



Status of the Swedish Nuclear Waste Disposal Programme

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September 2020

Start of the Swedish Nuclear Waste management

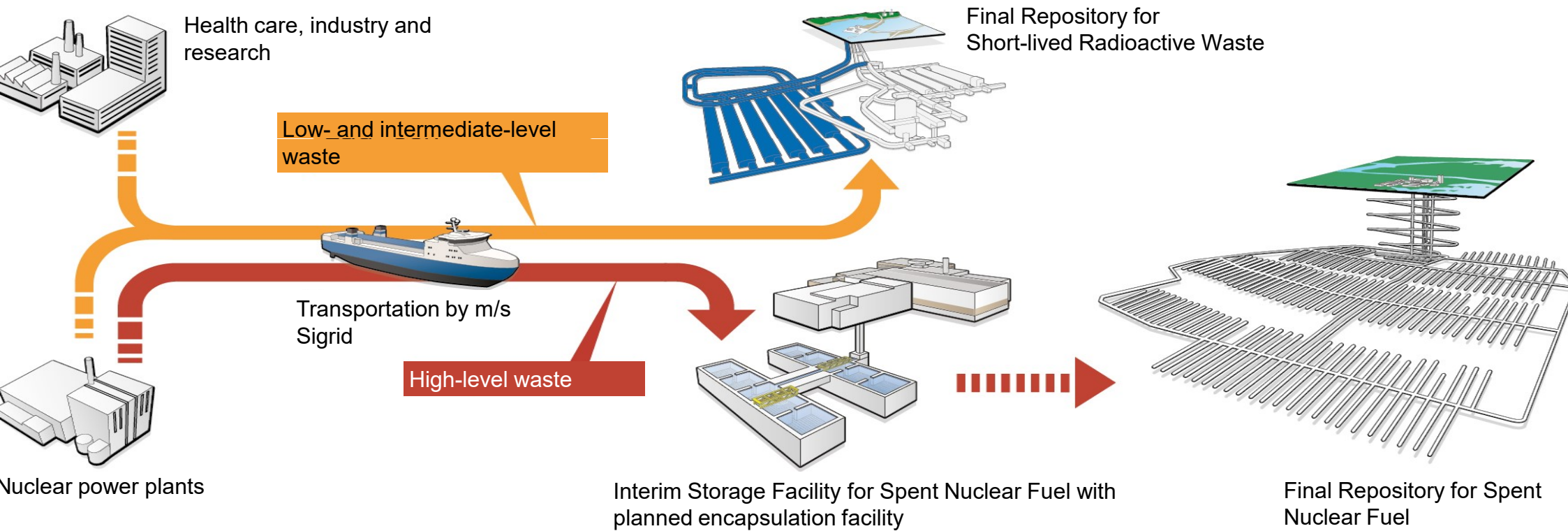


1976 - Government inquiry on spent fuel and radioactive waste concludes:

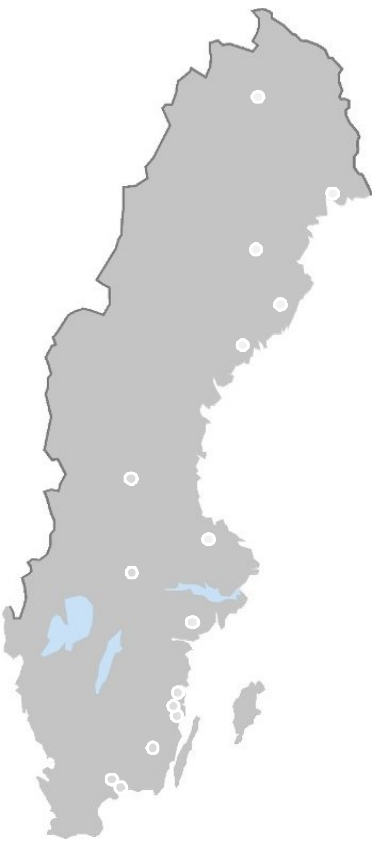
- Organise a **financing system** to cover the cost of waste disposal
- Set up a **sea based transportation** system
- Construct a centralised **interim storage facility** for spent nuclear fuel
- Construct a final **repository for operational waste**
- Start an **R&D programme** for disposal of **HLW/SNF**
- *The responsibility lies on the nuclear power producers*

