



*Supplement of*

## **A citizens workgroup helps researchers reflect on their work**

**Roman Seidl et al.**

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## A Citizens Workgroup helps Researchers Reflecting their Work

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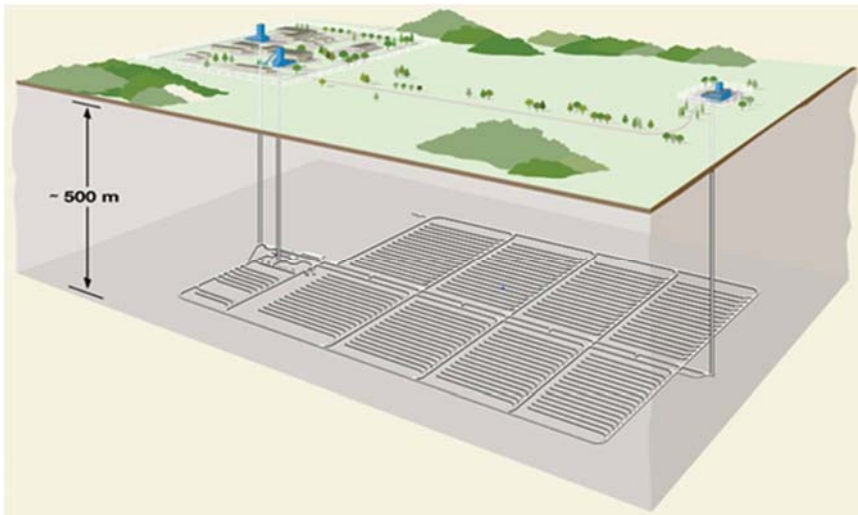
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SafeND - Technical, Social and Legal Approaches  
to Managing the Hazardous Legacy of Nuclear Power Generation

