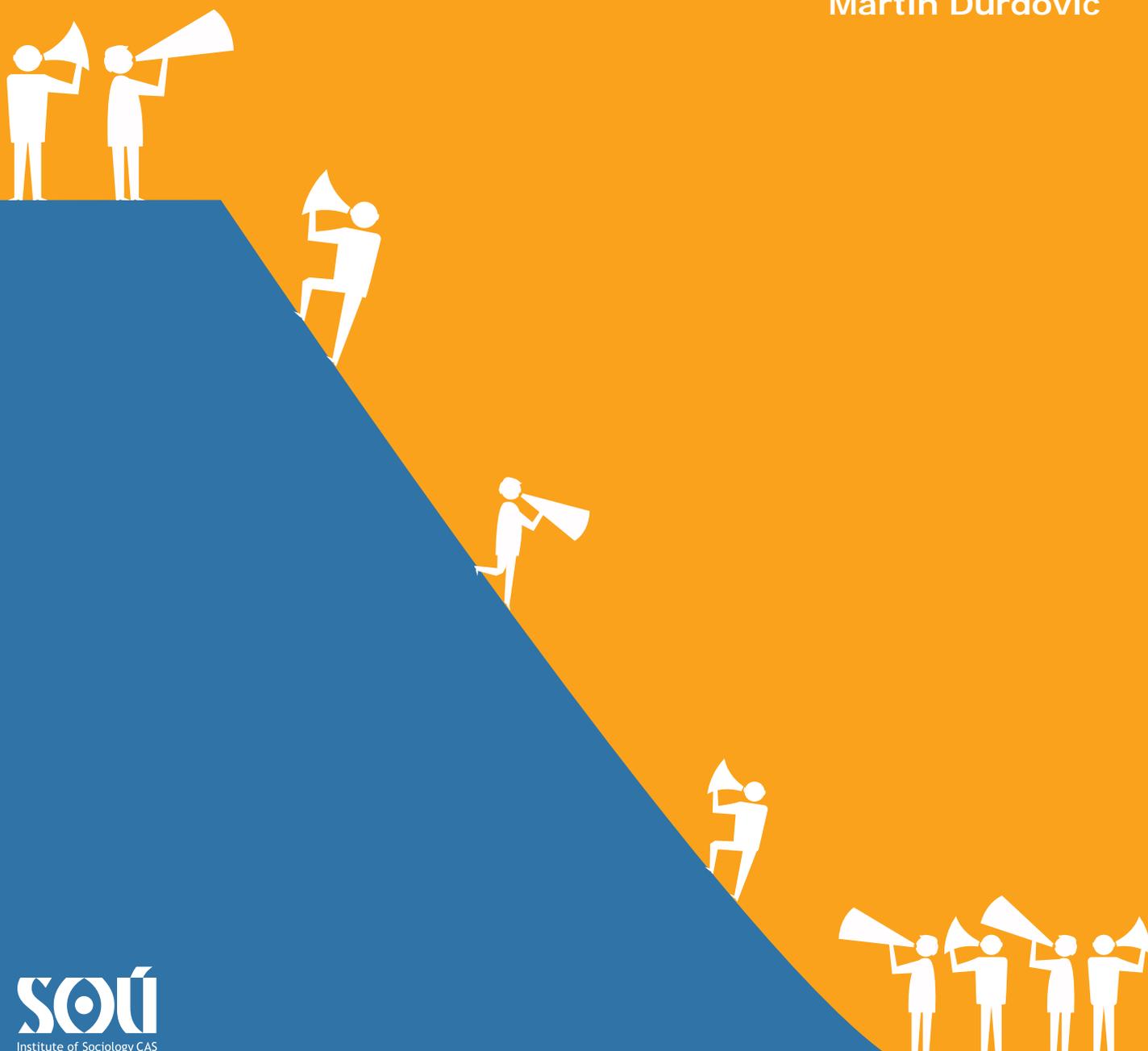


A Guide to Communication and Participation in Decision-Making on Siting a Deep Geological Repository

The Case of the Czech Republic

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Prague 2016

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This guide is based on work on the project 'Social communication and trust building in the process of selecting a site for a geologic repository of spent nuclear fuel and radioactive waste', which was supported by the Technology Agency of the Czech Republic under the OMEGA Programme from 2014 to 2015; project identification code: TD020170.

The Ministry of Industry and Trade issued Certificate No. 0101/32100/16/a, dated 23rd of February 2016, approving this document as a certified methodology for use in the Czech Republic.

ISBN 978-80-7330-289-4

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LIST OF ABBREVIATIONS

CVVM	Public Opinion Research Centre
EU	European Union
DGR	deep geological repository
MPO	Ministry of Industry and Trade
MŽP	Ministry of the Environment
NGO	non-governmental organisation
WG for Dialogue	Working Group for Dialogue on the DGR
RAW	radioactive waste
SOÚ AV ČR	Institute of Sociology of the Czech Academy of Sciences
SÚJB	State Office for Nuclear Safety
SÚRAO	Radioactive Waste Repository Authority
TA ČR	Technology Agency of the Czech Republic
SNF	spent nuclear fuel
HLW	high-level waste

SUMMARY

This guide is the outcome of a project based on qualitative and quantitative empirical research that examined the social embeddedness of decisions about the location and construction of a deep geological repository (DGR) for spent nuclear fuel and high-level waste in the Czech Republic. The findings from this research were collected and systematised into an applicable set of principles and practices for communicating with the public and for participatory decision-making in an effort to promote conflict-free negotiations on the DGR. The guide describes the social embeddedness of the decision-making process, distinguishes between the opinion outlooks of different stakeholders, identifies various aspects involved in the implementation of the DGR project and their social dimensions, and highlights the need to relate the technical acceptability of the DGR project to its social acceptability. The backbone of the guide is the idea of dialogue, wherein the principles and procedures are elaborated both with a view to dialogue as a decision-making process and with a view to the subjects of the dialogue. The guide seeks to accord balanced weight to the opinion outlooks of all stakeholders, so that it is beneficial both to the state apparatus and to affected local communities. The recommendations outlined in the guide draw on the activities of the Working Group for Dialogue on the DGR.

1. Introduction

The process of selecting a location for the construction of a deep geological repository (DGR) for spent nuclear fuel (SNF) and high-level waste (HLW) and the subsequent construction of such a facility are new and unique phenomenon to the Czech Republic in its post-1989 history and one that continues to evolve. The plan to build a DGR in the CR is historically comparable in scope and significance to the construction of the Dukovany and Temelín nuclear power plants in the country, the decisions about which were made by the communist regime. Now, by contrast, the process must respect democratic principles.

The Czech Republic is a member of the European Union (EU) and its political and legal context is important for this project. The handling of SNF and RAW is regulated by the Czech Government in conformity with EU legislation. In 2011 all EU Member States supported EU Council Directive 2011/70/Euratom, which established a 'Community framework for the responsible and safe management of spent fuel and radioactive waste' that adheres to strict and legally binding regulations. In Article 10 of the Directive, which deals with transparency, paragraph 1 reads: '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.' Paragraph 2 states: '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 regulation' [European Council 2011]. The Directive also requires that each Member State create a national programme for the management of SNF and HLW, define its compulsory content and compliance with transparency policy, and establish performance indicators with which to assess implementation of the Directive.

The DGR negotiations in the Czech Republic are also framed by other legislative materials that govern the participation of affected or interested parties (stakeholders) in the negotiations. One such agreement on the international level is the Aarhus Convention, signed by 46 countries, most of them European. The Convention has been in effect in the CR since October 2004 and it addresses issues relating to the legal right to information, political participation, and decision-making on environmental matters [United Nations Economic Commission for Europe 2014]. The entire process of these negotiations is moreover also governed by national legislation.¹ For several years the Czech Republic has been drafting legislation on 'community involvement in the selection of the site repository', but as of the spring of 2016 the bill had not yet made it into the legislative process. SNF and RAW management is regulated by key government policy documents, such as the *Strategy for the Management of Radioactive Waste and Spent Nuclear Fuel* and the *National Energy Strategy*.

¹ The following acts are referred to:

Act No. 18/1997 Coll., on the peaceful use of nuclear energy and ionising facilities (*Atomic Act*).

Act No. 44/1988 Coll., on the protection and use of mineral resources (*Mining Act*).

Act No. 100/2001 Coll., on environmental impact assessments and amendments to related acts (*Act on Environmental Impact Assessment*).

Act No. 183/2006 Coll., on regional planning and the building code (*Building Act*).

Act No. 22/2004 Coll., on local referenda and on amendments to certain acts.

Act No. 118/2010 Coll., on regional referenda and on amendments to certain acts.

Act No. 106/1999 Coll., on free access to information.

Act No. 123/1998 Coll., on the right to information on the environment.

Act No. 500/2004 Coll., on administrative procedure.

How significant a social phenomenon decision-making on where to locate the DG is, is demonstrated by the large number of international scientific projects in the past fifteen years that have sought to examine the social issues of nuclear energy and in particular SNF and HLW management.² Over the years some international organisations have also emerged that organise conferences and seminars and draw up expert reports in an effort to regularly share information, experiences, and best practices with the public, state authorities, and experts in the field of science and the social sciences.³

Every country that has a nuclear reactor in operation must deal with the problem of SNF. All the EU Member States and some other countries around the world that are faced with this issue are considering DGR storage as an option. There is a consensus among scientists and technical experts that DGR facilities represent the most acceptable and safest solution. The purpose of the deep geological disposal of SNF and HLW is to ensure that such materials are isolated long term (for up to 100,000 years) from the environment using a combination of engineering (artificial) and natural (geological) barriers. The details of the DGR method are the subject of continuous scientific research and technological development and the precondition for applying this solution is prior implementation of geological surveys to identify which locations are best suited from a geological perspective as the site for a DGR facility.

The actual decision of where to build a DGR is by no means solely dependent on technical issues. All seven locations in the Czech Republic identified as potential sites on the basis of geological criteria for the construction of a DGR facility cover territory that touches on several municipalities and each one has thousands of permanent residents in its vicinity. There are also many popular recreational sites and important company headquarters in these localities. In order to adhere to democratic principles and enable public participation in decision-making, as legislation and EU policy require, then negotiations on where to site, build, and run a DGR facility must take into account the opinions of everyone who feels affected by the decision. Building a DGR facility must be a technically feasible solution, but it also needs to be accepted by the public.

Finding a way to safely dispose SNF and HLW is the responsibility of all of society. In order to win social acceptance for the construction of a DGR on Czech territory it may be useful to draw on the experience and social science research on similar projects abroad. This will be discussed below in the guide. Nevertheless, discussions of the social aspects of SNF and HLW disposal reveal that it is essential to consider national and local specifics [e.g. Forum for Stakeholder Confidence 2015]. Our project employed empirical social research to capture these specifics. The findings of the research provided us with a basic source of information for applying sociological knowledge and experience from abroad to the case of the DGR negotiations in the Czech Republic.

This text is intended as a guide or methodology. According to the current classification of types of scientific outcomes in the Czech Republic, it is outcome recommended for use in practice [Office of the Government of the CR 2013]. This makes it subject to special requirements. The text does not have the standard format of a research report, which would be limited to presenting findings, or of a scholarly article,

² In particular the following projects funded under the EU Framework Programmes with the support of the European Atomic Energy Community (EUROATOM): RISCOM (2000-2003), COWAM (2000-2003), COWAM2 (2004-2006), ARGONA (2006-2008), CIP (2007-2009), IPPA (2011-2013), InSOTEC (2011-2014), PLATENSO (2013-2016).

³ This includes, for example, the 'Forum on Stakeholder Confidence' (FSC), which operates under the OECD's Nuclear Energy Agency (NEA), and 'Energy – Transparency Centre of Knowledge' (E-TRACK), under the Joint Research Centre of the European Commission.

intended for a group of readers with specific qualifications. The emphasis is on ensuring that the guide is of use to any stakeholders involved in DGR negotiations, first by helping them understand their position in the negotiations, and second by formulating the principles and practices by which to approach these negotiations. The guide seeks to combine the perspective of expertise with language and terminology as accessible as possible to the general public. In some parts of the text more detailed expert arguments were omitted because they seemed to too distracting and would have made the text too long. Wherever it was deemed appropriate because of an issue of greater importance or because additional information is available and can be obtained, the text includes links to references. A complete list of references is provided at the end of the guide.

Almost all of this text have been consulted with the Radioactive Waste Repository Authority (SÚRAO) and the Ministry of Industry and Trade (MPO) and reflects comments submitted by them. Consultation on the guide was also organised in the form of professional seminar held at the Institute of Sociology of the Czech Academy of Sciences on 1 December 2015. Invitations to the seminar were extended to everyone who is in some way involved in the negotiations on the DGR and to relevant experts in the field of the social sciences. There were a total of 15 participants at the seminar and they were provided with a copy of the guide and given an opportunity to comment and express their expectations, interests, criticism, and so forth. This feedback is also reflected in the text.

2. About the Guide

This section explains the purpose of the guide and the methods used to collect and systematise the findings.

2.1 The Rationale for Creating the Guide

The DGR negotiations in the Czech Republic are influenced by the historical context of radioactive waste disposal in the country, which extends back to the 1950s. The disposal of low- and intermediate-level waste, which is produced in medicine, industry and research, as well as in the field of nuclear energy, was dealt with in the past by constructing, at different points in time, four near-surface repositories in the Czech Republic (in Hostim near Beroun, in operation 1959-1964; in Richard u Litoštěvic, in Bratrství u Jáchymova, and a repository on the grounds of the Dukovany nuclear power plant). There are also SNF isolation plants operating at both nuclear power plants in the country. The decision to build a DGR was taken in the 1990s and was based on domestic and international experience with radioactive waste management. After the decision was taken the process of selecting a suitable location began.

Figure 1: Map of the CR showing the seven locations identified as potential DGR sites



Figure 1 shows the seven locations that are currently under consideration as sites for the construction of the DGR, one of which is to be chosen as the final location. Locations (indicated on the map by names drawn from prominent geographic features in each area) were selected on the basis of secondary research on available geological information, satellite research, and a Reference Project conducted in the late 1990s that provides summary descriptions of the technical and economic conditions for future construction in the Czech Republic and includes an Environmental Impact Assessment. In 2003 SÚRAO recommended the six most promising locations, with granitic bedrock found at each one, and in 2011 it added Kraví Hora as the seventh potential location. In-depth geological surveys of the territory of each location must yet be conducted to narrow down the selection.

The DGR negotiations commenced with the public release of information on the candidate sites in 2003. This sparked protests, in response to which a five-year moratorium on geological surveys was announced from 2004 to 2009. The government's policy statement in 2007 stipulated that subsequent steps relating to the DGR would be subject to the consent of the affected communities [Government of the Czech Republic 2007]. The DGR negotiations moved forward with the launch of the 'Working Group for Dialogue on the DGR' in 2010. It was established with the support of the Ministry of Industry and Trade in cooperation with the Ministry of the Environment in order to enhance the transparency of the selection process. The Working Group was made up of representatives of public administration in the affected municipalities, representatives of local civic initiatives and national environmental organisations, and representatives of relevant state authorities (the Czech Senate, Chamber of Deputies, MPO, ME, State Office for Nuclear Safety/SONS, and SÚRAO). The new 'Atomic Act' of 2011 (Act on the Peaceful Use of Nuclear Energy) promised regular annual financial contributions from the state as compensation to municipalities on whose territory the geological surveys are to be carried out

Then there occurred a negative development. Although in 2011 SÚRAO publicly promised not to take any further steps in the selection process without the explicit consent of the affected communities, at the end of 2012 it began the process of submitting an application to survey territory – submitted through DIAMO, a state company – and did so without the consent of the municipalities. This move greatly disconcerted the affected municipalities and local civic initiatives. As a result of this crisis in 2013 the Working Group suspended its work, as it appeared to be a waste of effort. In response to the crisis, in 2014 an agreement was reached to transform the Working Group into a body of the Government Council for Energy and Raw Materials Strategy in the CR. With this new status the Working Group returned to work as a communication platform for the DGR negotiations. Its most important task at present is to finalise drafting the terms of the legislation on community involvement in the process of selecting a DGR location and getting it introduced into the legislative process.

According to SÚRAO's current plan, construction of the DGR in the CR should begin in 2050 and should be completed by 2065. There is a long path ahead to resolving the problem of SNF and HLW through the construction of a DGR facility and many small steps and stages will be involved in the process. The unique and advanced technological nature of the project means that communication relating to the DGR will be accompanied by uncertainty about what exact next steps need to be taken. The DGR negotiations can only be considered a success if all participants are able to come to an agreement on the location ultimately chosen for the facility and if effective mechanisms are set up by which to ensure this agreement is upheld throughout the duration of the construction and operation of the DGR facility.

An evaluation of developments to date indicates that sustaining meaningful and effective negotiations has been a challenge for all the stakeholders. Negative turns in the negotiations have been the cause of financial losses and wasted time, and they have undermined the level of mutual trust among stakeholders, which is an essential precondition for reaching an agreement by rational means. This guide seeks to respond to this situation by presenting an analysis of the negotiations from a sociological perspective.

2.2 The Purpose of the Guide

This guide is intended to offer **a set of principles and practices grounded in sociological research that are designed to facilitate communication with the public and participatory decision-making in an effort to minimise conflict in the course of the DGR negotiations in the CR.**

The sociological analysis behind this guide is described in Section 2.3. The guide draws on sociological findings to take into account, in as balanced and impartial a manner as possible, **the opinions of all the stakeholders in the DGR negotiations**, and it pays particular attention to the viewpoints of the populations in the seven locations who are key stakeholders in these negotiations. In this respect attention is devoted to different **implementation aspects of the DGR.**

The guide has both **an expert and public function** [cf. Burawoy 2007]. At the expert level, the guide provides competent state authorities and SÚRAO in particular with recommendations grounded in empirical social research on how the state should proceed in the DGR negotiations. The guide's public function is that it describes ways of communication and participation appropriate to all important stakeholders in the DGR negotiations.

Sociology has at its disposal established methods for obtaining reliable and often exact quantitative findings on society. The practical application of this knowledge, however, does not take the form of implementation of a technical procedure that produces guaranteed results. In many respects, the application of knowledge depends on the target social environment, or in other words the various opinions and values of individuals and groups, the informal communication between them, possible unintended consequences of negotiations, and so forth. The guide sets out from the understanding that the application of sociological knowledge is often similar to 'soft knowledge', the real meaning of which only becomes fully apparent when the knowledge is actually interpreted by individuals and social groups. The guide seeks to offer some inspiring ideas and guidelines on how to apply these ideas in the hope that some of them naturally 'spill over' into practice in the negotiations on locating a DGR in the CR, which are primarily taking place in the Working Group for Dialogue.

2.3 What's New about This Approach

The issue of the social embeddedness of decision-making on the DGR is a historically new, original, and, in the context of modern Czech democracy, unprecedented subject. Although it shares a link to the more general sociological topic of decision-making on socially taxing construction projects (e.g. the construction of highways, roads, factories, and dams), the DGR has some specific aspects to it. These include the extraordinarily long duration of the project (and the related administrative procedures), concerns about the invisible risk posed by radiation, the unusual structures involved that lie outside ordinary experiences, and the question of responsibility (for the disposal of SNF and HLW, for the environment, to future generations).

The subject is moreover a relatively new one even on the international level. The roots of DGR projects in the countries of Europe roughly date back to the late 1980s. Since then, the problem of SNF and HLW has been discussed to an increasing degree in international sociological literature and particularly in such fields as environmental sociology and risk analysis [Beck 2004; Sjöberg 2003, 2006; Jenkins-Smith, Silva, Nowlin, de Lozier. 2009], communication and decision-making theory [Andersson 2008; Marshall 2005; Meskens, Laes 2009; Brunnengräber, di Nucci et al.

