guide to Issues, Techniques and Resources*, (OECD/NEA, 2015) this annotated bibliography presents the sources cited in it as well as other useful documents. For ease of navigation they are arranged in the following categories:

- Organisation for Economic Co-operation and Development (OECD) publications [www.oecd-ilibrary.org/] including Nuclear Energy Agency publications [www.oecd-nea.org/pub/];
- non-OECD international publications and guidance;
- practitioners' handbooks and detailed manuals;
- online toolboxes, databases or platforms to filter and compare techniques;
- engagement experience, research and case study reports.

When key references are available online in multiple languages, this is signalled.

Hyperlinks in the present version were accessed in June 2015.

OECD Publications

OECD (2001a), *Citizens as Partners: Information, Consultation and Public Participation in Policy-Making*, OECD Publishing, Paris.

<http://dx.doi.org/10.1787/9789264195561-en>

Also available in French and Serbo-Croatian.

OECD (2001b), *Citizens as Partners: OECD Handbook on Information, Consultation and Public Participation in Policy-Making*, OECD Publishing, Paris.

<http://dx.doi.org/10.1787/9789264195578-en>

Also available in French, Spanish, Italian, Portuguese, Romanian, Russian and Serbo-Croatian.

This excellent introductory handbook (112 pages) targets large-scale communications between public officials and the population, but the thorough advice offered is also useful for planning and evaluating smaller initiatives. Five suggestions are detailed in a clear, pragmatic way: “build a framework”; “plan and act strategically”; “choose and use the tools”; “benefit from new information and communication technology (ICT)”; and “put principles into practice”. It mentions tools for information, consultation, active participation, and evaluation. Ten tips for action draw on the experience of OECD countries which contributed to the 2001 foundation study cited above, on strengthening government-citizen relations. These tips (“start from the citizen’s perspective”; “watch timing”; “be prepared for criticism”; and “involve your staff” amongst other tips) are designed to prepare the planner taking responsibility for the involvement initiative.

OECD (2003a), *Promise and Problems of E-democracy: Challenges of Online Citizen Engagement*, OECD Publishing, Paris.

<http://dx.doi.org/10.1787/9789264019492-en>

Also available in French and Serbo-Croatian.

OECD (2003b), “Engaging Citizens Online for Better Policy-Making - Policy brief”, *OECD Observer*, Paris.

archive.forumpa.it/archivio/0/700/700/705/ocse.pdf

This informative and pragmatic policy brief (7 pages) draws on the major study “*Promise and Problems*” cited above. It delivers ten guiding principles for successful online consultation of the public, a matrix to match tools for online engagement to each stage of policy-making, seven issues that should be addressed by evaluation, and the five main challenges for the future of engaging citizens through new information and communication technologies (ICT).

NEA (1998; 2001; 2003; 2004), *Stakeholder Participation in Radiological Decision Making (Villigen Workshops)*, Committee on Radiation Protection and Public Health (CRPPH), OECD, Paris.

www.OECD-NEA.org/rp/egsios.html

Case studies and proceedings of a series of workshops organised by the Expert Group on Stakeholder Involvement and Organisational Structures (EGSIOS).

NEA (2000), “Stakeholder Confidence and Radioactive Waste Disposal”, Inauguration of the First Workshop and Meeting of the NEA Forum on Stakeholder Confidence in the Area of Radioactive Waste Management, Paris, 28-31 August 2000.

www.OECD-NEA.org/html/rwm/reports/2000/nea2829.pdf

Includes:

Brown, P., “The Canadian experience with public interveners on the long-term management of nuclear fuel”, pp. 53-57. [Suggestions were received from participants and organisers on how to improve a process of public hearings and written input.]

Kotra, J. “Is there a new dynamic of dialogue and decision making?”, pp. 139-140.

Thegerström, C., “Ten years of siting studies and public dialogue: The main lessons learnt at SKB”, pp. 65-66. [Advice is offered to the persons who must provide the driving force behind, e.g. a siting process. Methods for involvement are not reviewed, but the necessary attitude is described.]

Webster, S., “Stakeholders and the public: Who are they?”, pp. 117-119.

NEA (2002a), *Society and Nuclear Energy: Towards a Better Understanding*, OECD, Paris.

www.OECD-NEA.org/ndd/reports/2002/nea3677.html

Also available in French.

Chapter 4 (25 pages) of this booklet contains a good discussion of public participation in nuclear decision making. It considers levels and justifications for involvement, and how participation may facilitate the development of trust. In a section on innovations in participation, short pragmatic descriptions of various consultation and survey techniques are provided. Especially interesting is the detailed consideration given to the use of Geographical information systems (GIS) for mapping the areas that may be affected by a siting decision. GIS may be used to layer on information about how different affected groups perceive the space. This chapter also reviews the selection criteria technique proposed by Rowe and Frewer (2000).

NEA (2002b), *Stepwise Decision Making in Finland for the Disposal of Spent Nuclear Fuel: Workshop Proceedings, Radioactive Waste Management Committee Forum on Stakeholder Confidence, Turku, Finland, 15-16 November 2001.*

www.OECD-NEA.org/rwm/pubs/2002/3616-stepwise-decision-making.pdf

Includes:

Hokkanen, P., “Public participation in the environmental impact assessment: one alternative of involvement”, pp. 59-60. [The author, a political scientist, shows the benefits and the stumbling blocks associated with the use of the Environmental Impact Assessment (EIA) as a tool of information and its involvement in the RWM process.]

Rosenberg, T., “What could have been done? Reflection on the radioactive waste battle as seen from below”, pp. 65-70. [The author, a major figure in the local resistance to deep disposal reflects on the formal involvement process as a theatre play whose script was “written in advance”.]

NEA (2003a), *Public Confidence in the Management of Radioactive Waste: The Canadian Context: Workshop Proceedings, Radioactive Waste Management Committee Forum on Stakeholder Confidence, Ottawa, Canada, 14-18 October 2002.*

www.OECD-NEA.org/rwm/pubs/2003/4292-public-confidence-canadian-context.pdf

Includes:

O'Connor, M., “Building relationships with the wastes”, pp.177-190. [Presents an interesting argument on the need in the RWM process for participation and deliberation by affected communities. Three components must be taken into account: the “scientific side of the story” (i.e. the need to measure and manage radiological risk), the social dimension (i.e. building relationships with the wastes so that relevant communities can interact with the sites and what is stored in them),

and the political and economic side (i.e. the need to develop partnerships that can implement agreed on solutions). Each calls for deliberative attention.]

NEA (2003b), *Public Information, Consultation and Involvement in Radioactive Waste Management: An International Overview of Approaches and Experiences*, Radioactive Waste Management Committee Forum on Stakeholder Confidence, OECD, Paris.

www.OECD-NEA.org/rwm/reports/2003/nea4430-publicinfo.pdf

English/French bilingual document.

This is the analysis of the public involvement questionnaire sent to all NEA Radioactive Waste Management Committee member organisations in 1999 (updated in 2002). Organisations from 15 countries described public outreach or participation initiatives. The report summarises these initiatives and their outcomes, highlighting “what went wrong and what went right”.

NEA (2003c), “Stakeholder involvement tools: Criteria for choice and evaluation”, *Proceedings of a Topical Session at the 4th meeting of the NEA Forum on Stakeholder Confidence, Paris, 22 May, 2003.*

www.OECD-NEA.org/rwm/docs/2003/rwm-fsc2003-10.pdf

Speakers at the FSC Topical Session addressed: the justification for involving stakeholders in environmental governance; the Danish Consensus Conference approach for providing public input to parliamentary decisions; criteria for evaluating dialogue processes (including online engagement) and outcomes. The session rapporteur shows how selecting involvement techniques is part of a larger planning process in which not just methods, but context and goals, must also be considered.

Includes:

van den Hove, S. “Participatory approaches for environmental governance: Theoretical justifications and practical effects”, pp. 18-25.

NEA (2004a), *Stepwise Approach to Decision Making for Long-term Radioactive Waste Management: Experience, Issues and Guiding Principles*, Radioactive Waste Management Committee Forum on Stakeholder Confidence, OECD, Paris.

www.OECD-NEA.org/rwm/reports/2004/nea4429-stepwise.pdf

This report states the case for stepwise decision making in radioactive waste management, and demonstrates why stakeholder involvement should be an integral part of the process.

