

# International Deep Repository Progress

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ONDRAF/NIRAS, Belgium**

**WM2012**



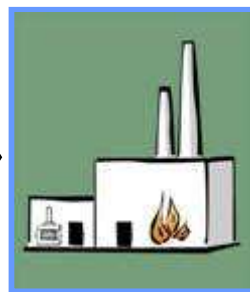
**ONDRAF/NIRAS**

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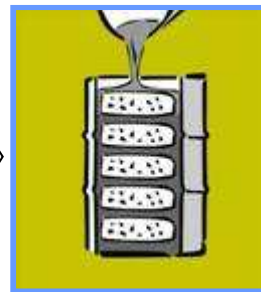
# ONDRAF/NIRAS Management System



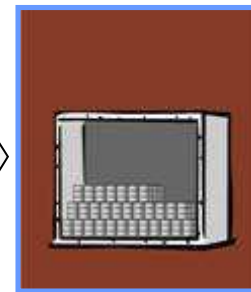
Prevention  
Sorting  
Identification



Volume  
reduction



Stabilization  
and  
encapsulation



Interim  
storage



Long-term  
management



**ONDRAF/NIRAS**

# Classification of the waste in Belgium

	Low level	Medium level	High level
Short half-life (30 years or less)	A	A	C
Long half-life (30 years or more)	B	B	C



