

Call for Abstracts: “The future of high-level radioactive waste disposal: What are the developments? What are the challenges after a site selection?”

TATuP special topic in issues 3/2022

Deadline for submitting your abstract: 18 February 2022

The question of permanent storage of highly radioactive waste – nuclear waste – is still unsolved in a number of countries all over the world. This is not only due to unanswered technical questions (What can be a suitable container?). It is also a result of unresolved social and political issues (How can we develop an intergenerational socio-political process of final disposal, that is, among other things, fair and transparent?). Thus, it is a socio-technical problem that has to be addressed and dealt with from both a practical and a scientific point of view. These questions do not only refer to current site selection processes, which are already discussed in science, politics, and society in many countries, but in particular to the phases of construction, operation, and closure of a final repository. Many future issues related to the “final disposal” of nuclear waste are still unsolved.

The special topic of “The future of final disposal” is characterized by three main perspectives:

- What are the developments, questions, and discussions that represent and define the overlong time perspective related to the realization and existence of a final repository? What are the country-specific characteristics? Starting points for research articles can also be in the past or include the past.
- What happens after a site has been selected, a decision that is – from today’s point of view – still in the future in many countries? What has to be considered – both from a technical and a social perspective? Are states adequately prepared for this in their repository policies? Are there sufficient discussions and scientific activities? What will be the similarities and differences regarding citizen participation, state action, and interaction between science, technology, society, and politics?
- While the phase-out of nuclear power was in some countries a prerequisite for the participation of nuclear-critical actors in the site search, other countries consider nuclear power plants as an important part of the fight against climate change, a view that has been supported by the European Commission’s decision to classify nuclear power as climate and environmentally friendly. How does climate change as a contextual factor influence the repository plans in the respective countries?

Once again, in other words: What will be needed in the future, in the long term, on the way to the repository, during its operation, and after its closure and what are the challenges, also in contrast to the current phase of site selection and plant design? Many of the questions that will then become relevant require at least some preliminary reflection, in some cases also practical preparation or consideration already during a site selection process. Thus, issues of long-term governance are addressed from different perspectives.

Requested research articles

The topic provides starting points for a wide range of scientific disciplines and research directions: Anthropology, natural sciences, history, technology research, technology assessment, philosophy, sociology, STS, political science, geography, law, materials research, administrative science, climate research, engineering, environmental and sustainability science, geopolitical research/international relations, citizen participation, citizen science, and more.

The following list of overarching questions is intended to be illustrative, but by no means exclusive:

- What role do energy transition, the related policies, and technical developments play for final disposal in different countries?
- How can a (country-specific) long-term governance be designed that responds to new societal and natural framework conditions as well as technical developments (such as AI and digitalization) and adapts the final disposal process in a flexible way without postponing it again and again?
- How can the interaction between different political levels (local, regional, national, international) in long-term governance be organized on a fair and transparent basis? What role do geopolitical interests play here?
- What role do different bodies of knowledge play in the final disposal process and how is scientific uncertainty and non-knowledge addressed in political decisions and participation processes?
- How is the boundary between scientific and technical topics and those that are part of societal debates negotiated?
- How does a site decision affect the region and what are the requirements for regional actors?
- What role does citizen participation play in the final disposal process in the long-term and how should it be structured?
- What are the requirements of challenges that occur in the ultra-long term, i.e., after closure, for today's governance processes?

We are looking for research articles from many different perspectives! We explicitly encourage you to try out new approaches in terms of content and access!

Guest editors of this TATuP special topic

Ulrich Smeddinck (ITAS), Anne Eckhardt (Risicare, Switzerland), Sophie Kuppler (ITAS)

Submissions

- Please send your abstract by e-mail to redaktion@tatup.de by 18 February 2022 at the latest;
- Length of the abstract: max. 1.5 pages;
- The editorial office will correspond with the author submitting the abstract;
- Please state full names, e-mail addresses, and institutional affiliations of all co-authors of the abstract.

Editorial process

18 February 2022:	Deadline for submitting your abstract.
March 2022:	Decision on inviting authors to submit a full manuscript.
June 2022:	Deadline for submitting your full manuscript, followed by a double non-blind review process.
August 2022:	Feedback from the reviewers, followed by authors' revisions by end of September 2022.
September-October 2022	Feedback on revisions.
October 2022:	End of revision period.
December 2022:	Publication (print and online).