SKB (the Swedish Nuclear Fuel and Waste management company) was established by the nuclear power producing companies to develop the disposal programme

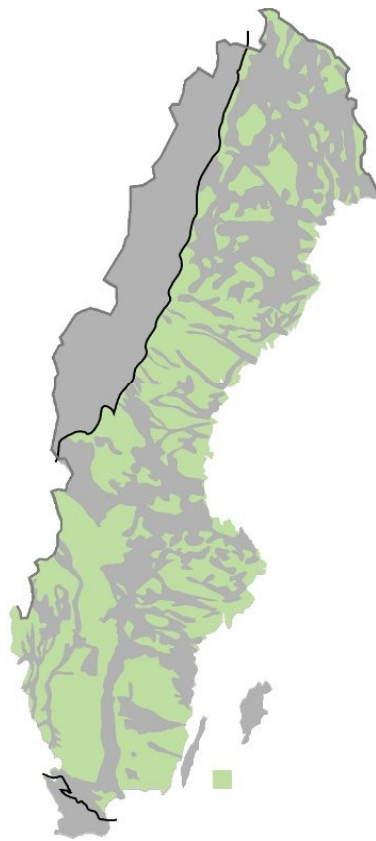
The Swedish system for nuclear waste management



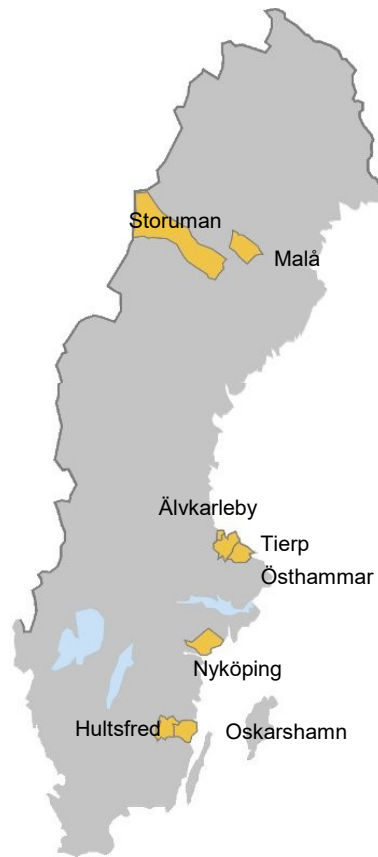
Finding a site for a spent fuel repository