2015; Sundqvist 2001], the analysis of the relationship between society and technology [Callon, Lascoumes, Barthe 2009; Brunnengräber 2015], and the ethics of responsibility [Marshall 2005; Oughton, Hanson 2013]. Some reports from international projects have also been a valuable source of applicable information [Andersson et al. 2011; Bergmans et al. 2014; Elam, Lidberg, Soneryd, Sundqvist 2009; Kallenbach-Herbert, Brohmann, Simmons, Bergmans, Barthe, Martel 2015; Klüver et al. 2001.], as have materials produced by the European Commission [Martel, Ferraro 2014; Martel, Ferraro 2015; European Commission 2005, 2008] and the Organization for Economic Cooperation and Development [Forum for Stakeholder Confidence 2010, 2012, 2013, 2015].⁴ By contrast, there is limited sociological literature on the subject by Czech scholars. But for a handful of exceptions [Ďurďovič, Vajdová, Bernardyová 2014; Ocelík 2015], most such work has either come in the form of descriptive reports on empirical research [Ďurďovič 2012; Ďurďovič, Marešová 2014; Ďurďovič, Vajdová, Bernardyová 2015; Čermák, Kyselá, Ďurďovič, Bernardyová 2015] or is the result of participation in international projects [Konopásek, Svačina 2014]. The wider social issues relating to nuclear energy, however, have been dealt with in some recent studies [e.g. Drábová, Pačes et al. 2014; Polanecký, Haverkamp 2010; Ouředníček 2015; Wagner 2015].

A comprehensive research conception underpins this guide and the research project behind it. Preparation of the guide was preceded by 18 months of work on **collecting and systematising research findings**. The most important results of the project conception and its application to the DGR negotiations are presented in Sections 3, 4 and 5 of this document and form the main content of the guide.

The most important source of original information was the empirical sociological research conducted on the topic of the DGR, which sought to capture the full complexity of the DGR negotiations as a social phenomenon using standard qualitative and quantitative data collection methods. The empirical research involved four stages of data collection:

- 1) A survey with a module of questions on the DGR conducted on a representative sample of the Czech population (N=1081) as part of the regular omnibus surveys of the CVVM at the Institute of Sociology of the Czech Academy of Sciences; the survey was carried out 3–10 February 2014.⁵
- 2) Focus group discussions were organised in four locations.⁶ In June and August 2014, two 2-hour discussions took place in each location, each of which had 6 participants selected according to criteria that prioritised maximum diversity (in terms of place of residence, age, education, sex, and the respondent's opinion on the acceptability / unacceptability of the DGR).
- 3) Nine in-depth interviews were conducted with the most important stakeholders in the DGR negotiations and with experts. The interviews took approx. 45 minutes and were conducted in the autumn of 2014.
- 4) A questionnaire survey was conducted in four locations⁷ on a representative sample of the local population (N=300 for each location) on the following weekend dates: 23–24 May and 30–31 May 2015.

⁴ See footnote 3 for a list of projects.

⁵ This stage of data collection developed outside the framework and funding of the grant from the TA CR based on cooperation between SOÚ AV ČR and SÚRAO.

⁶ The budget of the grant allowed the research team to conduct research in just four of the seven candidate locations. Based on careful consideration of various sociological criteria, the four locations the team chose were Čihadlo, Čertovka, Magdaléna and Hrádek. The choice of locations for this sociological research is in no way connected with the process of siting the DGR facility in the CR.

⁷ The questionnaire survey and the focus groups were conducted in the same four localities.

Data from each stage of the research were processed and then analysed and interpreted in research reports.⁸ From a methodological perspective the collection of qualitative data (stages 2 and 3) provided an opportunity to explore the phenomenon under study, while the collection of quantitative data (stage 4) made it possible to statistically verify, refine, and supplement the findings from the qualitative data. Within the overall framework of the project the purpose of the empirical research was not to examine the situation in individual candidate sites but to observe the DGR negotiations as a social phenomenon, with all its essential features, and to convert the findings to applied research in the form of a guide. To this end it was sufficient to carry out the research in just 4 of the 7 selected locations (see also note 6)

The research on the subject of the DGR described above is unique in its methodology and scope. According to available information, it goes well beyond the parameters of other sociological studies that have been conducted on the topic of DGR facilities in Central and Eastern European countries dealing with the issue of SNF and HLW and considering the construction of a DGR facility. However, empirical data alone would have been insufficient and could not have been interpreted in the proper context if from the outset of the research and throughout its course others sources of information had not also been used to collect and systematise findings:

- **International scholarship** referring to similar projects implemented abroad and providing a theoretical frame for the empirical findings. A number of theories were incorporated into the guide. In the most important cases there are references to the relevant publications in this guide.
- **Continuous monitoring and evaluation of the course of the DGR negotiations** and the activities of stakeholders through the media and personal correspondence.
- **Participation in the Czech DGR negotiations** through a representative who on behalf of the Institute of Sociology is a member of the Working Group on Dialogue and attends its regular meetings.⁹
- **Participation in expert seminars, public discussions, and international conferences and fora** (e.g. the seminars on the DGR and nuclear energy organised at the Senate of the Parliament of the Czech Republic, meetings of the Forum of Stakeholder Confidence, negotiations of the Advisory Group on the E-TRACK project, etc.).
- **Participation of the research team members in European projects dealing with the social dimensions of nuclear energy** (currently, e.g., the PLATENSO project).

⁸ Stage 1, which was carried out on top of the original TA CR project, resulted in a separate analytical report for SOÚ AV ČR and SÚRAO [Đurđovič, Marešová 2014]. Stages 2 and 3 resulted in a report analysing qualitative data [Đurđovič, Vajdová, Bernardyová 2015], and stage 4 resulted in a report analysing quantitative data [Čermák, Kyselá, Đurđovič, Bernardyová 2015].

⁹ From 2010 to 2014 the chair of the WG for Dialogue was PhDr. Zdenka Vajdová, who until her retirement at the end of 2014 was also a member of the project research team. Since 2015 SOÚ AV ČR is represented in the WG for Dialogue by Martin Đurđovič, who as a guest and later deputy of Z. Vajdová has however taken part in almost all the meetings of the WG for Dialogue since 2012.

3. The Social Embeddedness of the Decision-Making Process

This guide is based on the concept of **social embeddedness**, which here refers to the social embeddedness of the DGR negotiations [Granovetter 1985]. This term means that decision-making concerning the DGR is embedded in the social relations of everyone the DGR may affect and that it will have significant and long-term social consequences, particularly for the location selected as the DGR site. In order to understand (using sociological analysis) the DGR negotiations, the guide focuses first on describing how they are socially embedded.

3.1 The Opinion Outlooks of Stakeholders in the Negotiations

The composition of people and institutions directly involved in the DGR negotiations in the CR is similar to those in other European countries [Martel, Ferraro 2015]. The DGR negotiations are a form of social communication between representatives of various **categories of stakeholders**, whose opinion outlooks are often very different and sometimes highly conflicting owing to the very nature of the issue. The differences stem from the different values, interests, and objectives of individual stakeholders and from what opportunities they have to influence the DGR negotiations. In order to formulate a guide for DGR negotiations, it is necessary to understand what kind of basic relationships are established between the different categories of stakeholders. To this end some reduction is required. Most of the stakeholders in the DGR negotiations can be categorised according to whether their agenda predominately leans towards support for the **state apparatus** or support for **local communities**. The result of this reduction is presented in Table 1.

The idea for the construction of a DGR was initiated by the state apparatus. The decision was made at the highest levels of the executive branch based on recommendations from experts, and from there responsibility for the project was transferred to lower-level state authorities. The opinion outlook of the state apparatus derives from its interest in effectively implementing the process of selecting a location for the site and the construction of a DGR to resolve the problem of SNF and HLW. The state apparatus is procedurally required to operate within the legal system and adhere to its practical priorities (ensuring safety, adherence to a timetable, economic use of funds, etc.). Respecting the social embeddedness of decision-making on the DGR is in this light considered more an obstacle to than a precondition for effectiveness.

Involving local communities in the DGR negotiations came about in response to the actions of the state. **The opinion outlook of local communities** is expressed as a form of defensive communication, which seeks to defend the socio-economic relations and protect the environment of the selected locations. This does not preclude their being open to the DGR project and thereby also to the state apparatus, as such openness exists in varying degrees in all the candidate localities; the majority, however, are opposed to the project. Defensive communication is formulated on the one hand by local residents. Local civic initiatives and members of municipal councils also contribute, the exceptions being those that are not opposed to the DGR. On the other hand, NGOs contribute to the formulation of defence communication by publicly presenting information and arguments in defence of local interests. Unlike the state apparatus local communities do not have clearly defined priorities and their actions are often responses to developments relating to the DGR. Negative opinions range in

strength from complete rejection of a DGR to a willingness to discuss the conditions of the given location's involvement in the selection of a location provided that the local communities are respected as equal partners by the state apparatus.

Table 1: Categories of stakeholders in the DGR negotiations and their prevailing orientation

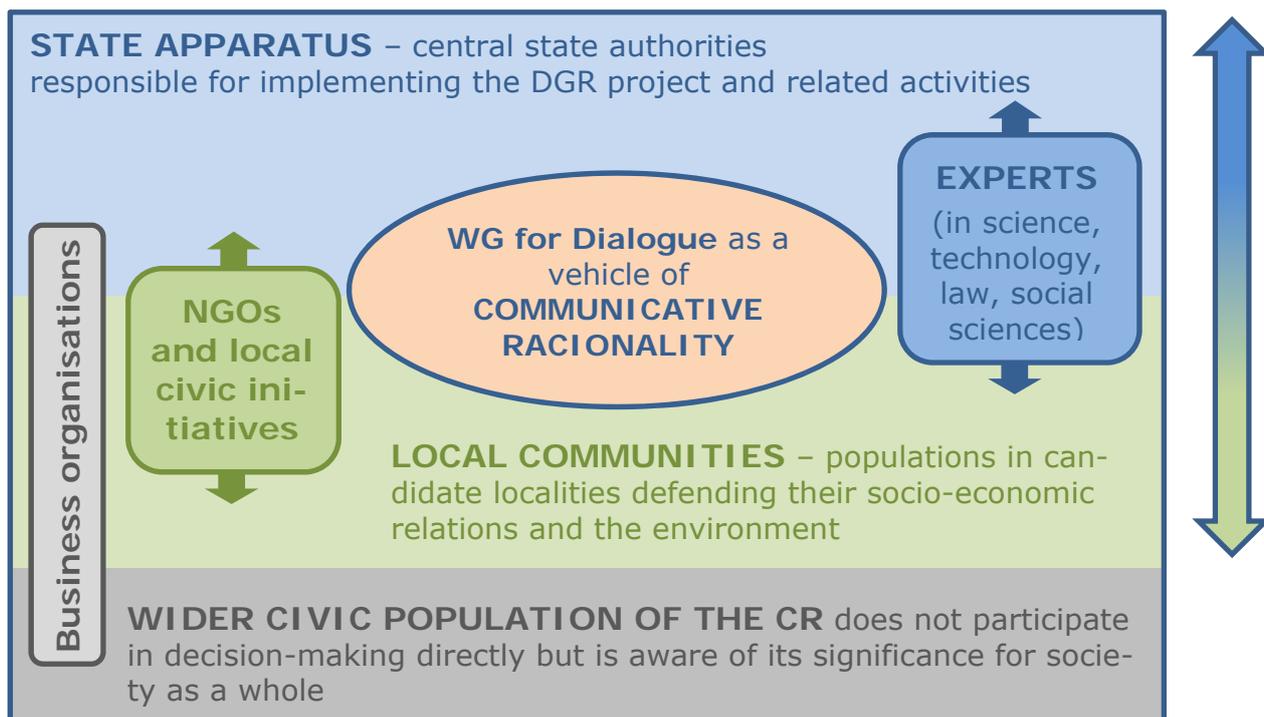
CATEGORIES OF STAKEHOLDERS IN THE DGR NEGOTIATIONS	PREVAILING ORIENTATION OF THE AGENDA
Authorities acting on behalf of the state (i.e. SÚRAO, at a later stage in the process also SÚJB)	STATE APPARATUS
Executive bodies (MPO, MŽP, the Government)	
Legislative bodies (Chamber of Deputies and Senate of the Parliament of the Czech Republic)	
Citizens living in the candidate locations	LOCAL COMMUNITIES
Municipalities in the candidate locations as instruments of local government	
Local civic initiatives	
Non-governmental organisations operating more widely/nationally	The prevailing orientation depends to some extent on circumstances
Experts (scientists, specialists)	
Business organisations involved in the project's implementation (producers of SNF and HLW, specialised businesses, etc.)	

Figure 2 employs the categories used in Table 1 to depict in diagram form the relationships between stakeholders in the DGR negotiations. The arrow pointing in two directions on the right indicates that the relationship between the state apparatus and local communities forms a continuum. Specific actions taken by stakeholders on the side of the state apparatus can support local communities, and likewise specific actions taken by stakeholders on the side of local communities can in some cases support the state apparatus. The degree to which these opinion outlooks are or are not opposed to each other can be used to describe the overall state of DGR negotiations. While as a result of developments in recent years stakeholders in the negotiations have been defending the opposing opinion outlooks of local communities and the state apparatus, to reach an agreement on the DGR project requires on the contrary that the two perspectives will converge to a degree that makes cooperation possible, i.e. the stakeholders will make decisions that take each other into account.

The wider civic population in the CR is as yet only an indirect participant in the DGR negotiations. Although it does not have as much a stake in the decision about the DGR as local communities do, citizens are aware of the seriousness and social significance of the issue of SNF and HLW storage. It is likely that in the next stages of the DGR project, when decision-making moves closer to selecting the final location and information on the structure's technical design becomes more concrete, the DGR issue will be discussed more by the public than it is today, when the selection

process and the construction project are still in their early stages. The civic population will become more sensitive to the issue of responsibility for the disposal of SNF and HLW and will take an interest in the security and economic costs of disposal. The decision-making process relating to the DGR is an important challenge for how democracy functions in the Czech Republic, and from this point of view it would be logical and desirable to see a discussion about whether the decision being made is the right one emerge and proceed through the media where it could be followed by society as a whole. Such a discussion and all its possible consequences could help to ensure that the final decision about the DGR is perceived as just (legitimate).

Figure 2: A diagram of the basic relationships between stakeholders in the DGR negotiations



An important role in the DGR negotiations is played by non-governmental organisations and experts, and whether they lean towards supporting the state apparatus or local communities partly depends on circumstances. **Non-governmental organisations** with a broader national scope and the **local civic initiatives** that work with them tend, with some exceptions, to be oriented towards the local community, which helps to offset the imbalance of power in relation to the state apparatus. Evidence of this prevailing orientation is provided by the list of names of these organisations and initiatives (see Annex 2). The current situation could change, however, if further discussions within local communities led to the spread of the belief that the construction of a DGR facility would offer benefits that are in the interest of the locality. Under these circumstances, new non-governmental organisations and local civic initiatives could emerge that will lean more towards supporting the state apparatus.

The work of NGOs includes drawing up expert reports, particularly on legal matters, and supporting public participation in political decision-making and environmental protection. Overall, however, experts have so far been involved in the DGR project in greater numbers on the side of the state apparatus, where they play an indispensable role in the project's implementation. The technical design of the DGR is being developed by experts in the fields of nuclear physics and mining engineering. Prior to selecting the site of the DGR, geological surveys will be carried out, and collaboration with geologists is required for this work. The state hires legal experts to ensure that

steps taken by relevant institutions are in compliance with applicable legislation. In an administrative respect, again the state seems to have more professionally qualified officials than the local communities do. The municipal authorities in the localities of the candidate sites, by contrast, have not yet had sufficient financial resources to hire experts and in the past they often lacked information with which to assess the expert reports on the DGR project. The result of this is that the necessary conditions (financial, institutional) do not exist for potential experts to be engaged in support of the local communities. The work of NGOs, which is funded by foundations, grants and donations, cannot fully make up for this problem.

Business organisations have to this point been involved in the DGR project to only a limited extent, and when they have been, in most cases it has been to draw up the expert reports for SÚRAO, for which task they are selected on the basis of tender (e.g. to implement the geological surveys). It can be expected that in time business organisations will become increasingly involved. The state apparatus is not qualified to perform some activities relating to the DGR, and these will have to be performed by private companies on a contract basis. The DGR project will require cooperation with suppliers of products and services in the field of science and research, technology and engineering and construction, and in related areas of public transport, housing, accommodation, meals, etc. Decisions on balancing the participation of businesses with respect to the wider market environment and to local communities and their regions is a matter that is part of the complex planning and management of the DGR project. This kind of decision is one that has a social dimension (see also Section 3.2)

The position of experts in the social sciences differs from that of experts in other professions in that their interest is in the DGR negotiations as a social phenomenon, the course of which has economic consequences, particularly for the location finally selected for the DGR facility. In this position, social scientists have an expert function and a public function (see Section 2.2). They therefore need to maintain impartiality and objectivity. Their work cannot be oriented towards supporting either the state apparatus or local communities and must instead be capable of presenting arguments that facilitate communication between both opinion outlooks.

The Working Group for Dialogue is at the centre of the diagram in Figure 2. The WG is made up of representatives of all the stakeholders in the DGR negotiations (see Section 1.1) and it serves as a communication platform. The existence of the WG and its method of work are based on the idea that issues relating to the DGR can best be resolved by trying to reach an agreement between stakeholders in the negotiations through rational dialogue free from the pressure of the authorities or the unwanted influence of emotions. The theoretical foundation of this idea lies in the sociological theory of communicative action [cf. Habermas 1987; Meskens, Laes 2009] that was brought to life in the CR mainly by the ARGONA project was [Vojtěchová 2009]. With this general background the WG for Dialogue marks out the specific path of the DGR negotiations in the CR.¹⁰ It creates the culture in which the different opinion outlooks of stakeholders in the DGR negotiations can be discussed and facilitates the collective organisation of efforts to resolve the shared problem of SNF and HLW

The proposed guidelines are formulated with a view to the work of the WG for Dialogue and are designed to support its role in mediating communication between stakeholders in the DGR negotiations in the Czech Republic.

¹⁰ The work of the WG for Dialogue is also observed by experts abroad because it differs in terms of its focus and composition from similar groups in other countries. To the extent that the WG proves successful it may serve as a source inspiration elsewhere.

3.2 The Implementation Aspects of the DGR Project

The exact parameters of the DGR project are subject to an agreement that will take into consideration scientific knowledge available in all the fields relevant to this issue. The DGR negotiations will consist of a series of successive decisions through which the final contours of the project will be determined. SÚRAO's timetable has set the year 2065 as the year in which the DGR should come into operation. In the time leading up to that date a series of deadlines has been set by which to complete individual stages in the project. The duration of the project is spread over a long time period, which means that there is ample room to adjust some deadlines without the scheduled completion date of the project as a whole being affected. This is a positive factor in the project and it reflects experience witnessed abroad where in most cases delays have been experienced in the course of implementing similar projects. Given how complex this project is, it is impossible to establish firm deadlines in the process unilaterally and in advance as they depend also on the negotiations between all the stakeholders and will be a product of their agreements reflecting ongoing developments relating to the DGR. Although fixing a general timetable is a strategic necessity for the state apparatus, the project will not move forward by adhering to deadlines alone and without the underlying support of progress in the negotiations.