NEA (2004b), “Addressing Issues Raised by Stakeholders: Impacts on Process, Content and Behaviour in Waste Management Organisations”, *Proceedings of a Topical Session at the 5th meeting of the NEA Forum on Stakeholder Confidence, Paris, 2 June, 2004.*

www.OECD-NEA.org/rwm/docs/2004/rwm-fsc2004-8.pdf

The US Nuclear Regulatory Commission and Nirex report instances in which stakeholder input was perceived as necessary and was therefore gathered, and detail the impacts on decisions and on organisational activities. Additionally, the French programme of the Underground Research Laboratory of Meuse/Haute-Marne is described as an outcome of stakeholder demands on the RWM process.

Includes:

Vári, A. (2004), “Addressing issues raised by stakeholders: experiences of eight organisations”, pp. 24-33. [Eight FSC member organisations reported on specific experiences in soliciting and considering stakeholder input. Summary tables state, for each experience, the decision and decision maker, the stakeholders and the involvement techniques, and the impacts on processes and outcomes. Most frequently used techniques are listed, along with important lessons learnt.]

NEA (2004c), *Learning and Adapting to Societal Requirements for Radioactive Waste Management: Key Findings and Experience of the Forum on Stakeholder Confidence, Radioactive Waste Management Committee Forum on Stakeholder Confidence, OECD, Paris.*

www.OECD-NEA.org/rwm/reports/2004/nea5296-societal.pdf

This report outlines the sum of the NEA Forum on Stakeholder Confidence's key findings and learning from its first phase (2000-2004).

NEA (2006), *Stakeholders and Radiological Protection: Lessons from Chernobyl 20 Years After, Committee on Radiation Protection and Public Health (CRPPH), OECD, Paris.*

www.OECD-NEA.org/rp/reports/2006/nea6170-chernobyl-rp.pdf

NEA (2007), *Experience from the Third International Nuclear Emergency Exercise (INEX-3) on Consequence Management, OECD, Paris.*

www.OECD-NEA.org/rp/reports/2007/nea6163-inex3.pdf

"This report summarises the development of the INEX 3 exercise, the major evaluation outcomes of the national exercises, and the key policy-level outcomes, recommendations and follow-up activities arising from the exercise and workshop".

NEA (2010), *Partnering for Long-Term Management of Radioactive Waste: Evolution and Current Practice in Thirteen Countries, Radioactive Waste Management Committee Forum on Stakeholder Confidence, OECD, Paris*

www.OECD-NEA.org/rwm/pubs/2010/6823-partnering-management.pdf

European, North American and Asian models for supporting co-operation between candidate or actual host communities and organisations tasked with radioactive waste management. Based on a study prepared in 2007 by the UK Nuclear Decommissioning Authority (NDA) which reviewed the partnership approach in ten countries. Includes detailed outlines of empowerment and financial measures. The introduction outlines the clear historic trend toward partnership.

NEA (2010), *Survey on Organisational Adaptation to Stakeholder Involvement in Post Nuclear Emergency Management, Report of the Committee on Radiation Protection and Public Health (CRPPH) Expert Group on Stakeholder Involvement and Organisational Structures, OECD, Paris.*

Available upon request, please contact: fsc@oecd-nea.org.

This survey investigated how nuclear emergency management organisations in five countries (Finland, France, Norway, the UK and the US) have adapted to the opportunities and challenges presented by stakeholder involvement in the particular fields of radiological emergency preparedness and response. Topics addressed per country include: historical, legal, regulatory and policy aspects; provisions for involvement, co-operation and empowerment; tools and indicators; best practice recommendations and limitations for developing effective involvement processes as part of preparedness. The tools mentioned in survey replies include emergency exercises or simulations, training, participatory research groups and pluralistic thematic working groups, at national and regional levels.

NEA (2012a), *The Evolving Role and Image of the Regulator: Trends Over Two Decades, OECD, Paris.*

www.OECD-NEA.org/rwm/docs/2012/7083-evolving-role-and-image.pdf

Many national nuclear safety regulators assert that in the first decade of the 21st century, there has been a steady movement towards increased transparency. This has been achieved through, for example, improved use of participatory methods and engagement with the stakeholders and the public in the areas of information provision, rule making and site-related safety assurance. Approaches differ among countries, varying from opportunities for public and stakeholder comments to open licensing meetings and hearings. Overall, the trend in several member countries resembles the longer established tradition in the Nordic countries and the United States.

NEA (2012b), *Sample Foreword and Background to a Potential New Document on "Early Involvement", Radioactive Waste Management Committee Forum on Stakeholder Confidence*, OECD, Paris.

[www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=NEA/RWM/FSC\(2012\)1&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=NEA/RWM/FSC(2012)1&docLanguage=En)

Reviews evidence from a variety of fields demonstrating the call for early involvement of stakeholders in both the chronology of a decision and its actual framing.

NEA (2014), *"Deliberating Together on Geological Repository Siting: Expectations and Challenges in the Czech Republic", Synthesis and International Perspective of the 9th Community Visit and National Workshop of the OECD Nuclear Energy Agency Forum on Stakeholder Confidence (FSC)*, OECD, Paris.

www.OECD-NEA.org/rwm/docs/2014/rwm-r2014-1.pdf

The workshop focused on the process for siting an installation for the final management of spent nuclear fuel, and the expectations and challenges raised by this process. Three themes were examined: developing confidence in a participatory process; local and regional partnership and added value; and expectations for safety assurance by national, local and regional authorities.

NEA (2015), *Stakeholder Involvement in Decision Making: A Short Guide to Issues, Techniques and Resources*, Radioactive Waste Management Committee Forum on Stakeholder Confidence, OECD, Paris.

Non-OECD international publications and guidance

United Nations Economic Commission for Europe (UNECE) (2014), *The Aarhus Convention: An Implementation Guide - Second edition*, United Nations, Geneva.

www.unece.org/fileadmin/DAM/env/pp/Publications/Aarhus_Implementation_Guide_interactive_eng.pdf

The Aarhus Convention establishes that sustainable development can only be achieved through the involvement of all stakeholders. It focuses on interactions between the public and public authorities in a democratic context and is forging a new process for public participation in the negotiation and implementation of international agreements. The Convention is not only an environmental agreement; it is also an agreement about government accountability, transparency and responsiveness. Article 6 mandates public participation in decision making on specific activities (permitting, EIA, etc.). Article 7 creates rights to participation concerning strategic activities (programmes and policies relating to the environment). Article 8 guarantees public participation during the preparation of laws and regulations.

The Aarhus Convention Clearinghouse for Environmental Democracy contains 694 resource documents (reports, case studies, and communiqués) tagged as concerning "public participation" (among 1 624 resources in total, viewed in May 2014). These numbers indicate the importance of the treaty as an umbrella for participation procedures and study. <http://aarhusclearinghouse.unece.org/>

United Nations Economic Commission for Europe (UNECE) (2014), *Maastricht Recommendations on Public Participation in Decision-making*, ECE/MP.PP/2014/8, United Nations, Maastricht.

www.unece.org/fileadmin/DAM/env/pp/mop5/Documents/Post_session_docs/ece_mp.pp_2014_2_add.2_eng.pdf

Also available in French and Russian.

The Maastricht Recommendations are based on existing good practice (including practice going beyond the basic requirements of the Convention), and are intended as a practical tool to improve implementation. They will assist parties when designing their legal framework on public participation, and 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 may also be of value to members of the public, including non-governmental organisations and the private sector, signatories and other states not party to the Convention, and also officials and stakeholders engaged in public participation in decision-making under the scope of other multilateral environmental agreements.

European Commission (2001), *European Governance - A White Paper*, COM(2001) 428, Official Journal of the European Communities, C 287 of 12.10.2001, Brussels

eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52001DC0428&qid=1413897060290&from=EN

Also available in Danish, Dutch, Finnish, French, German, Greek, Italian, Portuguese, Slovakian and Spanish.