Study site investigations
1977-1985



General siting studies
1990s



Feasibility studies
1993-2002



Site investigations
2002-2008



Site selection
2009

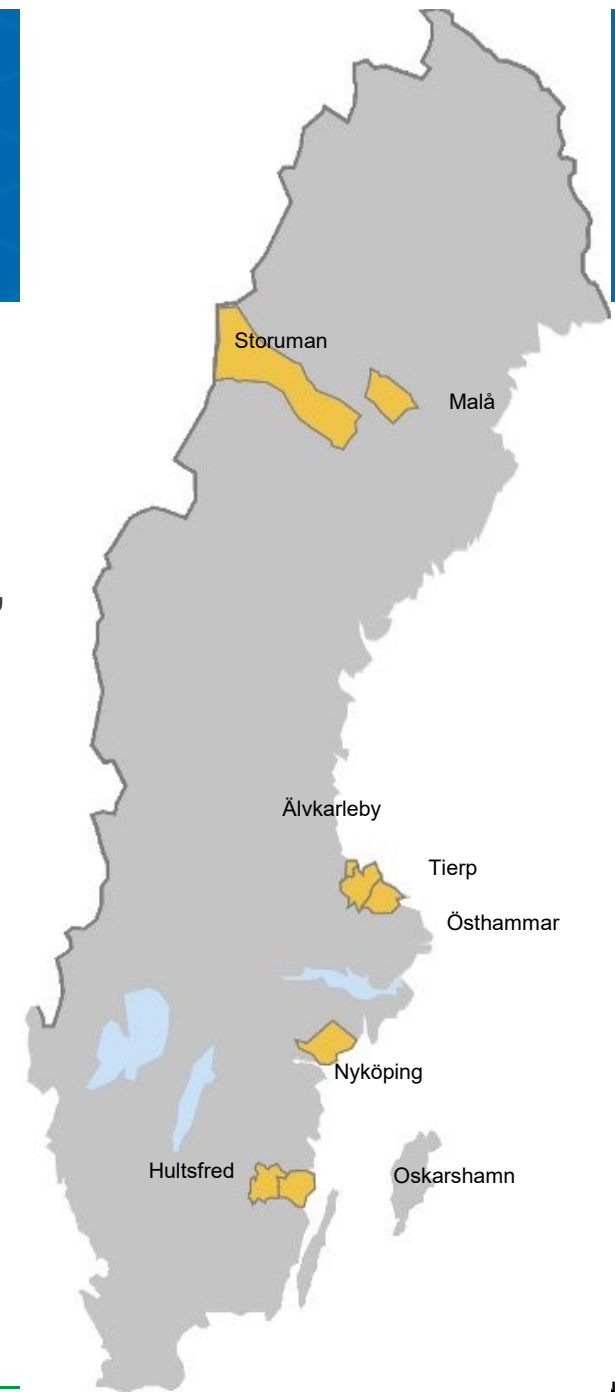
Feasibility studies 1993-2002

All 284 municipalities in Sweden were asked:

“Would you be interested to find out how a repository for spent nuclear fuel would affect your municipality?”

After agreement between the individual municipalities, SKB conducted **8 feasibility studies**, on the condition that the municipalities could end the process after the study.

Two of the municipalities (Storuman and Malå) withdraw their further participation



Contents of the feasibility study

Information and communication with all stakeholders of the municipality; politicians, professionals, organisations, schools, workplaces etc.

Socio-economic inquiries of the municipality: What are the future perspectives with or without a repository; for infrastructure, employment, tourism, agriculture etc.

Seminars and information for non-professionals on the progress of the on-going work, an SKB Information center was open every week-day (and many week-ends as well)

Study tours to SKB facilities, especially the Äspö Hard Rock Laboratory (SKB: underground research laboratory)

Information in Malå municipality



Information in Oskarshamn municipality



Information to people attending local events



Dialogue with people attending/visiting SKB facilities



Site investigations 2002-2008



SKB selected three municipalities for investigation of the identified suitable repository area(s).

Oskarshamn and Östhammar municipalities decided to be part of the site investigation, Tierp municipality declined,

The project "Site Investigation" was the most extensive undertaking by SKB 2002-2008. It included the field investigations of rock, water, flora and fauna, Site description (modelling), Engineering design (adjusted to the local conditions), Safety assessment and Communication with all stakeholders