# Management of HLW and/of Long-Lived Waste

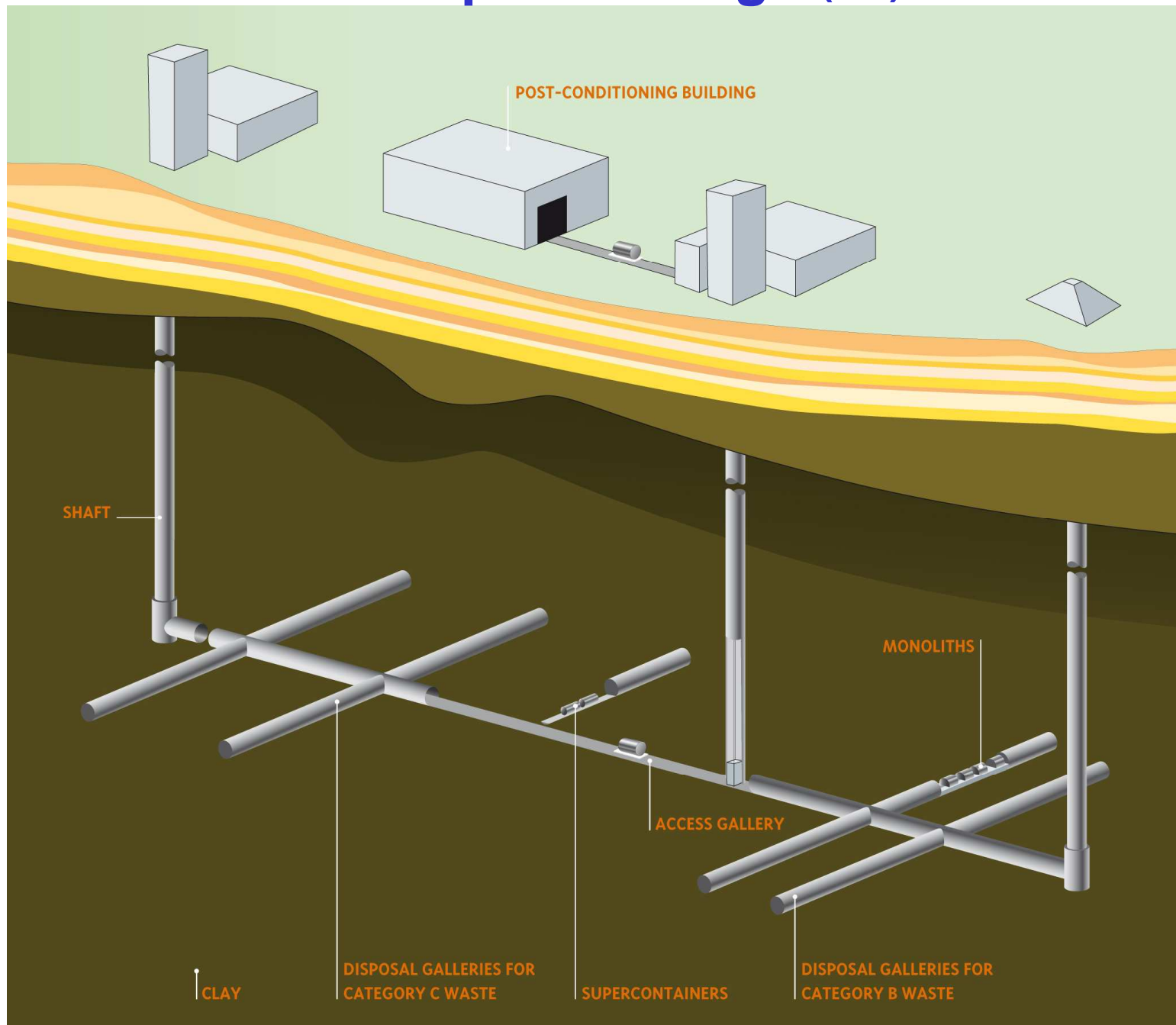


**ONDRAF/NIRAS**

- Situation relating to the long-term management of high-level and/of long-lived waste (B&C)
  - Thirty years of research, development and demonstration (RD&D)
    - Initiated in 1974
    - Underground laboratory as a unique RD&D tool