A foundation document for the European approach to governance.

United Nations Department of Economic and Social Affairs, Division for Public Administration and Development Management (2013), *Guidelines on Open Government Data for Citizen Engagement* ST/ESA/PAD/SER.E/177, United Nations, New York.

workspace.unpan.org/sites/Internet/Documents/Guidelines%20on%20OGDCE%20May17%202013.pdf

Practitioners' handbooks and detailed manuals

Abelson, J. and Gauvin, F. P. (2006), *Assessing the Impacts of Public Participation: Concepts, Evidence, and Policy Implications*, Research Report, Canadian Policy Research Networks, Ottawa.

www.cprn.org/documents/42669_en.pdf

"Explores what we know about assessing the impact of citizen engagement on both the policy process and on the subsequent political and civic behaviour of the citizen participants." This easily accessible report (52 pages) reviews many frameworks and approaches for evaluating involvement initiatives, and includes tables of possible criteria. It will help gain a very good awareness of the choices and decisions that should underlie evaluation.

AccountAbility (2006), *From Words to Action: The Stakeholder Engagement Manual (Volumes 1 & 2)*, Stakeholder Research Associates Canada Inc. and United Nations Environment Programme (UNEP), Cobourg, Ontario.

www.accountability.org/about-us/publications/the-stakeholder.html

Volume 2 is also available in Italian, Japanese, Romanian and Spanish.

This two-volume set of guidelines results from the United Nations Environment Programme's (UNEP) "aim of promoting the use of stakeholder engagement worldwide as a way of advancing sustainable development goals" and "promoting environmentally and socially responsible behaviour by companies across all sectors". The material is directed primarily at readers in a business environment but is easily generalisable.

Volume 1: The Guide to Practitioners' Perspectives on Stakeholder Engagement. This 88-page volume contains interviews and insights with practitioners who recount "why and how do we engage". Input was gained not only from corporate practitioners but also from NGOs, international trade unions, and industry sector associations.

Volume 2: The Practitioner's Handbook on Stakeholder Engagement. "Finding a path towards sustainable development will require the pooling of diverse perspectives, knowledge and resources". The complete process of engagement is laid out in five phases and 18 steps rooted in the Stakeholder Engagement Standard AA1000SES (AccountAbility, 2011). The 156-page handbook contains checklists and planning templates which target corporate users but can be adapted to other contexts.

AccountAbility (2011), AA1000 Stakeholder Engagement Standard 2011, Final Exposure Draft, AA1000SES.

www.accountability.org/about-us/publications/aa1000-1.html

The AA1000SES is the first international stakeholder engagement standard, a generally applicable framework for the design, implementation, assessment and communication of quality stakeholder engagement. This well-laid out presentation will appeal to those who take a quality assurance approach. Applying the standard requires a commitment to integrate engagement with organisational governance, strategy and operations management. This 52-page booklet shows how to determine the purpose, scope and stakeholders for engagement; and the processes that will deliver an inclusive high-quality engagement practice and valued outcomes. It may be read in conjunction with the 2006 AccountAbility manuals described above.

E7 Network of Expertise for the Global Environment (2000), Social Trust and the Electricity Industry. An E7 Contribution, E7 Working Group Report, Montreal.

www.globalelectricity.org/upload/file/st_and_electricity_industry.pdf

This 44-page brochure focuses on the concept of social trust. For the E7, social trust is based on 7 behavioural principles that organisations should respect: competence, commitment, consistency, fairness, respect, caring, and empathy. Implementation suggestions are provided for each principle, and these suggestions often concern stakeholder involvement issues. The brief bullet points presented in this brochure can provide discussion material when setting up criteria for choosing/evaluating a technique.

Netherlands Environmental Assessment Agency (MNP) and Radboud University Nijmegen (2008), Stakeholder Participation Guidance for the Netherlands Environmental Assessment Agency: Main Document, MNP publication number 550032007, MNP, Bilthoven.

<http://www.pbl.nl/sites/default/files/cms/publicaties/550032007.pdf>

This guidance document is divided into three sections. First, the “Main document” serves as a guide for project managers of the Netherlands Environmental Assessment Agency to help them selecting options regarding: why, what, in, who, and how. Second, the “Checklist” is to be used to operationalise the guidance. And third, the “Practical Guide” outlines the available methods, their suitability, the internal resources and what should be outsourced. Although this document is not designed for the radioactive waste management field, the checklist, practical guide and overall structure/approach can be easily translated to radioactive waste management.

United Kingdom Environment Agency (2000), Evaluating Methods for Public Participation: Literature Review, R&D Technical Report E135, UK Environment Agency, Bristol.

www.gov.uk/government/uploads/system/uploads/attachment_data/file/290295/stre135-e-e.pdf

This report (68 pages) discusses arguments and UK requirements in favour of public input to environmental policy making. It examines how public participation can be implemented and managed and gives advice on fitting methods to goals. Tables present 25 methods and discuss their advantages and disadvantages (including cost considerations). The review also presents criteria for the “choice, design, implementation and evaluation of public participation methods”, with special attention devoted to deliberative qualities. It identifies “remaining knowledge gaps” where more research on participation is needed. Although this thought-provoking scholarly report is not presented as a handbook, it is easy to read and should be consulted if a well-argued formal justification of stakeholder involvement must be prepared.

United Kingdom Environment Agency (2013), *Working with Others: A Guide for Staff, Internal Handbook*, UK Environment Agency, Bristol.

Document available upon request, please contact: enquiries@environment-agency.gov.uk.

This guide outlines the approaches, skills and techniques that the staff of the UK Environment Energy Agency should use when working with others.

US Environmental Protection Agency (EPA) (1996), *RCRA Public Participation Manual (Chapter 5: Public Participation Activities: How To Do Them)*, EPA Office of Solid Waste, Washington, DC.

www.epa.gov/osw/hazard/tsd/permit/pubpart/rcra_pub_participatn_man.pdf

Also available in Spanish.

This bulky manual responds to the United States “Resource Conservation and Recovery Act (RCRA) Expanded Public Participation Rule” and sets out to show practitioners and stakeholders exactly how public information and input into site remediation can be achieved. As such, it is oriented toward fulfilling specific permitting requirements and many parts of the manual are not directly relevant to this short guide. However, Chapter 5 (143 pages, downloadable separately) provides 3- to 6-page clear and practical briefs on 19 techniques including community interviews, focus groups, hotlines, public meetings and hearings. Basic information is provided on how to set up and conduct the activity, its advantages and limitations, and extremely pragmatic operational checklists (even detailing the physical materials needed). Appendices (also downloadable in separate files) include interesting resources like the “Environmental Justice Public Participation Checklist” (Appendix D).

US Environmental Protection Agency (EPA) (2003), *Community Culture and the Environment: A Guide to Understanding a Sense of Place*, EPA-842-B-01-003, EPA Office of Water, Washington, DC.

www.epa.gov/care/library/community_culture.pdf

This extensive and detailed manual (293 pages) “offers a process and a set of tools for defining and understanding the human dimension of an environmental issue”. The aim is to achieve a “community cultural assessment”. It skilfully draws on research techniques from anthropology, cultural geography, political science and sociology. Early chapters combine short checklists of overall steps and advice on using the assessment outcomes. Chapter 4 provides, in 50 pages, detailed flow charts on conducting the assessment, and worksheets that may be copied and filled out. Matrixes indicate which techniques (from census review to community advisory boards) may be applied for different assessment needs. Resource annexes point to further information on each research technique. The discussion of 15 dimensions of community (e.g. boundaries, economic conditions, education, activism, infrastructure, governance, leisure, health, religious practices, etc.) will be particularly interesting to individuals who must organise knowledge-gathering about a local community.

European Commission (2004), *European research: A guide to successful communications*, Office for Official Publications of the European Communities, Luxembourg.

ec.europa.eu/research/conferences/2004/cer2004/pdf/rtd_2004_guide_success_communication.pdf

This attractive 40-page brochure was written for research leaders in the European Commission 6th Framework programme to aid them in disseminating results. It will be useful to anyone who has to design an information campaign or publicise stakeholder involvement initiatives or results. Concrete advice for improving user interface on websites, writing press releases or holding press conferences, and using classical mass communication media is provided.

