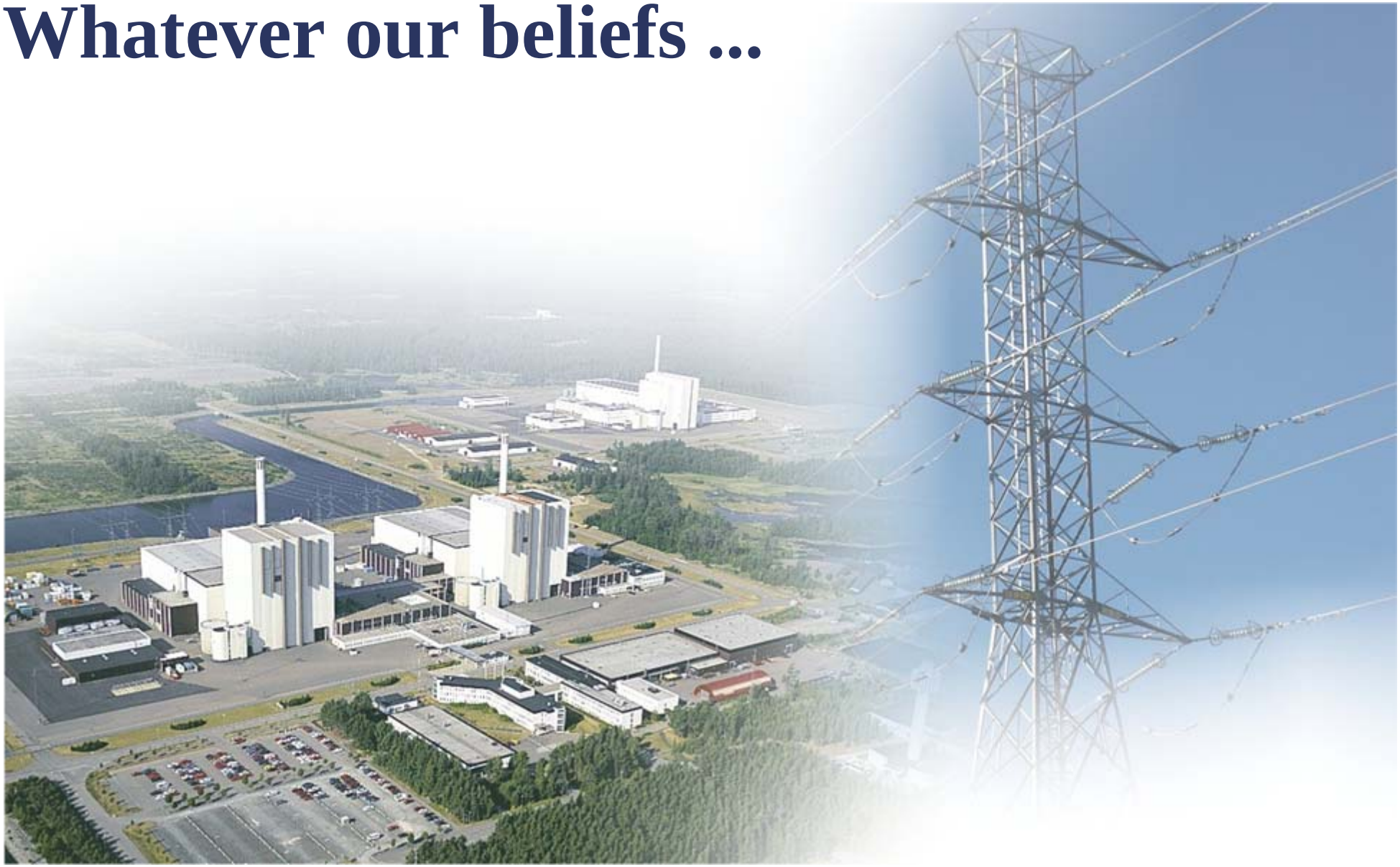
# Swedish Nuclear Fuel and Waste Management Company