The basic stages of the project are already known. SÚRAO's current plan is to begin by conducting the geological surveys, which will provide a scientific basis for selecting and recommending the final and backup location. In the next stage a complex examination of the final location will be carried out and in-depth studies of the site and the backup location will only be examined if the preferred location proves unsuitable (this will take approx. 10 years). The next stage will see the construction of an underground laboratory at the selected location, which will conduct further research to prepare the way for the construction of the DGR facility (approx. 25 years). The final stage involves the construction of the DGR facility itself (approx. 15 years). All the stages must proceed in conformity with legislative regulations and will be subject to various administrative and other procedures overseen by administrative bodies,¹¹ and SÚRAO will seek collaboration from other competent state institutions at different stages (MŽP in implementing the SEA and EIA, SÚJB to assess safety, etc.).

The administrative procedure governing the technical design of the DGR project will form part of the wider socially embedded decision-making processes. For the purpose of this guide, however, the two should be distinguished in order to reveal how they relate to each other. The first step in identifying social embeddedness was to differentiate between various categories of stakeholders in the DGR negotiations and their opinion outlooks (see Section 3.1). The second step is to develop a conception of **the implementation aspects of the DGR project** that have a social dimension and that now or in the future will have to be taken into consideration and systematically addressed. Table 2 distinguishes nine such implementation aspects that constitute a complex array of social dimensions the DGR project involves.

This is illustrated by the items in the right-hand column, which are assigned to each of the implementation aspects. A look at these items reveals that there are three senses in which there is a **social dimension to the project**. First, there is a social

¹¹ The most important administrative procedures and processes include the procedure for approval to establish a survey area for a special intervention into the earth's crust; the procedure for approval to establish a protected area for a special intervention into the earth's crust; the procedure for permission to conduct mining activity; the process of creating a policy of regional development and planning; an environmental impact assessment (EIA); the procedure for permission to site a nuclear facility; zoning procedure; the procedure to obtain permission to construct a nuclear facility; building approval; the procedure for permission to launch and operate a nuclear facility [Pracovní skupina pro dialog 2015].

dimension to the DGR project **in a narrow sense** in that the given implementation aspect requires coordination between all categories of stakeholders in the DGR negotiations and generally also coordination between local communities and the state apparatus. Communications, political negotiations, economic agreements, and the creation of legal materials will not function in the long term if favourable conditions are not created and in place for the development of a fair relationship between local communities and the state apparatus

Second, there is a social dimension to the DGR project **in a wider sense**. This refers to the consequences that decisions about the DGR may have on social relationships. Particularly in the past decisions were made without the participation of all categories of stakeholders. The municipalities had no opportunity to influence whether or not their area would be assessed as a suitable location for the DGR, even though this put a strain on social relations in the locality. In the future some decisions having to do with safety and technical design issues will likely be made by experts and the public will only be informed of them. It is nevertheless important to keep decision-making on key issues open to all categories of stakeholders. This is the only way to ensure that all opinion outlooks are taken into consideration when decisions are made about the political, legal, and economic conditions of the DGR project that could impact social relations in the local communities. If an all-round consensus is not reached on key issues, steps taken in the project's implementation will be undermined and the decision-making process may be hindered or blocked.

It is also important to recognise that the impact on social relations will extend well beyond the present generation of inhabitants in the affected communities and will affect the next generations, and in the final location in particular will affect future generations for at least the next few centuries until the DGR is closed. This fact raises more general ethical questions about intergenerational responsibility. The local community in the final locality will be faced with having to integrate the fact of the DGR being built and operating in their area into their social relations. This will alter the cultural identity of the area. This unusual process will not occur in isolation from the state apparatus or the wider Czech public, which, as soon as a final decision is made about the location, will play a part in sustaining awareness about the DGR project's progress including the relationships to the final locality.

Third, the DGR project has **an indirect social dimension**. The geological surveys, the construction of the underground laboratories and especially the construction of the DGR will impact the environment. At present only limited debate can take place on the extent of this impact. The debate can only fully be developed once the technical and construction details of the DGR project and where it will be located on the selected municipality's territory are clear. What is certain, however, is that the environmental impact of the DGR project will indirectly affect activities in the local community relating to housing, agriculture, regional tourism, etc. But it is difficult to predict in advance how positive or negative this impact will be. The integration of the DGR structure into social relations in the local community and how the structure is viewed by the wider public also significantly depend on the architectural integration of the DGR complex into the landscape and the consideration given to a possible secondary use of this complex by the local community.

The implementation aspects presented in Table 2 do not in the real world of what goes on surrounding the DGR exist in isolation but are interrelated and often impact each other. This table is intended as a tool for understanding the complexity of the DGR project and the logic behind its structure is subordinated to the purpose of this guide.

Table 2: Implementation aspects of the DGR project and the social dimensions of these aspects

IMPLEMENTATION ASPECT	SOCIAL DIMENSION
Communicative	Publicly access to sources of information on the DGR project
	Public debate where all opinion outlooks are represented
	Transparent communication as a way of building trust
Political	Public and esp. local community participation in decision-making
	Participation of municipal authorities in decision-making
	A clear and functional division of responsibilities between state authorities
Legal	The legislative framework of the process of site selection
	The legislative framework governing the disposal of SNF and HLW
	Legal instruments for obtaining guarantees during implementation of the project
Economic	State compensation to the municipalities on whose territories the selected locations lie
	Socio-economic consequences for the selected location
	Added value of the DGR project for the selected location
Ethical	Responsibility for SNF and HLW produced within the CR
	Responsibility for the burden placed on future generation by the decision about the DGR's location
	Overall fairness of the decision-making process
Safety	Ensuring protection from exposure to radiation in the transfer and disposal of SNF and HLW
	Analysis of potential external risks (e.g. terrorist attack, military conflict)
Environmental	Impact of the DGR project on the environment, esp. in the selected location (e.g. agricultural land, sources of drinking water, forests, recreational areas)
	Impact of environmental changes on the local community (e.g. in residential areas, agriculture, regional tourism)
Technical construction-related	The burden placed by the surveys and the construction work on the local community
	The involvement of business organisations in the surveys and construction work
	Integrating expert reports on technical-construction and social-scientific issues

Cultural	The architectural integration of the DGR structure into the local landscape
	Effect of the DGR project on the cultural identity of the local area
	Long-term international memory relating to the DGR site

The next sections in the guide consider all the implementation aspects of the DGR project. These sections are governed by the opposite logic to that in the table. The implementation aspects are no longer presented in juxtaposition but contextually so that the applicable recommendations are as close as possible to what occurs in real practice. It was impossible to avoid some implementation aspects being given more attention than others. The DGR negotiations in the CR have intensified in recent years and some important progress has been made, especially in the area of law, as the legislation on community involvement has now been drafted. Nevertheless, these negotiations are still in the early stages and no decision has yet been made on which of the seven possible locations is to be selected. This guide caters to the fact that what is seen to be a key issue in this initial stage is the question of how communication on the DGR project should proceed in order to ensure effective public participation in decision-making. Communication and political and economic aspects have thus naturally moved into the foreground.

It would, however, be short-sighted to focus just on these aspects and lose track of the wider context. In the future a key factor in understanding the DGR project and participation in the decision-making process will be **the long duration of the project**. As the project progresses and takes firmer shape, there will be changes and shifts in the agenda of issues that have a social dimension and about which decisions will need to be made. Assuming a final location is successfully chosen, more specific individual questions will make their way on to the agenda and much of what is done at that point will be impossible to undo. Some issues relating to ethics, the environment, technology, and the construction of the DGR facility and the cultural changes it will cause in the affected area may seem remote and difficult to pin down at present. But they will gain temporal relevance at some point. It will be better for all the stakeholders in the DGR negotiations, today and in the future, if they are prepared for that moment. The principles and methods of communication and decision-making recommended in this guide are therefore linked to the most important issues that they take shape around.

3.3 The Social Acceptability of Decisions

The SNF and HLW produced by the Czech state cannot be eliminated with the wave of a magic wand. Even if the SNF originating from existing nuclear reactors, fuel that still has most of its energy potential, was reprocessed for use in fourth-generation reactors of the future, there would still be a large amount of waste left.

Although the number of Czechs who believe that nuclear energy should play an increased role as an energy source has decreased in the last four years, this view is still held by about one-fifth (22%) of the population and more than two-fifths (45%) believe that nuclear energy should be as much a source of energy in the future as it is today [Tuček 2015]. These and other available data indicate that the supporters of nuclear energy outnumber its many opponents [cf. STEM also 2015]. The level of awareness about the issue of SNF and HLW is lower in the Czech Republic than the

average in the EU average [Ďurdovič, Marešová 2014: 7-8]. Nevertheless, the prevailing view is that Czech society should not put off but should deal with the problem of SNF and HLW disposal. The DGR project is regarded as equal in its uniqueness and significance as the construction of a nuclear power plant [Ďurdovič, Vajdová, Bernardyová 2014].

According to a questionnaire survey conducted in four locations (see footnote 6) in 2015, populations in the selected locations take a predominantly negative view of resolving the problem of SNF and HLW by building a DGR. Overall, only 28% of respondents in these locations agree with the general intention to build a DGR in the Czech Republic, and the most frequently mentioned reason for disagreeing was the possibility of developing technology to reprocess waste.¹² A similar share of respondents in all the locations (27%) would more or less agree with a DGR being constructed in their area if it was proven to be safe. Under the current circumstances, therefore, the NIMBY effect does not apply in the CR to decisions about the DGR.¹³ The NIMBY effect refers to a local population rejecting the construction of some facility with a negative impact on its territory, even though it recognises that there is a need for such a facility and that it is in the public interest that it be built. In the Czech Republic, by contrast, wider public recognition that the disposal of SNF and HLW is an important issue for all of society coexists alongside a view on the part of most inhabitants of the candidate localities that rejects the general intention to build a DGR at all.

In these circumstances the state apparatus is not in an easy position. The DGR project places great technical and administrative demands on it. In addition, competent state authorities are faced with the challenges of how to present the project to the public and how to involve the public in decision-making. Communication on the DGR and public participation in decision-making do not represent just another obstacle in the already difficult task that the state authorities are responsible for. They are an essential if not the main part of the DGR project and a precondition for everything else. If the steps the state takes in relation to DGR issues lack broader support and justification (legitimacy), which can only come from public participation, it will be difficult to bring the project to a successful end. And there is sufficient evidence from experiences in other European countries to prove that this is true.

The general public in the CR, local communities in the selected location, and the state apparatus share a common problem, which is the disposal of SNF and HLW. Each of the parties occupies a different position in relation to the problem. The state apparatus has an active role that involves introducing a solution to the problem. Local communities have been presented by the state apparatus with the need to decide whether they are willing to assume the burden of Czech society's responsibility for the production of SNF and HLW. The general public in the CR is not directly affected by the disposal of SNF and HLW, but as consumers of nuclear energy they bear a share of responsibility for its production. The local communities in the selected locations therefore deserve attention and solidarity from the general public. Although there is wide agreement that it is in the public interest to address the issue of ensuring safe disposal of SNF and HLW, views on how to proceed in dealing with this public interest vary. Among the stakeholders in the DGR negotiations, this generates tension and conflicts that are difficult to overcome.

What is important, however, is that in the case of the DGR negotiations the need to overcome disagreements is not a one-off matter. If the negotiations are to be

¹² In 2012, when the same question was posed in seven locations, the percentage of people who agreed with the intention to build a DGR in the CR was 40% for all the locations in total.

¹³ NIMBY stands for 'Not In My Back Yard' and refers to the view often taken towards decisions on such construction projects as road and railways, factories, storage facilities, and even addiction treatment centres [cf. Hermansson 2006; Jenkins-Smith, Silva, Nowlin, de Lozier 2009].

successful in the long term, sustainable cooperation between the state apparatus and local communities must be achieved. One mechanism that could facilitate sustainable cooperation is itself still the subject of negotiation. A decision still in many respects needs to be made about how the decision on the DGR will be made. It is fairly easy however to identify the basic precondition for successful decision-making: **the social acceptability of the decisions taken.**

In this guide social acceptability signifies **a practically applicable approach to the DGR negotiations.** It is defined specifically in relation to the categories of stakeholders in the negotiations and the implementation aspects of the DGR project, which were explained in the preceding chapters. In this sense the social acceptability of the decision refers to an approach in the DGR negotiations that in relation to the different implementation aspects seeks **a specific configuration of the DGR project** that is acceptable to all categories of stakeholders.

The opposite of what is socially acceptable is what we reject as socially unacceptable. This can, for instance, be the behaviour of another person or group, if such behaviour contradicts the laws or morals of the society to which we belong. But sometimes we have a tendency to deem socially unacceptable those things, phenomena, events, people, events, and so forth that we reject because they are different, unfamiliar, and alien to us. We are not always open to getting to know or learn about such things and we allow our habits, emotions, and prejudices to take over. Thinking about the DGR is subject to this same logic. If the local community and the general public see the DGR as an alien and incomprehensible leviathan that they have no control over, they will view its benefits as uncertain and regard it as a source of life-threatening concerns, and then there is no way to defend its siting and construction by democratic means. Implementation of the DGR project depends on those whom it affects being able to significantly identify with it.

What is or is not socially acceptable as regards the DGR is not something this guide can comment on, as this must be determined in future negotiations. What can be envisioned as progress in the open journey of the negotiations and what are the most important clusters of issues that the question of social acceptability will come to revolve around are explored in the next two sections of the guide.

4. Decision-Making through Dialogue

In the European intellectual tradition dialogue is regarded as the means to a rational understanding of the thing that the participants in the dialogue are talking about. Not just any discussion, however, is automatically dialogue. It is often difficult to turn a clash of opinions into dialogue, but there are methods that can be recommended for creating and cultivating dialogue. Some of them are applied in this guide. None of these recommendations is in itself a guarantee of success. Dialogue is born out of openness or responsiveness between participants and to an extent derives from the attitude they assume towards each other. That attitude, in short, reflects an **interest in the knowledge** that can emerge from dialogue, and a **willingness to accept the outcome of the dialogue**, if an outcome is reached. Given the various opinion outlooks and arguments presented in a dialogue it is possible to weigh diverse aspects of the subject of the dialogue, and as a result it is a source of information that is greater than the opinion input of individual participants in the dialogue [cf. Gadamer 1999, 2010].

The notion of dialogue as a source of knowledge is associated with the optimistic expectation that this knowledge will make it possible to make better and more informed decisions and reach agreements even in cases where agreement initially seemed nearly impossible. This notion of dialogue equally applies in the case of the DGR negotiations in the CR and particularly the work of the Working Group for Dialogue. This guide thus focuses on developing a principle whose importance for the DGR negotiations has already been recognised in practice. The Czech experience to date has shown that engaging in dialogue on the DGR is possible, meaningful, and fruitful. The idea behind dialogue inevitably runs up against limitations that arise from the complex nature of reality. Although the overall way in which DGR issues are discussed is guided by the idea of dialogue, that idea is brought to life in actual debates, which are in turn impacted by influences fed by the diverse interests of the stakeholders in the DGR negotiations and sometimes by forces that are opposed to any dialogue. The guide responds to this by elaborating the idea of dialogue into an applicable form that closely considers the context and problems of DGR decision-making in the CR as revealed in the empirical social research and with the aid of other sources of information.

The next two sections in the guide are based on a description of the social embeddedness of the decision-making process (See Section 3). They present a set of **principles and practices for communication with the public and for participatory decision-making on the DGR project**. This focus of the guide is functionally organised into two blocks. Section 4 is based on the current situation, where there is a need to build a mechanism for communication with the public on matters relating to the DGR and ensuring public participation, and sets out the principles and practices for organising DGR decision-making as a **process of dialogue**. Decision-making on the DGR cannot, however, be isolated from the actual issues that are being decided about. Section 5 therefore looks further into the future, when these issues will be raised, and sets out the principles and practices for access to essential **topics of dialogue**.

In each section of the guide a set of principles are formulated that are set out across the individual chapters (they are introduced by small Roman numerals). Each principle is accompanied by comments and where possible elaborated into **proposed practices** in support of the principle. There are therefore two possible ways of working with the guide. The principles can be merged into one list and presented without commentary to form a brief general outline of the guidelines (see Appendix 1: The

Guidelines in a Nutshell). The comments accompanying the principles and the proposed practices offer a more detailed exploration of the issue and suggest multiple ways in which a particular principle can be applied in practice.¹⁴ Table 3 explains the meaning of both terms.

Table 3: Usage of the terms 'principle' and 'practice' in this guide

PRINCIPLES	PRACTICES
<p>They are abstract (similar in meaning to the concept of an 'axiom');</p> <p>They point to how the process of dialogue ought to proceed, whereas in reality it is difficult to realise a principle in full;</p> <p>With respect to the topics of a dialogue they indicate an ideal state that should be striven for based on available knowledge.</p>	<p>These are more practical guidelines geared to concrete situations;</p> <p>They point to activities, procedures, instruments, and recommendations for decision-making processes, etc., towards the fulfilment of principles.</p>

The guidelines are primarily written in a positive vein, expressing what is desirable and beneficial to the DGR dialogue. The principles outline an ideal vision of the decision-making process, which can serve as a model or goal in real life. It was impossible, however, to also avoid mentioning negative and risk factors.

4.1 Cultivating an Environment Conducive to Communication

If the decision-making process relating to the DGR is to result in agreements that are acceptable to all parties, it needs to be thoroughly prepared in advance. This preparation must be based on communication over the long term for the purpose of obtaining and sharing information, comparing different points of view, searching for and considering alternatives, articulating an understanding of the implementation aspects of the project in professional and lay terms, building consensus, and so forth.

Communication generally means sharing information. To this end it is necessary to obtain information, formulate and share it, and receive, evaluate, and respond to it. In the case of the DGR facility the topic of communication is already known, and it is a serious, complex, sensitive, and unexplored subject. Since rejecting or blocking communication in no way resolves the problem of SNF and HLW disposal, it is important to create and cultivate an environment for effective communication.

¹⁴ In this respect attention will be drawn to the possibility to apply combinations of the individual procedures proposed for the principles outlined below. For example, it is possible to combine communication in the form of a press conference (listed under principle i) with communication in the form of a discussion forum (listed under principle iii) or to combine a 'hybrid forum' (listed under principle v) with dialogue on ethical issues (listed under principle xii). Principles can however be just automatically combined and each given situation, available options, and environment have to be assessed.

There are two main sources of barriers to communication on the DGR. On the side of the state apparatus the barrier stems from the state's **monopoly on power** and the temptation that derives therefrom to take advantage of the stronger position and wield coercive power. On the side of local communities a barrier derives from their **emotional engagement** and the resulting influence of emotions on the DGR negotiations. While in its conduct the state apparatus masks its emotions behind cold bureaucratic rules, in their action local communities' power considerations are constrained by the relatively weak position municipalities occupy in relation to the state. Neither power nor emotions can be postulated as something necessarily in opposition to reason. Power and emotions are however only compatible with effective communication to the extent that both act in support of reason and not the other way around.

The state's monopoly on power and the emotional engagement of local communities and their supporters are the initial condition that the DGR negotiations set out from. The purpose of cultivating an environment conducive to communication is not just to change or overcome these conditions, but to prevent a breakdown in the communication that is the essential precondition for decision-making.

i. *Communication is transparent and rests on public access to sufficient information.*

The requirement of transparency of communication in the positive sense means striving for maximum openness and transparency, and in the negative sense means eliminating anything that prevents openness and transparency, such as the withholding or concealing of information, private agreements, covert coercion, and ulterior motives. Transparency of communication requires that the stakeholders in the negotiations present all currently relevant information at the time and that the process of communication is itself open and transparent. Transparency does not arise simply by declaration. It is important to avoid words becoming mere phrases. Transparency arises from a recognition based on recurring experience that it boosts the effectiveness of communication. As such it can become a long-term shared value.