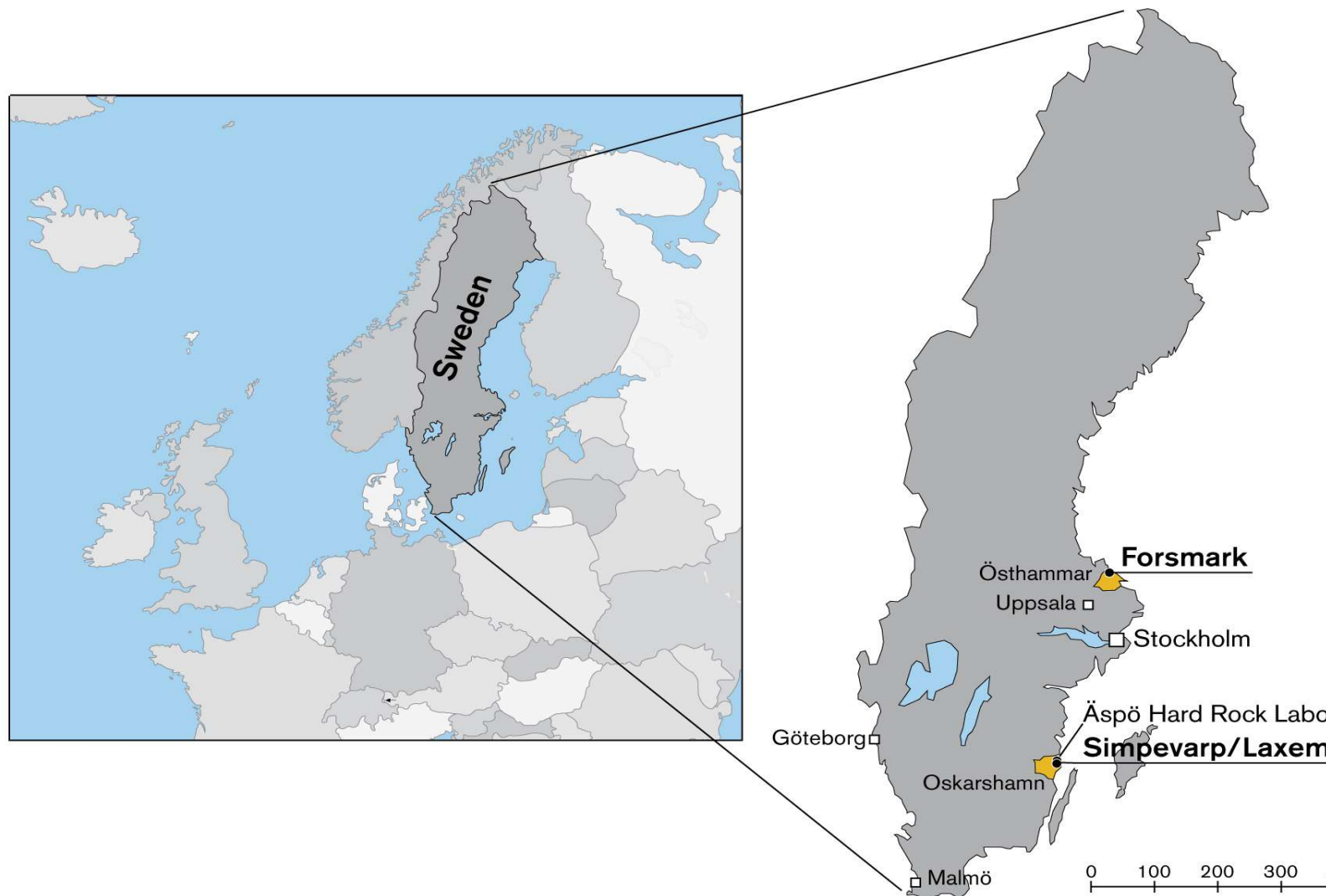
Field investigations were managed through a site office in each municipality with some 30-40 people at each location

Site characterisation in Sweden for a repository for spent nuclear fuel



Candidate sites:
Forsmark and
Laxemar-Simpevarp

Investigations and
modelling work:
2002-2008



Site Investigations



Focus on:

Long-term safety

Impact on the environment

Impact on society



Site investigation data

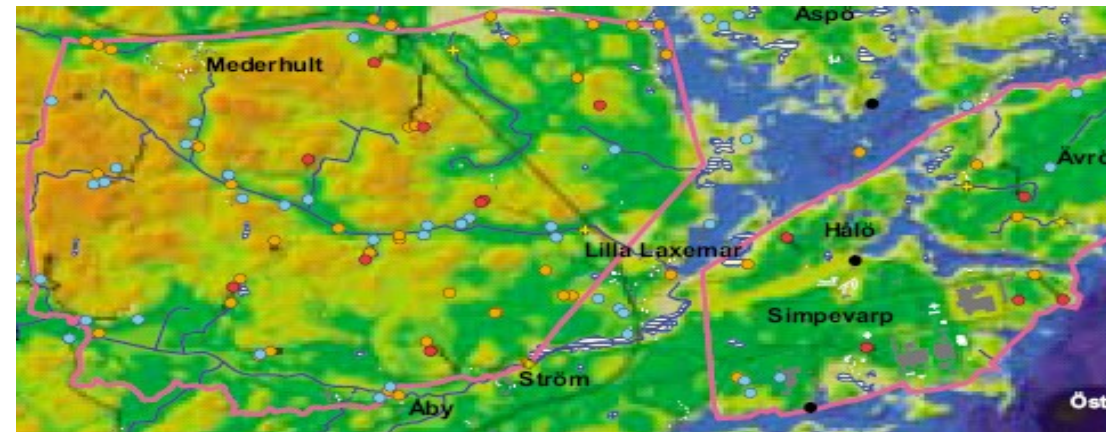


Surface investigations

- airborne photography, airborne and surface geophysical investigations
- lithological mapping and mapping of structural characteristics
- investigations of Quaternary deposits
- meteorological and hydrological monitoring, hydrochemical sampling of precipitation, surface waters and shallow groundwater investigations

Drilling and borehole measurements

- 14 (Forsmark site) and 20 (Laxemar site) deep (800 - 1,000 m) cored drilled boreholes
- Several more shallow core drilled and percussion drilled boreholes
- Mapping, testing and monitoring boreholes and bore cores (geology, thermal properties, rock mechanics, hydrogeology, chemistry)
- Many soil/rock boreholes



Societal aspects



Site investigations also included:

Current situation and future development

Effects on local and regional economy

Impact on the labour market

Impact on image and tourism

Spin-offs and synergies

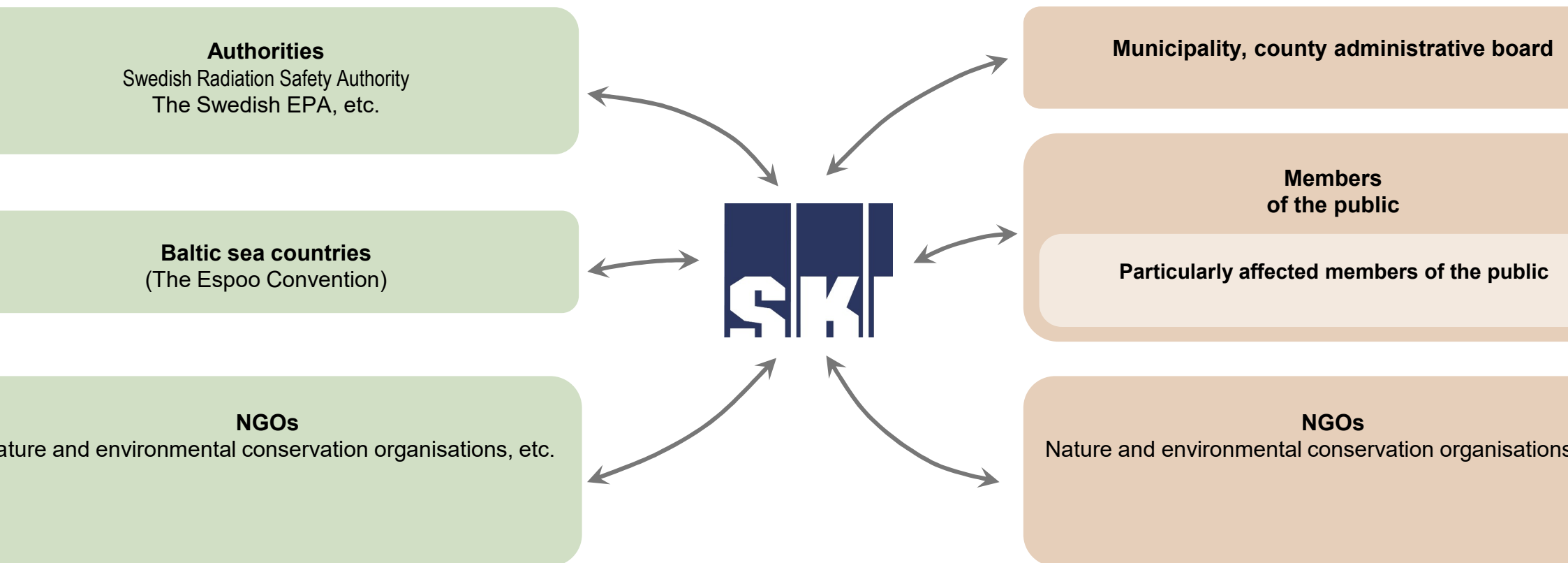
Impact on real estate and property prices