# A Citizens Workgroup (CWG) in a Research Project

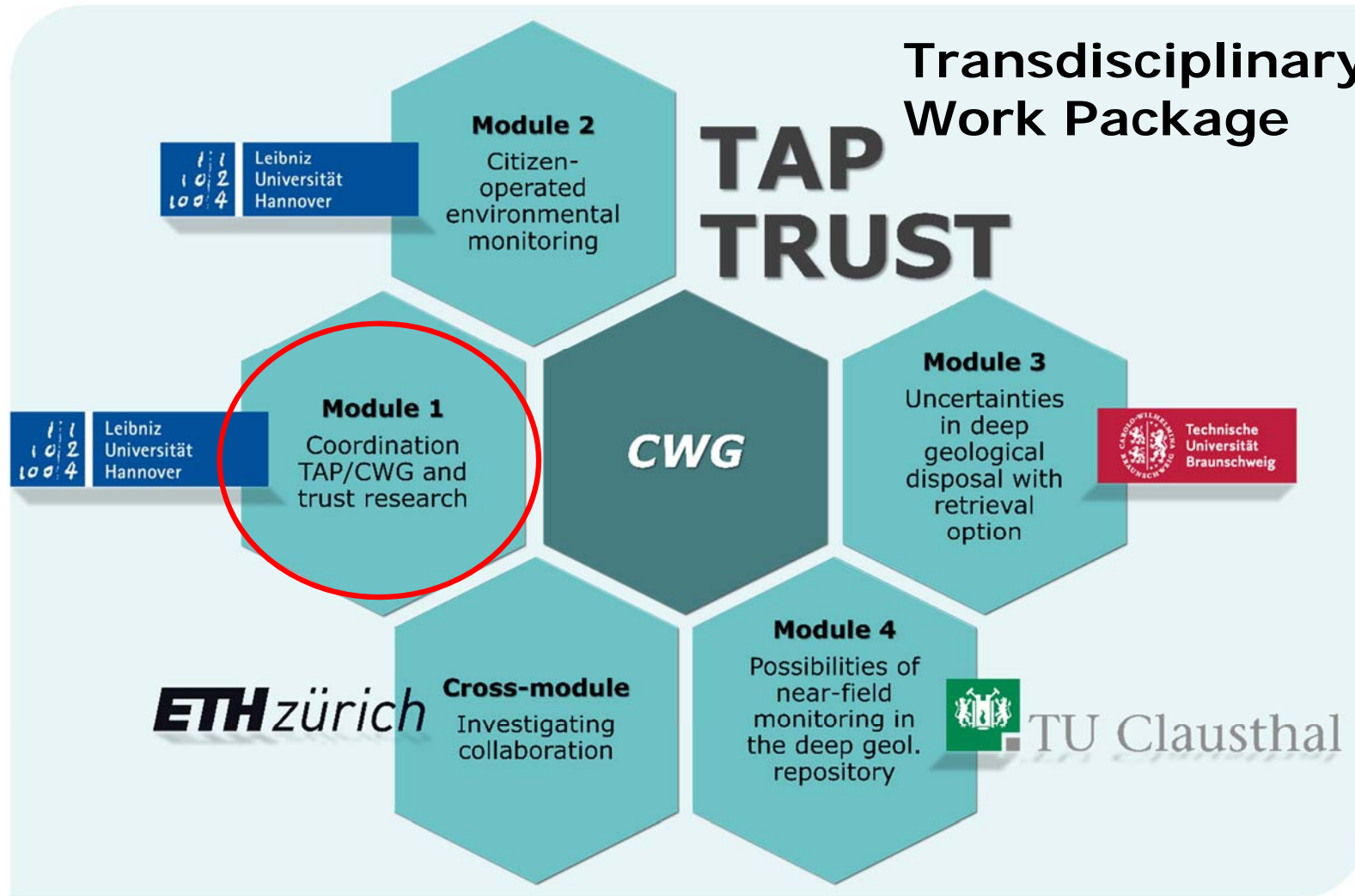


- Topic: high-level nuclear waste in Germany
- TRANSENS as *transdisciplinary application-oriented basic research*<sup>°</sup>
- Including normal citizens
  - Function: extended peer community\*
  - Recruiting, establishing and working

\*Funtowicz, S. O., & Ravetz, J. R. (1993). Science for the post-normal age. *Futures*, 25(7), 739–755. [https://doi.org/10.1016/0016-3287\(93\)90022-L](https://doi.org/10.1016/0016-3287(93)90022-L)

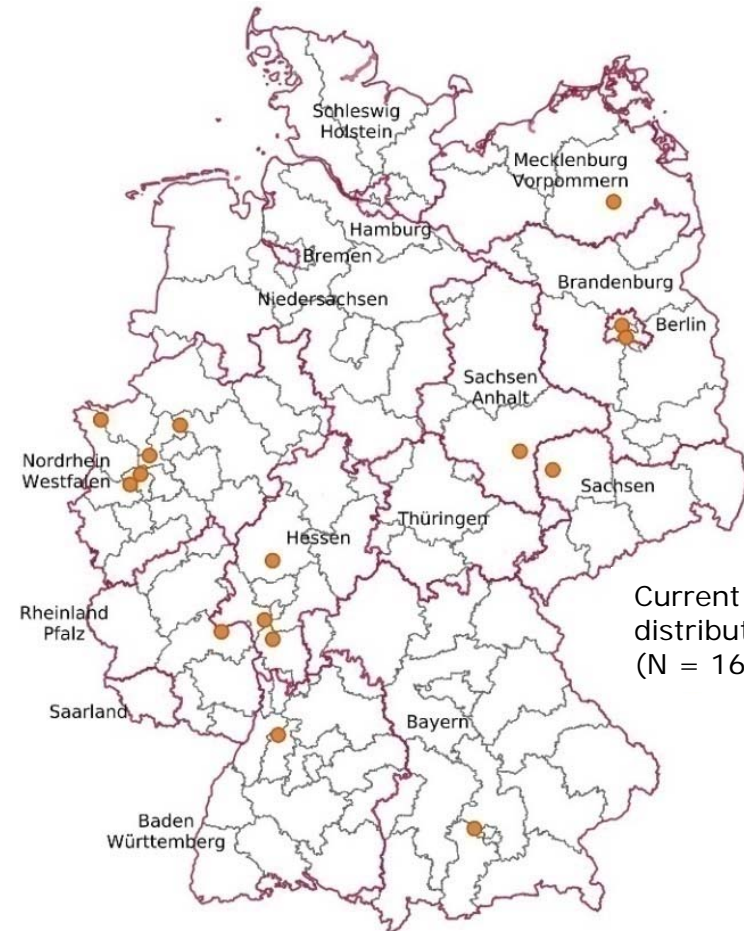
<sup>°</sup>Following the Helmholtz Association