Health Canada (2000), *Health Canada Policy Toolkit for Public Involvement in Decision Making*, Ministry of Public Works and Government Services Canada, Ontario.

www.hc-sc.gc.ca/ahc-asc/pubs/_public-consult/2000decision/index-eng.php

French edition : *Santé Canada - Politiques et boîte à outils concernant la participation du public à la prise de décisions*, www.hc-sc.gc.ca/ahc-asc/pubs/_public-consult/2000decision/index-fra.php

This manual (152 pages) organises over three dozen techniques by level of involvement, reviewing when each one is most useful and its potential pitfalls. Includes consideration of logistics and costs.

Institut National de l'Environnement Industriel et des Risques - Institut de Radioprotection et de Sécurité Nucléaire (INERIS-IRSN) (2008), *Supports de communication pour l'implication des populations dans l'évaluation et la gestion d'un site ou sol pollué, en collaboration avec la Cire Ile de France, B. Hazebrouck, G. Baumont, C. Legout, INERIS DRC-08-61078-04818A.*

www.developpement-durable.gouv.fr/Supports-de-communication-pour-l.html

COMRISK, a French field intervention to organise the engagement of populations in the evaluation and management of polluted sites, provides in this 107-page document a full set of tested French-language materials to support dialogue with concerned communities: brochures, posters, slide decks, and other materials to be used at events.

The French-language project website is a further rich source of experience and documentation on how to conduct local engagement in deciding preventive or mitigation actions around site-related environmental risk.

www.comrisk.fr/

New Economics Foundation (NEF) and UK Participation Network (1998), *Participation Works! 21 techniques of community participation for the 21st century*, NEF, London.

<http://preval.org/documentos/00482.pdf>

The introduction of this useful guide argues that everyone says participation works. But what does participation really mean, and what makes it really happen? This handbook contains 21 proven techniques from around the world. It shows how to choose between them, how to use them properly and where to go for more information. Advice and examples are given with regard to setting criteria for selection. The short case illustrations mainly focus on municipal initiatives to inform and involve residents in major planning decisions, or on preparing such initiatives. Another type of initiative is “social auditing” of an organisation with a public mission. The techniques listed here depend on highly motivated people to lead innovative, introspective processes. They often involve resource-intensive approaches like providing a 3-D model of an area to help envision how it could be changed, or organising community event days.

The three following Nirex (2002) references are available upon request, please contact: rwmfeedback@nda.gov.uk.

Nirex (2002a), *Review of Consultation Techniques for Radioactive Waste Management*, Authors: E. Atherton and J. Hunt, Nirex Technical Note, interim version, document number 365521 (March), Nirex, Harwell.

This document (36 pages) should be “the first stop” in the journey to stakeholder involvement. It is a user-friendly review of 16 techniques ranging from opinion polls through stakeholder workshops to Internet consultation. In tables, each process is tagged in terms of its features, type of participants and their recruitment. The features are explained in separate texts and include “deliberative, inclusive of views, empowering of participants, outputs, contribution to institutional credibility”. Another matrix lays out the stages of a decision and consultation programme related to radioactive waste, and identifies possible techniques to apply at each stage. An appendix briefly examines each technique in terms of its advantages and disadvantages, and points to examples of its use in RWM or other fields.

Nirex (2002b), *The Front End of Decision Making*; Author: E. Atherton, Nirex Technical Note, interim version, document number 367478 (March), Nirex, Harwell.

“This technical note [15 pages] outlines Nirex’s views on the mechanisms that can be used in the first stages of a decision-making process to engage with stakeholders, including the public, and identify their issues and concerns.” As such it includes a clear discussion of the value of consultation and key principles and issues. More pragmatically, it mentions eight techniques and how they might be used at the front end of decision-making. Reporting and evaluating consultation processes are briefly considered as well.

Nirex (2002c), *Environmental Assessment and Consultation as Part of a Stepwise Process for Radioactive Waste Management*, Author: E. Atherton, Nirex Technical Note, interim version, document number 385684 (April), Nirex, Harwell.

In 19 pages, this report outlines how consultation techniques can be used within the umbrella processes of Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA). For each broad stage of these assessments, a few suggestions are given on choice of technique and target stakeholder groups.

US Nuclear Regulatory Commission (NRC) (2004), *Effective Risk Communication: The Nuclear Regulatory Commission’s Guidelines for External Risk Communication*, Prepared by J. Persensky, S. Browde, A. Szabo (NRC), L. Peterson, E. Specht, E. Wight (WPI), US NRC, Washington, DC

www.nrc.gov/reading-rm/doc-collections/nuregs/brochures/br0308/

This guideline document (70 pages) condenses state-of-the-art knowledge on risk communication, defined as “an interactive process used in talking or writing about topics that cause concern about health, safety, security, or the environment”. Clear advice is given for crafting effective messages, communicating complex technical information, answering difficult questions, communicating in a crisis situation, etc. This publication will be useful to individuals developing technical support documents for a stakeholder dialogue, and for those who will be in direct interaction with stakeholders during the involvement process. It is well indexed, and includes references to a number of useful web-based resources.

US Nuclear Regulatory Commission (NRC) (2004), *The Technical Basis for the NRC’s Guidelines for External Risk Communication*, prepared by L. Peterson, E. Specht, E. Wight (WPI), US NRC, Washington, DC.

www.nrc.gov/reading-rm/doc-collections/nuregs/contract/cr6840/

This report (112 pages) documents the scientific literature used to produce the guideline document above (NRC (2004), *Effective Risk Communication: The Nuclear Regulatory Commission’s Guidelines for External Risk Communication*). An annotated bibliography is provided, giving valuable pointers not only to academic studies on risk communication but also to practical references and manuals. The publication also details the risk communication challenges identified by NRC employees in their work.

Schmeer, K. (1999), *Guidelines for Conducting a Stakeholder Analysis, Partnerships for Health Reform*, Abt Associates Inc., Bethesda.

www.who.int/entity/management/partnerships/overall/GuidelinesConductingStakeholderAnalysis.pdf

Detailed systematic techniques and guidance to identify stakeholders in a policy reform context.

US Federal Register (2000), *ADR Program Evaluation Recommendations*, (65) 59200, 59208-14 (October 4, 2000), Washington, DC

www.epa.gov/adr/evalu.pdf

“Alternative dispute resolution” (ADR) techniques are used by the US EPA for resolving environmental conflicts in communities. This excerpt from the Federal Register contains detailed

recommendations on ADR programme evaluation. This 20-page document presents a convincing argument in favour of the organisational feedback that can be obtained from evaluating stakeholder interactions, and outlines very practical steps and criteria for evaluation. It also contains advice on presenting and disseminating the results of evaluation. The recommendations may be adapted to stakeholder dialogues even when these do not address highly contentious situations.

US Institute for Environmental Conflict Resolution (2002), *Best Practices for Effective Public Involvement in Restricted-Use Decommissioning of NRC-Licensed Facilities*, Report developed for the US Nuclear Regulatory Commission Office of Nuclear Material Safety and Safeguards, Decommissioning Branch, Rockville

<http://pbadupws.nrc.gov/docs/ML0311/ML031130508.pdf>

This report is perhaps the most detailed of the short guides presented in this bibliography. In 56 pages it discusses the reasons for public involvement in decommissioning and presents guidance on planning and implementing stakeholder involvement initiatives in this area. Six group discussion techniques are reviewed to help the planner match them to the goals and level of involvement sought. Each page includes point-by-point "best practices tips" that will be relevant in many participation settings. The handbook cannot deliver a tailor-made dialogue programme, but the reader will feel as if an experienced practitioner accompanies him or her in thinking about each step.

World Bank (undated), *What is Stakeholder Analysis?*, World Bank, Washington, DC.

www1.worldbank.org/publicsector/anticorrupt/PoliticalEconomy/stakeholderanalysis.htm

These and complementary documents are found on a World bank webpage under the section "Stakeholder Analysis" of "Governance and Political Economy". Adopted from the business arena and applied in the various policy reform areas, this set of tools delivers a systematic method for identifying stakeholders and assessing the political field.

