Supplement of Saf. Nucl. Waste Disposal, 1, 193–194, 2021
https://doi.org/10.5194/sand-1-193-2021-supplement

SaND
Safety of Nuclear Waste Disposal
Open Access

Supplement of

Narratives and images of the future for final disposal

Stefanie Enderle and Peter Hocke

Correspondence to: Stefanie Enderle (stefanie.enderle@kit.edu)

Karlsruher Institut für Technologie

Institut für Technikfolgenabschätzung und Systemanalyse

safeND- Interdisciplinary research symposium on the safety of nuclear disposal practices 2021

Narratives and images of the future for final diaposal

Stefanie Enderle & Peter Hocke

Content

1. Introduction
2. Theoretical background
3. Methodological approach
4. Empirical results
5. Conclusion

1. INTRODUCTION

1.1 „Public Participation in the Search for a Repository: challanges of an intergenerational, self-questioning and learning procedure“

- **Project partner**:
  - Öko-Institut e.V., Darmstadt
  - team ewen GbR, Darmstadt
  - Institute for Technology Assessment and Systems Analysis (ITAS) at KIT, Karlsruhe
- **Duration**: 2018 – 2020
- **Funding**: Federal Office for the Safety of Nuclear Waste Management (BASE) – identifier 4717F00001
- **Publication**: Brohmann, B., Mbah, M., Schütte, S., Ewen, C., Horelt, M.-A., Hocke, P., Enderle, S.: Öffentlichkeitsbeteiligung bei der Endlagersuche: Herausforderungen eines generationenübergreifenden, selbsthinterfragenden und lernenden Verfahrens. Endbericht. Berlin, Bundesamt für die Sicherheit der kerntechnischen Entsorgung (BASE – Forschungsberichte zur Sicherheit der nuklearen Entsorgung, BASE-004/21) (urn:nbn:de:0221-2021051027029), 2021.

1.2 Content of the project

- Concept for public participation, to be implemented in the sense of the Repository Site Selection Act (StandAG 2017) as a participatory, self-questioning and learning procedure until a safe repository site is found

- ITAS WP: Narratives and future images for final disposal
  - Analysis of narratives
  - Evaluation of narratives and design of future images

2. THEORETICAL BACKGROUND

2.1 Narratives are…

- … interpreted and provided with meanings
- ... unite and condense different narrative strands
- ... contain motifs, contextual conditions
- .... are temporally structured, related to the past & open to the future
- ... are not argumentative
- ... aim at authenticity
- ... are shared and taken up

(cf. Geiger 2006, Viehöver 2011, Weber 2017)

2.2 Images of the future - „Sociotechnical futures“

- Perceptions, wishes and visions for aspects not yet experienced in the present.
- Technical developments and social changes are put in relation to each other.
- can be different and also contrary.
- can be used to mobilize design processes.
- are not only texts but can also be pictures or objects.
- need arguments and explanations.

(cf. Lösch et al. 2019, Grunwald 2019)

3. METHODOLOGICAL APPROACH

3.1 From Interview to narrativ

- Qualitative guideline-assisted interviews
- Experts from the fields of: science, civil society, politics, administration, companies
- Experts have "special knowledge”
- With their interpretations they structure the field of action for others
- Content-analytical evaluation of the interviews
- Elaboration of the narratives

3.2 From narrative to images of the future

- Workshop with students and PhD students
- Objective 1: Reflection and further development of narratives
- Objective 2: Design of future images, based on different development paths

4. (selected) EMPIRICAL RESULTS

4.1 **Narrative:** "Without Fukushima, there would be no StandAG"

- Narrative along a history of conflict
- Catastrophes have shaken confidence in nuclear energy
- The waste problem was handled in a non-transparent and politically inappropriate manner.
- Phase-out is a success of anti-nuclear movements and protests
- Reorientation of waste management policy
- Mistrust of politics and authorities due to these experiences
- Reproach: Politics acts only after disasters or massive political conflicts

4.2 Reflection of the narrative

- The narrative causes many questions
- It presupposes knowledge about the past and contexts
- The past is indirectly excluded by setting a beginning with Fukushima
- Conflict history is complex and difficult to understand

4.3 Interim summary

- The narrative is ambivalent
- But it occurs in discourse
- The history of conflict needs to be explained
- The success of civil society must be acknowledged
- Dissent and protest have helped to review and develop decisions

4.4 **Narrative:** "The thinking in the Saint Florian principle blocks that decisions are oriented to the common interest."