Transparency enhances communication first by maximising the potential of the relevant information that stakeholders in the negotiations take into account when they form their opinions. The second benefit is that decisions founded on transparent communication are generally harder to contest later on, which increases the chances of continuing progress in DGR negotiations. The third benefit of transparency for communication is that the information that serves as the basis for decisions becomes open to public criticism and that opens up opportunities for improving those decisions. The overall level of transparency of communication, or lack thereof, together with the quality of the dialogue and the procedures for participating in decision-making influences the level of trust or distrust between the parties in the DGR negotiations. It is natural in the situation of such negotiations that all the parties involved continuously monitor and evaluate compliance with transparency, whereby failings in transparency negatively affect the development of trust, and vice versa.

Ensuring transparency is challenging both in economic terms (creating the mechanisms and channels for communication and their sustainable use) and in terms of time. These challenges can have negative effects on DGR negotiations because they can make the negotiations more complicated and take longer. Transparency is very important, but there can be objections to it on the grounds that it gets in the way of efficiency. If negotiations continue for too long or if they are being deliberately obstructed by someone, the outcome will not be positive (i.e. transparency), but negative (i.e. impatience and frustration among participants, leading to demotivation, or

reactions from a position of strength, emotional responses). Therefore, as long as such objections are based on rational grounds, it is worthy taking them into account. The right response is not to try to get around transparency but to better organise communication and the procedures for participation in decision-making (see below).

In order to maintain transparency there needs to be in place an institution that – formally or informally – acts as guarantor of the process and with the weight of its voice oversees the transparency of communication [Andersson 2008: 156]. In the Czech Republic this role can be merged with that of the WG for Dialogue, which with its representative membership is well positioned to act in a judicious and independent manner. The fact that of the 33 members of the WG for Dialogue the majority are local representatives (14) and representatives of local civic initiatives (7) is conducive to strengthening the position of local communities against the state apparatus. If the WG for Dialogue is to continue to serve as a communication platform for the DGR negotiations even after the number of candidate locations is reduced, the composition of members will probably have to change (leaving only representatives of the remaining candidate locations, inviting in new members with specialised functions, etc.). According to its current statutes the WG for Dialogue should investigate violations of transparency only after a complaint is lodged by one of its members and its resolution of the situation should be voted on by the majority of members present at the given session. That some conduct has been considered a violation of transparency does not mean it is necessary to introduce explicit sanctions, arbitration or recommend a judicial resolution of the issue, but the simple fact that trust between the parties in the DGR negotiations has been damaged should be acknowledged. Awareness of the potential consequences of such a situation should have a demotivating effect on attempts to circumvent transparency.

Proposed practises:

- *The form in which the DGR negotiations are presented is a way of facilitating access to their **content**. Interest in the DGR and the sharing of information are enhanced by a modern, intelligible, and appealing form of presentation.*
- *Use all possible media in order to share information and focus particularly on the Internet, which supports the **flexible and interactive use of information** (structured website menus, searching, filtering, commenting, chat and discussion forums, sharing on social networks, automated messaging, etc.) and **audio-visual data**, which are elements that can be used to create a coherent and structured presentation.*
- *Under the auspices of the WG for Dialogue build a **central website** dedicated exclusively to the DGR project and presenting balanced expressions of the opinion outlooks of all categories of stakeholders. The website should be the main source of information on developments in the DGR negotiations in the CR and should extend beyond the scope of SÚRAO's official website towards covering the social dimensions of the implementation aspects of the DGR.*
- *The credibility of the website in the eyes of the public will depend on the **quality of the content**, which should cover the following areas in particular: a summary of developments in the DGR negotiations and updated reports, minutes (or preferably videos) from meetings of the WG for Dialogue, information about the state authorities and NGOs that have a representative in the WG and links to their websites, explanations of the implementation aspects of the DGR project and their impact on local communities, links to sources of in-*

formation and relevant documents and audio-visual data, links to similar institutions abroad, tools for communicating with the public, etc.

- Build special **software for online communication with the public** into the website of the WG so that it is possible to organise online discussions. The software could be adapted to the site using commercial software based on Delphi Forums or SciCafe, developed for the purpose of public participation in decision-making.¹⁵ The set up should ensure that online discussions can be organised efficiently and can help to support the work of the WG for Dialogue. Given the variety of topics associated with the DGR negotiations, it would be possible to occasionally organise time-limited discussions (e.g. for a few weeks) moderated by an expert or a representative of the competent institutions, and the course and outcome of the discussions could then be summed up and published as short reports. On-line discussion is used as an instrument for communication, for example, on the website of the German group for dialogue connected to the construction of a DGR facility set up by the German Bundestag.¹⁶
- Encourage all categories of stakeholders in the DGR negotiations to devote a section of their own websites to the DGR, where as well as posting the stakeholder's position on the DGR project they can explain their role as a participant in the negotiations, their current and future responsibilities in relation to the project, their relationship to other participants, opinions on individual issues relating to the DGR, current activities, and so forth. This would help to increase **the transparency of the profiles of the stakeholders** in the negotiations. At present it is only possible to put together a picture of stakeholders based on scattered information and as a result much remains unknown or incomprehensible.
- In communication on the DGR, think about the **wider general public in the CR**, because the disposal of SNF and HLW is the responsibility of society as a whole. The public should be better informed about the process of selecting a location and the plan to construct the DGR than they have been to date, where insufficient or poor access to information has made it difficult to form a complete picture about the issue. (This is reflected in the quality of reports in the public media, where the attempt to take an impartial approach to the DGR issue has been thwarted by short-sightedness and inaccuracies.)
- Journalists are an important intermediary link between the DGR negotiations and the public, so it would be beneficial to generate greater **interest among journalists** – at the national and local level – and to find if possible a serious journalist to follow the project and report on it over the long term.
- Use not just press releases but also, on major issues, **organise press conferences** as part of the communication process, as that will allow the subject to be presented to the public in the context of specific questions asked.

¹⁵ See the websites of the following software developers:
<http://www.delphiforums.com/>, <http://scicafe2.reading.ac.uk/>.

¹⁶ See the relevant section on the website of this group (in German only):
<https://www.bundestag.de/endlager/forum/>

ii. *The foundation of communication is dialogue in the public sphere in which participants respect each other as equal partners.*

Communication and dialogue on the DGR are overlapping phenomena but not one and the same thing. In this guide **communication** is understood in the broad sense as transmission, dissemination, and sharing of information and views on the DGR. It encompasses both official communication among the stakeholders in the negotiations and how, as a result of this communication, ordinary citizens in and beyond the affected locations talk about the issue. **Dialogue** is understood in a narrower sense as a specific mode of communication that reflects this and the following principles outlined in this guide. Unlike communication, which largely occurs in the private sphere, the environment in which dialogue on the DGR can develop is that of the **public sphere**. This term refers here on the one hand to the assembly and public expression of citizens and the organised activities of state authorities and NGOs aimed at publicly expressing an opinion on the construction of the DGR, and thus at influencing the process of the political resolution of this issue. All categories of stakeholders in the DGR negotiations are present in the public sphere in that they express opinions in documents and public debates, on websites, in the media, at meetings of the WG for Dialogue, etc.

Dialogue is an idea about how to collectively resolve practical problems through rational judgment (see the Introduction of these guidelines). Implementing this idea in the case of the DGR negotiations is not easy because it depends on all the stakeholders embracing this idea of communication through dialogue.

The basic precondition for creating dialogue is that the participants in the dialogue are equal in status and they respect this fact. The statutes of the WG for Dialogue highlight the importance of the fact that the 'actors are equal in status' and emphasise the 'principle of partnership' [SÚRAO 2015]. It should not be taken for granted that this condition will be met because the WG for Dialogue is made up of representatives of local communities and the state apparatus, and the relationship between them is not just one of diverse interests but one of **unequal power**. The state apparatus is in a politically (anchored in constitutional institutions), economically (available resources), and professionally (the labour force) stronger position than the local communities. Embracing the principle of partnership under these circumstances requires willingness on both sides, and the only appeal it has is if there is an advantage to it. Next to the pressure of legislative regulations the primary motivation for all the stakeholders in the DGR negotiations to embrace communication through dialogue is the pragmatic expectation that they will achieve more out of doing so than they will by other means.

A **pragmatic motivation** for dialogue contains risks. Dialogue is attainable within the WG on Dialogue because the group has a limited number of members. But the success of the WG depends on the cooperation of the state apparatus as a whole, which consists of institutions such as SÚJB, MPO, MŽP, the Chamber of Deputies, the Senate, the Government and more. It is possible for the outcome of the discussion of the WG will be met with a response in these institutions that does not respect the principle of partnership, i.e. one of the institutions will resort to an authoritarian approach to negotiations from a position of strength. In this case, the pragmatic expectations of local communities that dialogue is the best approach will be thwarted and the entire process of decision-making on the DGR will be at risk. And a similar effect can occur in reverse if the state apparatus is of the impression that local communities are not interested in or are even boycotting dialogue.

The DGR negotiations are faced with the challenge of opening up dialogue with the wider public as well. In particular **the residents of the selected locations must have the opportunity to become partners in the dialogue**. Although it is impossible for dialogue with the public to proceed in the same compact form as what goes on within the WG for Dialogue, if dialogue with the public is neglected the WG could become out of touch with the variety of opinions that exist in the locations and thereby with any impetuses that could help steer the DGR negotiations in the right direction. Particularly in those locations that end up shortlisted as sites for the construction of the DGR, communication and dialogue on the DGR will support participation in decision-making.

From another perspective, the **partnership principle** signifies a form of cooperation in which the partners are relying on each other to be able to collectively reach outcomes that are beneficial or at least acceptable to them. The partnership is founded on the awareness that it is possible to obtain more by joint effort than in isolation. This approach is used in public administration to foster cooperation with civil society and business organisations [Cermak, Vobecká 2011]. Section 5.1 of the guide draws attention to the importance of partnership for creating a plan for the development of the location.

Proposed practices:

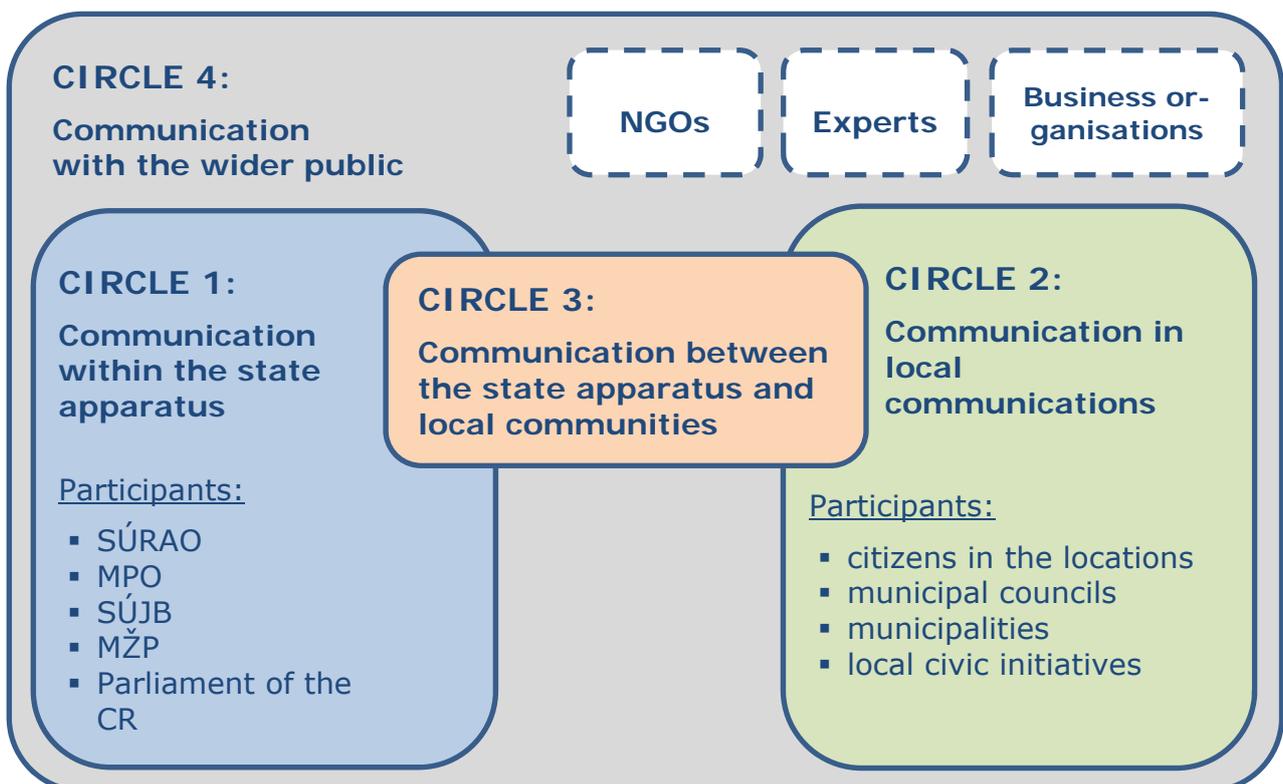
- *Respect for the principle of equal partnership in dialogue is a product of the **culture of communication**, which is created on the basis of the will of individual stakeholders in the DGR negotiations and cannot simply be brought to life by applying particular communication practices and techniques. Given that decision-making relating to the DGR is a political matter, it reflects communication about the issues on the level of the **political culture** in the CR.*
- *The principle of equal partnership in dialogue is cultivated through access to communication relating to the DGR. Currently the WG for Dialogue is an inspiration in this respect as it applies this principle to how it organises its activities, but inspiration should also be sought from institutions and practices observed abroad.*
- *In order to prevent the state from damaging the DGR negotiations through authoritative conduct, representatives of state authorities should be briefed on the complex nature of the DGR issue and the fragile nature of the process of dialogue.*
- *Tools and channels of communication should be developed not just in reference to the local community but also to the general public as a partner in the dialogue with opinions that constitute important input.*

iii. Dialogue is open, but organised.

In order to be able to make decisions about steps in the DGR project, stakeholders in the negotiations have to be able to reach a consensus or agreement on a series of smaller questions. Communication and dialogue represent for all the stakeholders a way of exploring different aspects of the implementation of the DGR project, understanding their purpose, and relating them to the social context of the local community. On the one hand, this should be a process that is as open as possible so that essentially all parties have the chance to be informed and express themselves. On the other hand, this should be a process that is organised to a proper degree. The ability to reach a consensus or agreement when dealing with complex issues typically results from spontaneous discussions that open up issues to that time unanticipated and in which opinions may be sharply polarised. Too much spontaneity, however, can hamper the coordination of discussions and the formulation of conclusions or results from the discussions. Experience with DGR projects abroad shows that it is useful to establish procedures for organising communication and dialogue

Figure 3 ties in with the outline of basic relationships among stakeholders in the DGR negotiations presented above (Section 3.1, Figure 2) and it identifies **four spheres of communication on the DGR**. A different type of communication is characteristic of each sphere, and a different approach needs to be taken to each one when procedures of communication and dialogue are being proposed. Since NGOs and experts do not occupy any firmly anchored position in communication and business organisations have yet to play a more active role in the DGR project, the potential involvement of these two categories of stakeholders is described in the following text only marginally and unconnected to the communication spheres. More on this is provided in Section 4.2.

Figure 3: Circles of communication on the DGR



Circle 1 is the circle of communication that occurs within the frame of the state apparatus, which initiated the DGR project. Responsibility for preparing the project lies with SÚRAO, an agency that operates under the authority of the MPO but whose work rests on collaboration with other government institutions. For other stakeholders in the DGR negotiations it is important that communication within the state apparatus is transparent and in compliance with legislative regulations and any agreements. Formal and informal communication between state authorities is governed by internal rules and practices and to a certain degree necessarily remains inaccessible to the public. There are limitations to the possible scope of open dialogue within this circle of communication and much depends on how willing the individual representatives of different state authorities are to communicate and interact openly.

It is in the common interest of all the state authorities that they speak with one voice on key issues and support each other in performing the tasks relating to the DGR that they are responsible for. However, this is not easy. The controversial nature of the DGR means that is not an attractive topic with which to try to score political points, and although all the state authorities recognise that the project is an extremely serious issue, they have a tendency to stall and shift responsibility to others. The buck-passing and finger-pointing that have marked the facility siting process so far will in no way benefit the DGR negotiations in the future.

Circle 2 refers to communication among stakeholders in local communities. By local community this guide means everyone united by the fact that they live in a locality under consideration in the DGR siting process. Although community members have a shared interest in defending the socio-economic relations and environment, their opinions on how much pursuing this interest is compatible with the DGR project can vary both at the level of the municipality and at the level of the locality.

At the **municipal level** communication occurs among the citizens of the municipality and their elected representatives, who in the local communities have the strongest voice in the DGR negotiations. Citizens as voters are the source from which representatives derive their authority to perform their functions. On the other hand, because the citizens delegate the power to make decisions on their behalf to their elected representatives, they themselves have only a limited ability to intervene in the decision-making. In the case of the DGR, an issue of greater concern than the usual issues on the municipal agenda, this delegation of power may become a source of tension or conflict between residents and local authorities. What problems this situation may lead to can be dealt with by enhancing communication with a procedure designer to bolster the ability of citizens to enter into dialogue with representatives.

At the level of the **locality** communication between citizens and representatives widens to include relations between municipalities and the work of local civic initiatives active across the locality or even multiple localities. Dialogue between communities while involving local civic initiatives and publicly active individuals is essential in order for the common interest of the location to be articulated. Given that each location comprises more than one municipality, there can be greater diversity of opinion and there may be multiple reasons for the diversity (differences in the size of the settlements, population structure, specific economic interests, the varying degree to which they are impacted by the construction of the DGR, etc.). These reasons should be explored in the dialogue and taken into account when formulating the local community's opinion on the DGR. The prevailing opinion in the locations about the activities of local civic initiatives is that they strengthen the position of the municipalities against the state. Their clear opposition to the DGR, however, also distinguishes them from the municipal councils, which take a more favourable view of the project. Civic initiatives are the most inclined to protest and their involvement will be a challenge

for organising dialogue. It would be a missed opportunity, however, if they interpreted participation in dialogue as just an extension of protest.

Circle 3 is the most significant one for decision-making on the DGR. The state apparatus and local communities come together in this sphere from two spheres of communication with very different opinion outlooks and are required to resolve the problem of SNF and HLW disposal. It is possible to speak of progress in the negotiations to the extent that the two perspectives come together. The WG for Dialogue was created to facilitate communication and dialogue in this third sphere. Its work on both sides should tie in as much as possible with the developments in circles 1 and 2, but the results of its work should also feed back into those two circles. At present not enough is known in the local communities or the state apparatus about the WG for Dialogue, its purpose, and its work. In the future it would therefore be a good idea to partly coordinate the work of the WG with communication and dialogue in the local communities. This coordination should be done with maximum emphasis on the quality of the mechanism for communication that is developed and on ensuring it functions for all categories of stakeholders. Without a plan or concept to the approach there may be negative consequences in the form of a (further) weakening of the confidence of local communities in their ability to engage in dialogue with the state apparatus.

Circle 4 relates to communication with the general public. The objective on the one hand is to ensure that Czech citizens have access to the latest information on the progress of negotiations in circles 1, 2 and 3, and on the other hand to provide them with the opportunity to comment on the project. Effective communication instruments should be combined with a focus also on members of the Czech population who are interested in the DGR.

