

Impact of the Waste Plan on the RD&D programme for B&C waste

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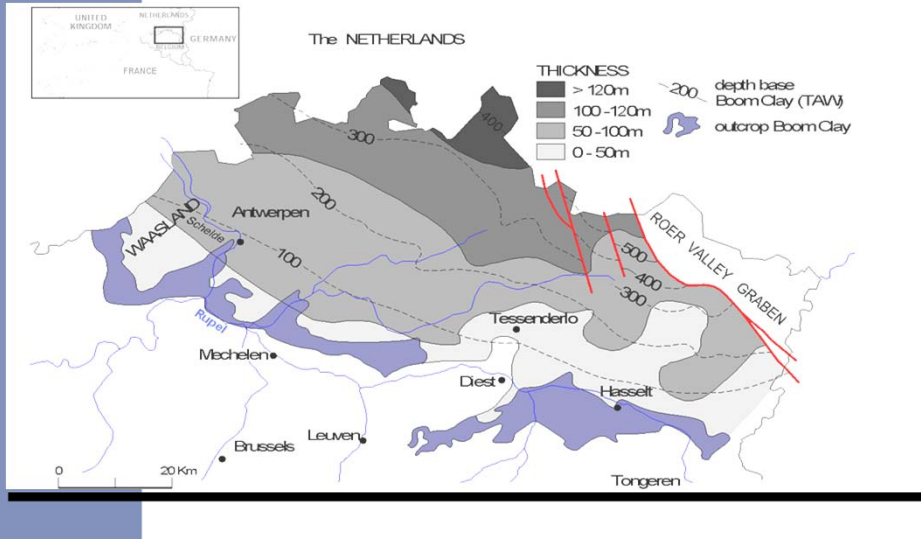


Continuity of RD&D

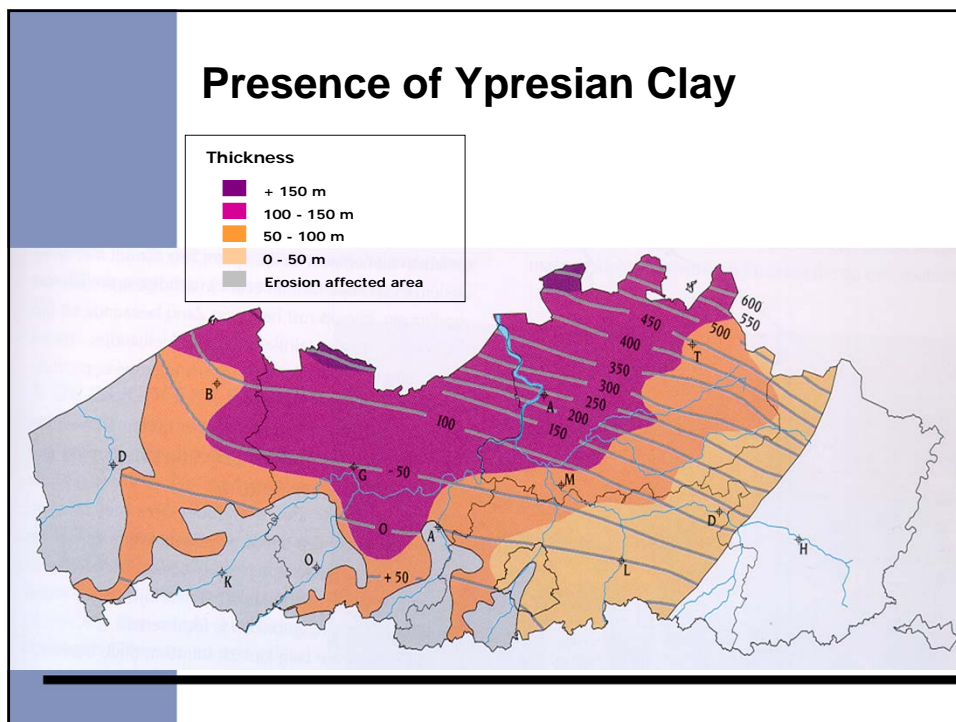
- RD&D will continue and financing is guaranteed
 - Letter of the supervising ministers supports this
 - Focus on confirmation of the feasibility of safe geological disposal in poorly indurated clays - Boom Clay and Ypresian Clay and increasing societal aspects



Presence of Boom Clay



Presence of Ypresian Clay



Modification of planning

- Original planning based on technical-scientific aspects
 - 1990: SAFIR 1
 - 2001: SAFIR 2
 - ~2013: SFC1 → go for siting
 - ~2020: SFC2 → go for licensing
- Current status
 - Still no Decision in Principle
 - Increase of the societal involvement, which can lead to specific questions that are not yet underbuild with broad RD&D knowledge



Modification of planning

- Future
 - Timing and content of the Decision in Principle and the continuous societal involvement will allow us to identify the planning and objectives of SFC1
 - Societal consultation of the Waste Plan is used as an opportunity to register already the societal concerns with an impact on RD&D
 - To keep pace with having about every 10 years an overview report, O/N develops currently an **RD&D Plan** – geological disposal
 - Short overview of current knowledge with focus on the evolution since SAFIR2
 - Most important open questions and priorities for SFC1
 - Integration of the societal concerns expressed in the frame of the consultation of the Waste Plan



First overview of RD&D aspects resulting from the Waste Plan

- Increase of visibility and RD&D on Ypresian Clay
 - Enlargement of the research on Ypresian Clay to come at a « comparable » level of knowledge as for Boom Clay
- Increase visibility and knowledge on environmental impact
 - Chemo-toxic impact
 - Impact of temperature on groundwater
 - Quality of drinking water (temperature, chemo-toxic, ...)
 - Thermal expansion and possible uplift of soil



First overview of RD&D aspects resulting from the consultation during Waste Plan

- Societal concerns
 - Retrievability and controlability
 - Can have an important impact on feasibility (layout/design, technical aspects and operational safety), timing of activities and long term safety
 - Necessity to develop or extent phenomenological basis to set up a grounded discussion during the societal dialogue → One should be able to dialogue also about the limits of such requirements
 - Transfer of knowledge
 - At international level a first project has started



First overview of RD&D aspects resulting from the consultation during Waste Plan

- Vigilance on (scientific) evolution of non-retained options
 - P&T
 - Deep boreholes
 - Schistes
 - International repository
- Moreover NIRAS/ONDRAF wishes to maximise the synergy between the different RD&D aspects
 - E.g. Maximise synergy between continued RD&D for cAt and RD&D for B&C



The role of the underground laboratory HADES in future RD&D

- Next decades: shift towards confirmation-RD&D
 - Large scale and long term experiments
 - Continuity of long running experiments
 - Input towards monitoring programme (testing new techniques and description of limits based on 'lessons learned')
 - Transferability to larger zone and Ypresian Clay based on surface experiments and drillings
 - Currently, O/N does not think it is necessary to have a dedicated URL within the Ypresian Clays. If needed a rock characterisation laboratory can be build at the start of the repository construction (like in Finland)
- During operational phase of repository system the continuation of confirmation RD&D and testing with respect to optimisation will be performed



The role of the underground laboratory HADES in the societal dialogue

- Good starting point for stakeholder participation
 - This must be continued
 - URL might help with respect to knowledge management and memory keeping
 - Continue the interest within the scientific / academic world
 - International collaboration
 - Attraction pool for communication with a larger public



Conclusions

RD&D on geological disposal in poorly indurated clays (Boom Clay and Ypresian Clay) will:

- Be pursued
- Be increased
- Be enlarged to societal aspects
- Take the opportunity for synergy with cAt