Svensk Kärnbränslehantering AB

Saida Laârouchi Engström,
Vice President

# Whatever our beliefs ...



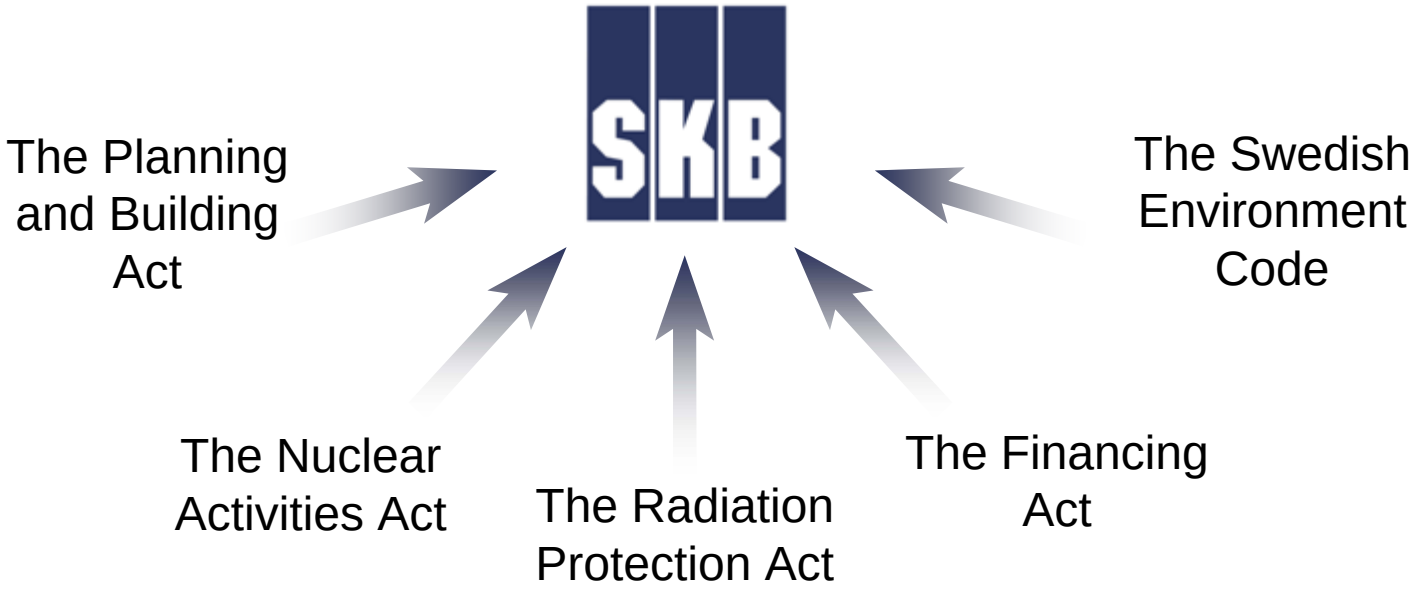
# Nuclear power in Sweden

- Sweden has ten operational nuclear reactors.
- The nation's largest power stations. Forsmark, Oskarshamn and Ringhals generate about 50 percent of Sweden's annual electricity consumption.

# Authorities and legislation

**The Government**

| Swedish Radiation Safety Authority | The Swedish National Council for Nuclear Waste | Municipality | Environment Court |
|---|---|---|---|



