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Supplement of

Site selection in Switzerland: parallelization of implementer data collection and technical–political decision-making

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SITE SELECTION IN SWITZERLAND:







PARALLELIZATION OF IMPLEMENTER'S DATA COLLECTION AND TECHNICAL-POLITICAL DECISION-MAKING

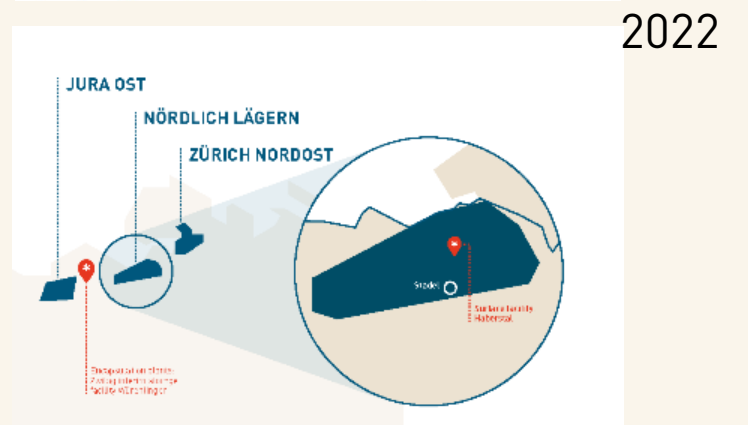
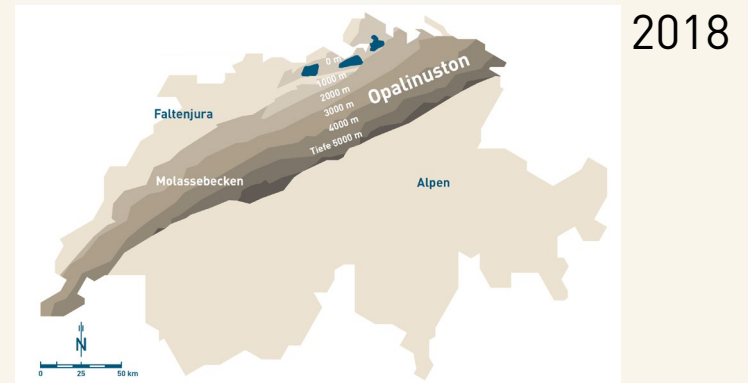
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SWISS SITE SELECTION PROCESS OUTLINE

-  Best suited **geology**
-  Optimization of **geological barrier**: properties, stability, reliability, constructability
-  **White map** approach (no preconditions / no exceptions)
-  → Technical / **safety criteria** only
-  **Stepwise screening** process (3 phases)
-  Aim: **General Licence Application** - GLA