- The loss of the common interest mindset strengthens NIMBY
- Emotional and fear-based arguments are also found in the discourse
- Unequal burden sharing

4.5 Reflection of the narrative

- Strong appeal character can lead to putting one's own concerns into perspective
- However, it also has an unempathetic effect
- Appreciation of the affected region
- Those affected are not left alone

4.6 Interim summary (focused on authorities): How to reflect and handle narratives

- The company bears the project as a whole
- Risks must be communicated transparently and comprehensibly
- Emotional arguments must also be taken seriously

4.7 Images of the future

- Different development path (pessimistic, moderate and optimistic)
- Action patterns of collective actors

- Government has no concept for adequate solution of the problems caused by nuclear waste
- Science has to be an independent institution (esp. basic research)
- Radwaste policy without problem-oriented foresight and without long-term strategy and governance
- Societal debate is focused on affected groups in the population
- Site selection process is dominated by protest and riots

5. CONCLUSION

5. Conclusion

- Tension between actors with a history of conflict and "new" actors with little knowledge of the past
- Unequal burden sharing also with regard to intergenerational justice

- Narratives and images of the future can play an important role in communication process
- Sociotechnical futures can illustrate alternative courses of action and decision paths

Thank you !

References

Brohmann, B., Mbah, M., Schütte, S., Ewen, C., Horelt, M.-A., Hocke, P., Enderle, S.: Öffentlichkeitsbeteiligung bei der Endlagersuche: Herausforderungen eines generationenübergreifenden, selbsthinterfragenden und lernenden Verfahrens. Endbericht. Berlin, Bundesamt für die Sicherheit der kerntechnischen Entsorgung (BASE – Forschungsberichte zur Sicherheit der nuklearen Entsorgung, BASE-004/21) (urn:nbn:de:0221-2021051027029), 2021.

Brown, Philip (2017): Narrative: An ontology, epistemology and methodology for pro-environmental psychology research. In: Energy Research & Social Science 31, S. 215–222. DOI: 10.1016/j.erss.2017.06.006.

Geiger, Daniel (2006): Wissen und Narration. Der Kern des Wissensmanagements. Berlin: Schmidt.

Grunwald, Armin (2019): Shaping the Present by Creating and Reflecting Futures. In: Andreas Lösch, Armin Grunwald, Martin Meister und Ingo Schulz-Schaeffer (Hg.): Socio-technical Futures. Shaping the Present. Empirical Examples and Analytical Challenges in Social Studies of Science and Technology and Technology Assessment. Wiesbaden: Springer VS , S. 17-36.

Lösch, Andreas; Grunwald, Armin; Meister, Martin; Schulz-Schaeffer, Ingo (2019): Introduction: Socio-technical Futures Shaping the Present. In: Andreas Lösch, Armin Grunwald, Martin Meister und Ingo Schulz-Schaeffer (Hg.): Socio-technical Futures Shaping the Present. Empirical Exam-ples and Analytical Challenges. Introduction. Wiesbaden: Springer VS

Viehöver, Willy (2011): Diskurse als Narrationen. In: Reiner Keller, Andreas Hirseland, Werner Schneider und Willy Viehöver (Hg.): Handbuch sozialwissenschaftliche Diskursanalyse. Band 1: Theorien und Methoden. Wiesbaden, Opladen: VS Verl. für Sozialwiss; Leske + Budrich (Handbücher), S. 193–224.

Weber, Simon (2017): Wie Geschichten wirken - Grundzüge narrativer Psychologie. In: Jacques Chlopczyk (Hg.): Beyond Storytelling. Narrative Ansätze und die Arbeit mit Geschichten in Organisationen. Berlin, Heidelberg: Springer Gabler, S. 11–21.