



# **Implementation of the information and public participation provisions of the Radioactive Waste Directive (2011/70/Euratom)**

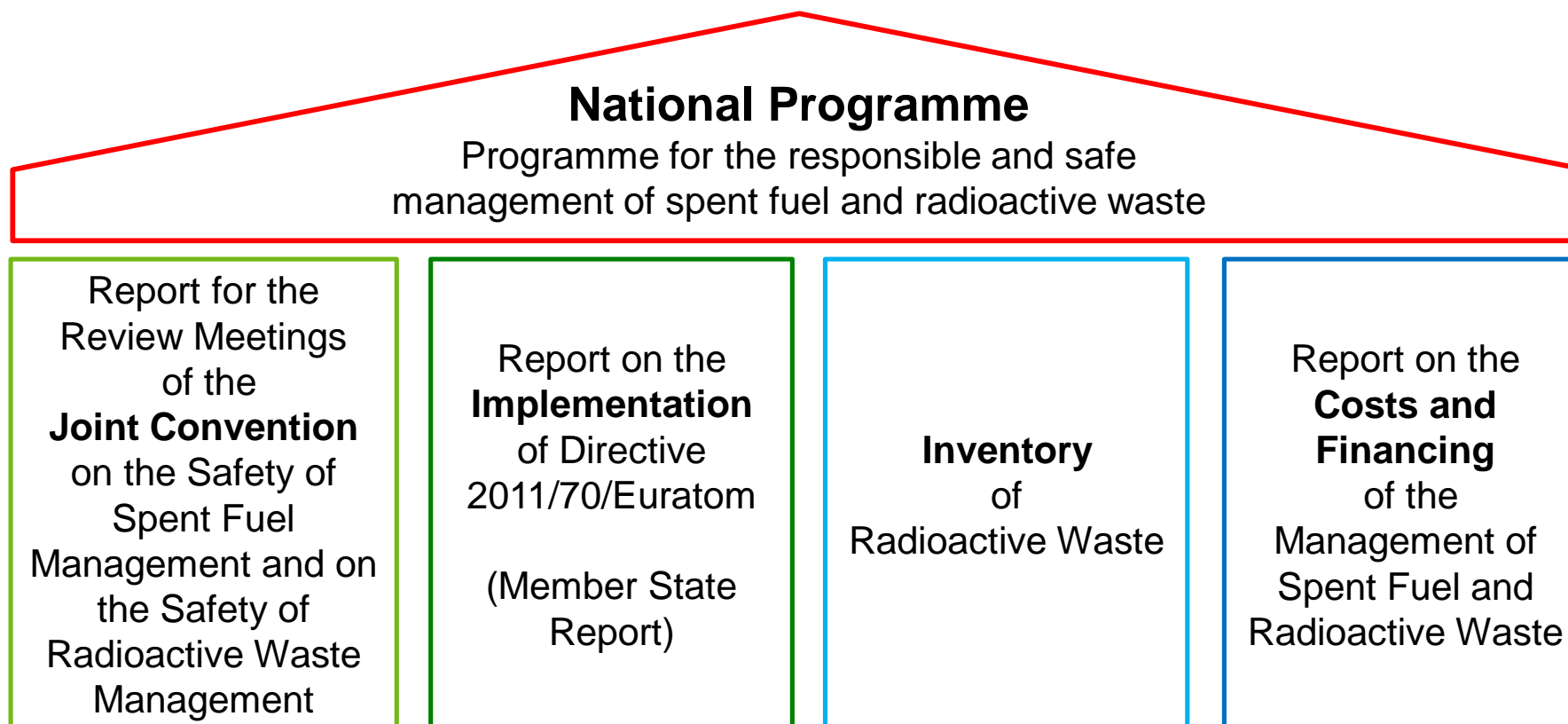
View of a representative of the  
Federal Ministry for Environment, Nature Conservation  
and Nuclear Safety (BMU)

Mr. Robert Harbers



# One Programme, Five Reports

Art. 12.2: “The national programme together with the national policy may be contained in a single document or in a number of documents.”





# One Programme, Five Reports

## National Programme

Programme for the responsible and safe  
management of spent fuel and radioactive waste

- Lead document lays down, with a high level of abstraction (23 pages), the **strategy for managing spent fuel and radioactive waste**.
- Submitted to European Commission in August 2015.
- The National Programme was subject to review, but the recommendations of the German Parliament's **Commission on the Storage of High-Level Radioactive Materials** did not result in major changes.
- A **strategic environmental assessment** (SEA) was carried out for the national programme including public participation.