2031

GENERAL LICENCE APPLICATION = *POLITICAL DECISION ON SITE*

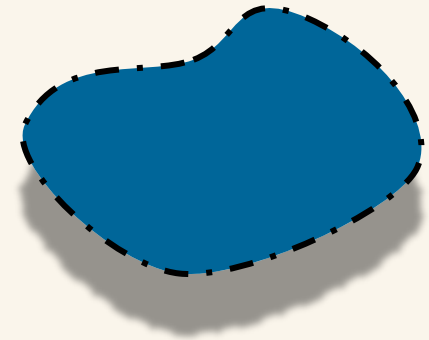
Max Capacity



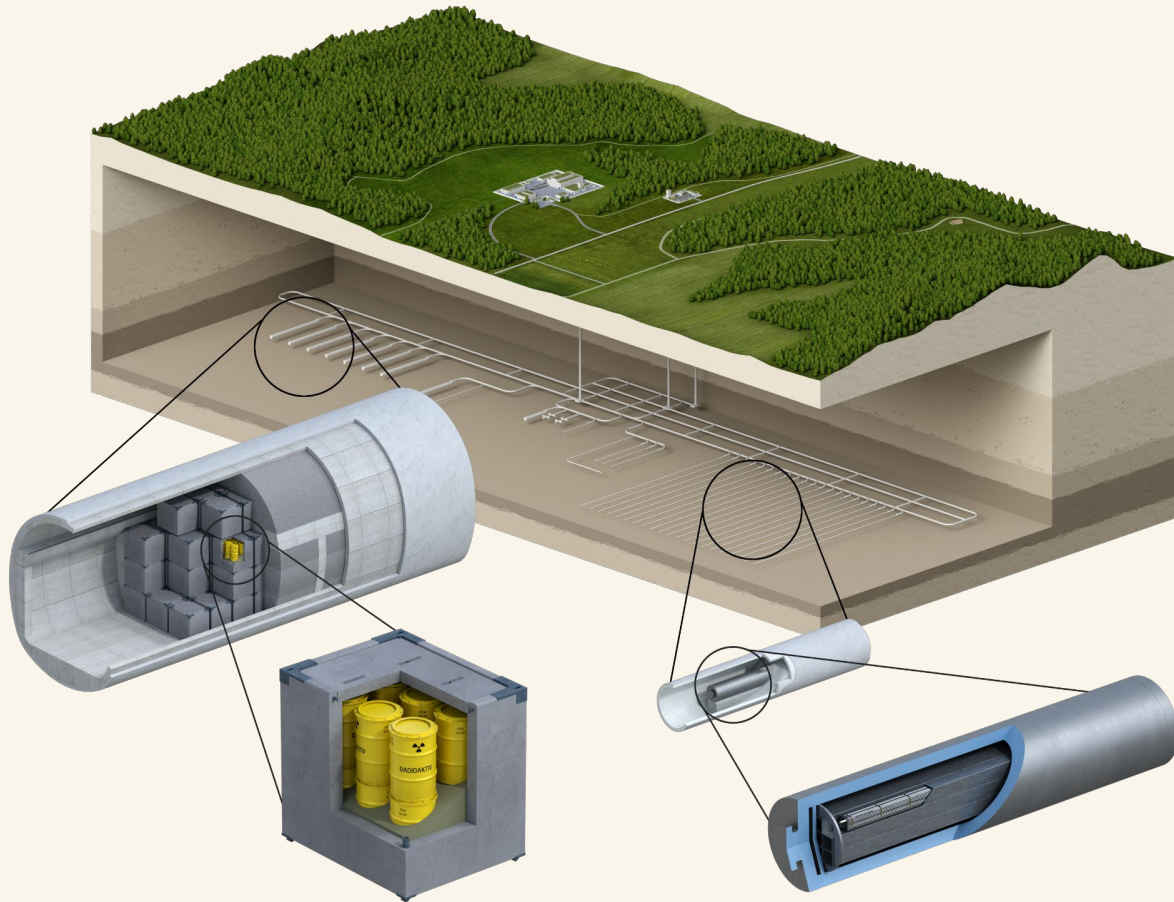
Function and position of main buildings



Protected area at depth



GLA: *CONCEPTS* FOR LATER DETAILING



Safety and technical barrier concept



Operation



Ventilation



Monitoring



Optional retrieval

Only very few key aspects

demonstrated in some detail: Constructability of key elements, THM impact, gas transport

STEPWISE SITE SELECTION

National screening
(existing data)