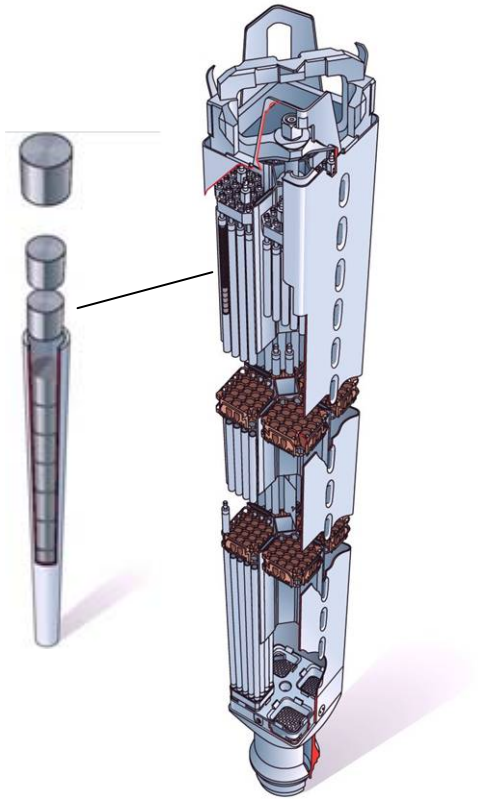
# Operational systems

# Different kind of waste – different solutions

**Operational and decommissioning waste**

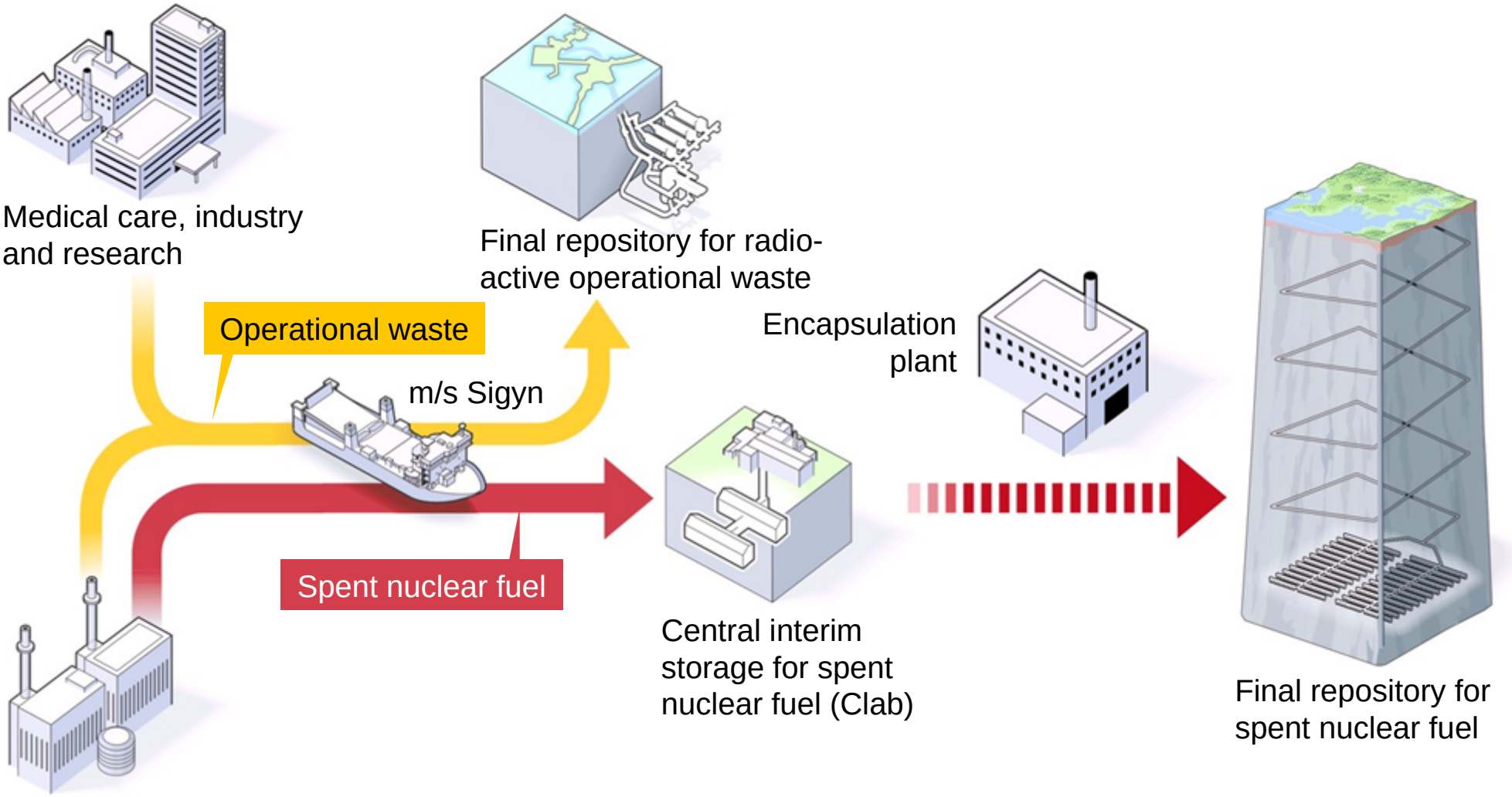
Low- and intermediate level

**Spent nuclear fuel**

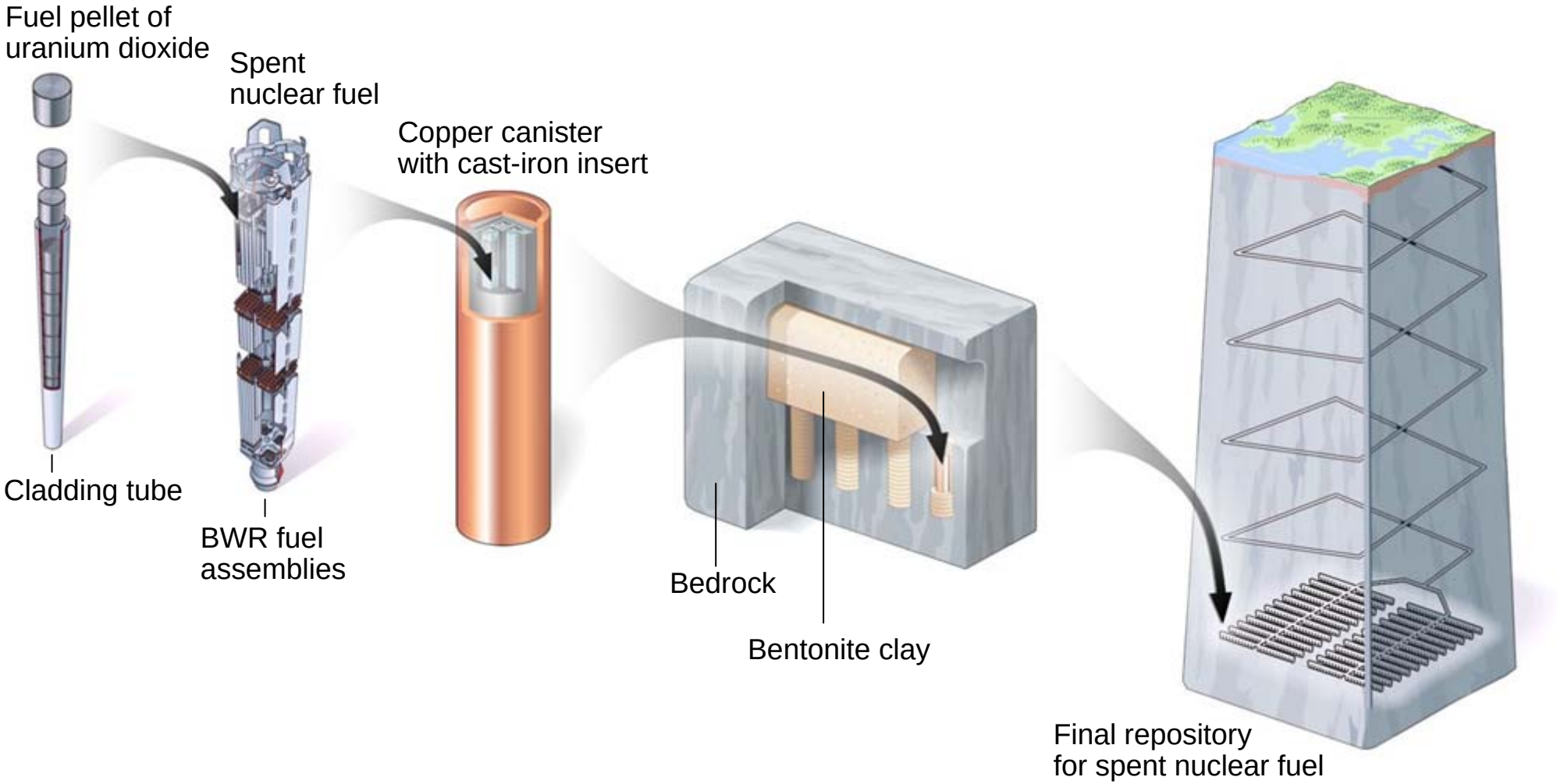


Long-term