# Formal Status and Content Highlights

- The National Programme was prepared by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.
- The National Programme was **agreed upon** by the **German government**.
- The National Programme has to be **considered by all actors** in the planning of waste management and administrative decisions.
  
- Concise description of **waste management options** for all existing and anticipated radioactive waste.
- **Site specific inventory** of all radioactive waste was published.
- **Cost estimation** for waste management was published.

# Strategic Environmental Assessment (SEA)

- A **strategic environmental assessment** was conducted for the National Programme.
- Drafts, environmental report and responses to all statements received were published.
- Petition with several 10.000 signatures was received.
- With a view to the not yet known location of the disposal facility for high-level radioactive waste **transboundary consultations** were offered **to all neighbouring countries**.
  - No significant adverse transboundary impacts were identified.
  - Comments received by Austria, Czech Republic, Netherlands, Poland and Switzerland
  - The following statement was added to the National Programme:  
*“Should measures be implemented in border areas in the course of implementing this programme, the bordering countries concerned will be offered consultations in accordance with international binding provisions.”*



# Policy, Framework and Programme

Directive 2011/70/Euratom:

- “Member States shall establish and maintain **national policies.**” (Article 4.1)
- “Member States shall establish and maintain a national legislative, regulatory and organisational framework (**‘national framework’**)” (Article 5.1)
- “**national programmes** shall set out how the Member States intend to implement their national policies” (Article 12.1)

Already implemented system in Germany:

- A historically grown and established national legislative, regulatory and organisational framework exists and **is implemented on all levels of the regulatory structure.**
- A historically grown and **established waste management programme** with waste treatment, storage and disposal facilities exists.
- The **National Programme** describes the existing system which for most parts **is already implemented.**

# Policy and Policy Changing

- Policy is defined/implemented in:
  - Laws and Ordinances
  - Guidelines
  - National Programme
  - etc.
- **New laws and ordinances** dedicated to disposal (e.g. Site Selection Act, Disposal Safety Requirements Ordinance)
- Main policy changes are based on **broad political consensus**
- Preparation of major decision/policy changes through recommendations by dedicated commissions (e.g. Commission on Storage of High Level Radioactive Waste, Commission on Financing Nuclear Phaseout)