Review & Decision
Stage 1

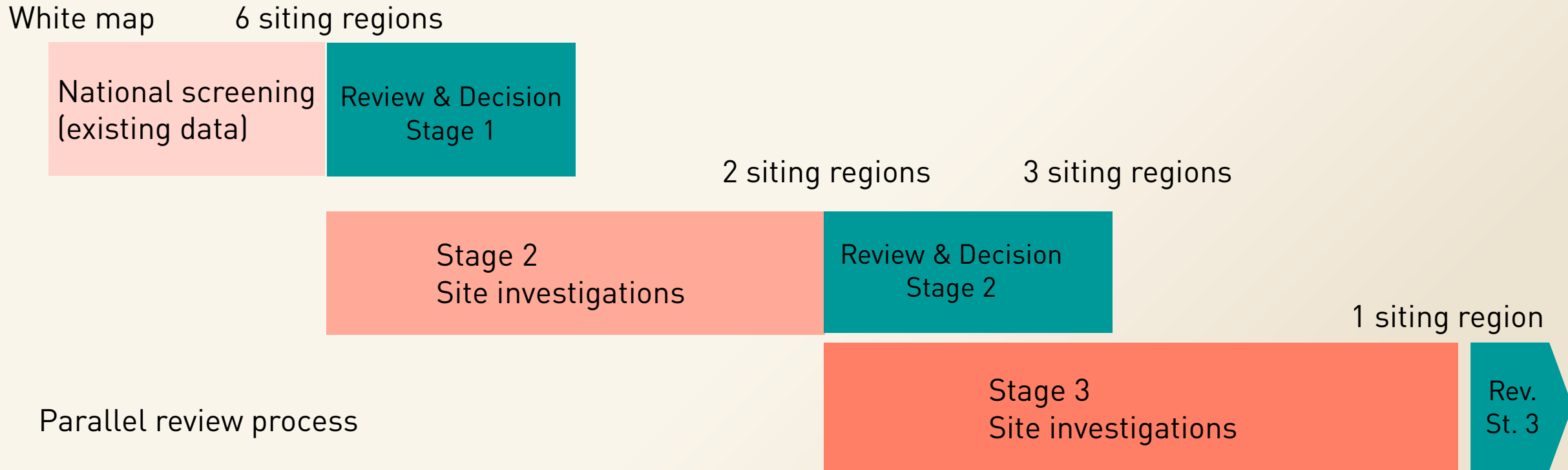
Stage 2
Site investigations

Review & Decision
Stage 2

In sequence review process

Stage 3
Site
investigations

STEPWISE SITE SELECTION



STEPWISE SITE SELECTION



Regional conferences established

dissolved



National screening
(existing data)