# SKB's system

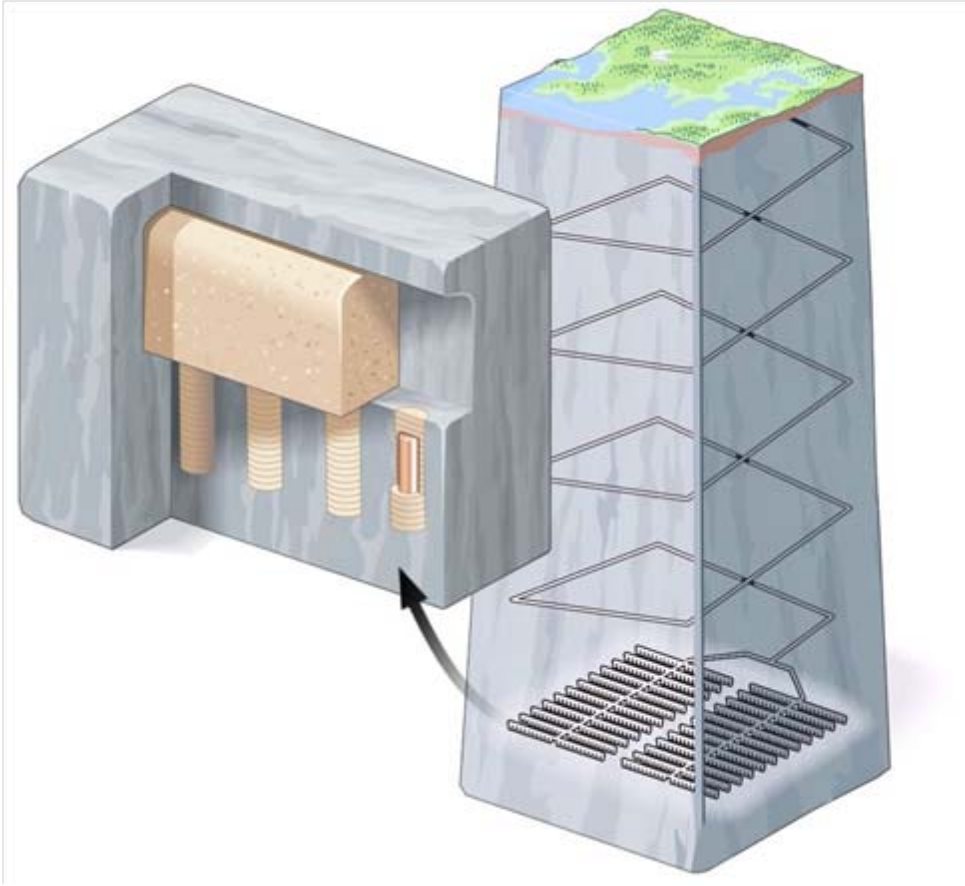

Medical care, industry and research
Final repository for radio-active operational waste
Operational waste
m/s Sigyn
Encapsulation plant
Spent nuclear fuel
Central interim storage for spent nuclear fuel (Clab)
Final repository for spent nuclear fuel
Nuclear power plant