Procedures of communication and dialogue should be designed in reference to information drawn from various reports and publications summarising approaches to and experiences with decision-making on a DGR facility or near-surface facility in other European countries.¹⁷ These materials can offer a wider perspective on the variety of ways of approaching communication and participation in decision-making. The disadvantage, however, is that in some cases the materials are less conceptual as they were drawn up as summaries or for a wider readership or they focus on a specific national context. For a sociologically robust approach to decision-making on a DGR facility, therefore, it is necessary to study scholarly literature on the topic.¹⁸ For the applied focus of this guide, the third important source of inspiration is websites of institutions abroad organising or involved in communication on a DGR facility.¹⁹

¹⁷ Cf. Agence nationale pour la gestion des déchets radioactifs 2013, 2015; Andersson 2014; Andersson et al. 2011; Commission nationale du débat public 2015; Derveaux, Katleen, Antonio Waffelaert et al. 2004; Derveaux 2006; Forum for Stakeholder Confidence 2010, 2012, 2013, 2015; International Atomic Energy Agency 2006, 2011; Kojo, Litmanen 2009; L'Organisme national des déchets radioactifs et des matières fissiles enrichies 2010; Martel, Ferraro 2012, 2015; Nejd, Čermák 2007; The Swedish National Council for Nuclear Waste 2015.

¹⁸ Cf. Andersson 2008; Beirle, Cayford 2002; Brunnengräber, de Nussi et al 2015; Brunnengräber 2015; Burawoy 2007; Callon, Lascoumes, Barthe 2009; Jenkins-Smith, Silva, Nowlin, de Lozier 2009; Meskens, Laes 2009; Offe 2011; Rose, Sæbø 2010; Rowe, Frewer 2004; Sundqvist 2001.

¹⁹ Most notably the following online sources:

- The website of the German group for dialogue set up by the Bundestag: Kommission Lagerung hoch radioaktiver Abfallstoffe (<http://www.bundestag.de/endlager/>);
- The website of a French independent (i.e. with representatives of various institutions) committee organising public debate on a DGR facility: Commission nationale du débat public (<http://www.debatpublic.fr/projet-cigeo-creation-dun-stockage-reversible-profond-dechets-radioactifs-meusehaute-marne>) and the related archive of documents from the public debate on the DGR in France (<http://cpdp.debatpublic.fr/cpdp-cigeo/>);
- The website of the Swiss Nationale Genossenschaft für die Lagerung radioaktiver Abfälle, which is responsible for SNF and RAO disposal (<http://www.nagra.ch/de>), and the office of the Bundesamt für

Proposed practices:

*It is expedient to develop procedures for organising debate on the DGR. On the one hand, these procedures cannot be dictated; they need to be built in cooperation with the stakeholders in the DGR so that they too consider them effective and are willing to adopt them. On the other hand, it is the job of a sociological study to present alternatives to the creation of such procedures because neither local communities nor the state apparatus should be expected to be knowledgeable in this area. The procedures have a greater chance of being effective if they are selected to form a **comprehensive system of procedures** that unites all four circles of communication.*

Communication circle 1: STATE APPARATUS

- *Although opinion on how to proceed in the DGR project may vary between state authorities, the authorities will be better viewed by the stakeholders in the DGR negotiations if they place mutual communication and dialogue above particular strategic and political interests. If cooperation does not work within the state apparatus, it will be hard for it to develop between the state apparatus and local communities.*
- ***Sharing information among state institutions** is essential for preparing quality legislation on the DGR and for a coordinated approach in the executive branch. So far information has been publicly shared primarily through seminars on the DGR at the Senate of the Czech Republic.*
- *Since the DGR project was initiated by the state authorities, they need to agree and put forth proposals for ensuring **financial resources** for organising discussion in every communication circle. It is necessary to devise a systemic solution so that activities relating to the DGR can be planned in the long term and even by institutions outside the state apparatus. Situations where representatives of state authorities make excuses with claims that there is 'no money' (e.g. to pay for the website of the WG for Dialogue) are shameful. Experience abroad has shown that dialogue on the DGR cannot be effectively organised without investing financial resources.*

Energie, which manages the decision-making process on the DGR facility (<http://www.bfe.admin.ch/index.html?lang=de>);

- Website of the Belgian community association STORA (<http://www.stora.org/en>);
- Website of the Swedish scientific and expert advisory body the Swedish National Council for Nuclear Waste (<http://www.karnavfallsradet.se/en/node/29>).

Communication circle 2: LOCAL COMMUNITIES

Table 4: Procedures for organising dialogue in a local community

PROCEDURE	BASIC DESCRIPTION
Local public debate	<i>A debate that is open to the maximum number of participants and intended to facilitate communication and dialogue directly in the local community. It is a forum where information can be shared and opinions confronted. Too large a number of participants complicates the coordination of activities, and the results are difficult to evaluate.</i>
Focus groups	<i>Small groups (approx. 5 to 10 participants) selected with a view to ensuring a diversity of opinions discuss a fixed topic for 1 to 2 hours in the company of a moderator. The discussion is not public, the topic can be explored in depth, the content of the discussion is (usually anonymously) evaluated, and a comparison is made between groups.</i>
Civic committee (panel)	<i>Approx. 12 to 20 representatives of the local community make up a group that has the assignment of discussing and considering in depth over several days a problem in the local community. Members of the committee are presented with necessary information and arguments from various sides, and in turn can ask questions and consult with experts, NGOs, etc. The committee concludes by writing up a position statement in which they present the most important findings and what support they give to the possible solutions under consideration.</i>
Community association (local working group)	<i>This involves a group of 20 to 40 representatives of every opinion outlook in the local community who meet regularly with the purpose of formulating an opinion on behalf of the local community (locality) for negotiations with the state apparatus. This is an institution that supplements the work of local authorities on important long-term issues, when it is best to open up the decision-making to all members of the community or when the community comprises several municipalities. Community associations are often divided into a general assembly, with all members, an executive board that runs the association, and working (sub)groups dealing with specific issues.</i>

Note: Individual procedures are only summarily described for the purpose of this guide.

- *Table 4 presents four well-known and proven procedures for organising dialogue in the local community. The order of the entries is such that each next procedure represents an amplification of the **degree of involvement of local communities** in the dialogue. In local public debates the degree of involvement is relatively low and confined more or less to the time of the debate. The*

same true also in the case of the focus groups, which require the active participation of members of the local community and is wholly focused on understanding what their opinions are.

- Civic committees and community associations are different in that they enable communication and dialogue to **transition to participation in decision-making**. Civic committees are better suited to individual one-off dialogues opened up with community members on specific issues that would otherwise be resolved by politicians or experts (e.g. creating conditions for a major investor to move into the location).
- The DGR negotiations are in principle open to the use of all the aforementioned procedures. Given the nature of these negotiations, however, it would be expedient to apply the procedure that has the highest degree of involvement of the local community and thus initiate the formation of community associations in selected locations. This step should be taken no later than once the first shortlist of locations for the DGR is selected on the basis of geological surveys. The work of the community associations should be linked and coordinated with the WG for Dialogue

Communication circle 3: STATE APPARATUS AND THE LOCAL COMMUNITY

Table 5: Procedures for organising dialogue between the local community and the state apparatus

PROCEDURE	BASIC DESCRIPTION
Round table	A public meeting organised ad hoc between the state apparatus, communities, and where possible representatives of NGOs, experts, or the wider public for the purpose of providing information and clarifying opinion outlooks.
National working group	A group that meets regularly and whose members are representatives of state authorities, communities, NGOs, and experts affected by a particular problem and that has an influence on decision-making affecting the resolution of the problem at the national level.

Note: Individual procedures are only summarily described for the purposes of this guide.

- The WG for Dialogue is an intermediary in the DGR negotiations in the Czech Republic and for it to operate successfully it is important for it to have ties to communication in the local communities and to communication in the state apparatus. It is not necessary to organise round tables.
- The WG for Dialogue is a body suited for **building relationships with similar institutions abroad**. Establishing international contacts and sharing information and best practices could be very beneficial to the DGR negotiations in the Czech Republic as representatives of all categories of stakeholders can learn and take inspiration from how similar situations and tasks were resolved elsewhere. In this way it is also possible to save time searching for what is already known and thereby enhance effectiveness.

Communication circle 4: GENERAL PUBLIC

Table 6: Procedures for organising dialogue with the general public

PROCEDURE	BASIC DESCRIPTION
Online forum	<p>The negotiations can be opened up to a wider circle of people with an interest in the subject through a publicly accessible online forum. Registered members in the forum can as civilians participate in the negotiations, for example, in the following forms:</p> <ul style="list-style-type: none"> ▪ submitting questions and comments in the form of notifications ▪ chatting with politicians, experts and representatives of NGOs, ▪ sharing on social networks, etc.
Environmental impact assessment <i>(Environmental Impact Assessment, Strategic Environmental Assessment)</i>	<p>According to legislation, the impact of on the environment of specific projects is evaluated on the basis of an EIA procedure and strategies on the basis of a SEA procedure. The process involves observing, describing, and evaluating anticipated direct and indirect impacts. The public, administrative authorities and local authorities are provided with an opportunity to comment on the assessment in writing and subsequently the project or strategy is publicly discussed.</p>
A public hearing in the Senate	<p>'On the basis of a petition put forth by least five senators in a Senate Committee, the Senate may decide to hold a public hearing in the Senate. The purpose of public hearings in the Senate is to discuss specific issues within the competence of the Senate with experts and other persons who can contribute information on the issue.' [Rules of Procedure of the Senate of the CR, § 144]</p>
A consensus conference	<p>This is a form of civic commission at a higher national level that consequently has the potential for wider impact (including drawing media attention). Members of a consensus conference are selected randomly as representatives of the general public.</p>
National public debate	<p>Organised efforts to provide information and ensure communication and dialogue with the public, which may include:</p> <ul style="list-style-type: none"> ▪ the use of national media to disseminate information and present opinions, ▪ organising open public debates, ▪ all other procedures are presented in Table 6.

Note: Individual procedures are only summarily described for the purposes of this guide.

- Although all but the last procedure in Table 6 are independent of each other, it

is useful to implement and evaluate them in a coordinated manner.

- *Because online forums operate over the long term it is expedient to include them as a **basic element in the dialogue with the general public on the DGR**. They can be included on the website of the WG for Dialogue.*
- *The implementation of SEA and EIA procedures is regulated by law. Because these are procedures that will be conducted for the DGR in the same administrative manner at the MŽP as many other projects, their potential for public participation will be used only if the local community and the wider public know how to get involved.*
- *Public hearings are an alternative to conferences or seminars in the Senate, which are more open to public participation. It would be appropriate to use this procedure prior to the decision about the final and the backup location for the DGR.*
- *Since the decision on the DGR only indirectly affects the general public, a civic conference is not necessary. It would make sense to organise a civic conference as part of a national public debate on the DGR, and this kind of complex approach has been used in France. In the event of a national debate the conference could be considered for a later stage in the project, when specific information on the DGR will be known and the conditions of siting have been negotiated.*

iv. Dialogue is a path of shared learning.

Communication and dialogue represent a way of elucidating the opinion outlooks of stakeholders in the DGR negotiations and stating them publicly. In this sense, these are open processes requiring that the state apparatus, local communities, NGOs, experts and businesses are willing to listen to arguments and reflect on and to defend their own opinions, and that they are also willing to change their views when persuaded by good arguments. An essential part of dialogue is that those who participate **learn from each other**. It is a mistake to approach dialogue with the purpose of defending a firmly formulated opinion, plan, etc. It is arrogant and irresponsible to believe that anyone can formulate a firm opinion beforehand on such a complex and pressing problem as the disposal of SNF and HLW without hearing from those directly affected by the issue.

4.2 The Exchange of Information between Experts and the Public

Decision-making on the DGR is part of the more general social phenomenon of **the use of technology and its impact on humans and society**. This phenomenon originated in the modern era with the discoveries of science and their conversion to technological inventions that led to the development of industrial society. Science was at the root of the rise in living standards in many countries. On the other hand, scientific discoveries and the rapid introduction of technology ushered in serious problems and risks in the form of environmental pollution, damage to human health, the abuse of weapons of mass destruction, etc. [Beck 2004] Historical experience has shown

that rapid scientific development and the accelerating introduction of technology into the life of society must be balanced by vigilance, caution, and the search for effective measures to counter the dangers and risks that science, despite all its benefits, can give rise to.

This creates pressure to **change the approach to science and technology** [Callon, Lascoumes, Barthe 2009]. Rising living standards have long served to strengthen the belief that science, technology, and social well-being are in harmony. Optimism about the results of research allows scientists to work outside the spotlight and has limited their responsibility for the 'misuse' of science. Expert reports and recommendations from scientists have been picked up by politicians, who, in representative democracy in particular, acquired the right to determine how the new knowledge and procedures would be used in practice. The rest was left to economic agents, whereby the new inventions made their way into manufacturing, services, households, and lifestyles. This approach to science and technology, albeit presented here in a simplified form, can be described as **technocratic**. Although it is in many respects functional, efficient, and compatible with democracy, it leaves the public in the role of just a passive recipient of its benefits, which are decided on elsewhere. As technology and its associated risks increasingly impact the lives of individuals and societies, this approach is proving to be insufficient.

Decisions about the DGR are made in the context of changes in the way of thinking so that more consideration is given to **the potential negative effects that the use of science and technology** can have on human society and the environment. This offers an opportunity to test in the Czech Republic a participatory approach to science and technology, which involves striving as much as possible to involve the public and local communities most affected by the preparation and implementation of the DGR project in the expert assessment of it [Klüver et al. 2001]. The aim is not for them to supplant the irreplaceable work of experts, but for their opinion outlooks to be reflected in decision-making to increase the chances that the technical resolution of the DGR project is socially acceptable. It is good to accompany this approach with communication based on dialogue as a condition of decision-making (see Section 4.1)

v. *The arguments of experts are presented in full and communicated in a manner clear to the general public.*

The case of the DGR is unique in several respects. First, there is the issue of risk to health and life posed by radiation, which is invisible and therefore seems especially dangerous and unmanageable to the public. Second, it is a socially taxing facility whose primary purpose is to address the problem of SNF and HLW that people are unfamiliar with and it is not clear of what extent secondary benefit it can be to the local community concerned. Third, in the eyes of some people, DGR facilities cast a shadow on the positive image of science, because current science and technology have to deal with the problems that were caused by past uses of science and technology to provide Czech society with electricity.

The specific features of the DGR project are partly why the local community and the general public have an **interest in expert information** on the siting criteria, the geological surveys, and the technical details of the construction of the DGR. This interest is not easy to satisfy because the DGR project is extremely complex, is being created on an ongoing basis, and must remain open to new technical developments and to the as yet unknown conditions of what will be the final location [Vokál et al. 2015]. These objective realities add tension to relations and increase mistrust be-

tween the state apparatus and local communities, which has a negative effect on the DGR negotiations. However, it is naïve to think that the difficulties attached to applying a participatory approach, which is supported by EU policies, can be bypassed by overtly or covertly resuming a technocratic approach. On such a sensitive issue as the disposal of SNF and HLW, taking a technocratic approach in a democratic society would inevitably lead to an escalation of tension between the state apparatus and local communities and to public opposition. This would likely further slow the pace of the DGR negotiations and make it necessary to reinvest resources to restore and rebuild a functioning decision-making process

The underlying message of this guide is that the problems connected with decisions on the DGR cannot be dodged but must be dealt with by organising procedures for communication and participation in decision-making. In the case of technical issues, which are of primary importance in the DGR project, the interest of local communities and the general public in technical details cannot be dismissed on the grounds that the information is not yet known or the general public is not qualified to be informed of or to comment on the information. On the contrary, it is a basic task of the competent state authorities to ensure there is communication and dialogue on technical issues relating to the DGR. The purpose of expert evaluation is not to defend itself against the public voice with a shield of incomprehensible expert assessments, but to create professional materials that consider and deal with the questions, comments, suggestions, and concerns of the public.

It is nothing new for SÚRAO and SÚJB to have to perform the function of **translating specialised information in the field of nuclear energy into language intelligible to the general public**. What is unusual, however, is that this translation and the ensuing public debate are this time to take place before the decision is made. Both these institutions bear **social responsibility** to serve as an intermediary between the arguments of experts and the public to a greater extent than for any other existing buildings, facilities and research projects.

It is a difficult task, but it is in the interest of the state apparatus to present expert arguments in a complete and intelligible form. Looking for ways to avoid providing information on a particular issue will make the DGR project look murkier and add to the suspicion among other stakeholders in the negotiations that the state either takes its role lightly or is being purposefully unclear.

Proposed practices:

- *Create the conditions for putting together a group of experts to deal with the issue of the DGR who can then present their expert opinions in public debates. The DGR project is long and complicated and in order for there to be a public debate on expert issues there has to be **good-quality personnel** on the side of the state apparatus. It will be of no benefit to the DGR negotiations to supplement these personnel with hired communications agencies that are not seriously engaged in the issue of the DGR and approach it as a promotional campaign.*
- *Promote **cooperation between natural scientists and social scientists** because decisions relating to the DGR are both a technical and a social matter.*
- *Inscribe communication and dialogue on technical issues relating to the DGR with the character of **'hybrid forums'**, in which specialists in various areas will take part along with representatives of local communities, NGOs and the general public. Hybrid forums, which are intended to break down the barriers between experts and the general public, are compatible with most approaches to*

organising dialogue (see Tables 4, 5 and 6).

- Use expert seminars to acquaint experts in nuclear energy with the social dimension of the implementation aspects of the DGR that must be taken into account in the technical preparation of the project.

vi. Local communities are able to monitor the work of experts.

As well as the presentation of information by experts on the side of the state apparatus, it is important for equal dialogue that local communities in particular are able **to verify this information** and thus be in a position where they are able **to monitor the activities of the state**. The weak position municipalities currently occupy in the process of decision-making on the DGR does not enable such monitoring. Local communities have to rely on information provided by experts employed by the state or information from institutions in the field of nuclear energy. This fact reinforces the sense of frustration among citizens in the selected locations that they have become part of a high-level political and economic game in which they have a place only as spectators and have no influence on anything.

Proposed practices:

- Establish a fund from which each of the selected locations can draw earmarked financial resources **to pay for experts with no ties to the state apparatus or nuclear energy agencies**. A prerequisite for this fund to work is that a procedure be set up for the selection of experts – for example, on the basis of a vote in the community association (see Table 4). The findings of these experts would be a source of arguments for dialogue on the DGR among local communities and the state apparatus in the WG for Dialogue.
- Through open access, education, field trips, public events, etc., **increase the competence of the inhabitants of the locations** to become involved in communication and dialogue on the DGR. The community associations (see Table 4) can be used for this purpose. It is especially important to appeal to active and educated citizens who have the motivation and ability to absorb and share information. Although their opinions on the DGR may vary, by shaping public opinion and initiating activities in their locations these individuals will help to promote interest and willingness among citizens to think about the issue of SNF and HLW disposal and the form the construction of the DGR should take.

4.3 Participation in Decision-Making

Decision-making on the DGR requires the existence of an environment in which communication and dialogue can function (the basic attributes of which are described in Sections 4.1 and 4.2). **The mechanism of communication and dialogue** that underpins discussion of the DGR is an essential step towards establishing the **decision-making mechanism of the DGR**. The latter mechanism should determine the

procedure by which decisions will be made on key issues such as the implementation of the geological surveys, the selection of the final and backup locations, the construction of the underground laboratories, etc.