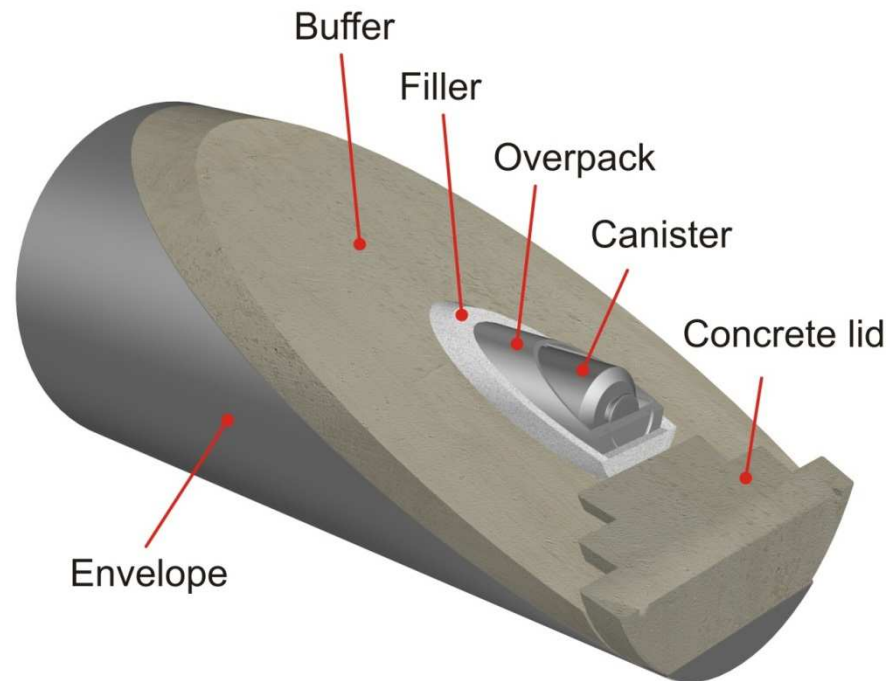


# Conceptual Design (1/2)

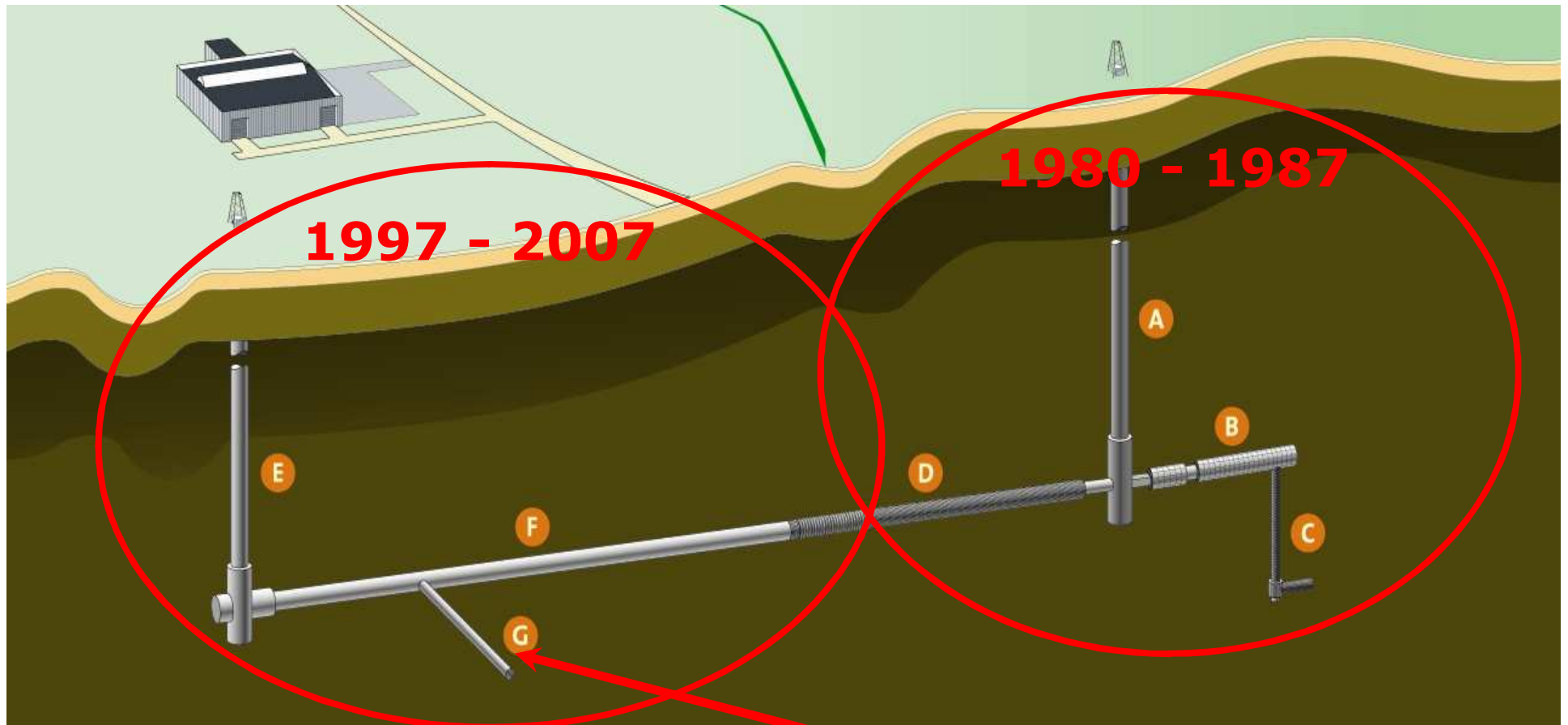


## Conceptual Design (2/2)

- proposed design for geological disposal
  - containment during thermal phase by engineered barrier system

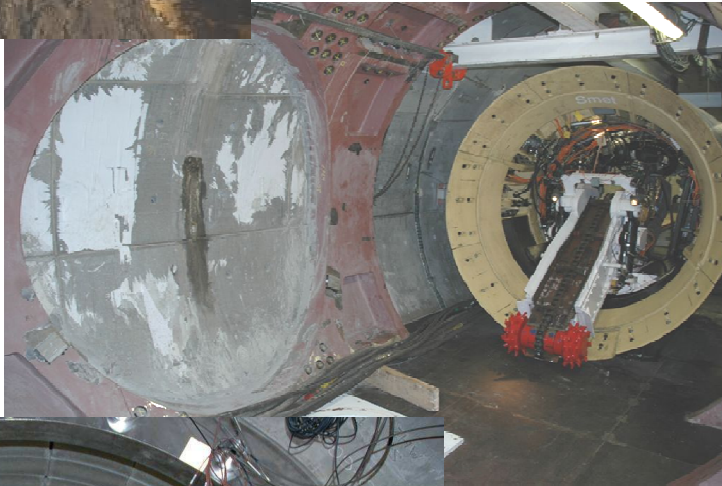


# HADES Underground Research Facility



**PRACLAY** gallery





15-4-2012

# PRACLAY Heater Test

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**ESV EURIDICE GIE**

**But... absence of an institutional decision in Belgium in favour of a specific management option**



# Necessity of a long-term management policy... today

- **Necessity of defining a final destination for B&C waste in order to 'close' the management system**
  - Optimization of all the management phases
  - **Determination of the management costs (provisions) in order to optimally apply, as of today, the 'polluter pays principle'**
  - Orientation of RD&D by way of confirmation
  