Review & Decision
Stage 1

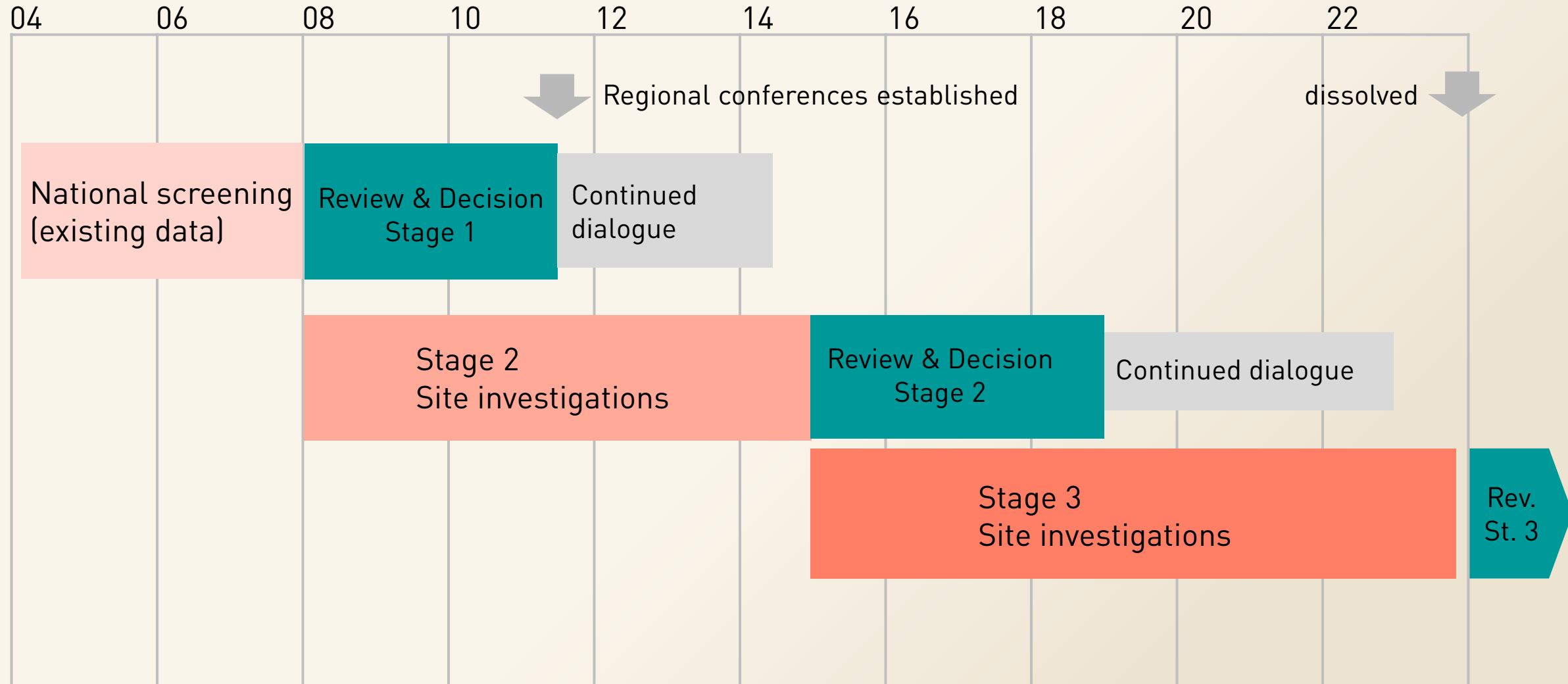
Stage 2
Site investigations

Review & Decision
Stage 2

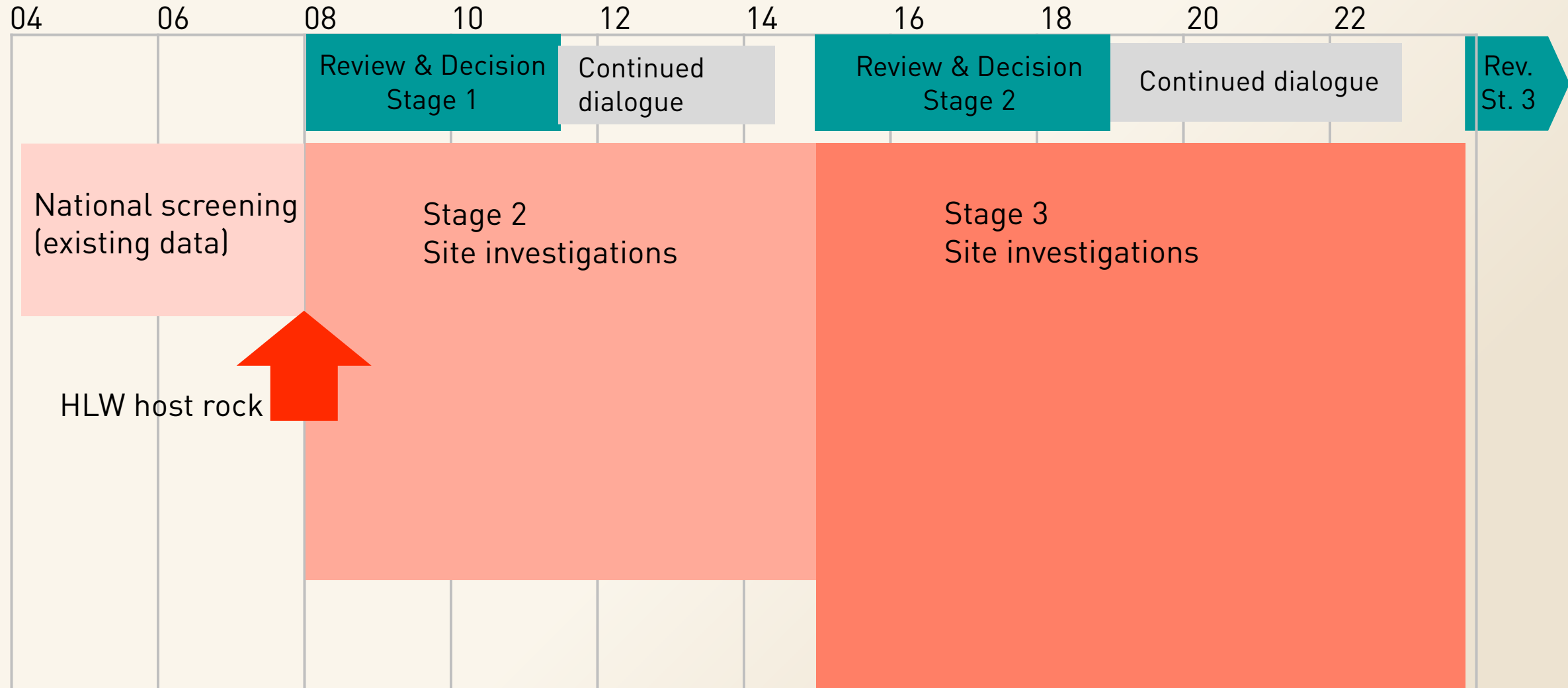
Stage 3
Site investigations

Rev.
St. 3

STEPWISE SITE SELECTION



STEPWISE SITE SELECTION



EARLY DECISION ON HOST ROCK: CLAY

allowed to prepare key demonstrations and site investigation methods

Soft rock challenges

- Excavation stability
- Borehole stability during downhole testing
- Sample conditioning