The guide is of limited use in determining the decision-making mechanism of the DGR. In order to develop a decision-making mechanism acceptable to all sides it must first be the subject of negotiations and decision-making. The following principles of the guide will therefore focus solely on describing how to ensure the **participation of all categories of stakeholders in the negotiations and decision-making**.

vii. *All parties can present their opinions and influence decision-making.*

Real dialogue occurs when the participants are willing to accept its outcome; otherwise participation in dialogue is merely formal and ineffective. That the negotiations are open to everyone affected by the DGR does not mean that their opinion outlooks will actually be taken into account in decision-making. If any categories of stakeholders or their opinions are overlooked in decision-making, this will have negative consequences for further negotiations on the DGR and will increase the risk that the given stakeholders will try to reverse the progress of the negotiations.

This applies to communication circles 1, 2, and 3 (see Table 3). If the opinion outlooks of any institutions of the **state apparatus** are overlooked, there is an increased risk that at some point the negotiations will run aground on the opinion of this institution. If the opinion outlooks of any of the stakeholders in the **local communities** are omitted, there is an increased risk of the outcome of the negotiations being challenged on the grounds that the public has been left out of the decision-making. If the state apparatus overlooks the opinion outlook of local communities in **the relationship between the two sides**, the overall confidence in the possibility of dialogue on the DGR is at greater risk of being undermined. In contrast, a participatory approach in which all sides are involved in dialogue and have an influence on decision-making represents in the long term the surest way of ensuring the social acceptance of decisions. Without social acceptance there is no way of democratically defending the siting of the DGR.

Proposed practices:

- *Procedures for communication and dialogue should be formulated so that **all categories of stakeholders in the DGR negotiations are included** in each of the communications spheres. It is especially important that representatives of civic initiatives, which have so far been excluded from communication and dialogue, are invited to the negotiating table in the local communities. The concerns about and objections to the DGR expressed by local civic initiatives currently represent the prevailing opinion in all the locations and should not be ignored.*
- *Any steps that would prevent any category of stakeholders from influencing decision-making on the DGR should be avoided.*
- *The door should be kept open to potential new participants in the DGR negotiations who may appear in future stages of decision-making.*

The current legal framework in which the decision-making process on the DGR is anchored was recognised as inadequate at the very outset of the work of the WG on Dialogue in 2010. This served as an impetus to draft legislation on the DGR in 2012, which was presented for comments at meetings of the WG in the course of 2015 and was subsequently submitted to the Government Council for Energy and Natural Resources. The most important point in the bill is to determine at what stage in the project and under what conditions 'the municipalities affected will have an opportunity to openly express in a meaningful and notable manner their position on the DGR in the given location, and whereby the position of the municipality cannot be ignored and consent will be a prerequisite for the continuation of the process, while the stronger role of the municipalities here does not mean they are provided with the right of veto and able to block the process as a whole' [Working Group for Dialogue 2015: 5].

The current wording of the bill considers having the state seek the consent of the municipalities twice: once during the stage prior to commencing the administrative procedure for approval **to establish a protected area** for special intervention into the earth's crust (i.e. when the selection is being narrowed down to the final and backup sites) and again during the administrative procedure to seek **permission for mining activity** for a special intervention into the earth's crust (i.e. before the start of construction of the underground laboratory). A stronger emphasis is placed, however, on seeking approval at the first stage [Working Group for Dialogue 2015, 6, 18-21]. On the one hand, SÚRAO should be required to seek and obtain the opinions of the municipalities affected by the plan to locate and build a DGR facility in the area; and on the other hand, municipalities should be required to officially comment on the plan within a deadline of no sooner than six months and no later than one year of receiving this request, otherwise SÚRAO shall appeal to the Czech Government. In all the municipalities in the area of the location refuse to express consent, final consent will be expressed in the form of a resolution by the Government, as the highest executive authority, following a resolution issued by the Senate, as an authority in the legislative branch.

After it enters the legislative process the draft act on the DGR is likely to become the subject of legislative debate that may alter or elaborate its current meaning. The fact that this material is ready and that the state apparatus has an interest in its completion and approval are important for the DGR negotiations. Without strengthening the currently weak position occupied by the municipalities the negotiations cannot move forward. The involvement of the constitutional institutions of the Czech state in the decision-making mechanism will underscore the importance of the DGR project.

Given that the development of a legislative instrument was already at an advanced stage when basic issues relating to the decision on the DGR were raised, the guide does not have to extensively discuss this point. However, it is worth noting that the draft legislation covers only the **basic elements of the decision-making process**. Future legislation governing decision-making on the DGR will be accompanied by numerous other national regulations [Working Group for Dialogue 2015: 9-11]. The implications of the interlinking this legislation and regulations have not yet been discussed by stakeholders in the DGR negotiations and may cause confusion about to what extent specific issues connected with the DGR can be dealt with through existing regulations and to what extent they need to be addressed in the draft legislation or future legal documents. Laying out the legal groundwork will in the future also be im-

portant for negotiating compensation and guarantees for the final backup locations (see Section 1.5). There will therefore be a strong need for **legal expertise**.

Proposed practices:

- Devote **maximum attention to the preparation of legislation** on the involvement of municipalities in the selection of the location. This is work that institutions attached to the state apparatus should be engaged in most. Trust in the state apparatus, which tends to be at a low level amongst stakeholders in the DGR, would benefit if these institutions could show that they know how to communicate with each other and are interested in ensuring that quality legislation is prepared.
- Commission a **legal report** to clarify the wider legal framework of decision-making on the DGR and the explain the outcome of the report to stakeholders in the negotiation so that it is possible to test how much the current and the proposed regulations address specific issues connected with the DGR.

ix. Decisions can be made only after the implementation aspects of the DGR are clear.

The draft legislation on the DGR assumes that a local referendum is the means by which to enable the public at the municipal level to express agreement or disagreement with the DGR [Working Group for Dialogue 2015: 19]. As an institution of direct democracy a local referendum reflects the fact that the DGR is an issue outside the normal political agenda of the municipalities in the selected locations and that the decision should be in the hands of the population. In the current bill, voting in the referendum would be the most important moment in the entire decision-making process. Consistent with the idea of a stepwise approach to decision-making, which is often recommended in international documents on DGR facilities, attention should be devoted to how to create the conditions for organising a referendum [cf. Forum for Stakeholder Confidence 2013].

There is experience with the use of a local referendum in negotiations on the DGR in the Czech Republic. Between 2003 and 2012 a total of 30 local referenda were held in the municipalities in the selected locations, 28 of which were valid, and three-quarters or more of the voters in all the referenda (usually over 95%) disagreed with the siting of a DGR in their area [Calla 2013]. The results of the referenda now constitute a limitation in local politics when presenting the opinions of the municipalities on the DGR project; otherwise, however, they are of no lasting significance for the negotiations. They were organised before sufficient information was available and without prior public debate, their results can be challenged on the grounds that the referenda were more a kind of protest with a predictable effect

If local referenda are to play a key role in decision-making in the future, they must be preceded by lengthy **dialogue in the local communities** (communication sphere 2). During this dialogue emphasis should be placed on exploring and clarifying all the implementation aspects of the DGR project and their social dimensions (see Section 3.2). Local communities will be affected most by the geological surveys and the final local will also be affected by construction work and the subsequent operation of the DGR and the collection of SNF and HLW. In the local communities this largely

evokes a notion of a heavy impact on the location and the potential risks that could arise from the situation.

This situation is compounded by the current course of discussion on the implementation aspects of the DGR, which has not yet been sufficiently comprehensive and organised. Some implementation aspects have almost not been raised at all, while others have been discussed only tangentially and tentatively. The information from state institutions underscores the benefits, while thornier issues have been responded to vaguely or not at all. Residents in the locations give a slightly better evaluation of alternative sources of information from national NGOs, local civic initiatives, and municipal representatives, whose prevailing belief is that they are defending the interests of local communities. However, the fact that the information circulating is inadequate, unclear, changing, and contradictory means that there is a fragmented and chaotic understanding of the DGR. Under these circumstances, it is difficult to form a comprehensive and consistent opinion on the DGR. The easiest response then is to say no to the DGR

Organising a local referendum makes sense only once as much as possible has been done to make sure that all the citizens in a candidate locality know what is involved in the DGR project as a whole. Clarifying the implementation aspects of the DGR logically requires two steps. The first is to **make clear what are the real burdens and risks** of the project so that everyone understands how the DGR could negatively impact life in the location. The second is to **make clear the opportunities for local development** the project brings (see Section 5). The DGR project can only gain social acceptability in the local community once the burdens and potential risks are balanced by opportunities for development.

The concept of social acceptability acquires more precise significance in connection with the plan to organise a local referendum. It is impossible to realistically expect that the negotiations will reach a state where all or almost all the inhabitants of some municipality agree with the construction of a DGR facility. If the currently prevailing negative view of the DGR facility changes under the influence of continuous dialogue and the DGR facility becomes socially acceptable, then it will be decided on by **the majority opinion of the participants in the referendum**, i.e. at least 50%. In municipalities with 3,000 or fewer inhabitants, into which category fall all the municipalities affected by the DGR project, the local referendum will be called at the initiative of the municipal council or at the initiative of a preparatory committee after it submits a petition with signatures of support from at least 30% of eligible voters. The large number of valid referenda on the DGR held in the past and mentioned above, which met the required 35% quorum, indicates that the DGR is an issue that draws people to the polls.

Proposed practices:

- *Systematically clarify the implementation aspects of the GDR project and their social dimensions in such a way that the information reflects the views, concerns, comments and suggestions of local communities and NGO representatives. Responsibility for this lies mainly with the state authorities and particularly with SÚRAO, which are the initiators of the GDR project and will be in charge of planning and organising the implementation of all the work.*
- *When the geological surveys are being conducted, clear up any questions local communities may have relating to the process of selecting the location, such as:*
 - *the nature of the work and the technology used in individual stages of the*

geological surveys, their impact on the environment and the local community;

- the nature of the effects of individual stages of the geological surveys and a comparison of these effects on different locations;*
- specification of the selection criteria used to narrow down the candidate locations.*

- *During later stages of the DGR project make use of dialogue procedures (see Section 4.1) and possibly also sociological research (see Section 1.5) to identify on an ongoing basis what information the local communities are reacting and provide this information.*
- *Inform inhabitants in the local communities about how the decision-making mechanism for the DGR is set up, what significance a local referendum has in this decision-making mechanism, and why it is important to take part in the referendum.*

In the preceding section the guide dealt with dialogue as a decision-making process, and to this end it focused on the **relations between individual categories of stakeholders in the DGR negotiations**. Dialogue on the DGR cannot, however, be separated from the practical questions on which decisions will be made. This section of the guide therefore builds on the focus of the text to this point by outlining the principles and practices with which to approach basic topics of dialogue.

The next three chapters focus on the **relationship between local communities and the implementation aspects of the DGR project**. A precondition for the construction of the DGR facility is that this technical solution to SNF and HLW is disposal is socially acceptable to the local communities in the selected locations. A way of working towards this is to allow the local communities to redefine the implementation aspects of the DGR as opportunities for local development. A process of redefinition through dialogue in the local community (communication sphere 2) would thus focus on what in theory and practice tends to be referred to as **community planning** [Grant 2006].

5.1 Measures to Benefit the Local Community

There are a number of well-known measures that can be applied to help a socially taxing facility to gain acceptance among the local community affected by it. Table 6 shows basic types of steps that can be considered for use in the case of a DGR project. These steps are often referred to in the literature as 'the value added approach' [Kojo, Richardson 2009, 2012, 2014].

Table 7: Basic measures to benefit the local community in a DGR project

MEASURE	BASIC DESCRIPTION
Mitigation	<p>This involves steps that make it possible to monitor, regulate, and optimally configure the impact of a DGR project on the natural and social environment – for example:</p> <ul style="list-style-type: none"> - technical measures to prevent and minimise risks, - resolving questions relating to the impact of geological surveys and the construction and operation of the DGR on the environment, - minimising negative effects on society, - the architectural design applied to the landscape of the DGR site, - integrating the DGR project into the socio-economic context of the local community.

<p>Compensation</p>	<p>Benefits to the local community in the form of financial resources or services in return for the community's acceptance of the burden and potential risks of the DGR project and, in the case of the final and backup locations, for assuming the responsibility on behalf of all of society for solving the problem of SNF and HLW disposal. Compensation may include:</p> <ul style="list-style-type: none"> - financial contributions awarded to municipalities to compensate for geological surveys conducted on their territory, - payments to repair municipal property damaged as a result of the DGR project (e.g. from invasive geological surveys, transporting materials during the construction of the DGR), - payments for (compulsory) purchase of land or compensation for depreciation of its value, - prioritisation in the redistribution of tax revenue.
<p>Incentives</p>	<p>Measures to overcome social, economic, infrastructural, and other deficiencies in the location by providing incentives for development in certain areas, such as:</p> <ul style="list-style-type: none"> - the construction of residential homes, - the improvement of civic facilities, - support for education and improving qualifications, - establishing new branches of economic activity and creating jobs, - the construction and renovation of roads and improvement of transport access.
<p>Guarantees</p>	<p>A commitment to the local community that is embedded in the legal system or is implemented on the basis of contracts and that gives the local community a necessary degree of control, autonomy and participation in decision-making. Guarantees can relate to both the decision-making process and other types of measures (i.e. mitigation, compensation, incentives)</p>

Individual types of measures may be used in varying degrees during the implementation of the DGR project depending on the progress of negotiations in the future. Although the different measures involve various and to some extent distinct approaches to the local community, their focuses may in reality overlap and they can tie in with each other and be used in tandem. The outcome of the DGR negotiations in the CR will probably involve a combination of these measures. **The most important measures are the guarantees**, which form a binding frame within which all the other measures can be developed and defined.

Discussion of the proposed measures and their preparation will primarily take place between the state apparatus and local communities (communication circle 3). While local communities must be able to have a say in what measures are prepared so that they genuinely benefit the community, state authorities together have the tools ensure agreed measures are grounded in law and contracts. Other stakeholders in the negotiations may also contribute significantly to the discussion: NGOs, experts and

businesses. Given that the selected locations in each case overlap with several municipalities, which, with the exception of Čertovka and Kraví hora, fall within one region, within which the construction of the DGR would turn the municipalities into a kind of micro-region, representatives of the region should also comment on the proposed measures.

x. Local communities recognize and can express their interests.

In order for local communities to be able to say what measures would benefit them, they have to **recognise their interests**. None of the seven sites had an interest in seeking to get the DGR built on its territory. Unlike some European countries in which after early experiences the siting process focused on finding **candidate sites willing to enter the process voluntarily** (e.g. Sweden, Great Britain, to some extent France), in the CR the candidate **locations were first selected by the state** (the same occurred e.g. in Switzerland). The locations thus by no design of their own ended up in this situation, to which it is difficult to adapt. By focusing on defensive communication local communities can lose sight of the fact that the state's interest in siting and building the DGR provides them with a unique opportunity to formulate specific interests and demands from the state.

When the DGR project is viewed as a threat and not as an opportunity for development, it is hard to determine how much the alternative of deciding to engage in the project is in the interest of the local community. In order for the DGR project to be seen as an opportunity for development, local communities must first be able to **identify their interests**, against which they can then measure the possible benefits of the DGR project. In pragmatic terms it is good for the local community to give serious consideration to the alternative option of actually engaging in the DGR project, not only because it is a way of determining whether the community has more to gain or to lose, but also because it can provide the community with arguments to present to the state apparatus. The latter could otherwise criticise the local community for its ill-founded unwillingness to participate in the solution to the society-wise problem of SNF and HLW disposal based on ungrounded fears and without duly considering all aspects of the project.

It is important that the interests the local community identifies and formulates come as much as possible from the community itself and are not forced on it by the state apparatus; otherwise the community planning turns into unwanted social engineering. Identifying and presenting the interests of local communities will help to make clear where with respect to all the implementation aspects of the DGR project it is possible to reach a convergence of interests with the state apparatus and where by contrast interests are in conflict.

Proposed practices:

- *Make use of dialogue procedures with the local community, preferably within the frame of a community association (see Table 4), to raise and respond to **questions about the future of the local community with and without the DGR project**, questions such as:*
 - *What is the current demographic structure of the population in the location (in terms of the sex, age, education, marital status, fertility, and migration of the population)? What is it estimated to be like in ten and twenty*

ty years from now? What should the demographic structure be like if the future of the municipalities in the location is to be secure? What is the estimated change in demographic structure if the DGR project is / is not implemented?

- What sectors of the economy do the residents of the locations work in? Who are the main employers and what does their remaining in the location depend on? What is the average income? What is the unemployment rate? What is the economic outlook for the future and the potential for economic development? What impact is the DGR project estimated to have?
 - What civic infrastructure of facilities are available in the local communities in terms of the number and capacity of preschools and schools, health-care facilities, care facilities for the elderly, shops, services, recreational facilities, etc.? How satisfied are residents with these facilities? What room is there for development? What impact would the DGR project have?
 - What is the state of transport infrastructure in terms of the number and condition of road and public transport links to nearby towns and cities? What is the state of technical infrastructure in terms of engineering, utilities, the sewage system, etc.? How much would the DGR project stimulate the development of infrastructure?
 - What are the main issues the local municipal government deals with in local administration? What are the traditions and priorities of development in the location to date? What are the local values? How compatible are they with the DGR project?
- In discussions of the future of the local community make use of **social-scientific expertise** – for example, socio-economic analyses of different development scenarios, sociological surveys of the local population, etc.

xi. The plan for local development is based on a system of guarantees.

In discussions of measures to support local communities in the current DGR negotiations emphasis should be placed on providing financial compensation. Data from a questionnaire survey show that residents in the four locations²⁰ favour financial contributions over legal guarantees and would prefer lump contributions over earmarked funds. An example of this kind of financial compensation is the regular annual contribution that in conformity with the Atomic Act will be paid to municipalities to compensate for the geological surveys conducted on their territory. With the Ministry of the Environment's approval in 2015 of the first stage of survey work in all seven locations, the time has grown closer when the first significant payment will on the basis be paid into the budgets of the municipalities affected by plans to build a DGR facility.

The reasons why there is a preference for non-earmarked funds are obvious: they enrich the municipal budgets and allow the municipalities the freedom to decide how to use the resources. On the other hand, this is a measure that is not in itself connected with the quality of preparation of the DGR project and provides **no guarantee that the project will be implemented in accordance with the interests of the local community**. The risk that comes with compensation is that it can be interpreted as a kind of bribe with which the other side buys the support of the local

²⁰ See footnote 6.

community and weakens its alertness to contentious issues [Kunreuther, Easterling 1996; Hannis, Rawles 2013].

Although in the case of the DGR, compensation is an indispensable measure for the local community, it must nonetheless be accompanied by other measures. Relatively the best solution for the local community is where **the DGR project is tied into the overall plan of development for the location**. This can only be achieved through a long-term partnership between the state apparatus and the local community including NGOs, experts, and incoming and emerging businesses, which would gradually become the actual vehicles of social change in the location.

Preparing a development plan for the location and tying it into the DGR project means looking far into the future. The communication and decision-making mechanisms discussed above are all that is involved in developing this plan, there also has to be a system of guarantees that allows the local community to obtain **control over the progress of the DGR project** in the future. International experience indicates that this kind of active control (ownership of a societal project) is both a condition and outcome of the social acceptability of the DGR [Forum for Stakeholder Confidence 2013].