Online toolboxes, databases or platforms to filter and compare techniques.

COWAM-2 PTA Toolbox.

www.cowam.com/?COWAM-2-Final-Reports

A Participatory Technology Assessment (PTA) toolbox was developed under the 2nd Community Waste Management project or COWAM 2 (a European Commission sponsored partnership between stakeholders and research contractors to exchange experience and deepen knowledge about RWM themes identified by the stakeholders, 2004-6). The toolbox (non-automated) consists of a set of three reports:

Flüeler, T., P. Krütli, and M. Stauffacher (2005), *Tools for Local Stakeholders in Radioactive Waste Governance: Challenges and Benefits of Selected Participatory Technology Assessment Techniques (Long version, 17 pp)*.

http://www.cowam.com/IMG/pdf_Cowam_2_WP1_PTA-1_Tools_LONG_version.pdf

Flüeler, T., P. Krütli, and M. Stauffacher (2005), *Tools for Local Stakeholders: How to choose the participatory techniques you need* (Short version, 7 pages).

http://www.cowam.com/IMG/pdf_Cowam_2_WP1_PTA-1_Tools_SHORT_version.pdf

This presents Seven Framing Principles and Criteria for Selection, advising that "framing is more important than the technique chosen, and your assessment of the political context (and the chances you have therein) is more important than any sophisticated technique a professional moderator will recommend you".

Laes, E. and G. Meskens (2006), *Guidance on the Selection of PTA tools: For stakeholders involved in radioactive waste governance*.

http://www.cowam.com/IMG/pdf_Cowam_2_WP1_PTA-2_Guidance_on_Selection_of_Tools.pdf

This easily readable report helps to analyse social learning goals (i.e. the possibility to justify positions, elaborating innovative ideas and/or creative solutions, empowerment and enhancing the access to expertise) that could be activated by PTA methods. It then goes on to describe some key characteristics of the topic under discussion (i.e. general knowledge of the topic, complexity, remaining uncertainties and possibly controversy surrounding the issue) and offers a "lens" to finally arrive at the PTA technique that presents itself as a likely candidate for application.

The toolbox reports, respectively labelled PT-1 (long), PT-1(short) and PT-2 were produced on the request of stakeholders participating in the COWAM 2 thematic co-operative research group "local democracy". They are available online alongside all the other group reports which together constitute the outputs of a sustained stakeholder engagement.

International Association of Public Participation (IAP2) (2000-2003), The IAP2 Public Participation Toolbox.

www.saiea.com/calabash/handbook/annexure_e.pdf

In nine pages, some forty-five techniques are mentioned. The toolbox (non-automated) is a simple a table naming techniques "to share information" (these are the most numerous), "to compile input and provide feedback", or "to bring people together". This table allows the planner to quickly identify a type of technique that may be appropriate for a given situation, but does not point the way to more information. Three types of comments are offered for each technique: "Always think it through", offers short advice to orient the planner's choice; "What can go right" and "What can go wrong" reveal strong or weak points of the technique.

International Risk Governance Council (IRGC) (2013), Stakeholder Engagement Resource Guide.

<http://stakeholder.irgc.org/resource-guide/>

The IRGC proposes a governance framework relevant for all organisations whose activities involve the creation or the management of systemic risks with impacts on human health and safety, on the environment, on the economy or on society at large. It advocates communication and involvement throughout the cycle of assessing, evaluating and managing risks. The online IRGC Resource Guide presents the framework as well as the "why" and the "how" of stakeholder involvement. The aim is to assist risk managers and communicators to design stakeholder involvement programmes that will be responsive to the needs of the various audiences and that ensure high quality scientific input and fair representation of public values and preferences. Instead of pointing to individual tools, the Resource Guide briefly describes 28 key manuals on stakeholder involvement covering a range of risk issues and case study experience. In an automated online function, these manuals can be filtered according to the outcomes or contribution expected from involvement: Communication (behavioural change, literacy); Feedback (representation of public preferences, informed consent); and Co-Determination (self-commitment, co-regulation/management).

Implementing Public Participation Approaches in Radioactive Waste Disposal (IPPA) Toolbox.

<http://toolbox.ippaproject.eu/index>

This web-based application was developed as part of IPPA (Implementing Public Participation Approaches in Radioactive Waste Disposal), a project under the Seventh Framework Programme: Euratom. It distinguishes between participation "processes" which combine several tools; these "tools" or techniques in themselves ranging from very simple to complex; and "methods" which strictly prescribe design and conduct. The automated database of 33 entries may be filtered on level and phase of decision-making, number and types of stakeholders involved, level of participation, frequency of meetings, and implementer of the tool. It is possible to compare up to 5 tools, methods or processes. The site also puts forward guiding principles for an adequate organisational framework (which sets rules, ensures resources, and provides clarity on objectives and on the subsequent use of participant input).

Participation Compass.

<http://participationcompass.org/>

This automated website allows the user to query a database of participation methods on the following criteria: type of change targeted; cost; number of participants, their recruitment and representativeness; face-to-face vs. online processes. It points to written resources and guides about participation and refers the reader to expert organisations. Finally, it enables site users to contribute to the database with methods and case studies. At time of publication, the database contained 53 methods and 36 cases. These are very briefly described but the organiser's website is indicated each time.

Engagement experience, research projects and case study reports.**ACN-France (2012), Aarhus Convention and Nuclear: Summary Report, Association Nationale des Comités et Commissions Locales d'Information.**

www.anccli.org/wp-content/uploads/2014/07/English-version-ACN-France.pdf

Also available in French: www.anccli.org/wp-content/uploads/2014/07/Rapport-final-ACN-France-1.pdf

The highly pluralistic ACN Roundtable conducted in France 2009-2012 under the High Committee on Transparency in Information and Nuclear Safety investigated experience and reported three themes: "Process of selecting sites for low-level, long-lived waste", "Public access to information and participation in decision-making", and "Competence building and access to expertise – what is needed to assure true participation?".

Arnstein, S. R. (1969), "A Ladder of Citizen Participation", *Journal of the American Institute of Planning*, Vol. 35, No. 4, July 1969, pp. 216-224.

<http://lithgow-schmidt.dk/sherry-arnstein/ladder-of-citizen-participation.html>

Also available in Russian.

The classical foundation reference cited throughout the stakeholder involvement field.

Aven, T. and O. Renn, (2010), "Stakeholder and public involvement", *Risk, Governance and Society*, Vol. 16, pp. 181-200.

http://link.springer.com/chapter/10.1007/978-3-642-13926-0_10

Beierle, T.C. and J. Cayford (2002), *Democracy in Practice: Public Participation in Environmental Decisions, Resources for the Future, Washington, DC.*

This book (208 pages) reports a systematic study of 239 US cases to evaluate whether, and when, public participation improves environmental decision making. The authors show that "public participation has not only improved environmental policy, but it has also played an important educational role and has helped resolve the conflict and mistrust that often plague environmental issues". Seen among the key factors for success are agency responsiveness and participant motivation. "For policymakers, political leaders, and citizens [the book] provides concrete advice about what to expect from public participation and how it can be made more effective."

A presentation given by Beierle, T.C. and J. Cayford summarising the findings of their book is available in OECD/NEA (2004), *Stakeholder Participation in Radiological Decision Making: Processes and Implications*, 3rd Villigen Workshop, 21-23 October 2003, OECD, Paris.

www.oecd-nea.org/rp/pubs/2004/5298-stakeholder-villigen-3.pdf

Bergmans, A., M. Elam, D. Kos, M. Polic, P. Simmons, G. Sundqvist and J. Walls (2007), *Wanting the Unwanted: Effects of Public and Stakeholder Involvement in the Long-term Management of Radioactive Waste and the Siting of Repository Facilities, Final Report CARL project.*

<http://uahost.uantwerpen.be/carlresearch/docs/20080222112500ZGYI.pdf>

The CARL research looked at the effects of stakeholder involvement on decision-making in radioactive waste management (RWM) in Sweden, Belgium, Slovenia and the UK. The report focuses on: principles and practices that have characterised stakeholder involvement in RWM; the integration of such initiatives with technical programmes; and the influence of contextual (historical, social, political) factors on particular participatory initiatives and their outcome.

