



Review

From the “right to know” to the “right to object” and “decide”. A comparative perspective on participation in siting procedures for high level radioactive waste repositories



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ABSTRACT

The disposal of high-level radioactive waste (HLW) represents a complex challenge with socio-technical and political dimensions. This article analyses different modes of governance for HLW disposal and focuses on the conditions affecting transparency, trust and participation in four countries of the European Union. Whilst Finland and Sweden are implementing projects for the direct disposal of spent nuclear fuel, France is in an advanced stage of planning. Germany, in contrast, has just set up governance institutions to organize the search for a site and established a dedicated regulator. In all these cases, siting procedures involve public participation, but there are marked differences in the approaches chosen. Our analysis suggests that in Germany there are strong “conflict frames”, but hardly widely accepted instruments to organize inclusive, deliberative processes. Whilst the experience of the Nordic countries showing trust in the institutions and preparedness to delegate negotiation is hardly transferable to Germany, also France’s top-down approach cannot serve as a model. Nonetheless useful lessons for policy can be learnt, i.e. inclusive approaches, early access to information, stakeholder involvement and openness to unforeseen results are key conditions for minimising conflicts.

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1. Introduction

The search for final repositories for high level waste (HLW) and spent nuclear fuel (SNF) is one of the major technical, political and societal challenges facing states today. Presently, there is still no country in the world with an operating repository and spent fuel and radioactive waste is stored in pools at reactor sites or in interim sites, waiting for reprocessing or disposal. Under the Directive 2011/70/Euratom, Member States are required to establish, implement, and keep updated national programmes for the management of SNF and HLW waste by 2015. The state of implementation of the Euratom directive at the national level varies considerably. In most Member States, legal and institutional frameworks are now in place. Licensing requirements and procedures for site selection and safety criteria have been established, and the responsibilities of stakeholders defined (Brunnengräber et al., 2015). Amongst the

Euratom countries, only Sweden, Finland, and France are in an advanced stage of planning and/or implementation of a deep geological disposal (DGD) facility. Germany, in contrast, is still in an early stage to organize the search for a site and has just recently set up a new legal framework and a reorganisation of the institutional framework. In all these countries the siting procedures involve public participation, but there are marked differences in the approaches chosen.

We consider a number of variables and identify causes, actors and dynamics of the conflicts on site selection for nuclear waste repositories. We discuss the modes of citizen participation and attempts at participatory governance in Sweden and Finland as well as the less deliberative approach in France and analyse whether the preconditions and strategies that allowed for success in ensuring the projects advance can be of use in other contexts, such as Germany. The following factors related to siting decisions will be highlighted: the institutional settings, the possibilities for public participation and involvement, trust in institutions and experts, the role of compensation in triggering acceptability, the rights of citizens (framed as voluntary approaches) and the possibility to veto. We argue that more participatory approaches and a

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widening of the debate to a greater range of participants are necessary to enhance the quality of understanding, expand the lenses through which problems are viewed, improve final decisions and reduce conflicts. Still, it must be recognized that participation is an ambiguous notion, which can range from the population's "right to know" to its "right to object" and even to its "right to decide".

2. The right to know: public opinion, societal debates and the changing agenda

The DGD paradigm as the preferred option has begun to erode over the last two decades (Shrader-Frechette, 1993; Solomon et al., 2010; Di Nucci et al., 2015) and securing societal acceptance for this solution has proven difficult. Years of multidisciplinary research and harsh controversies in countries around the globe have shown that finding a long-term DGD for nuclear waste requires iterative learning and the re-adjusting of strategies. Solutions must be scientifically robust and must achieve the highest technical standards, but they must also be publicly acceptable (Blowers, 1999, 2016). Changes in established forms of public participation have occurred since the 1990s. Transparency, procedural equity and public participation are regarded internationally as key elements of the safety management concerning all nuclear facilities.

The social sciences demanded and eventually gained a role in observing, monitoring and accompanying – and where possible ameliorating – these processes (Solomon et al., 2010; Bergmans et al., 2015). Thus, whilst most initiatives in the past have been characterised by Decide-Announce-Defend (DAD) approaches, a shift toward Announce-Discuss-Decide approaches (ADD) is observable. The failures of the past have shown that top-down approaches are often counterproductive. Although there may be still resistance to more participatory and open planning structures, new and more democratic modes of governance are recognized even by official nuclear institutions as necessary for moving forward with siting (NEA, 2004, 2007).