# Transdisciplinary Work Package



## „Recruiting“

- Stepwise process with various methods
  - Survey 1 (N = 5'000)
    - Role of trust in the context of nuclear waste disposal
  - Survey 2 (N = 700)
    - Only for interested participants
    - Responses from 180 participants
  - Personal interviews (online, N = 28)
  - Final group (N = 16)
    - Selected aiming at a wide distribution of educational background, gender and age

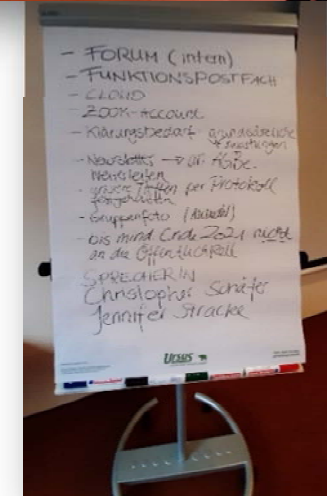
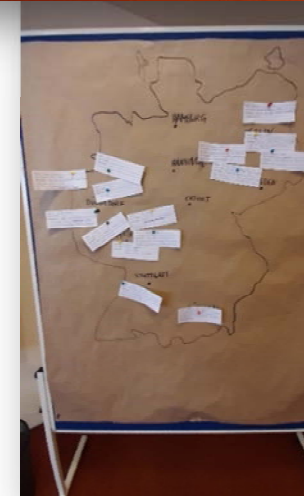


Current CWG-members'  
distribution in Germany  
(N = 16)



# Establishing

- Kick-off meeting (in person) in Hanover, September 2020
- Important to meet each other (CWG members and TRANSENS researchers)
- Information on project goals and the CWG's role
- Written agreement on goals and code of conduct



# Working



- Participation at project meetings
  - Photo left from personal meeting 2021
- Participation in workshops (online)
  - Transdisciplinary methods\*
  - Monitoring of repository
  - Trust in science/scientists

\* Emancipatory boundary critique,  
[http://projects.kmi.open.ac.uk/ecosensus/publications/ulrich\\_csh\\_intro.pdf](http://projects.kmi.open.ac.uk/ecosensus/publications/ulrich_csh_intro.pdf)

# Workshop on Trust in Science (online March 2021)

- Guiding questions
  - a. What do you expect of a SSH/NSE scientist in the TRANSENS project?
  - b. What characterizes a scientist from SSH/NSE that you trust?
  - c. What would have to happen for you to no longer trust him/her?
- Different tasks for three breakout groups
  - 1. Think of a fictitious researcher of SSH
  - 2. Think of a fictitious researcher of NSE
  - 3. Compare directly researchers of SSH or NSE concerning trust

