

## ***Contested forms of highly-complex governance in multi-level-systems.***

Some results from ENTRIA's international comparison of nuclear waste politics

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### **Overview**

1. Introduction
2. ENTRIA and its context
3. Governance as a chance and as a problem
4. Results from the German/Swiss comparison
5. Outlook and challenges for the future

#### **Tagung:**

21<sup>st</sup> REFORM Group Meeting, Salzburg, Aug 28 to Sept. 1, 2017  
(Prospects of Climate Change Policy and Green Finance,  
Sections on Nuclear Power and Governing Nuclear Waste on Friday  
Sept 1<sup>st</sup>)

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## 1. Introduction



- Analytic progress: a number of studies about Germany (e.g. Blowers 2016, Brunnengräber 2016, Hocke / Kallenbach-Herbert 2015); also in the international scientific debate (e.g. Solomon et al. 2010, Kalmbach 2017, Newman et al. 2016)
  
- GER and CH with dynamic programmes for RWM
  - GER and its second phase-out (Schreurs 2012)  
Energy Transition (“Energiewende”) with some conflicts, but with good progress,  
RWM: since 2010 intensified attempts, since 2013 a restart with strong deliberative elements and widened participation.
  - CH at the end of step 2 in an ambitious site selection procedure; started in 2008 with a new comparative and participative approach (HAW and also LAW/MAW)

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## 1-2 (Introduction)



- BUT: some scepticism
  - 1) whether the phase-out will persist (in GER and CH) and if there is consensus to find a nuclear waste repository on the own territory
  - 2) whether it is possible to convince one region in each country that they will take the burden of final disposal in an underground repository
  
- GER and CH have different democratic traditions, but a very similar development of civil society and of the conflict on nuclear waste disposal.  
Based on those similarities, the development in both countries can be compared (e.g. Kuppler 2016)

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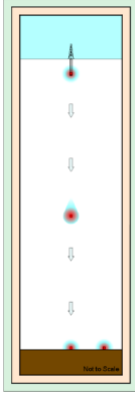
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## 2. ENTRIA and its context


ENTRIA conducted research on three options for disposal and their context structures:

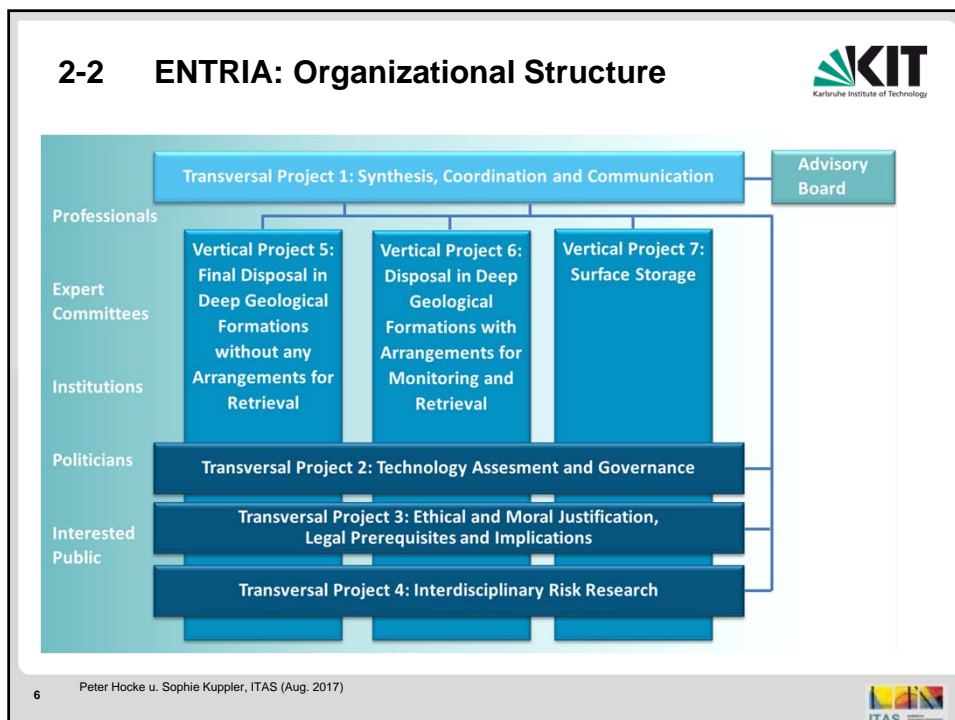
- a.) disposal in a deep underground repository without provisions for retrievability;
- b.) emplacement in a deep underground repository with monitoring and retrievability;
- c.) Prolonged surface (or near-surface) storage



**Debate among the interested public with loops:**

Again and again the question: Are there better technological options than deep underground repositories? Why not send the HAW to the sun, place it in subduction zones or deep boreholes with 3.000 to 4.000 metres, etc.) (see Appel et al. 2015)

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## 2-3 Strong interdisciplinary cooperation



**Disciplines involved:**  
natural sciences like  
chemistry and  
radioecology, civil  
engineering, philosophy,  
law, political sciences,  
and technology  
assessment.