Bryson, J.M. (2004), “What to do when Stakeholders Matter: Stakeholder Identification and Analysis Techniques”, *Public Management Review*, Vol. 6, Issue 1.

www.tandfonline.com/doi/abs/10.1080/14719030410001675722#.VEFt_mUeCk

This 33-page article combines scholarly considerations with practical pointers. Written mainly for managers in the public service, it advises combining a small number of techniques to support reasoning about which stakeholders to involve. The techniques take into account issues of power and opposition and their effects on participation.

Chess, C. (2000), “Evaluating Environmental Public Participation: Methodological Questions”, *Journal of Environmental Management and Planning*, Vol. 43, No. 6.

www.tandfonline.com/doi/abs/10.1080/09640560020001674#.VEfGX_mUeCk

Commission nationale du débat public (CNDP) (2014), *Bilan du débat public : Projet de centre de stockage profond de déchets radioactifs en Meuse / Haute-Marne (Cigéo), 15 mai – 15 décembre 2013, CNDP, Paris.*

<http://cpdp.debatpublic.fr/cdpd-cigeo/informer/documents-cdpd/compte-rendu-bilan-debat.html>

This summary and reflection (in French) by the president of the CNDP discuss the context of the debate, including objections from the civil society as to its timing and legitimacy (some 44 NGOs considered that the debate should have been scheduled after another national debate on energy transition and a smaller group of opponents to the project disrupted the debate meetings, which had to be cancelled). The summary outlines the response by the Commission which added new techniques to replace the meetings. It provides statistics on public participation, here measured by followers on Facebook and Twitter, connections to webinars, visits to the debate website, questions and opinions registered there, and perhaps most notably the submission of 154 "stakeholders' statements" (*cahiers d'acteurs*). Up to four pages including illustrations could be submitted and were formatted and published as downloadable brochures by the Commission. These remain available online and represent a large spectrum of opinion and information.

Cotton, M. (2009), “Evaluating the ‘Ethical Matrix’ as a Radioactive Waste Management Deliberative Decision Support Tool”, *Environmental Values*, No. 18, pp. 153-176.

www.ericademon.co.uk/EV/EV1807.html

Reviews a systematic participative method for assessing ethical aspects of decisions, for application in the radioactive waste management field.

Community Waste Management (COWAM) Network (2003), *Nuclear Waste Management from a Local Perspective: Reflections for a Better Governance, Final Report, Mutadis, Paris.*

www.cowam.com/documents/cowam-fr2003.pdf

Also available in French.

COWAM, or Communities and Waste Management, is a European Commission-sponsored networking and research initiative. The final report (58 pages) from the first stage of the programme

(2000-2003) gives a multi-stakeholder view of how local, regional and national partners have been – or should be – involved in making RWM decisions that will have impacts on the local community. “[...W]aste management is a global problem looking for a local solution. For this reason, there is an increasing need to have society, and notably directly concerned local people, involved in the decision-making process. [...T]he involvement of the regional and local communities in the decision-making process appears more and more to be a key dimension.” The report details seven local case studies, and delivers the recommendations developed during the COWAM process, in itself an example of stakeholder involvement.

Dabrowska, P. (2006), *Civil Society Involvement in the EU Regulations on GMOs: From the Design of Participatory Garden to Growing Trees of European Public Debate?*, Submitted to the *Journal of Civil Society* within the framework of a workshop at MZES Mannheim, CONNEX RG4 Project, September 2006.

eucenter.wisc.edu/Conferences/GovNYDec06/Docs/DabrowskaArticle.pdf

Reviews the strategy of the European Commission to involve civil society in the EU policy on genetically modified organisms, combining permanent advisory bodies composed of selected civil society organisations, written consultations resulting from statutory reporting obligations, and ad hoc open meetings to exchange views directly.

Danielson, S., S.P. Tuler, S.L. Santos, T. Webler and C. Chess (2012), “Three Tools for Evaluating Participation: Focus Groups, Q Method, and Surveys”, *Environmental Practice* No. 14, pp. 101–109.

The systematic assessment methods reviewed here require a certain resource investment.

United Nations Economic Commission for Europe (UNECE) (2013), *Report of the Task Force on Public Participation in Decision-making, Joint Event on “Public Participation in Decision-Making in the Nuclear Domain”*, ECE/MP.PP/WG.1/2013/6, 12-13 March, 2013, Luxembourg.

www.unece.org/fileadmin/DAM/env/pp/ppdm/4th_PPDM/ECE.MP.PP.WG.1.2013.6_as_submitted.pdf

The goal of the Aarhus Convention and Nuclear (can) initiative was to examine the opportunities and conditions of public information and participation in Europe as a means of contributing to strengthening nuclear safety in the region. “While meetings at the EU level had their value it was even more important to strengthen national initiatives, such as the ACN national roundtables already held in seven countries.” The proceedings of the final ACN conference draw together lessons learnt during the four-year process and consider possible actions to further increase public engagement in nuclear activities.

US Environmental Protection Agency (EPA) (2001), *Stakeholder Involvement and Public Participation at the US EPA: Lessons Learned, Barriers and Innovative Approaches*, EPA-100-R-00-040, Washington, DC

www.epa.gov/evaluate/pdf/stakeholder/stakeholder-involvement-public-participation-at-epa.pdf

This short report (20 pages plus notes and bibliography) reflects on the lessons learnt over the course of two decades of stakeholder involvement efforts. These lessons revolve around topics such as: “establishing trust “; “credible data and technical assistance”; and “recognising links between environmental, economic, and social concerns”. Each is expressed through brief, explicit references to EPA experience. The level of detail remains quite general. Overall, the tone is one of reassurance; by learning about the many mistakes made along the way and the barriers encountered, the reader may avoid some of them. The section on innovative approaches to stakeholder involvement mentions a variety of events set up locally by EPA, year by year. This document does not give a systematic matrix or detailed information that will help practitioners choose among techniques, but it may spark ideas.

U.K. Health and Safety Executive (HSE) (2001), *Stakeholder Participation Methods: Scoping Study*, Contract research report 317/2001 prepared by G. Breakwell (U. Surrey) and J. Petts (U. Birmingham), Her Majesty's Printing Office, Norwich.

www.hse.gov.uk/research/crr_pdf/2001/crr01317.pdf

This technical paper (16 pages) examines how the public that are difficult to access (DAP) can be reached and thereby included in consultations. "DAP" include minority or disadvantaged social groups, small and medium sized enterprises (SMEs) and micro firms, etc. This is not a handbook but it contains practical information on how to get people's attention and impact their behaviour, factors that turn off attention and participation, etc. This paper could be used as background in planning a consultation that requires reaching out to a very broad public.

Joss, S. (editor) (1999), "Special issue on public participation in science and technology policy- and decision-making: ephemeral phenomenon or lasting change?", *Science and Public Policy*, Vol. 26, No. 5, October.

This scholarly collection includes detailed case studies of five methods for public involvement (from focus groups to web-based consultation) as well as theoretical analysis.

Joss, S. and S. Bellucci (editors) (2002), *Participatory Technology Assessment: European perspectives*, Centre for the Study of Democracy (University of Westminster), London.

http://www.tekno.dk/pdf/projekter/europta_Report.pdf

This scholarly book, based on the EC-funded European Participatory Technology Assessment (EUROPTA) research programme, reviews the use of citizens' panels, scenario workshops, consensus conferences and other participatory techniques to assess societal choices. Sixteen cases include urban traffic, drinking water, genetic modification, and electricity production modes. General factors for effective and efficient management of participatory arrangements are identified.

Justice and Environment, European Network of Environmental Law Organizations (2013), "Public Participation in Spatial Planning Procedures: Comparative Study of Six EU Member States", Brno, Czech Republic.

www.justiceandenvironment.org/_files/file/2013/Land%20use%20planning%20and%20access.pdf

This comparative study written by jurists uncovers structural, attitudinal and behavioural reasons why public participation has not been fully implemented in six states located in Europe.