- **Tool : Waste Plan**

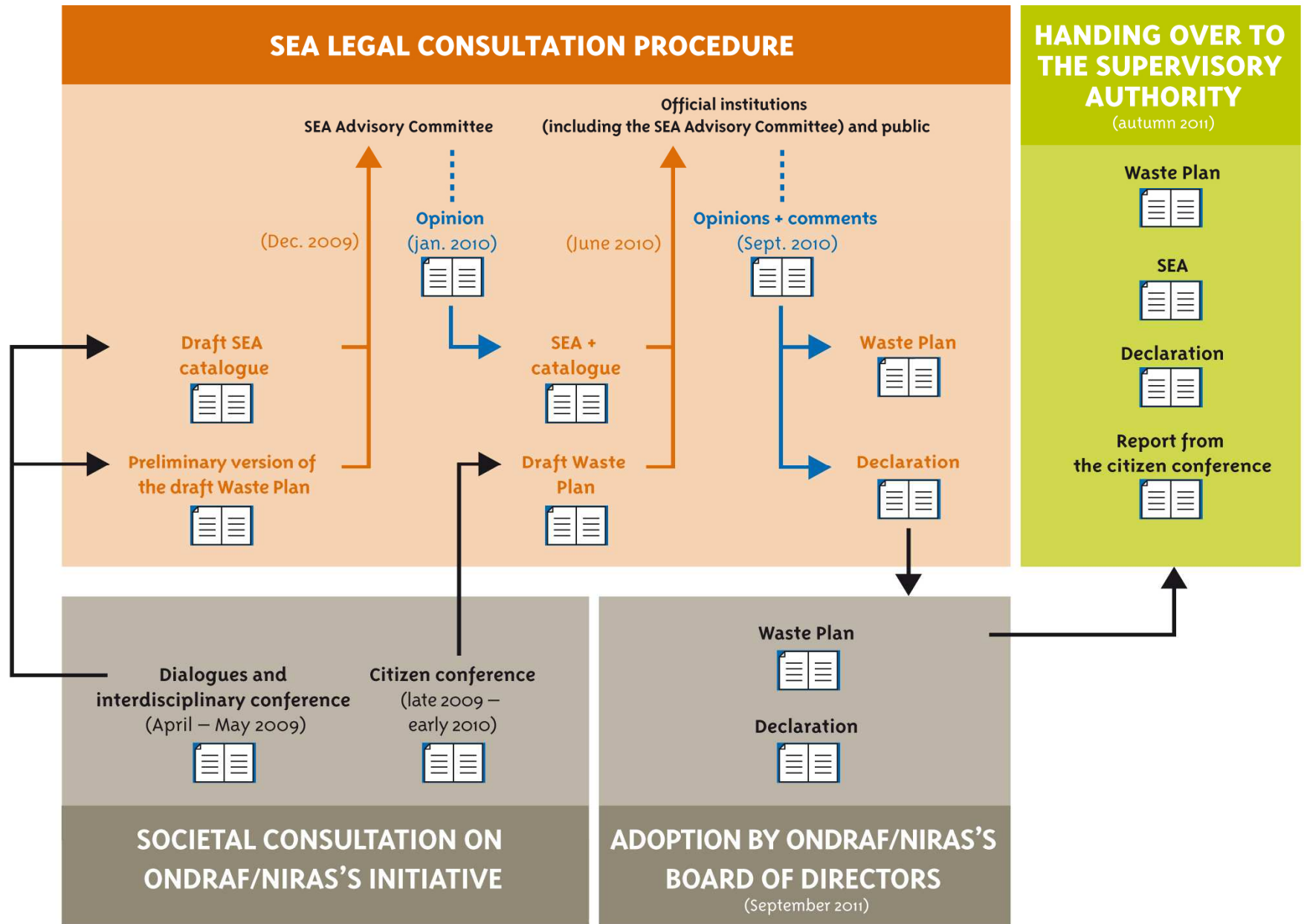


# ONDRAF/NIRAS' Waste Plan

- Legal obligation for ONDRAF/NIRAS to have a *general programme for long-term radioactive waste management*
- This programme requires an environmental impact assessment AND public participation
  - Law of 13<sup>th</sup> February 2006 (Art. 6, § 1) – Law *Strategic Environmental Assessment or SEA*
  - Transposing 2001/42/EC and 2003/35/EC directives
- The Waste Plan must provide all elements to enable the government to take a decision in principle.