# Our method

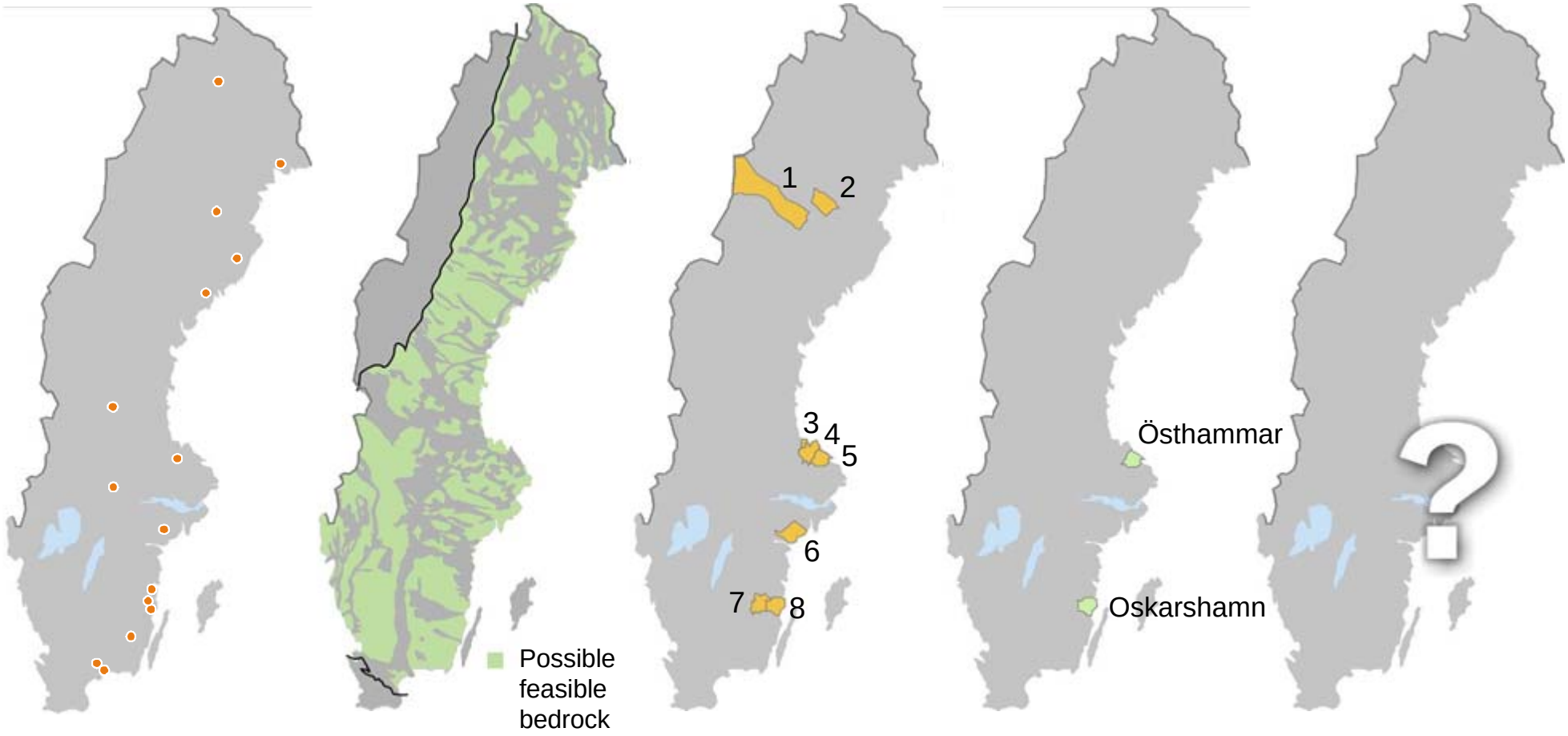

Fuel pellet of uranium dioxide
Spent nuclear fuel
Copper canister with cast-iron insert
Cladding tube
BWR fuel assemblies
Bedrock
Bentonite clay
Final repository for spent nuclear fuel

# The future final repository

- Repository depth: 400–700 m
- Underground facilities: 2–4 km$^2$
- 6,000 canisters