**Output e.g.:** the first independent, generic model for storage canisters (Team Hassel et al.), reflection on methods in interdisciplinary research (Smeddinck et al. 2016), on participation (Di Nucci et al. 2017), and on interdisciplinarity and safety case (Röhlig / Hocke 2014)

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## 3. Governance as a chance and as a problem



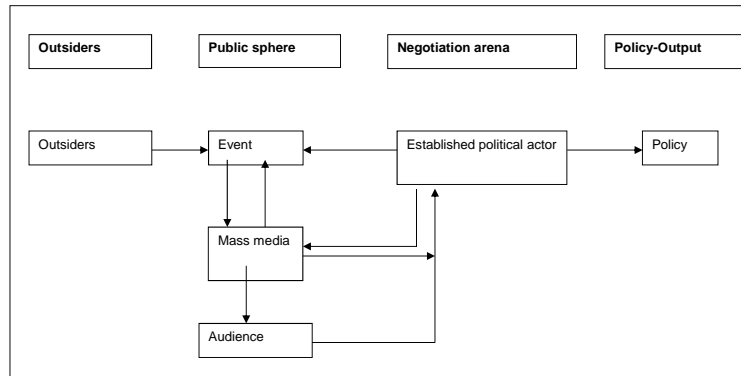
- Huge amount of scientific publications
- Tension between positions
  - 1: neoliberal attempt to modernize established forms of decision-making
  - 2: chances for democratization of difficult and polarized political management
- ENTRIA research teams use governance as a conceptual tool for analysis of:
  - \_ national RWM policy
    - How and when are the interested public and stakeholders involved in decision-making?
  - \_ multi-level governance
    - How do different levels of government act together or obstruct each other in decision-making?

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### 3-2 established decision-making



- „Interest aggregation“ as central mode within governmental action and collective decision-making (Gerhards 1994)

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### 3-3 Governance as a scientific anchor

\_ The governance debate addresses challenges of steering processes of decision-making; main strength: opening the black-box of how policy output is generated.

\_ Three approaches in the German debate


- Renate Mayntz – grande dame of German sociology
- Edgar Grande – political scientist (LMU München)
- Danny Michelsen / Franz Walter – social scientists (Göttingen)

\_ Lessons learned: „Cooperation“ and „coordination“ as analytical dimensions which can be linked with sociological systems theory, theories of collective action and political sociology / sociology of the public sphere; compatible with technology assessment and STS research on socio-technological systems.

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#### 4. Results from the German/Swiss comparison




CH	GER
underground repository with retrievability and underground pilot- and test facility	underground repository with retrievability favoured
phase-out from civil use of nuclear power in the further future (several decades)	definitive phase-out from civil use of nuclear power in the very close future (2023)
two types of repositories: one for all types (HAW plus MAW/LAW) or separate facilities	one site for HAW and heat developing radwaste (Gorleben as one case in the comparative approach) (plus LAW/MAW underground repository close to Salzgitter; two other sites with more or less serious problems)

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#### 4-2 (German/Swiss comparison)




CH	GER
intense pre-phase before the restart of more than 2 years (2006-08)	strong political commitment at the national level for new site selection procedure, law and experts / members of parliament („Endlagerkommission“)** in a leading role
politics of transparency*	forums for public concerns
regional conferences with different roles over time	regional conferences in a later phase currently: „Nationale Begleitgruppe“ and restructuring of authorities; Sept 2017 official restart
optional national referendum at the end of the site selection process	no new elements of direct democracy
financial resources are invested in participation and support	industry and policy established a model for financing the disposal

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### 4-3 Dimensions of the sociotechnical problem (1)




Dimension	Results of the comparison
governance	<ul style="list-style-type: none"> <li>- still national politics, strongly influenced by state and political culture; integration of civil society is limited</li> <li>- relevance and quality of stakeholder integration (beside the established actors) is still under development</li> <li>- limited chances for civil society organizations and social movements (like the anti-nukes-movement) to be involved as a partner</li> <li>- research policy is now starting to get interested in research on the interplay of technological and societal problem (besides NIMBY)</li> </ul>
local population	<p>CH: 3 siting regions as options under research; progress in planning towards the next steps</p> <p>D: unclear whether there is any support for a new site selection procedure</p>

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### 4-4 Dimensions of the sociotechnical problem (2)



CH	GER
coordination	<ul style="list-style-type: none"> <li>- survey data show from CH show, that the local population is not well-informed, though there are working regional conferences (Ruetter soceco / IfD Allensbach / LING 2016)</li> </ul>
cooperation	<ul style="list-style-type: none"> <li>- first progressive approaches</li> <li>- weak media resonance on the challenges of this restart</li> <li>- deliberative formats established in a very limited way</li> </ul>
technology	<p>Advantages of retrievability are not obvious in comparison to repositories without retrievability provisions</p>

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## 5 Outlook



- Not too optimistic in terms of the governance analysis (“democratisation”)
- Lack of cooperation and coordination
- CH in serious struggle with the „neighbour“ GER, esp. communities in the south of Baden-Wuerttemberg.
- GER: very different positions / expectations regarding e.g. quality of participation, lessons learned from the history of the conflict.
- But the future is open and „thinking in alternatives“ (Grunwald) is one option.

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Vielen Dank für Ihre Aufmerksamkeit!  
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