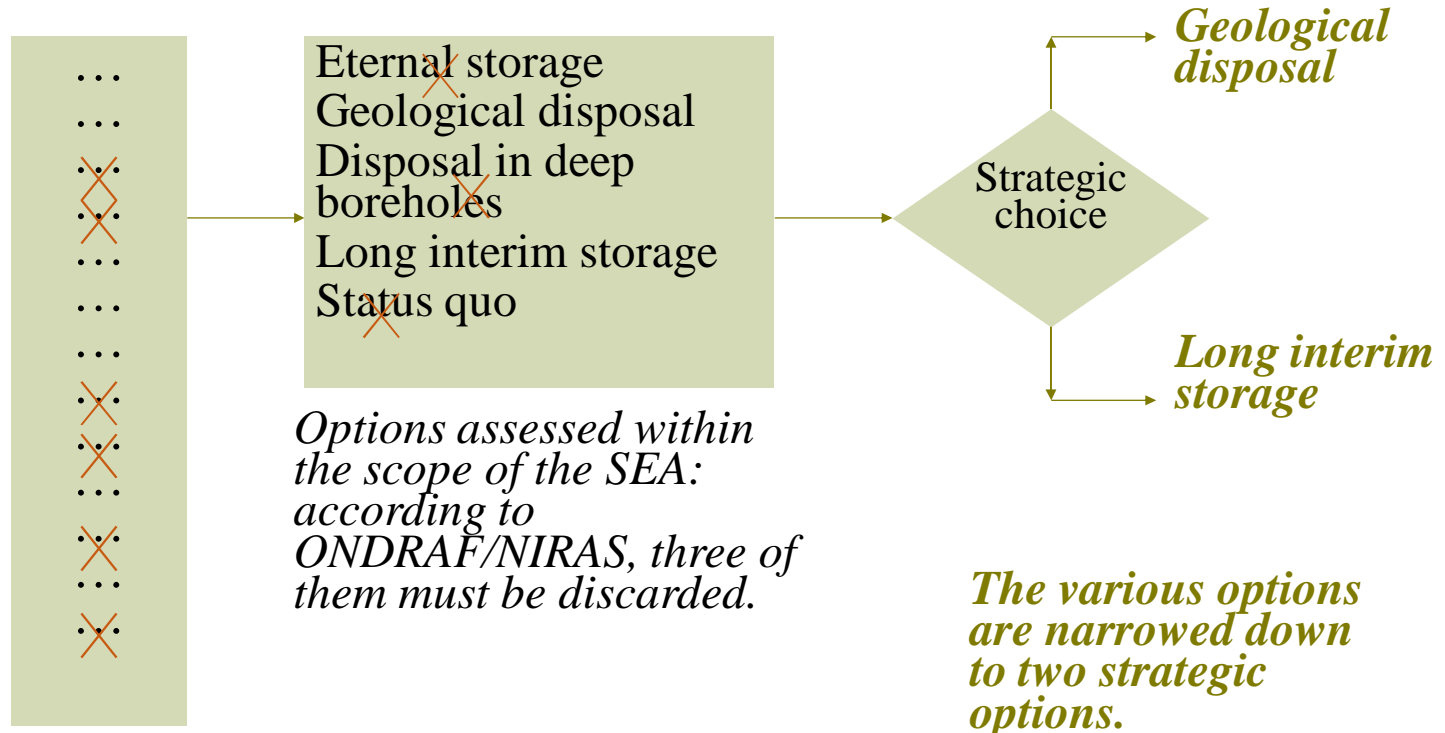


# The Waste Plan process





# Filtering out of the options



*Identified options.  
Some of them (sea dumping, disposal in ice sheets, disposal by direct injection, surface disposal,...) had to be rejected straight away.*



### 3. Global solution for the long-term management of existing and planned B&C waste (1/2)

- **Technical solution**

- geological disposal on a single site on Belgian territory, in poorly indurated clay (Ypresian clays or Boom Clay)
- development in accordance with scientific, technical and societal progress

- Within the scope of a **decision-making process**

- gradual
- adaptable
- participative
- transparent
- ensuring continuity
- ensuring integration of the technical and societal aspects





# Global solution for the long-term management of existing and planned B&C waste (2/2)

- The development and implementation of which are accompanied by **conditions expressed during the public consultations**

- Retrievability
- Controllability
- Knowledge maintenance and transfer

*(the scope of these conditions must be clarified in consultation with the stakeholders)*

- Follow-up of the developments regarding the management options that were examined in the Waste Plan but were discarded
- Independent follow-up of the decision-making process (“*guardian*”)



## 6. Link with the new 2011/70/Euratom Directive dated 19<sup>th</sup> July 2011 (1/3)

- The Waste Directive establishes a Community framework for the responsible and safe management of spent fuel and radioactive waste makes it mandatory to establish
  - A national policy
  - A national framework
  - A national programme



Thank you for your attention

All documents are available on

[www.ondraf-plandechets.be](http://www.ondraf-plandechets.be)

[www.niras-afvalplan.be](http://www.niras-afvalplan.be)

or upon request at the ONDRAF/NIRAS  
communication department



**ONDRAF/NIRAS**