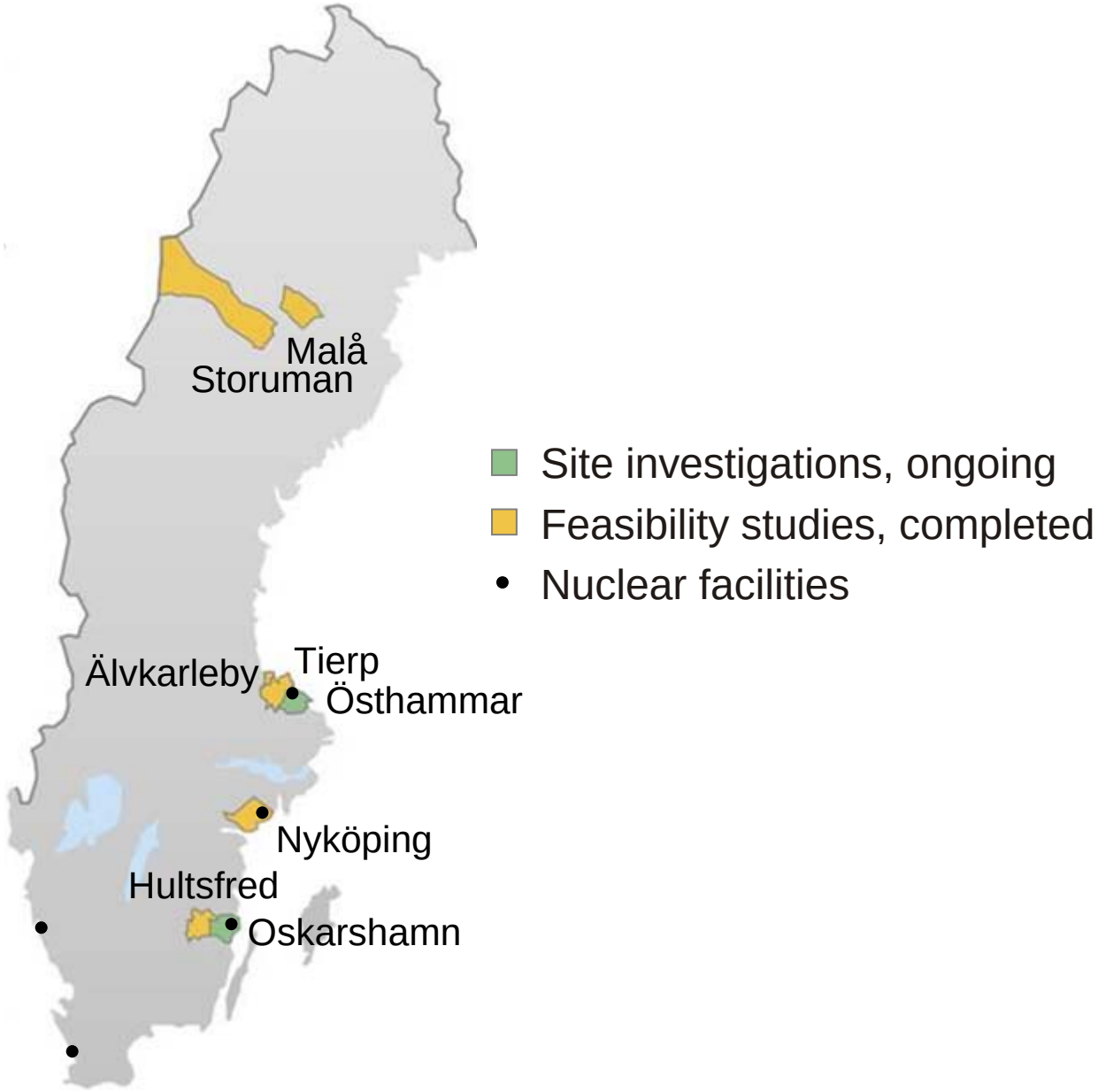


# Finding a site

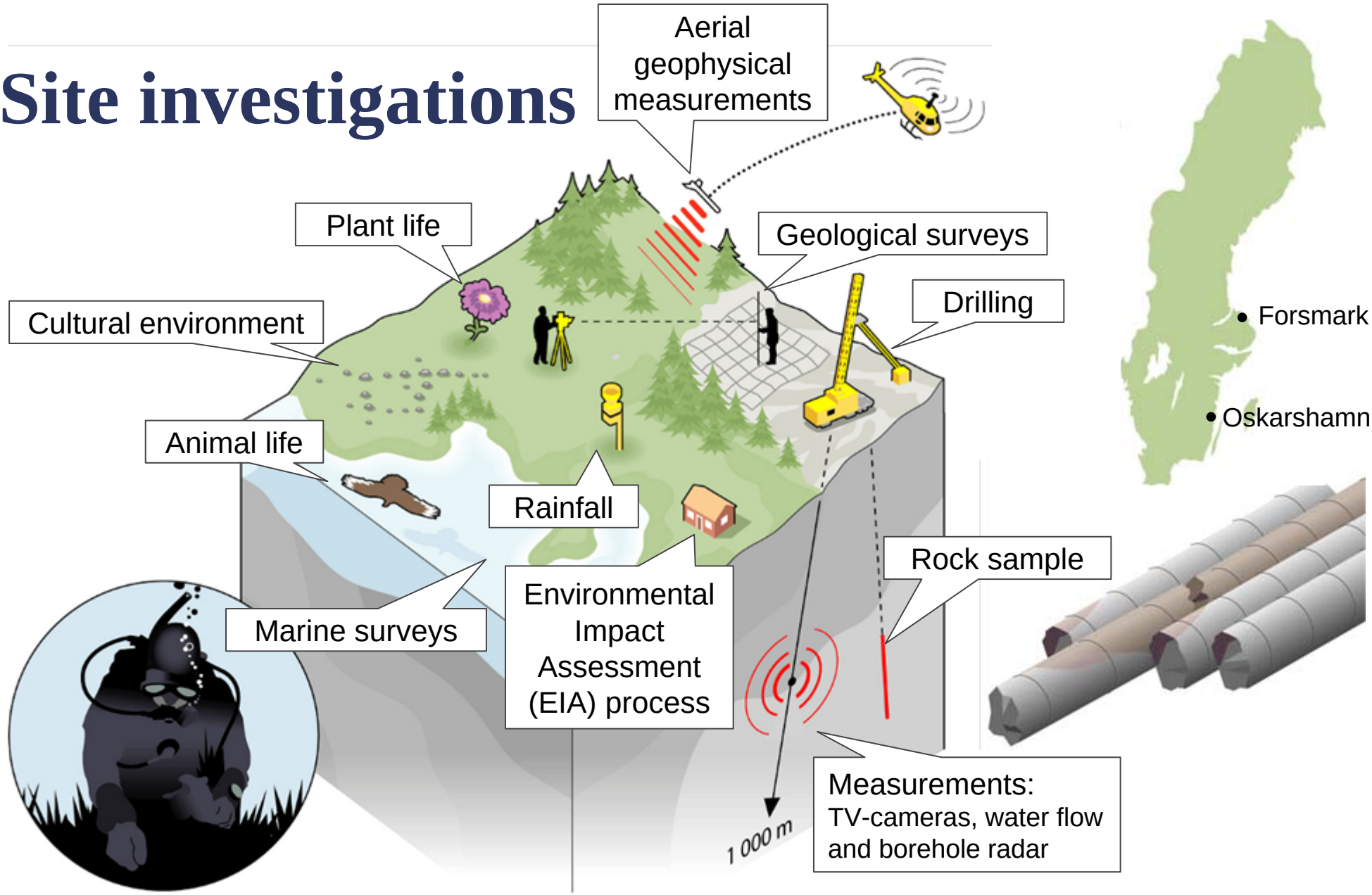



**Type areas 1977–1985** | **Regional studies 1990s** | **Feasibility studies 1993–2002** | **Site investigations 2002–2008** | **Building a repository Trial