Proposed practices:

- *All the locations selected as possible sites for the DGR should consider a development plan that is based on the identified interests of the local community.*
- *If social acceptance of the project is to be achieved and maintained long-term guarantees of the local community's control over the DGR project should be agreed in relation to the implementation aspects of the project. The guarantees should respond to the following questions:*
 - *What guarantees exist for **monitoring the safety** of the construction and operation of DGR and the collection of SNF and HLW?*
 - *What guarantees exist for **monitoring the impact of the DGR project on the environment**?*
 - *What guarantees exist for monitoring economic activities in the area and the creation of jobs for the local community?*

5.2 The Cultural Identity of a Location with a DGR Facility

The DGR facility is an important issue in national and European energy policy, and it has an impact on the inhabitants of all the locations under consideration in the Czech Republic. The high political stakes of the DGR project means that all the categories of stakeholders in the negotiations work to highlight and promote their political interests and objectives. This is not at odds with the spirit of democracy, though it makes sense to try to overcome the propensity for conflict or manipulation that such a situation gives rise to. There is, however, one implementation aspect of the DGR project that should make everyone involved interested in avoiding pragmatic calculations and tactics, and that is the **ethical dimension of the project** [Marschall 2005; Oughton, Hanson 2013].

The ethical issues that the plan to build a DGR facility must contend with relate on the one hand to the matter of **responsibility** (for the disposal of SNF and HLW, for

the environment, to future generations), and on the other hand to the issue of the overall **justness** (or fairness) of the decision-making process. Although these issues are more abstract in nature, the answers to them say something about the values espoused by those who are steering or are a part of the DGR project. The ethical dimension of the DGR project in this sense represents an appeal to create a solution that goes beyond partisan opinion outlooks and to instead reflect a more general and consciously formulated position on the part of Czech society towards the use of nuclear energy.

xii. *The ethical dimension of the DGR facility is highlighted.*

The ethical dimension (or implementation aspect) of the DGR project is not the same thing as the issue of its social acceptability. While the path to social acceptability will in the future be much more of an issue for the local community at the facility's final location and a matter of agreement with the state apparatus, the ethical dimension of the DGR affects all citizens of the Czech Republic

Since the late 1960s decisions have been made first by the governments of Czechoslovakia and then those of the Czech Republic towards promoting nuclear energy. The aim has been to ensure the state's energy self-sufficiency by using modern technologies to produce energy using a different method than coal-burning technology. It should be noted that especially up until the change in political system in 1989 the general Czech public had limited opportunity to in any way significantly influence these decisions about the use of nuclear energy. Moreover, because the development of energy resources is a long-term and costly type of project, efforts to diversify energy resources have tended to suffer from inertia and slowness to change. This means that the energy needs and welfare of Czech society depend on the trends and plans for developing and reducing energy sources as established in the past

In the case of nuclear energy the effect of how things were established in the past also touches on the problem of SNF and HLW disposal, which raises ethical questions. On the one hand there is the argument that as consumers of electricity, which largely comes from nuclear energy, Czech citizens are partly responsible for the production of SNF and HLW, because as recipients of the benefits of nuclear energy, in the form of electricity consumption, they cannot detach themselves from the disadvantages or negative consequences of this form of energy. On the other hand, in the past citizens had little opportunity to have a say in decisions about the use of nuclear energy and today there are big differences between citizens and institutions in terms of how much energy they consume and from what sources, which may also mean differences also in their share of responsibilities. These lines of argument can be elaborated into various views on the energy future of the country. The move to a democratic political system means that the appeal to a sense of shared responsibility among citizens will be undermined if in the future key decisions about nuclear energy and about energy in general are made without demonstrable support from the majority of the public.

The **ethical aspect** of implementation of the DGR has not to date been given the attention it deserves in official documents or in technical discussions in the Czech Republic. Considering developments relating to the DGR it seems urgent that this issue be raised. Although no substitute for the ethical debate that has yet to take place, this guide sets out from the assumption that, even taking into account the relative (co-)responsibility of individuals and institutions for producing SNF and HLW, the disposal of SNF and HLW is a matter of responsibility of society as a whole. It concerns

every member of society who consumes energy from the electricity grid. To reject this assumption would mean that an individual can absolve him/herself of responsibility and that in principle all members of society could do so, and responsibility would be passed to an institution, such as SÚRAO. The currently centralised system of energy production and distribution does not provide the conditions for this kind of individualised responsibility, though this could change in the decades to come (if there were a shift to a decentralised system).

Although responsibility for the SNF and HLW lies with society as a whole, under the current plan to construct a DGR facility the burden of this responsibility will ultimately lie with the local community in the final location. The residents of this community and their descendants will assume this burden and the associated risks of building and operating such a facility and the permanent storage of SNF and HLW in the vicinity of their homes on behalf of all other citizens of the Czech Republic. Transferring a responsibility that lies with all society to the local level and the conditions and consequences of such a transfer are matters that need to be studied and considered. **A moral value should be placed on the assumption of responsibility, and all the more so the greater the commitment this act involves.**

If the citizens of a community are to agree in the future to the siting of the DGR in their vicinity, it is morally right to require that majority society and especially the institutions that represent it highlight in a manner that is clear, visible to all of society, and binding in the long term the ethical dimension of this decision. This kind of requirement differs from the measure to provide compensation to the local community (see Section 5.1). The essence of this requirement is such that the commitment undertaken by the final location before the state and society must be met by a corresponding commitment from the state and society to assist the location during the implementation of the project in an ethically responsible and fair manner. Establishing **an ethical bond between the local community and majority society** would represent an important step towards ensuring that the DGR is not erroneously viewed as just a technical project.

Proposed practices:

- *Support the inclusion of **dialogue on ethical issues** in the negotiations between local communities and the state apparatus. Make it an objective of this dialogue to gradually clarify the ethical dimension of the DGR project and then ensure the results are reflected in the mechanisms of communication and decision-making. The unusual and long-term nature of the project may result in some stakeholders in the DGR negotiations are initially unable to see and understand some ethical issues. A concentrated effort is required to formulate ethical questions and the answers to them, so it would be useful to invite experts in the fields of the humanities and the social sciences specialising in applied ethics to take part in the dialogue.*
- *To support dialogue organise an **expert seminar** devoted to the ethical dimension of the DGR, which could summarise the results of the dialogue.*
- *Include the presentation of ethical issues relating to the DGR as a separate **topic on the agenda of the WG for Dialogue** and thereby increase its visibility in the public space.*

The cultural identity of a place is defined by what a place becomes under the influence of human activities directed at transforming the place for other human activities. On the one hand it is the result of history, and on the other it can be more or less accurately marked out as a particular geographic location. It is characterised by ideas that ascribe a place with lasting meanings, which are described through narratives and explanations and which tie it to certain events or activities. Examples of the formation of or change in the cultural identity of a place frequently relate to the use of a place for a certain type of structural development or cultivation. Generally it can be said that the objective features of a place define its cultural identity but do not determine it. This means that the cultural identities such places acquire (in the countryside, in a village, in a city) can vary widely under the influence of cultural diversity or human ingenuity or based on a decision relating to community planning (see Section 5.1) [Hague, Jenkins 2005].

The concept of the cultural identity of a place can be applied to the process of selecting a site for the DGR facility. Seven locations were selected on the basis of their objective geological features, and the state apparatus envisions one of them **associating its cultural identity with the DGR project** in the future. Such an association has not yet formed. In part this is because there is prevailing disagreement with the project in the municipalities affected [Čermak, Kyselá, Ďurdovič, Bernardyová 2015], and in part it is because at present it is only possible to speak of the cultural identity of the individual municipalities or several municipalities together on whose territory the project partly or wholly falls. If some municipality is to associate its cultural identity with the DGR in the future, it is important to examine the conditions under which this can occur.

The cultural identity of a place creates a natural link between members of the local community. It becomes part of their socio-economic relations and shapes their perception of the environment. According to data from the questionnaire survey in the four locations,²¹ few people (between 2% and 5%) said they are dissatisfied with life in their place of residence. Also only a small percentage of people were considering a change of residence (between 4% and 12% of respondents). This suggests that the inhabitants of the local communities have a positive and unproblematic relationship to the place they reside in. Acceptance of the DGR project would **change the cultural identity** of that place. For the local populations it would signify a major shift in the history of the communities and one that would usher in new meanings, stories, activities, and events associated with that location.

If local communities are to participate in decision-making on the DGR project the change in cultural identity in the final location cannot be expected to be a process controlled by the state apparatus. The state apparatus and other stakeholders in the DGR negotiations can assist in the change and encourage and guide it, but coping with it will be up to the considerations and actions of the local community. This will be a social process to which the same methods of management and control as those used in the construction process cannot be applied.

Crucial to cultivating the local community's cultural identification with the DGR is its ability **to identify with DGR project** as its own project. Highlighting the ethical

²¹ See footnote 6.

dimension of the DGR explained above could help in this. Externally, vis-à-vis the Czech public, highlighting the ethical dimension of the DGR would make it possible to show the significance of the mission that the final location is taking on and to acknowledge how it benefits society as a whole. Internally, vis-à-vis the local community, it would probably stimulate the necessary debate on ethical issues.

It is not, however, enough just to highlight the ethical dimension. Members of a local community embrace the cultural identity of a place not just through a rational but also through an emotion component. Rational dialogue may be the gear that can set in motion a change of opinion, but identification with the DGR project is also influenced by whether people are able to project their personal circumstances including their emotional ties to their family and friends into those rational arguments. In other words, whether or not it is possible to identify with the DGR project is more like developing an attachment to or coming to embrace a particular **story about the future** of the local community, the municipality, the location in the wider sense of a globalised world.

Stories are a way of instilling order in the jumbled context of what was, what is and what will be, which they achieve by creating meaningful relationships between memories, current experiences, and expectations. The more closely the stories relate to a collectively shared experience, the more they are told and acquire a social character. The cultural identity of the location that hosts the DGR will come into being when a meaningful story about it is developed and it begins to be shared, that is, it begins to be told and reflected in the lives of the majority of the local population.

5.3 The Environment and the Local Community

A fundamental condition of the construction of the DGR is safety, i.e. the minimisation of risk to life from exposure to ionising radiation. The suitability of the final location, the project's technical feasibility, and securing SNF and HLW against misuse are matters that will be assessed in depth by SÚJB, which follows a procedure governed by laws and international regulations (e.g. Safety Standards of the International Atomic Energy Agency).

Safety relates to the environmental aspect of the DGR project's impact on the **environment**. Geological surveys, construction of the underground laboratories, and the construction of the DGR constitute an intervention in the environment that can have negative effects on ecosystems in the wider natural environment. For residents the environment is an essential value through which they have a bond with the location they live in and around which they organise their socio-economic relations, and consequently this topic should occupy an important place in the dialogue on the DGR.

xiv. There is an agreed system in place for monitoring the impact on the environment including unintended impacts.

Studying the impact the DGR project will have on the environment is largely the task of the natural sciences, which possess the means with which to identify and evaluate impact. Impacts could include changes below the surface of the land, changes imperceptible to the human senses, or ones that can only be observed with scientific technology. It is recommended for the DGR project that a **system for monitoring**

environmental impact be set up no later than during the stage of the geological surveys and the construction work. Interaction between humans and nature can give rise to unplanned and unexpected situations so it is important that this system also takes into account the possibility of the project's unintended environmental effects.

How the monitoring system is set up is something that should be agreed between the state apparatus and local communities. This is an issue in which local civic initiatives and NGOs take great interest. Environmental issues can also acquire a strong social dimension. To develop and implement a monitoring system that all sides agree on will require a transparent approach to information and the organisation of communication and participation in decision-making and input from and the testing of expert opinions. (These aspects of the process of dialogue on the DGR are dealt with in Section 4 of this guide.)

Proposed practices:

- *Once the non-invasive stage of conducting geological surveys is completed and the candidate locations are narrowed down discussion should begin on **negotiating a system for monitoring** the environmental impact of activities connected with the DGR. The discussion should take into account both the expectations of local communities and the opinions of experts on the monitoring options, such as:*
 - *formulating preliminary estimates of the impact of activities on the environment (i.e. the possibilities and limitations of predictions);*
 - *approaches to continuous monitoring of changes in the environment;*
 - *implementing corrective measures when environmental damage occurs, etc.*
- *Consider **the role of local civic initiatives and NGOs in the monitoring system**. Although the tension between the interests of the state apparatus and such organisations looks insurmountable, on environmental issues efforts should be made to ensure that the potential of these organisations (their knowledge of the environment in the locations, experiences with civic organising) is tapped to produce a monitoring system that satisfies all sides.*

Environmental changes resulting from activities connected with the DGR can have social consequences, for instance, in the form of the quality of the agricultural land or forests, water resources, air purity, and so forth. Many of these phenomena are perceptible to the human senses (e.g. dried up streams, air pollution), in which case the problem is twofold: environmental and social. It is likely that local populations will be very sensitive to and take note of these kinds of phenomena, whether due to the geological surveys or the construction of the DGR. The system of monitoring environmental impact should take this into account and should consider also the social consequences of environmental change.

It should be noted, however, that it can be difficult to pinpoint the social consequences of environmental change. For example, is road damage resulting from the transport of building materials or the depreciation of land value due to the construction of the DGR an environmental phenomenon with social consequences or are these things purely social phenomena? The answer to this and similar questions is important if these phenomena are to be properly addressed in the monitoring system. It is important to avoid what are known as negative externalities, i.e. negative environmental or social impacts that no one thought about in the planning and decision-making phases and for which it is difficult later to find someone to bear legal responsibility [Keller 2010].

Proposed practices:

- *Systematically map **relationships between environmental and social phenomena** in order to ensure these relationships and their possible legal consequences are taken into account when a system for monitoring the impact of the DGR project on the environment is being set up.*

6. Using the Guide

The primary audience of this guide is SÚRAO, which, prior to the submission of the application for grant support for this project to the TA CR, confirmed in writing its interest in the project and the development of applicable results. After the grant was awarded, at the request of TA CR, SÚRAO promised that the guide would be accepted for certification. SÚRAO itself does not however perform certification, so after some discussion it was decided that the MPO would be the certification body. Certification is awarded in the form of 'a **certificate issued by the expert body of the state administration** that is responsible for the sector in which the certified methodology is to be applied' [Office of the Government of the CR 2014].

Members of the research team and the author of the guide have nonetheless endeavoured to prepare a document that balances the interests of all categories of stakeholders in the DGR negotiations. A research grant provided through the OMEGA programme of applied social-scientific research under the TA CR offered good conditions for being able to proceed in an impartial manner. The guide is designed to respond to practical needs. It provides a comprehensive and structured set of principles and practices offered for use by anyone who has an interest in improving the process of negotiations on the DGR facility. In this sense, application of the guide can proceed in a natural way, whereby the stakeholders in the DGR negotiations embrace of its elements as their own.

Finally, it was important for the guide to be developed in reference to **the work of the WG for Dialogue**. The guide is centred on the principle of dialogue, which has made a contribution to progress in the DGR negotiations that has been recognised in practice. The guide links up the principle of dialogue with individual questions. Once the guide is completed and certified, discussion can begin on whether and what role it could play in the future work of the WG for Dialogue. However, the WG for Dialogue is a communication platform that places value on freedom of opinion, so despite these efforts the members of the research team and the author of the guide have only limited influence on how the members of the WG for Dialogue approach the guidelines.

According to the *Contract on Applying the Certified Methodology* that was signed between SÚRAO and SOÚ AV ČR, the guide will be used by **SÚRAO in the following ways:**

- As an expert study of the ideal state of participation in decision-making on the DGR based on real data from the locations;
- The guide can be used in new stages of the DGR project (e.g. when the number of candidate locations is narrowed down) as a theoretical guideline for the next stages of communication;
- The principles and recommended practices in the guide can be used as a framework of principles in the local community associations founded in the future.

For the purpose of future use of the guide it should in some way be considered in one of the official documents of SÚRAO or the MPO.

Annex 1: The Guide in a Nutshell

CHAPTER	PRINCIPLE
	Decision-making through Dialogue
Cultivating an environment conducive to communication	<i>i. Communication is transparent and rests on public access to sufficient information.</i>
	<i>ii. The foundation of communication is dialogue in the public sphere in which participants respect each other as equal partners.</i>
	<i>iii. Dialogue is open, but organised.</i>
	<i>iv. Dialogue is a path of shared learning.</i>
The exchange of information between experts and the public	<i>v. The arguments of experts are presented in full and communicated in a manner clear to the general public.</i>
	<i>vi. Local communities are able to monitor the work of experts.</i>
Participation in decision-making	<i>vii. All parties can present their opinions and influence decision-making.</i>
	<i>viii. There is a legislative instrument for the decision-making process that respects the views of local communities.</i>
	<i>ix. Decisions can be made only after the implementation aspects of the DGR are clear.</i>
	Dialogue topics
Measures to benefit the local community	<i>x. Local communities recognize and can express their interests.</i>
	<i>xi. The plan for local development is based on a system of guarantees.</i>
The cultural identity of a location with a DGR	<i>xii. The ethical dimension of the DGR facility is highlighted.</i>
	<i>xiii. The DGR project enables the local community to develop a meaningful narrative about its identity.</i>
The environment and the local community	<i>xiv. There is an agreed system in place for monitoring the impact on the environment including unintended impacts.</i>
	<i>xv. There is an agreed system in place for monitoring the social impact of environmental changes.</i>

Note: The table provides a summary overview of the principles elaborated on in individual chapters in the guide.

Annex 2: A List of Local Civic Initiatives and NGOs

It is important to have an overview of the stakeholder category in the DGR negotiations that is made up of local civic initiatives in the candidate locations. Below is an alphabetical list of these initiatives:

- Bezjaderná Vysočina (www.bezjadernavysocina.wz.cz/)
- Čistá Rohozná (*webové stránky nenalezeny*)
- Jaderný odpad – děkujeme, nechceme! (www.jadernyodpadne.unas.cz/)
- Jihočeské matky (www.jihoceskematky.cz/)
- Jistebnická Vrchovina (www.jistebnickavrchovina.ecn.cz/)
- Nechceme úložiště Kraví hora (www.nehcemeuloziste.cz/)
- Občanská iniciativa pro ochranu životního prostředí (<http://oizp.cz/>)
- Severočeský OCELOT (www.blatno-lounsko.cz/severocesky-ocelot/)
- SOS Lubenec (<http://sos-lubenec.wz.cz/>)
- Za Radouň krásnější (<https://sites.google.com/site/zaradounkrasnejsi/home>)
- Zachovalý kraj (www.zachovalykraj.cz/)
- Zdravý domov Vysočina (<http://zdravydomovvysocina.cz/>).

As well as local civic initiatives some NGOs with an environmental focus operating on the national level also directly take part in the DGR negotiations or have them on their agenda. The most important of these are:

- Calla (www.calla.cz/)
- Frank Bold Society (<http://frankbold.org/>)
- Hnutí Duha (<http://www.hnutiduha.cz/>)
- Zelený kruh (www.zelenykruh.cz/).