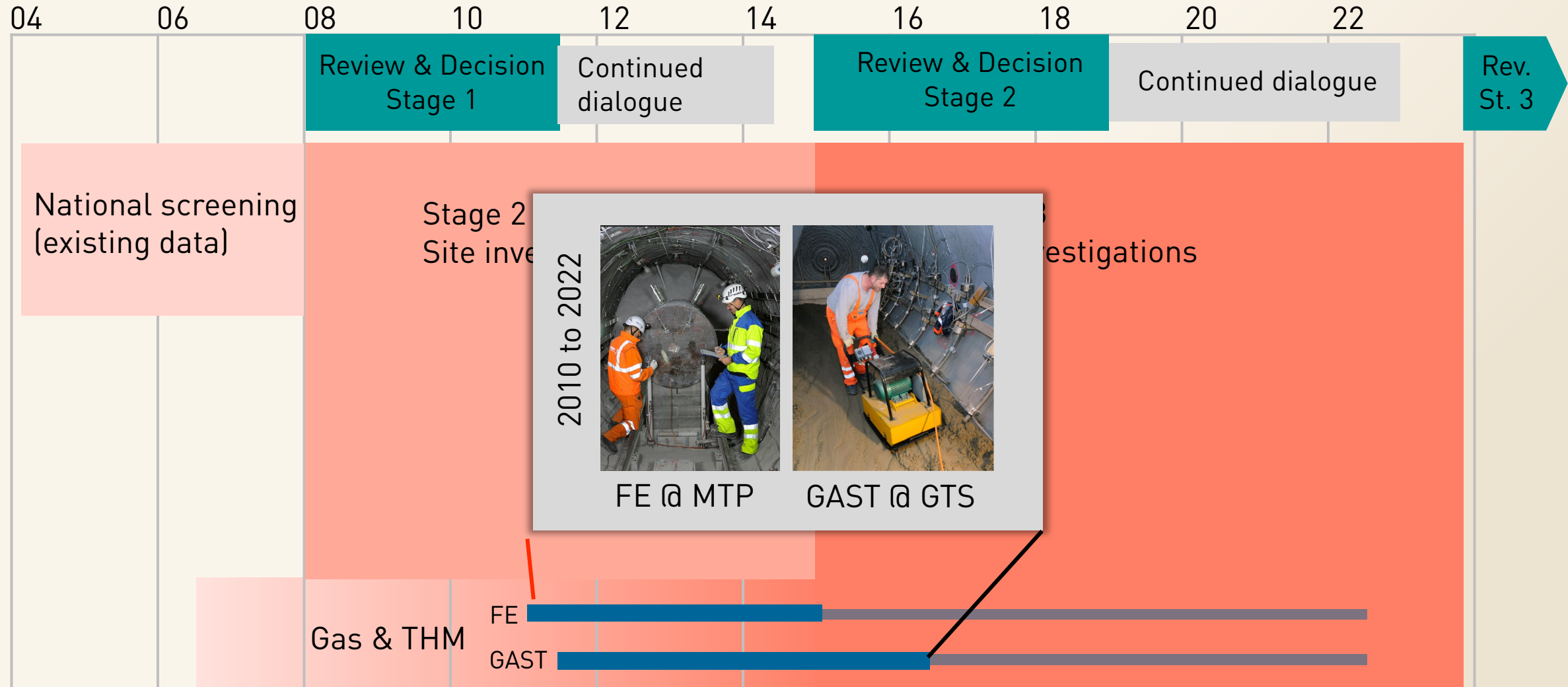


Low permeability to water and gas

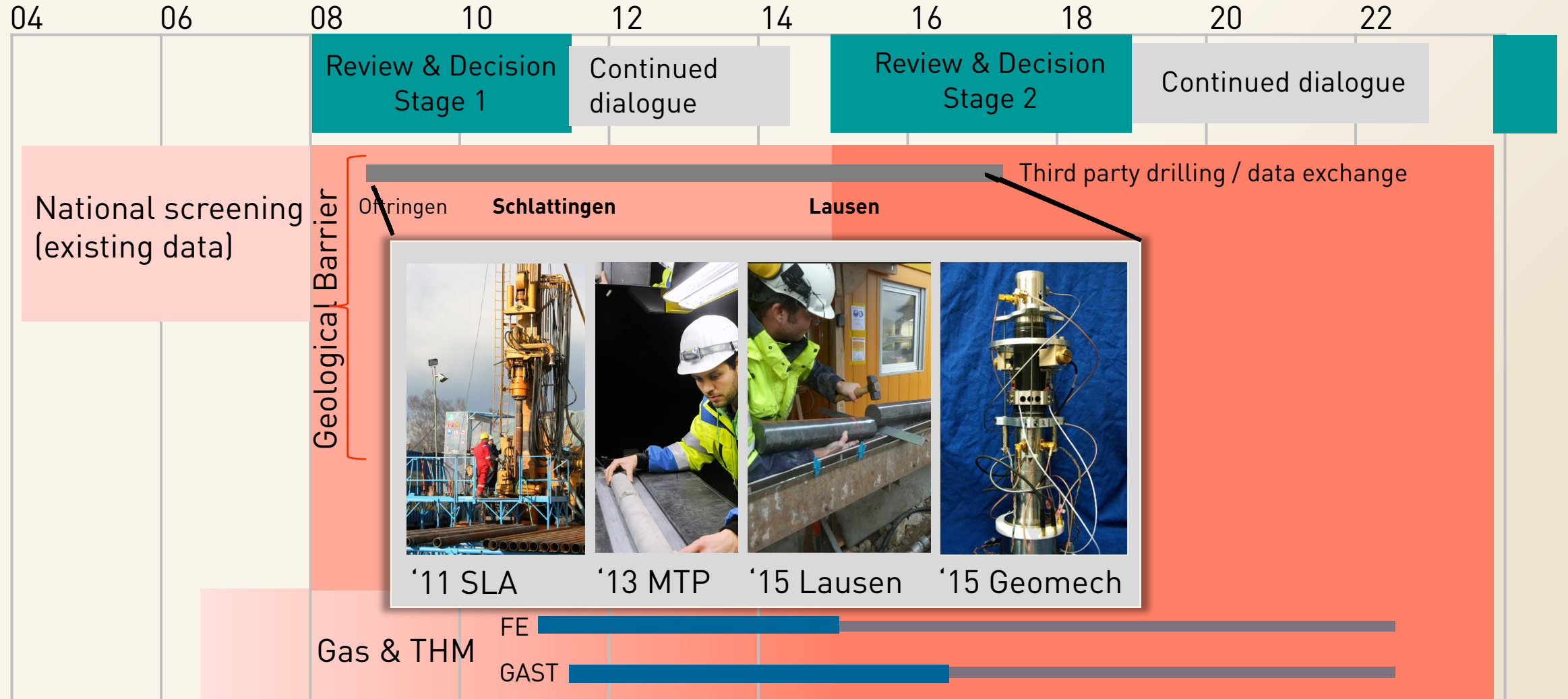
- THM overpressures?
- Gas overpressures?