Kahane, D., K. Loptson, J. Herriman, and M. Hardy, (2013), "Stakeholder and Citizen Roles in Public Deliberation", *Journal of Public Deliberation*, Vol. 9: Iss. 2, Article 2.

www.publicdeliberation.net/jpd/vol9/iss2/art2/

This paper explores theoretical and practical distinctions between individual citizens ('citizens') and organised groups ("stakeholder representatives" or "stakeholders" for short) in public participation processes convened by government as part of policy development. Distinctions between "citizen" and "stakeholder" involvement are commonplace in government discourse and practice; public involvement practitioners also sometimes rely on this distinction in designing processes and recruiting for them. Recognising the complexity of the distinction, we examine both normative and practical reasons of why practitioners may lean toward—or away from—recruiting citizens, stakeholders, or both, to take part in deliberations, and how citizen and stakeholder roles can be separated or combined within a process. The article draws on a 2012 Canadian- Australian workshop of deliberation researchers and practitioners to identify key challenges and understandings associated with the categories of stakeholders and citizens and their application.

Lavelle, S., G. Hériard Dubreuil, S. Gadbois, C. Mays and S. Schneider (2010), « Démocratie constructive et gouvernance de la technique: Les conditions de la gouvernance démocratique dans un processus technique et social complexe ; l'exemple du projet européen Cowam-in-Practice dans la gestion des déchets radioactifs », *Revue Gouvernance*, Vol.7, Issue 2, Winter 2010.

www.revuegouvernance.ca/images/content/Spring2007/lavelle_et_al.pdf

Presents the concept of constructive democracy as an alternative or complement to participative democracy. Cites the co-operative research experience of “Community Waste Management in Practice” which enabled local and institutional stakeholders from five European countries to identify research needs and investigate the topics useful to elucidating radioactive waste management in their context, resulting in “European Union-level Guidelines for the Inclusive Governance of Radioactive Waste Management”. www.cowam.com

National Research Council (NRC) (1996), *Understanding Risk: Informing Decisions in a Democratic Society* (P.C. Stern and H.V. Fineberg, editors), National Academies Press, Washington, D.C.

www.nap.edu/openbook.php?isbn=030905396X

With a mix of theory and practical examples, this landmark book builds the case for an “analytic-deliberative” process involving scientific experts, affected persons and decision-makers. It targets getting the “right” science and the “right” participation to address risk issues effectively. An appendix gives a brief description of a number of involvement techniques.

National Research Council (2008), *Public Participation in Environmental Assessment and Decision Making*, Edited by Dietz, T. and P.C. Stern, The National Academies Press, Washington D.C.

www.nap.edu/catalog.php?record_id=12434

“Proponents of public participation argue that those who must live with the outcome of an environmental decision should have some influence on it. Critics maintain that public participation slows decision making and can lower its quality by including people unfamiliar with the science involved.” A major study gathering arguments both pro and con, this dynamic and readable book of 322 pages “concludes that, when done correctly, public participation improves the quality of federal agencies’ decisions about the environment. Well-managed public involvement also increases the legitimacy of decisions in the eyes of those affected by them, which makes it more likely that the decisions will be implemented effectively. This book recommends that agencies recognize public participation as valuable to their objectives, not just as a formality required by the law. It details principles and approaches agencies can use to successfully involve the public.”

Ney, S. and C. Mays (2000), *Thinking about Pension Reform: Discourse, Politics and Public Participation*, Inception Report to the EC Programme on Improving the human research potential and the socio-economic knowledge base, International Centre for Cross-disciplinary Research ICCR, Vienna.

<http://stevenney.org/page4/index.html>

Annex B (7 pages) describes nine participatory techniques organised according to type of output (information or decision), scale (large or small), and process (bottom-up or top-down).

US Nuclear Regulatory Commission (NRC) (2003), *Report of the Public Communications Task Force*, US NRC, Washington, DC.

www.nrc.gov/reading-rm/adams.html (using access number ML032730836 or search using title):

An eight-member internal task force evaluated current public communication effectiveness at the NRC and determined the needs of the agency. Ten strategic recommendations are explained and justified. This report (23 pages) treats the agency’s performance with realism, making its recommendations all the more relevant and understandable. The reader will find an integrative vision of what public communications should be. Additionally, the forthrightness of the report could facilitate the assessment of current performance in other large organisations with a public mission.

Oughton, D. and S.O. Hansson (2013), *Social and Ethical Aspects of Radiation Risk Management*, Elsevier Science, Amsterdam.

<http://store.elsevier.com/Social-and-Ethical-Aspects-of-Radiation-Risk-Management/isbn-9780080450155/>

State of the art of ethical studies in the radiological protection field, including some stakeholder involvement cases and reflections.

Perko, T., J. Valuch, A. Nagy, P. Lammers and C. Mays (2013), *Overview of Mass and New Media Treatment of Ionizing Radiation Topics: The Case of Fukushima*, EAGLE Deliverable 2.1, SCK-CEN, Mol, Belgium.

eagle.sckcen.be/en/Deliverables

Includes a useful table of best practices for institutional (post-)crisis communication in the new media context.

Raimond, R.R. (2001), *Trust and conflict in public participation*, Report, Division of Hazardous Materials and Waste Management, Colorado Department of Public Health and Environment, Denver.

www.mubs.ac.ug/procdocs/Moral%20Distress/trust%20and%20conflict%20publicparticipationreport.pdf

This straightforward report contains a useful discussion of evaluation. It uses psychological research to help practitioners understand the roots of public attitudes, for instance in situations of environmental contamination, and discusses how issues like anger, conflict and dealing with “difficult individuals” have been addressed in a variety of government-led participatory actions. It includes six case studies and a significant theoretical and practical bibliography with short annotations.

Regional Environmental Center (REC) (2013), *Decision making for the future: Applying the Aarhus Convention in Radioactive Waste Management*, REC, Szentendre, Hungary.

www.rec.org/publication.php?id=428

This publication usefully reviews the main requirements of the Aarhus Convention, their implications and their application in the context of radioactive waste management. It also reports analytic discussions held in the Czech Republic, Poland, Romania, the Slovak Republic and Slovenia, as part of the European Union’s Seventh Framework Programme for Research (FP7) Implementing Public Participation Approaches in Radioactive Waste Disposal (IPPA).

Renn, O. and P.J. Schweizer (2009), “Inclusive risk governance: Concepts and application to environmental policy making”, *Environmental Policy and Governance*, Vol. 19, pp.174–185.

<http://onlinelibrary.wiley.com/doi/10.1002/eet.507/abstract;jsessionid=D31205350046BC182105G6025F8AE052.f03t01>

Renn, O., T. Webler and P. Wiedemann (eds.) (1995), *Fairness and Competence in Citizen Participation: Evaluating Models of Environmental Discourse*, Kluwer Academic Publishers, Boston.

This scholarly book presents detailed case studies of seven models for public participation in environmental decision making (from planning cells to regulatory negotiation). It analyses how well these approaches handle conflict and complexity, as well as other pertinent criteria. This is a major reference for persons interested in the rigorous, theory-based evaluation of participatory approaches.

Renn, O., T. Webler, H. Rakel, P.C. Diemel and B. Johnson (1993), “Public participation in decision making: A three-step procedure”, *Policy Sciences*, 26, Issue 3, pp. 189-214.

Presents a three-step procedure for stakeholder input into public policy decisions. Interest groups each generate a value-tree analysis to identify and weigh their preferences and concerns in

regard to the dialogue issue. Experts then participate in a modified Delphi process in which they judge how each policy option will affect the outcomes of concern to the interest groups. Finally, a panel of randomly selected citizens deliberates on the Delphi results, expert presentations, further fact finding, and panel members' own views, to deliver a report and action recommendations to public decision makers.

RISCOM II (2001), Stakeholder Dialogue: Experience and Analysis. RISCOM II Deliverable 4.1, prepared by J. Hunt, K. Day and R. Kemp.

curie.ornl.gov/system/files/documents/SEA/RISCOM_II_Deliverable_4.1_stakeholder_dialogue_experience_and_analysis.pdf

The overall aim of the European Commission-funded research programme RISCOM II is to “enhance transparency and public participation in radioactive waste management”. This report reviews and analyses European and North American experience in conducting dialogue in relation to RWM. It includes 38 pages of text and tables, including useful definitions and a country-by-country review of site-related consultation. A 21-page appendix briefs on the radioactive waste management and consultation situation (at time of publication) in 12 countries.