operation 2020**

# Feasibility studies



# Site investigations

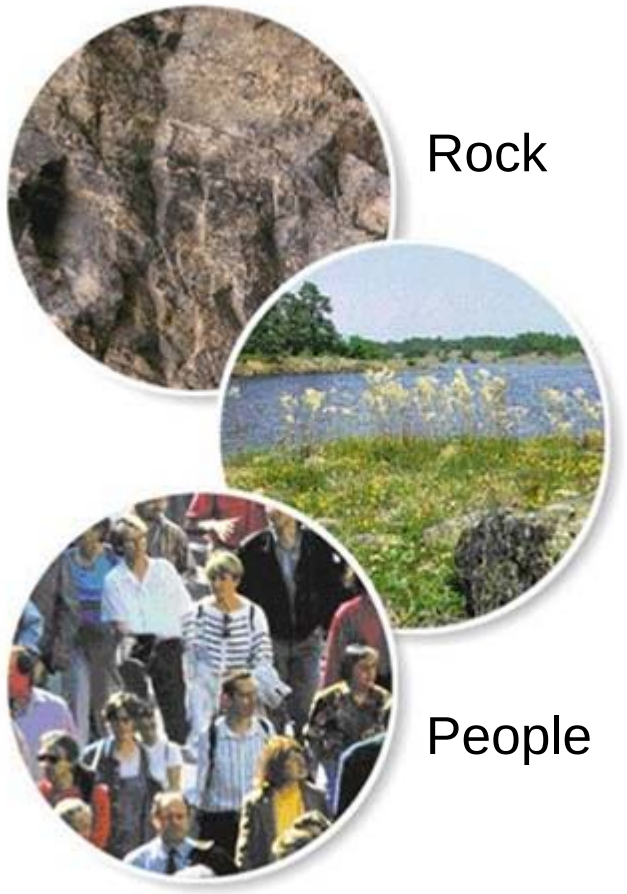



Graphic art: Mats Jerndahl

# Site investigations

**Focus on:**

- Long-term safety
- The impact of the operations on the environment
- Impact on society