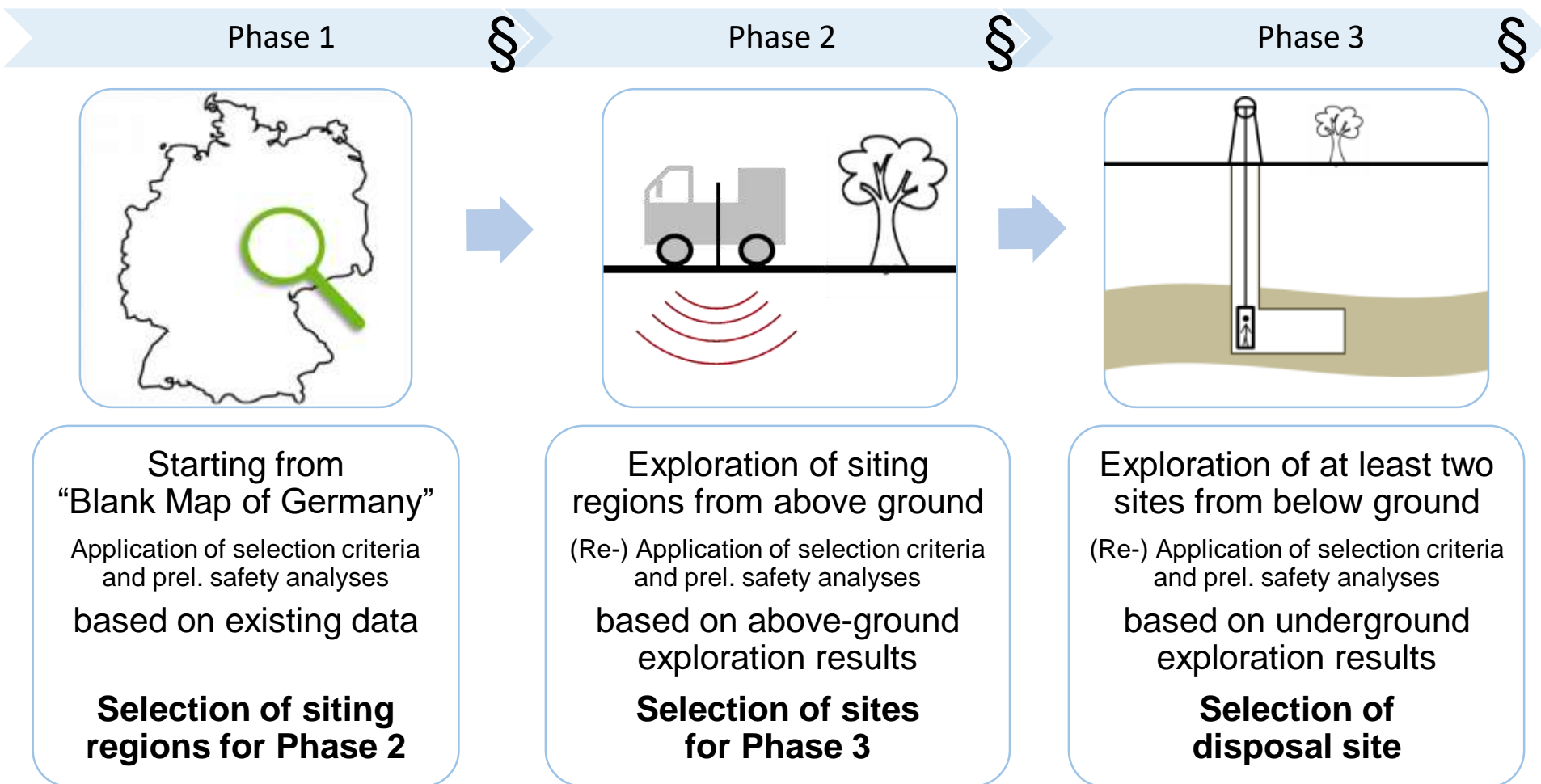
# Site Selection Act

- Site selection is based on **geological criteria** laid down in the Site Selection Act:
  - Exclusion criteria (e.g. volcanic/seismic activity, existing mines, ...)
  - Minimum requirements (e.g. overburden, thickness of strata, ...)
  - Weighting criteria (e.g. fluid transport, temperature stability, ...)
- Possible host rocks: **salt, clay** and **crystalline rocks** (all exist in Germany)
- Three-phased procedure, possible sites are narrowed down by means of preliminary safety analyses and exploration





# Site Selection Act



# Ordinances under the Site Selection Act

- The Site Selection Act provides for three statutory ordinances:
  - Safety requirements for the disposal of HLW (§ 26)
  - Requirements for preliminary safety analyses in the site selection procedure (§ 27)
  - Documentation of disposal activities (§ 38) (under preparation)

- Ordinances according to §§ 26 and 27 have been prepared by BMU and approved by the Federal Parliament on 10 Sept. 2020

- Drafts for ordinances have been published and were open for comments from mid-July till mid-November 2019 via 3 channels:

- Interactive website: [www.dialog-endlagersicherheit.de](http://www.dialog-endlagersicherheit.de)
- Public symposium:  
14th-15th Sept 2019 in Berlin, ca. 100 participants
- Written statements