RISCOM II (2003), Dialogue Processes: Summary Report, RISCOM II Deliverable 4.11, prepared by E. Atherton, T. Hicks, J. Hunt, et al.

Available upon request, please contact: kjell.andersson@karita.se.

This report (41 pages) describes the RWM dialogues undertaken in the UK under the RISCOM project, and their evaluation. A Discussion Group, a Future Search Exercise, a Scenarios Workshop and a Dialogue Workshop were conducted. Additionally, an experimental Schools Website was developed for students aged 15-16. Each experience is described in a transparent and useful manner, then evaluated on process criteria such as “transparency and legitimacy, equality of access, inclusiveness and ‘best’ knowledge elicited”, etc. Organisational issues also are highlighted, such as staff training to provide the students with the skills to exchange with the public in non-technical language and listen to their concerns. Finally, the theoretical and practical lessons learnt are presented. Then the results are matched against the RISCOM “Model of Transparency”, which is intended to help unfold the complexity of communication and decision making.

Note that the evaluation criteria suggested by this study are reviewed and analysed in contributions by E. Atherton and A. Vári to an FSC Topical Session (OECD/NEA 2003c).

Rowe, G., and L. Frewer (2000), “Public Participation Methods: A Framework for Evaluation”, *Science, Technology and Human Values*, Vol. 24, n° 1, pp. 3-29.:

<http://sth.sagepub.com/content/25/1/3.full.pdf>

This much-quoted paper does not address evaluation but a selection of techniques for public participation. It is based on a study of techniques that have been used for diverse issues in the UK, and groups them according to two families of criteria: process criteria (related to the effective construction and implementation of a participation procedure) and acceptance criteria (related to the potential public acceptance of a procedure).

These criteria are quoted and recalled in the easily available OECD/NEA (2002) study on “*Society and Nuclear Energy: Towards a Better Understanding*”.

<https://www.oecd-nea.org/ndd/reports/2002/nea3677-society.pdf>

Rowe, G. and L.J. Frewer (2004), “Evaluating Public Participation Exercises: A Research Agenda”, *Science, Technology, and Human Values*, No. 29(4), pp. 512-556.

<http://sth.sagepub.com/content/29/4/512.abstract>

A follow-up to the previous reference.

Trustnet 2 (2004) Towards Inclusive Risk Governance, European Commission Directorate-General for Research, Euratom, Brussels.

ftp.cordis.europa.eu/pub/fp5-euratom/docs/trustnet2_projrep_en.pdf

This final report of the Trustnet European Commission sponsored project presents a cogent case for co-framing of socio-technical decisions. Includes brief case studies of collaborative decision making in several technical and national/local contexts.

United Nations Global Compact (2010) Setting up a Multi-Stakeholder Panel as a Tool for Effective Stakeholder Dialogue, A Good Practice Note endorsed by the United Nations Global Compact Human Rights Working Group on 29 March 2010.

https://www.unglobalcompact.org/docs/issues_doc/human_rights/Human_Rights_Working_Group/Stakeholder_Panels_GPN.pdf

One of a series on good business practices for human rights, this 10-page note shares lessons learnt by companies that have set up multi-stakeholder panels at the local or international (global) level. The panels provide advice and external perspectives on the businesses' corporate social responsibility strategy; listening and responding is part of organisational accountability. The note outlines advantages (or potential positive effects) and pitfalls of panels. The high-level recommendations for composing and running the panels will be useful at the early stages of planning for this involvement.

van den Hove, S. (2001), "Approches participatives pour la gouvernance en matière de développement durable : une analyse en termes d'effets", in Froger, G. (ed.), Gouvernance et développement durable, Helbing & Lichtenhahn, Basel.

This chapter (38 pages; in French) reviews participative arrangements in terms of their substantive, procedural and contextual effects on the societal management of sustainable development. Interesting consideration is given to ensuring that participation is not used as a means to justify decisions without having shaped them.

Elements of this chapter are discussed in NEA (2003c).

NEA (2003), The Mental Models Approach to Risk Research: A Radioactive Waste Management Perspective, Secretariat Paper prepared by A. Vári for the Forum on Stakeholder Confidence, OECD, Paris.

www.OECD-NEA.org/rwm/docs/2003/rwm-fsc2003-7-rev1.pdf

Information efforts may fail if materials reflect the "expert" view without responding to the audience's prior understanding and interests. Similarly, opinion polls will not deliver meaningful results if the questions asked are not pertinent to the way people think about the issues. The "mental models" approach developed at Carnegie-Mellon University consists of detailed interviews with different types of stakeholders in order to scope out the various manners of construing the issues. In this way, information and consultation techniques can be successfully adapted and communication among groups facilitated.

Wachinger, G. and O. Renn (2010), Risk Perception and Natural Hazards, CapHaz-Net WP3 Report, DIALOGIK Non-Profit Institute for Communication and Cooperative Research, Stuttgart.

caphaz-net.org/outcomes-results/CapHaz-Net_WP3_Risk-Perception2.pdf

High-level participation may include "legal deliberations as well as novel approaches to include stakeholders and representatives of the public at large. If value conflicts are associated with measures to mitigate or reduce the impacts of [hazards], it is not enough to demonstrate that public planners are open to public concerns and address the issues that many people wish them to take care of. The process of assigning trade-offs between each of the options needs to be open to public input and new forms of deliberation".

Wärnbäck, A. (2012), *EIA Practice: Examples of Cumulative Effects and Final Disposal of Spent Nuclear Fuel*, Ph.D. dissertation (summary), Sveriges lantbruksuniv., Acta Universitatis agriculturae Sueciae, Uppsala.

pub.epsilon.slu.se/8899/

This longitudinal study of the Swedish decision making process includes consideration of community of practice, or how to assess the economic, moral and intellectual independence of institutions staffed by persons of similar training and background, or who move from one institution to another.

Wesselink, A, J. Paavola, O. Fritsch, O. Renn (2011), "Rationales for Public Participation in Environmental Policy and Governance: Practitioners' Perspectives", *Environment and Planning A* Volume 43(11), pp. 2688 – 2704.

“What are we trying to achieve? Is this legitimacy, effectiveness, efficiency or representation? Do all relevant actors agree? Is participation necessarily the best way to realise these goals? What if actors have different purposes and resources? [...W]hile participation is considered a solution by many, the existence of separate participation rationales indicates that the problems they are trying to solve are very different”.

Wesselink, A. and R. Hoppe (2011), “If Post-Normal Science is the Solution, What is the Problem? The Politics of Activist Environmental Science”, *Science Technology Human Values*, Vol. 36, No. 3, pp. 389-412.

<http://sth.sagepub.com/content/36/3/389>

“[...P]articipatory-deliberative policy analysis [is] embedded in political environments [...] with political concerns: how harmful is the information for someone’s power position, how many people believe the problem to be important, how much political support is mobilized through tackling the problem, what are its financial and other types of social and political costs relative to competing problems [...]. Whether and how it is possible to achieve any [engagement best practice] recommendations in a given situation ultimately remains a matter of advocacy, convincing, context-sensitive political judgment and political struggle. [...C]reating space for deliberative experiments, persuading policy makers to listen to scientific findings, and transitions to a fairer and more sustainable world all require political commitment and action.”

Wylie, R. (2010), *Defining an Affected Community*, COWAM in Practice Project Report, Westlakes Scientific Consulting Ltd, Moor Row, Cumbria.

www.cowam.com/IMG/pdf_D2-3_D_Defining_an_Affected_Community.pdf

The COWAM in Practice project (www.cowam.com) allowed stakeholder groups established in five countries to identify and study issues of particular importance in their RWM context. The UK study group found that a “community” must be defined on a number of not only spatial and administrative, but also economic, material and immaterial criteria, and that an extensive set of communities can be “affected” by infrastructure siting.