Impact on health, attitudes, opinions and acceptance

Long-term forecasts of demography and business



Consultation with stakeholders



Dialogue with people living near by



Dialogue with people living near by



Site selection 2009, License application 2011



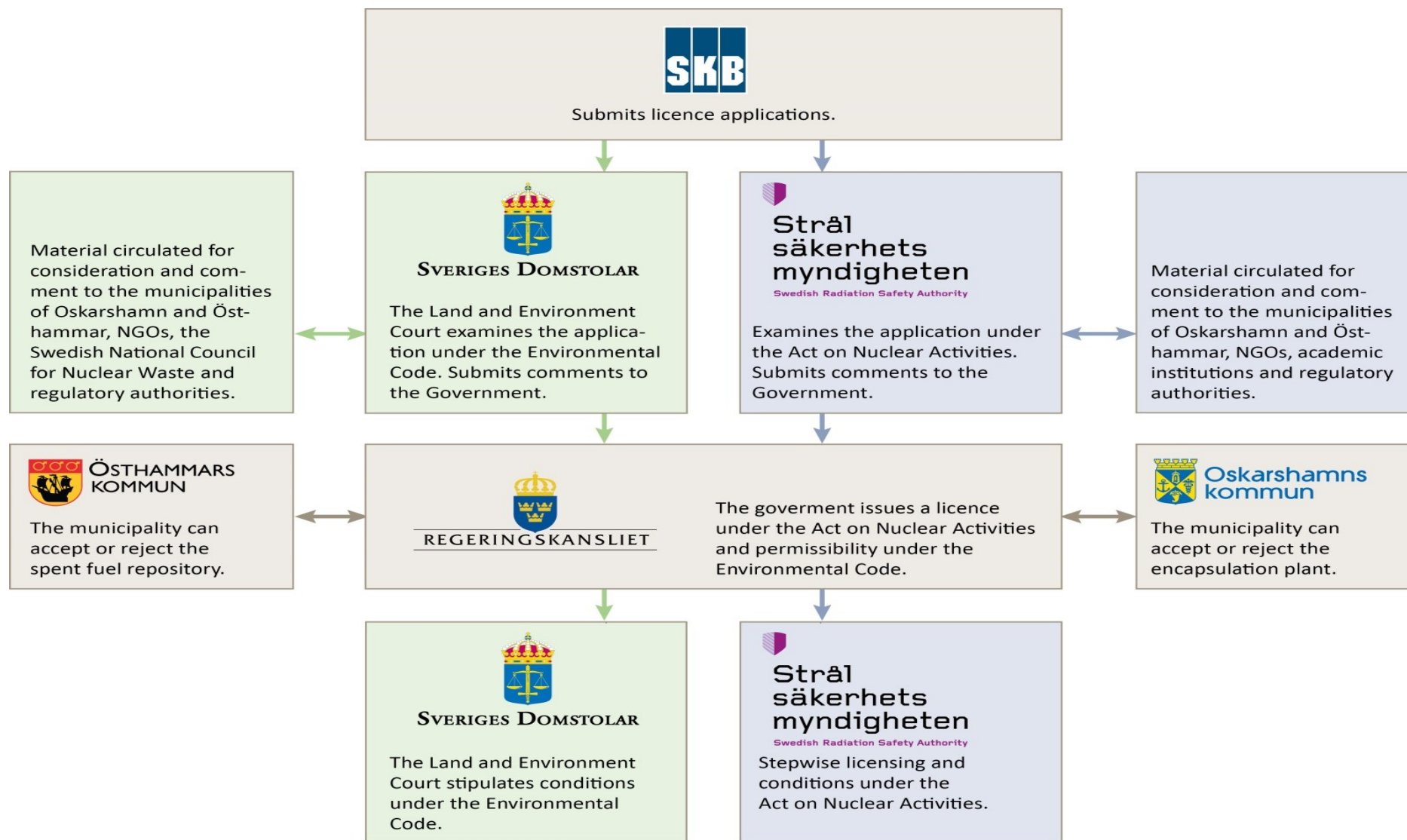
This is the view of Forsmark from the sea when construction is completed