- Andersson, Kjell. 2008. *Transparency and Accountability in Science and Politics*. New York: Palgrave Macmillan.
- Andersson et al. 2011. „Linking ARGONA Results about Participation and Transparency to Practical Implementation“. [online]. Euratom: IPPA project [cit. 29. 9. 2015]. Dostupné z: <http://ippaproject.eu/sites/default/files/deliverables/IPPA%206.1%20Report.pdf>
- Andersson, Kjell. 2014. „Implementation of Transparency and Participation in Radioactive Waste Management Programmes“. [online]. Euratom: IPPA project [cit. 29. 9. 2015]. Dostupné z: <http://www.ippaproject.eu/sites/default/files/deliverables/IPPA-Deliverable-final-scientific-report.pdf>
- Agence nationale pour la gestion des déchets radioactifs. 2013. „Centre industriel de stockage réversible profond des déchets“. [online]. Châtenay-Malabry: ANDRA [cit. 26. 9. 2015]. Dostupné z: <http://www.debatpublic.fr/projet-cigeo-creation-dun-stockage-reversible-profond-dechets-radioactifs-meusehaute-marne>
- Agence nationale pour la gestion des déchets radioactifs. 2014. „Rapport d'activité 2014: La responsabilité en acte.“ [online] Châtenay-Malabry: ANDRA [cit. 21. 9. 2015]. Dostupné z: <http://www.andra.fr/download/site-principal/document/editions/574.pdf>
- Beck, Ulrich. 2004. *Riziková společnost*. Praha: SLON.
- Beierle, Thomas C., Jerry Cayford. 2002. *Democracy in Practice*. Washington: RFF Press.
- Bergmans, Anne et al. 2014. „InSOTEC – Project Final Report“. [online]. Euratom: InSOTEC [cit. 29. 9. 2015]. Dostupné z: <http://www.insotec.eu/publications/final-report>
- Besley, John C. 2015. „What do scientists think about the public and does it matter to their online engagement?“. *Science and Public Policy* 42 (2): 201-214.
- Brunnengrüber, Achim, Maria Rosaria di Nucci et al. 2015. *Nuclear Waste Governance*. Wiesbaden: Springer.
- Brunnengrüber, Achim. 2015. *Die Endlagerung« radioaktiver Abfälle als soziales, politisches und wissenschaftliches Projekt – eine Einführung*. Baden-Baden: Nomos.
- Burawoy, Michael. 2007. „For Public Sociology“. Pp. 23-64 in Clawson, Dan et al. *Public sociology*. Berkeley: University of California Press.
- Calla. 2013. „Výsledky 30 místních referend k záměru hlubinného úložiště vyhořelého jaderného paliva“. [online]. České Budějovice: Calla [cit. 13. 10. 2015]. Dostupné z: <http://www.calla.cz/data/energetika/ostatni/Referenda-leden2013.pdf>
- Callon, Michel, Pierre Lascoumes, Yannick Barthe. 2009. *Acting in an Uncertain World*. Cambridge – London: The MIT Press.
- Commission nationale du débat public. 2015. „Bilan du débat public“ [online]. Paris: CNDP.
- Čermák, Daniel, Jana Vobecká a kol. 2011. *Spolupráce, partnerství a participace v místní veřejné správě: význam, praxe, příslib*. Praha: SLON.
- Čermák, Daniel, Eva Kyselá, Martin Durdovič, Kateřina Bernardyová. 2015. „Role místních komunit v procesu rozhodování o hlubinném úložišti vyhořelého jaderného paliva a radioaktivních odpadů v ČR. Závěrečná zpráva z kvantitativní fáze výzkumu“. [online]. Praha: SOÚ [cit. 21. 11. 2015]. Dostupné z: <http://www.soc.cas.cz/publikace/role-mistnich-komunit-v-procesu-rozhodovani-o-hlubinnem-ulozisti-vyhoreleho-jaderneho>

- Derveaux, Katleen. 2006. „Radioactive Waste Management Essentials: Involvement, Local Participation and Integration“. [online]. STOLA / STORA [15. 9. 2015]. Dostupné z: <http://www.stora.org/sites/stora.org/files/Documents/rwm%2520essentials%252011-2005.pdf>
- Derveaux, Katleen, Antonio Waffelaert et al. 2004. „Belgian Low-level and Short-lived Waste: Does it belong to Dessel?“. [online]. STOLA [cit. 15. 9. 2015]. Dostupné z: <http://www.stora.org/sites/stora.org/files/Documents/bergingsproject%2520eng.pdf>
- Drábová, Dana, Václav Pačes et al. 2014. *Perspektivy české energetiky*. Kunratice: Novela bohemika.
- Ďurdovič, Martin, Zdenka Vajdová, Kateřina Bernardyová. 2015. „Vnímání a hodnocení dosavadního vývoje jednání o hlubinném úložišti vyhořelého jaderného paliva a radioaktivních odpadů v ČR. Závěrečná zpráva z kvalitativní fáze výzkumu“. [online]. Praha: SOÚ [cit. 21. 11. 2015]. Dostupné z: <http://www.soc.cas.cz/publikace/vnimani-hodnoceni-dosavadniho-vyvoje-jednani-o-hlubinnem-ulozisti-vyhoreleho-jaderneho>
- Ďurdovič, Martin, Jana Marešová. 2014. *Informovanost veřejnosti o radioaktivních odpadech a hlubinném úložišti*. Praha: SOÚ AV ČR, 38 s.
- Ďurdovič, Martin, Zdenka Vajdová, Kateřina Bernardyová. 2014. „Rozhodování o hlubinném úložišti jaderného odpadu v České republice“. *Naše společnost* 2014 (1): 3-14.
- Ďurdovič, Martin. 2012. *Vývoj názorů na možnost uložení radioaktivních odpadů ve vybraných lokalitách*. Praha: SOÚ AV ČR, 101 s.
- Elam, Mark, Maria Lidberg, Linda Soneryd, Göran Sundqvist. 2009. „Demonstration and Dialogue: Mediation in Swedish Nuclear Waste Management“. [online]. Euratom: ARGONA Project [cit. 15. 10. 2015]. Dostupné z: http://www.argonaproject.eu/docs/argona_wp3_report1.pdf
- European Commission. 2005. *Special Eurobarometer 227 – Radioactive Waste*. Brusel: Evropská komise.
- European Commission. 2008. *Special Eurobarometer 297 – Attitudes towards Radioactive Waste*. Brusel: Evropská komise.
- Forum for Stakeholder Confidence. 2010. *The Evolving Role and Image of the egulator in Radioactive Waste Management*. Issy-les-Moulineaux: OECD Nuclear Energy Agency.
- Forum for Stakeholder Confidence. 2012. *Partnering for Long-term Management of Radioactive Waste*. Issy-les-Moulineaux: OECD Nuclear Energy Agency.
- Forum for Stakeholder Confidence. 2013. *Stakeholder Confidence in Radioactive Waste Management. An Annotated Glossary of Key Terms*. Issy-les-Moulineaux: OECD Nuclear Energy Agency.
- Forum for Stakeholder Confidence. 2015. *Fostering a Durable Relationship between a Waste Management Facility and its Host Community: Adding Value through Design and Process*. Issy-les-Moulineaux: OECD Nuclear Energy Agency.
- Gadamer, Hans-Georg. 2010. *Pravda a metoda*. Praha: Triáda.
- Gadamer, Hans-Georg. 1999. *Platos dialektische Ethik*. Tübingen: Mohr & Siebeck.
- Grannovetter, Mark. 1985. "Economic Action and Social Structure: The Problem of Embeddedness". *The American Journal of Sociology* 91 (3): 481-510.
- Grant, Jill. 2006. *Planning the Good Community*. London – New York: Routledge.
- Habermas, Jürgen. 1987. *Theorie des kommunikativen Handelns* (sv. 1 a 2). Frankfurt am Main: Suhrkamp.

- Hague, Cliff, Paul Jenkins. 2005. *Place Identity, Participation and Planning*. London – New York: Routledge.
- Hannis, Mike, Kate Rawles. 2013. „Compensation, or Bribery? Ethical Issues in Relation to Radwaste Host Communities“. Pp 347-374 in Oughton, Deborah, Sven Ove Hanson (ed.). *Social and Ethical Aspects of Radiation Risk Management*. Oxford – Amsterdam – Waltham: Elsevier.
- Hermansson, Helene. 2006. „The Ethics of NIMBY Conflicts.“ *Ethical Theory and Moral practice* 10 (1): 23-34.
- International Atomic Energy Agency. 2006. „Stakeholder Involvement in Nuclear Issues“. [online]. Vienna: IAEA [cit. 5. 11. 2015]. Dostupné z: <http://www-pub.iaea.org/books/IAEABooks/7604/Stakeholder-Involvement-in-Nuclear-Issues>
- International Atomic Energy Agency. 2011. „Stakeholder Involvement throughout the Life Cycle of Nuclear Facilities“. [online]. Vienna: IAEA [cit. 5. 11. 2015]. Dostupné z: <http://www-pub.iaea.org/books/IAEABooks/8694/Stakeholder-Involvement-Throughout-the-Life-Cycle-of-Nuclear-Facilities>
- Jenkins-Smith, Hank C., Carol L. Silva, Matthew C. Nowlin, Grant de Lozier. 2009. *Reevaluating NIMBY: Evolving Public Fear an Acceptance in Siting a Nuclear Waste Facility*. University of Oklahoma: Department of Political Science.
- Kallenbach-Herbert, Beate, Bettina Brohmann, Peter Simmons, Anne Bergmans, Yannick Barthe, Meritxell Martel. 2015. „Addressing the Long-Term Management of High-level and Long-lived Nuclear Wastes as a Socio-Technical Problem: Insights from InSOTEC“. [online]. Euratom: InSOTEC [cit. 29. 9. 2015]. Dostupné z: <http://www.insotec.eu/publications/final-report>
- Keller, Jan. 2010. *Abeceda prosperity*. Brno: Doplněk.
- Klüver, Lars et al. 2001. „European Participatory Technology Assessment“. [online]. European Commission: EUROPTA [cit. 15. 9. 2015]. Dostupné z: <http://cordis.europa.eu/documents/documentlibrary/70781441EN6.pdf>
- Kojo, Matti, Mika Kari, Tapio Litmanen. 2010. „The socio-economic and communication challenges of spent nuclear fuel management in Finland“. *Progress in Nuclear Energy* 52: 168–176
- Kojo, Matti, Tapio Litmanen. 2009. *The Renewal of Nuclear Power in Finland*. New York: Palgrave Macmillan.
- Kojo, Matti, Phil Richardson. 2009. „The Role of Compensation in Nuclear Waste Facility Siting“. [online]. Euratom: ARGONA Project [cit. 16. 10. 2015]. Dostupné z: <http://www.argonaproject.eu/docs/argonadel16b-compensation.pdf>
- Kojo, Matti, Phil Richardson. 2012. „The Added-Value Approach in Siting Nuclear Waste Facilities“. *Radwaste Solutions* 19 (2): 38-50.
- Kojo, Matti, Phil Richardson. 2014. „The Use of Community Benefits Approaches in the Siting of Nuclear Waste Management Facilities“. *Energy Strategy Reviews* 4: 34-42.
- Konopásek, Zdeněk, Karel Svačina. 2014. „Siting the Nuclear Waste Repository in the Czech Republic: Twisty Ways Toward Technical Democracy.“ [online]. European Commission: InSOTEC [cit. 9. 4. 2014]. Dostupné z: http://www.insotec.eu/publications/topicalreports/Konopasek_Svacina_siting%20in%20the%20Czech%20Republic.pdf?attredirects=0&d=1.
- Kunreuther, Howard, Doug Easterling. 1996. „The Role of Compensation in Siting Hazardous Facilities“. *Public Policy Analysis and Management* 15 (4): 601–622.
- L'Organisme national des déchets radioactifs et des matières fissiles enrichies. 2010. „The cAt Project in Dessel“. [online]. Brussels: ONDRAF/NIRAS [cit. 15. 9. 2015]. Dostupné z: http://www.niras-cat.be/downloads/cAt_masterplanENG.pdf

- Marshall, Alan. 2005. „The Social and Ethical Aspects of Nuclear Waste“. *Electronic Green Journal* 21 (1): 1-21.
- Martel, Meritxell, Gianluca Ferraro. 2014. *Radioactive Waste Management Stakeholders Map in the European Union*. European Commission: Joint Research Centre.
- Martel, Meritxell, Gianluca Ferraro. 2015. *EURATOM Projects, radioactive waste management and public participation: What have we learnt so far?* European Commission: Joint Research Centre.
- Meskens, Gaston, Erik Laes. 2009. „Theoretical Perspectives on Participation and Democracy“. [online]. European Commission: ARGONA project [cit. 9. 4. 2015]. Dostupné z: http://www.argonaproject.eu/docs/arg_del13.pdf
- Ministerstvo průmyslu a obchodu. 2014. „Aktualizace státní energetické koncepce“ [online]. Praha [cit. 2. 9. 2015]. Dostupné z: <http://www.mpo.cz/dokument155315.html>
- Moldan, Bedřich. 2009. *Podmaněná planeta*. Praha: Karolinum.
- Nejdl, Pavel, Daniel Čermák. 2007. *Participace a partnerství v místní veřejné správě*. Praha: Sociologický ústav.
- Ocelík, Petr. 2015. „Analýza diskurzivních sítí: případ lokální opozice vůči hlubinnému úložišti radioaktivních odpadů v České republice“. [online]. Brno: Fakulta sociálních studií. [cit. 15. 9. 2015]. Dostupné z: http://is.muni.cz/th/103253/fss_d_a2/
- Offe, Claus. 2011. „Crisis and Innovation of Liberal Democracy: Can Deliberation Be Institutionalised?“ *Sociologický časopis* 47 (3): 447-472.
- Oughton, Deborah, Sven Ove Hanson (ed.). 2013. *Social and Ethical Aspects of Radiation Risk Management*. Oxford – Amsterdam – Waltham: Elsevier.
- Ouředníček, Martin, Petra Špačková. 2015. *Scénáře budoucího vývoje mikroregionu jaderné elektrárny Dukovany s využitím přístupu territorial impact assessment*. Praha: Přírodovědecká fakulta UK.
- Polanecký, Karel, Jan Haverkamp. 2010. „Energie budoucnosti? Jaderná energetika ve střední Evropě“. [online]. Praha: Heinrich Böll Stiftung [cit. 17. 12. 2015]. Dostupné z: <https://cz.boell.org/sites/default/files/energie-budoucnosti-166x237-cze1.pdf>
- Pracovní skupina pro dialog o hlubinném úložišti. 2015. „Návrh věcného záměru zákona o zapojení obcí do výběru lokality hlubinného úložiště vysokoaktivních radioaktivních odpadů“. [online]. Praha [cit. 12. 10. 2015]. Dostupné z: http://files.rudikov.webnode.cz/200006548-4f1ad510ec/N%C3%A1vrh%20VZ%20z%C3%A1kona%20o%20hlubinn%C3%A9m%20%C3%BAlo%C5%BEi%C5%A1ti_20150826_%C4%8Distopis.pdf.
- Rose, Jeremy, Øystein Sæbø. 2010. „Designing Deliberation Systems“. *The Information Society* 26: 228-240.
- Rowe, Gene, Lynn J. Frewer. 2004. „Evaluating Public-Participation Exercises: A research Agenda“. *Science, Technology and Human Values* 29 (4): 512-557.
- Sjöberg, Lennart. 2003. „Attitudes and risk perceptions of stakeholders in a nuclear waste siting issue“. *Risk Analysis* 23 (4), 739-749.
- Sjöberg, Lennart. 2004. „Local acceptance of a high-level nuclear waste repository.“ *Risk analysis* 24 (3): 737-749.
- Sjöberg, Lennart. 2006. „Rational Risk Perception: Utopia or Distopia?“ *Journal of Risk Research* 9 (6): 683-696.
- SÚRAO. 2014. „Návrh aktualizace koncepce nakládání s radioaktivními odpady a vyhořelým jaderným palivem“ [online]. Praha [cit. 2. 9. 2015]. Dostupné z: <http://www.komora.cz/pro-podnikani/legislativa-a-normy/pripominkovani-legislativy/nove-materialy-k-pripominkam/zivotni-prostredi/183-14-navrh->

[aktualizace-koncepce-nakladani-s-radioaktivnimi-odpady-rao-a-vyhorelym-jadernym-palivem-vjp-v-cr-t-30-10-2014.aspx](http://www.surao.cz/cze/Informacni-koutek/Dokumenty-ke-stazeni/Kriteria/Pozadavky-indikatory-vhodnosti-a-kriteria-vyberu-lokalit-pro-umisteni-hlubinneho-uloziste)

- Sundqvist, Göran. 2001. *The Bedrock of Opinion*. Dordrecht: Springer.
- STEM. 2015. Veřejné mínění o naší energetice". [online]. Praha. [cit. 9. 9. 2015]. Dostupné z: <http://www.stem.cz/clanek/3033>
- SÚRAO. 2015. „Statut pracovní skupiny pro dialog o hlubinném úložišti". [online]. Praha [cit. 18. 9. 2015]. Dostupné z: <http://www.surao.cz/cze/Pracovni-skupina/Statut-pracovni-skupiny>
- Swedish National Council for Nuclear Waste. 2015. „Nuclear Waste State-of-the Art Report". [online]. Stockholm: Swedish Government Inquiries [cit. 30. 9. 2015]. Dostupné z: <http://www.karnavfallsradet.se/en/reports/sou-201511-nuclear-waste-state-of-the-art-report-2015-safeguards-record-keeping-and-financin>
- Swedish National Council for Nuclear Waste. 2013. „ Licensing under the Environmental Code and the Nuclear Activities Act of a Final Repository of Spent Nuclear Fuel". [online]. Stockholm: Swedish Government Inquiries [cit. 30. 9. 2015]. Dostupné z: http://www.karnavfallsradet.se/sites/default/files/dokument/rapport_2011_2_eng_webb.pdf
- Tuček, Milan. 2015. „Veřejnost o energetice – 2015". [online]. Praha: CVVM [cit. 5. 9. 2015]. Dostupné z: http://cvvm.soc.cas.cz/media/com_form2content/documents/c1/a7392/f3/oe150609.pdf
- United Nations Economic Commission for Europe. 2014. *The Aarhus Convention. An Implementation Guide*. Geneva: UNESCO / UNECE.
- Úřad vlády ČR. 2013. „Metodika hodnocení výsledků výzkumných organizací a hodnocení výsledků ukončených programů (platná pro léta 2013 až 2015)" [online]. Praha [cit. 2. 9. 2015]. Dostupné z: <http://www.vyzkum.cz/FrontClanek.aspx?idsekce=685899>
- Úřad vlády ČR. 2014. „Doporučení Rady pro výzkum vývoj a inovace k certifikovaným metodikám". [online]. Praha: Úřad vlády České republiky [cit. 17. 12. 2015]. Dostupné z: <http://www.vyzkum.cz/FrontClanek.aspx?idsekce=685899>
- Vajdová, Zdenka. 1996. „Politická kultura – teoretický koncept a výzkum." *Sociologický časopis* 32 (3): 339-351.
- Vláda ČR. 2007. „Programové prohlášení vlády." [online]. Praha [cit. 2. 9. 2015]. Dostupné z: <http://www.vlada.cz/scripts/detail.php?id=20780>.
- Vojtěchová, Hana. 2009. „Application of the RISCUM Model in the Czech Republic" [online]. European Commision: ARGONA [cit. 19. 8. 2015]. Dostupné z: <http://www.argonaproject.eu/docs/argonadel-d14-riscom-application-czech-republic.pdf>
- Vokál, Antonín et al. 2015. „Požadavky, indikátory vhodnosti a kritéria výběru lokality pro umístění hlubinného úložiště". [online.] Praha: SÚRAO [cit. 24. 11. 2015]. Dostupné z: <http://www.surao.cz/cze/Informacni-koutek/Dokumenty-ke-stazeni/Kriteria/Pozadavky-indikatory-vhodnosti-a-kriteria-vyberu-lokalit-pro-umisteni-hlubinneho-uloziste>
- Wagner, Vladimír. 2015. *Fukušima I poté*. Kunratice: Novela bohemika.