SSH – Social Sciences and Humanities  
NSE – Natural Sciences and Engineering

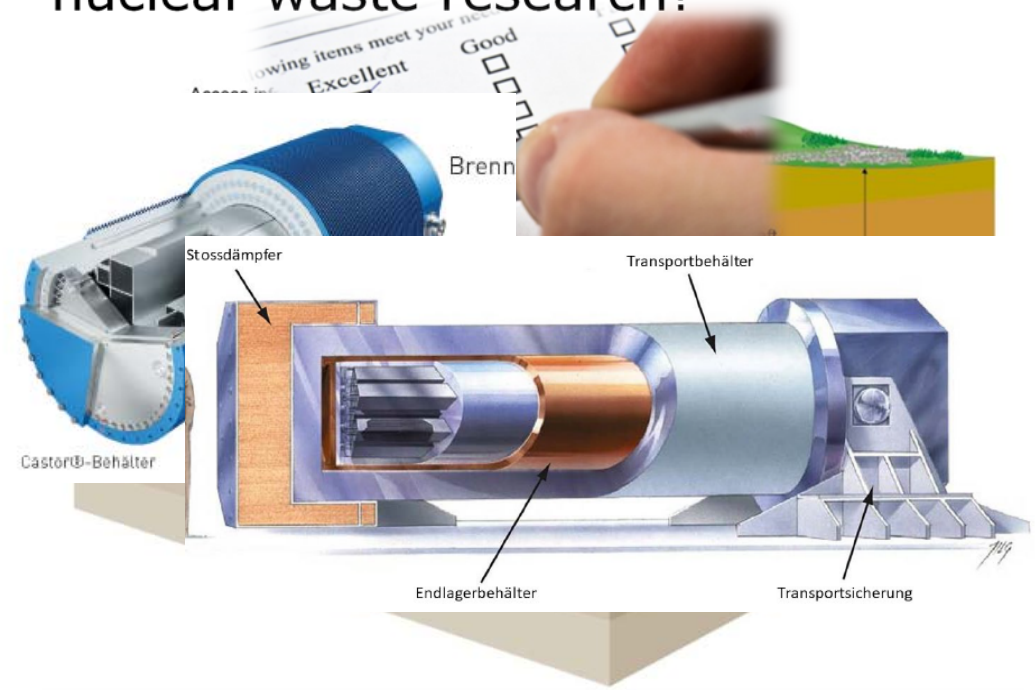




## Results SSH - Group 1

- Criteria to trust an SSH researcher
  - Be sympathetic
  - Not be condescending
  - Represent a neutral point of view
  - Consider all opinions

- “What the heck are SSH doing in nuclear waste research?”



## Results SSH - Group 1

- Criteria to trust an SSH researcher
  - Be sympathetic
  - Not be condescending
  - Represent a neutral point of view
  - Consider all opinions
- “What the heck are SSH doing in nuclear waste research?”
  - Discussants struggled in defining a role of SSH-researchers in high-level waste disposal research
  - Potential role: moderating or mediating the procedure
    - Communicating NSE–results
    - Mediate between the NSE and the public
    - SSH-scientists may train other scientists developing their skills

## Results NSE - Group 2

- Criteria to trust a NSE researcher
  - Present full information
  - Do not conceal any information
  - Clarify the current state of research
  - Be neutral and objective
  - Do not claim (just) your opinion or spread untruths
  - Be experienced in the field

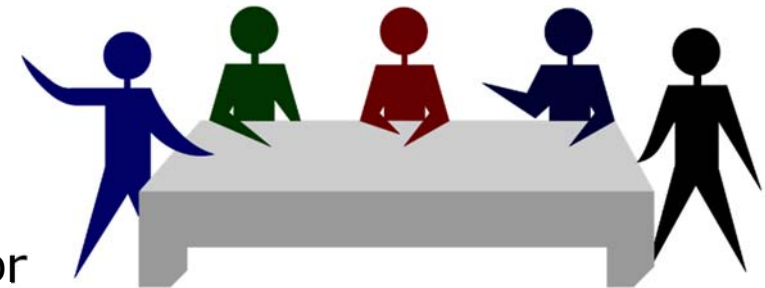


## Results Comparison – Group 3

- Special guiding question
  - Do you trust a natural scientist differently than a social scientist?  
If yes, why is that?
- Difficult to assess: trust in NSE and SSH scientists proceeds on different levels
  - NSE generally perceived as more serious, deal with *hard facts*
  - SSH appear *softer*. However, soft topics of SSH could also be of use

## Results Comparison – Group 3

- One wants to be taken seriously
- Demarcation between science/pseudoscience is not essential (all knowledge preliminary)
- Appearance of the scientist of great importance
- Presentations should be exciting
- Authority not necessarily as crucial
- Scientists may be biased due to research funds or consulting fees
- Interdisciplinarity: disciplines should be combined for specific topics





## Conclusions

- Generally: smooth work among CWG members and with scientists
- Lessons learnt for project team
  - Honesty includes uncertainties / Complexity vs. lack of expertise
  - Researchers' *facts* not so obvious to citizens - other topics emerge
- Lessons learnt for CWG
  - Received knowledge on nuclear waste disposal research (retrievability, monitoring)
  - Insights how science works: e.g. that science has to cope with uncertainties and trade-offs – often no final answer or solution!
- Effect on trust building
  - CWG members appreciated being taken seriously
  - Not offered an 'pure and perfect' solution

## Thank You for Your Attention

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