# Ordinances under the Site Selection Act

## Safety Requirements for the disposal of HLW

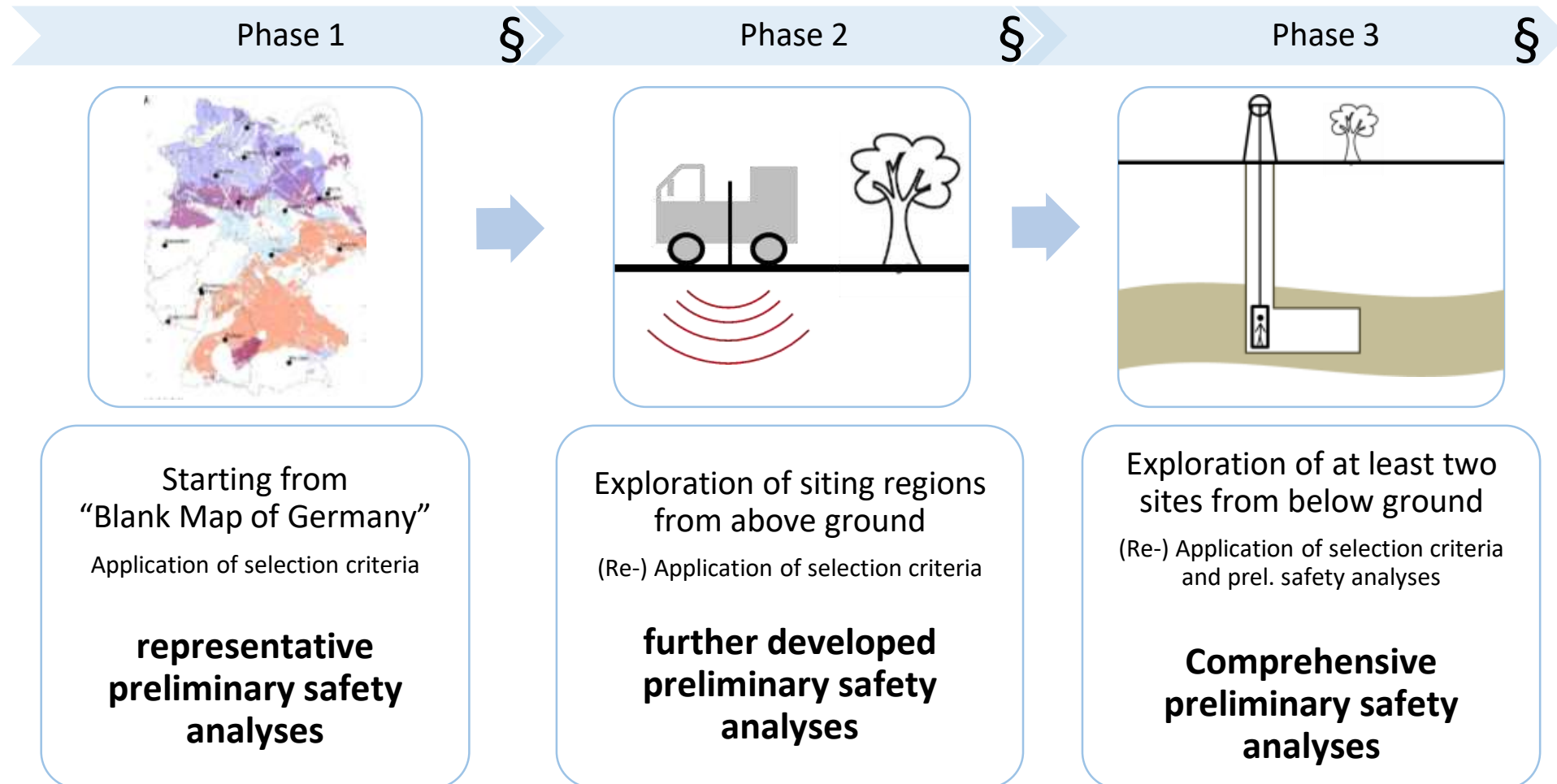
- Ordinance determines the licensing conditions for a HLW disposal facility e.g.
  - Safe containment of radionuclides for **one million years**.
  - The disposal system must ensure **passive containment** and **maintenance-free operation** by means of a robust system of multiple barriers with different safety functions.
  - For expected developments: max.  $10^{-9}$  /a of radionuclide mass released from primary barriers, dose limit 10  $\mu$ Sv/a.

## Preliminary Safety Analysis during Site Selection

- StandAG stipulates preliminary safety analyses for the considered areas in each of the three phases; according to § 27 StandAG:
  - Preliminary safety analyses assess whether safe containment of radioactive waste can be expected at the respective site.
  - Assessment is **based on safety requirements**.
  - Preliminary safety assessments are a basis for the decision on which areas will be considered further in the selection procedure.