Added Value programme



- Create values for 1,5-2 billion SEK (approx. 200 million EUR)
- Two periods, before approval and after approval of the repository
- 25 % in Östhammar (repository site)
- 75 % in Oskarshamn (encapsulation site)

Licensing process according to the Nuclear Act and to the Environmental Code



Conclusions



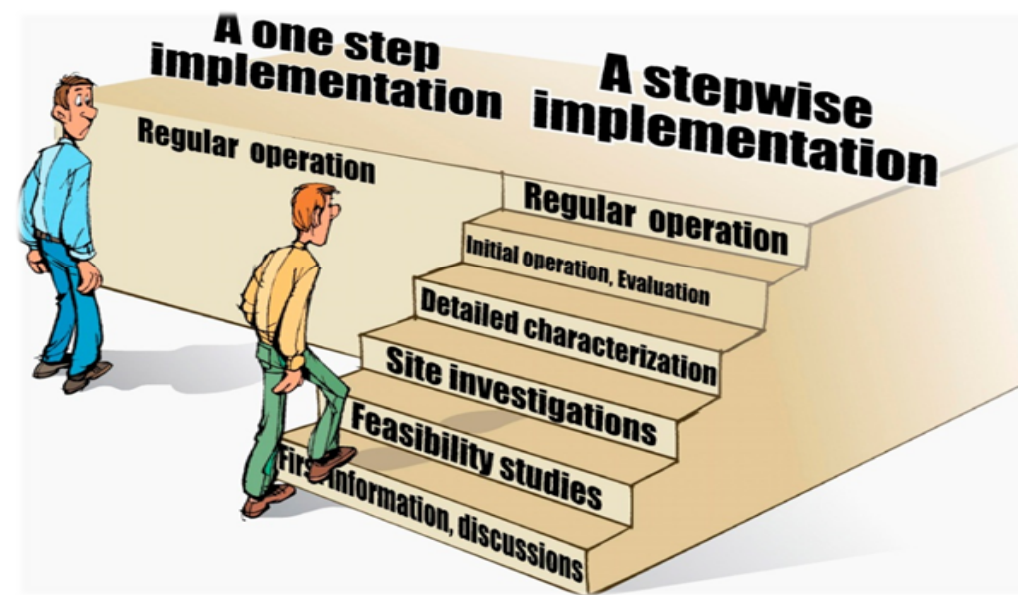
Transparent process based on voluntary participation and respect for local democracy.

Step-wise implementation.

Constant dialogue, knowledge building and stakeholder involvement.

Clear role division between state and industry.

Ability and political will, on national as well as on local level, to go forward and make necessary decisions.



Thank you for your attention!



The Forsmark site