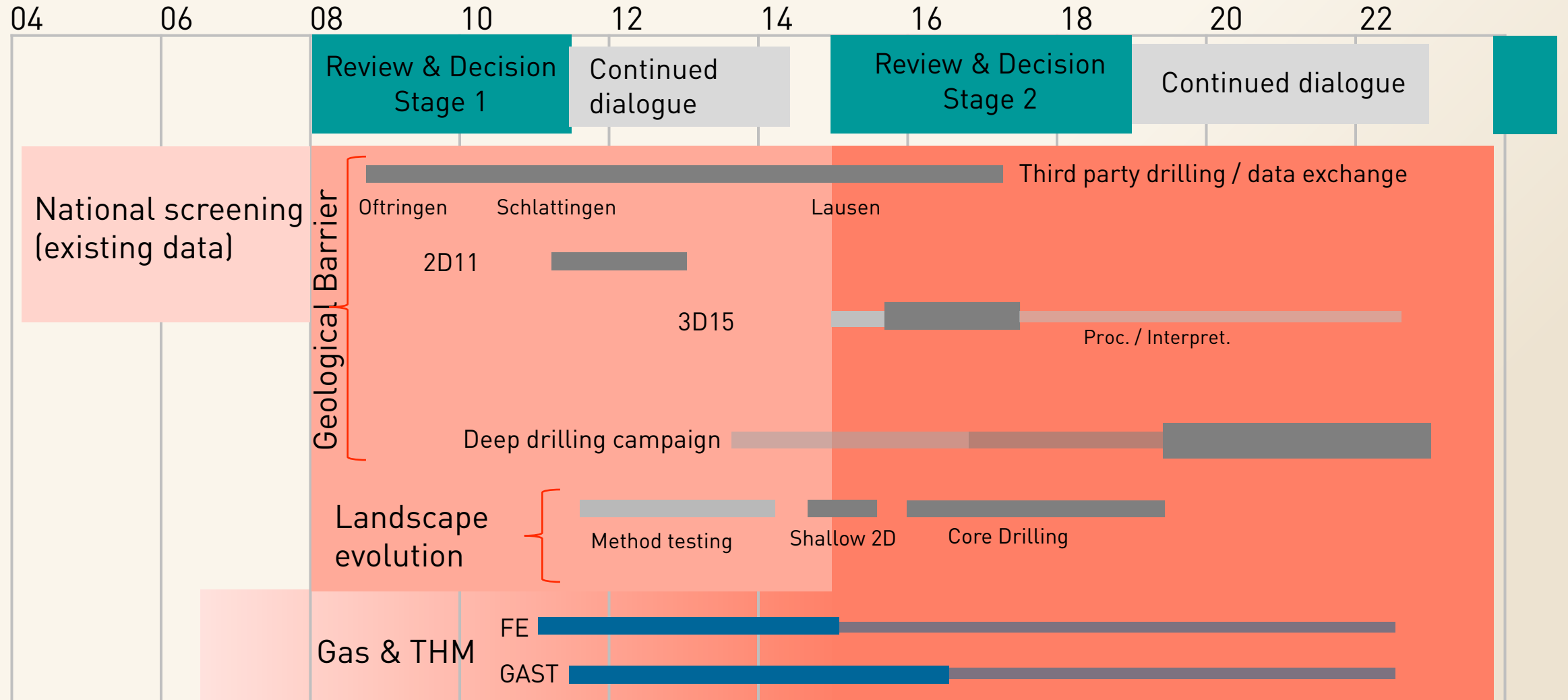
STEPWISE SITE SELECTION IN PARALLEL WITH RD&D



STEPWISE SITE SELECTION: PREPARATION OF DRILLING



STEPWISE SITE SELECTION IN PARALLEL WITH RD&D



WHAT WORKED IN SWITZERLAND

Strategy: Early decisions helped **focus resources** on promising regions

- Screen out significant parts of the country in early steps (tectonic regions)
- **Host rock defined for HLW in first step**
- **Only concept / pre-project level at GLA**

Schedule: Speedy investigation of sites (7 yrs saved)

- Development of methods
- Participation in 3rd party drillholes
- 2D seismics and 3D Seismics (critical path works)
- In parallel with decision making



UNLIMITED TIME?