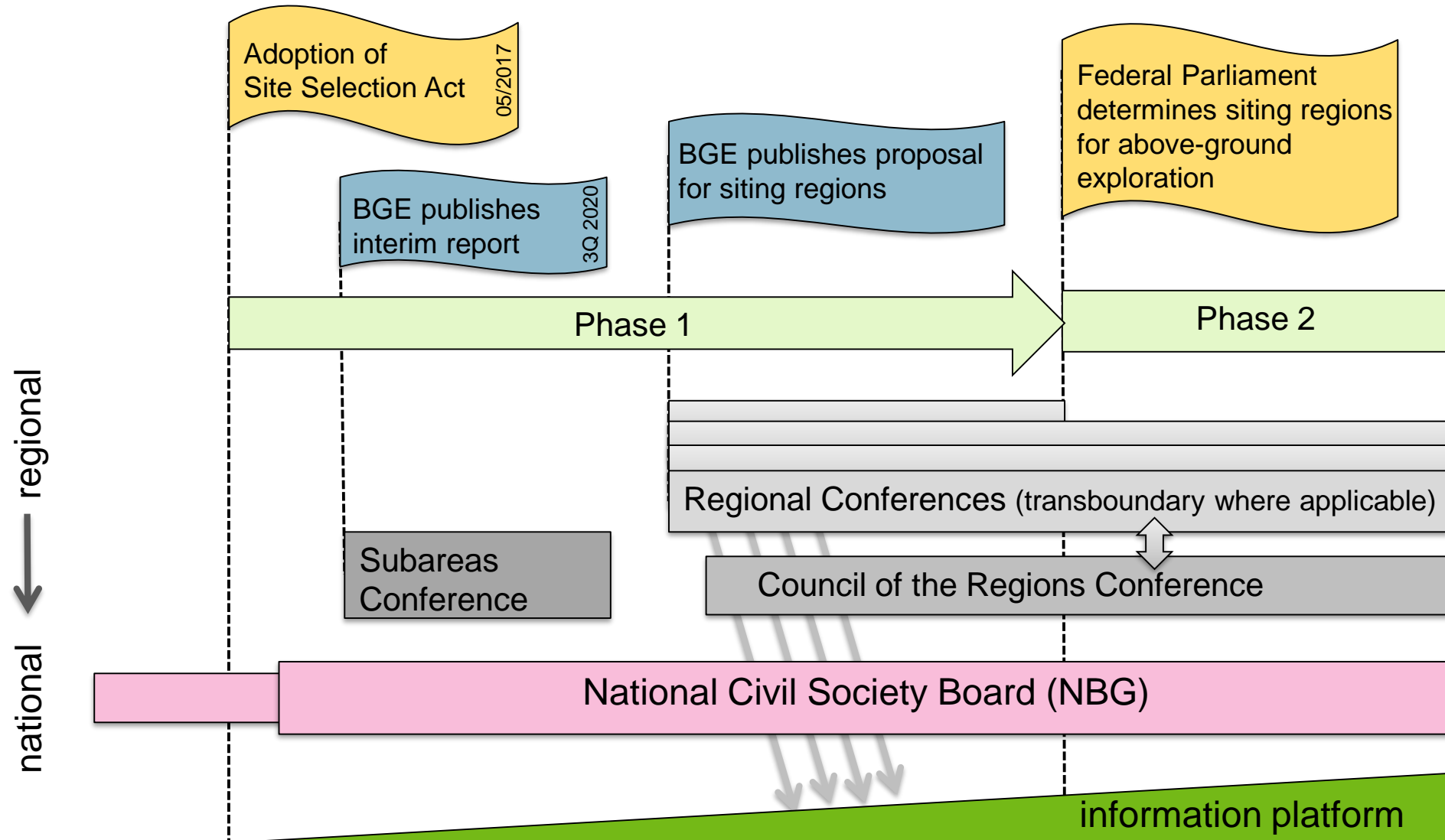


# Ordinances under the Site Selection Act





# Public participation during the Site Selection Process





# ARTEMIS Mission 2019

## Outcome:

- Findings: **1 Good Practice** (National Civil Society Board), **12 Suggestions**, **3 Recommendations** (monitoring process, cost assessment, risk analysis)
- Conclusions: Germany has a **mature legal and regulatory framework** for the safety of radioactive waste and spent fuel management. Recently restructured organizational framework for the National Programme contains the necessary elements for safety and programme implementation.
- Significant challenges: Completion of HLW disposal **site selection process** until 2031 and retrieval of waste from the **Asse II** mine.

## Further steps:

- Analysis of Recommendations & Suggestions → **done**
- Collection of proposals for the implementation of all authorities and Länder involved in ARTEMIS → **done**
- Creation of an action plan → **in progress**
- Implementation of R&S until Follow up mission → **planned for autumn 2022**

# IRRS & ARTEMIS in the same year

ARTEMIS topics partly covered by preceding IRRS Mission 2019:

National policy and framework / National strategy

- **Overlap of questions** regarding e.g. overall regulatory system in Germany, national framework (site selection act), capacity building, knowledge management, safety culture,...
- Expected **synergy effects** by using IRRS report for ARTEMIS, but Expectations have not been fully fulfilled. (Different reviewers, less use of IRRS mission report)
- Establishment of an **ENSREG Subgroup** that will work on the future efficiency of IRRS-ARTEMIS. (Member states: Germany, Belgium, Czech Republic, Finland, Italy, Netherlands, Spain, Sweden)

# Outlook

- A revision of the National Programme is **regularly reviewed**, in particular with regard to **fundamental policy changes**.
- An evaluation will take place **10 years** after adoption of the National Programme: this is planned for the year 2025.
- At this time **all nuclear power plants will be switched off**, nuclear energy will be phased-out in Germany.
- The **site selection procedure** will be **further advanced**. Weaknesses and misconceptions, as well as predictable challenges can be identified in the sense of a learning process.





Federal Ministry  
for the Environment, Nature Conservation  
and Nuclear Safety

Thank you for your attention!