Siting processes are affected and shaped by various actors and by factors such as the nature of the political and legal systems, formal and informal rules and procedures, culture, political constraints, geographical conditions, technical skills, the stock of knowledge, public acceptance and, not least, a country's nuclear history. The way in which competing information and knowledge is processed and put to use by different actors in different political and cultural contexts also plays an important role. Long-lasting and thorny social conflicts and distrust make siting decisions challenging. The discourses about suitable sites are not confined to the scientific and techno-political domains; they also engage civil society, social organisations and movements and affected communities.

3. Methods

This paper relies upon a comparative qualitative case study based mostly on a document analysis, literature review, mostly on socio-technical aspects and on local conflicts, expert interviews and stakeholder interviews. There is a large body of literature on technical issues concerning nuclear waste repositories complemented by socio-technical works on risk, acceptance, acceptability and participation in the siting process, but only a few publications related to nuclear waste governance (NWG). However, comparative studies in the field of NWG are still limited in number and there is still room open for further investigation. A part from the publications of the Nuclear Energy Agency (NEA) of the OECD (NEA, 2004, 2007; 2009, 2010; 2015) we take stock of the socio-technical literature review on nuclear waste disposal (Solomon et al., 2010), of the critique to framing policy arguments in terms

of maximising welfare or utility and considering in place inter-generational justice (Shrader-Frechette, 2000) and of topical issues in national case studies (Blowers, 1999, 2016; Brunnengraber et al., 2015; Lehtonen, 2015, 2010; Litmanen, 2009; Litmanen et al., 2010). This information has been supplemented by interviews with national experts on nuclear waste policy in France, Sweden and Finland during three workshops on nuclear waste governance organised by the authors in the period 2013–2015. In the case of Germany, stakeholder interviews have been conducted in the period 2013–2016. Additionally, we take evidence from our participant observation in the works of the German "Commission for the disposal of high-active Waste" (Endlager-Kommission) of the German Parliament set up in 2014. The data set consists of more than 300 min of meetings and documents that are available on the Internet and of the final report (EK, 2016).

One of the aims was to compare and juxtapose the degree of participation and stakeholder involvement in siting processes in countries in an advanced phase of construction of national repositories with a country like Germany, where the process started at a later stage. The document analysis and interviews helped to identify the main issues of acceptance and conflicts. Arnstein (1969) "ladder of participation" is used as a framework for analysing and comparing the different cases. In spite of being more than 45 years old and not immune from criticism, Arnstein's ladder – once developed to frame citizen involvement in planning processes in the USA – still represents a useful heuristic tool. We combine it however with a subsequent adaptation concerning risk related decision making (Wiedemann and Femers, 1993).

We take Arnstein's ladder (Arnstein, 1969) and the typology of Wiedemann and Femers, 1993 as points of departure for comparing the different experiences in Sweden, Finland, France and Germany and discuss what Germany can learn from the experiences in these countries. We consider these typologies illustrative and helpful, but are aware of the risk that to classify a country's radioactive waste (RW) policy according to these typologies can be reductive.

The eight steps of participation discussed by Arnstein are grouped under: non-participation (steps 1–2); tokenism (steps 3–5); and citizen power (steps 6–8). The lower rungs are non-participatory and include (1) manipulation and (2) therapy, and are characterised by efforts to achieve public support through "public relations approaches". The next step, (3), includes participation, but the information provided is unidirectional and no feedback is envisaged. Consultation (4) entails the use of instruments such as surveys, neighbourhood meetings, and enquiries. This step is considered by Arnstein to be "window dressing". In rung 5 (placation), citizens can advise or plan, but decision-makers ultimately decide whether or not to accept their input. It is only in the next stage (6), characterised by partnership, where negotiations are possible and decision-making responsibilities are shared, for example in committees. The next stages, 7 and 8, include delegated power, citizen control and opportunities for power sharing and (co-) governance, but given the high socio-technical and political complexities concerning radioactive waste management and governance, these stages are hardly realistic.

Wiedemann and Femers, 1993 built upon Arnstein's ladder and considered public participation in risk-related decision-making. Their ladder ranges from (a) public right to know, (b) informing the public, (c) public right to object, (d) public participation in defining interests and determining the agenda, (e) public participation in assessing risk and recommending solutions, and (f) public partnership in the final decision. In discussing our case studies, we consider both analytical approaches.

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