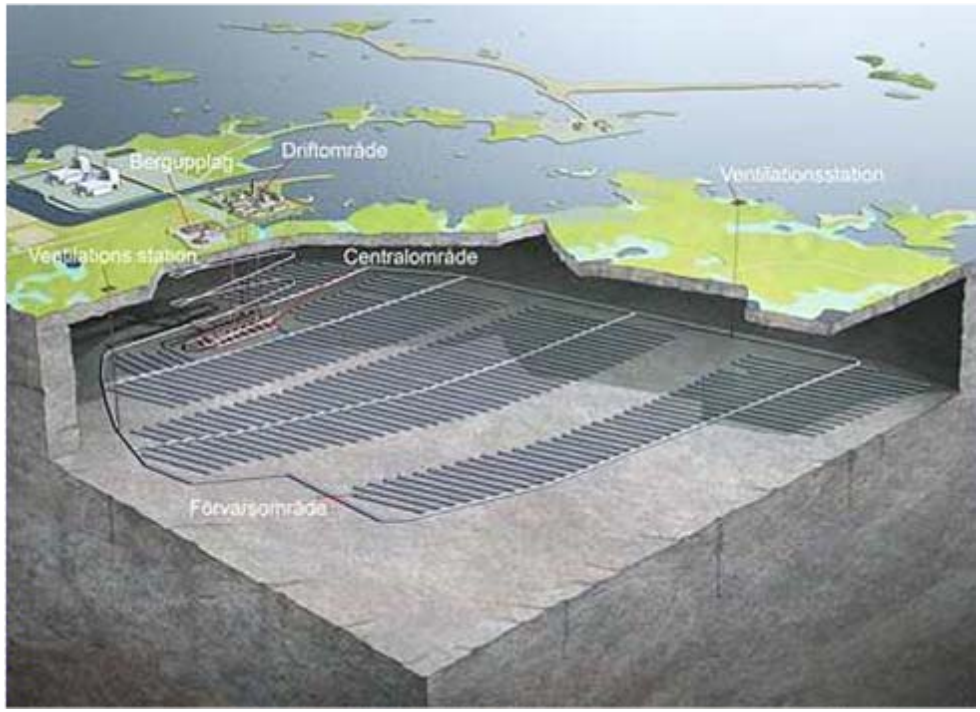
# Site selection

# Site selection

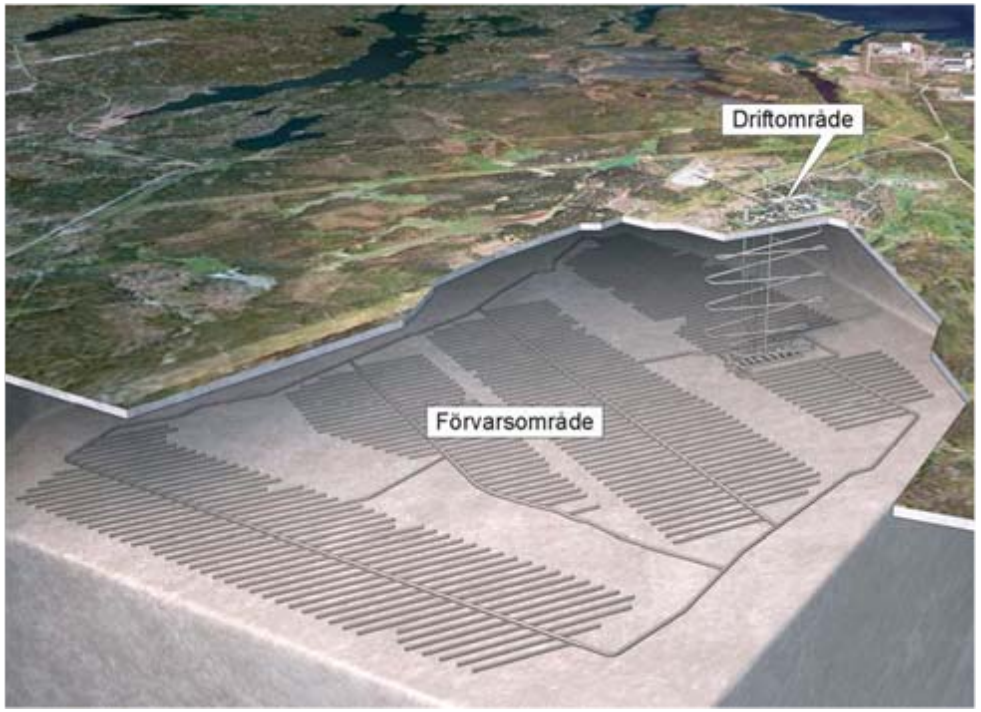

I. SKB will select the site that is judged to provide the best opportunities to achieve the purpose of the project, i.e. the safe long-term storage of spent nuclear fuel

II. If ranking according to I) is not decisive, we select the site that from other aspects is judged to be the most favourable for accomplishing the project

# Final repository Forsmark or…



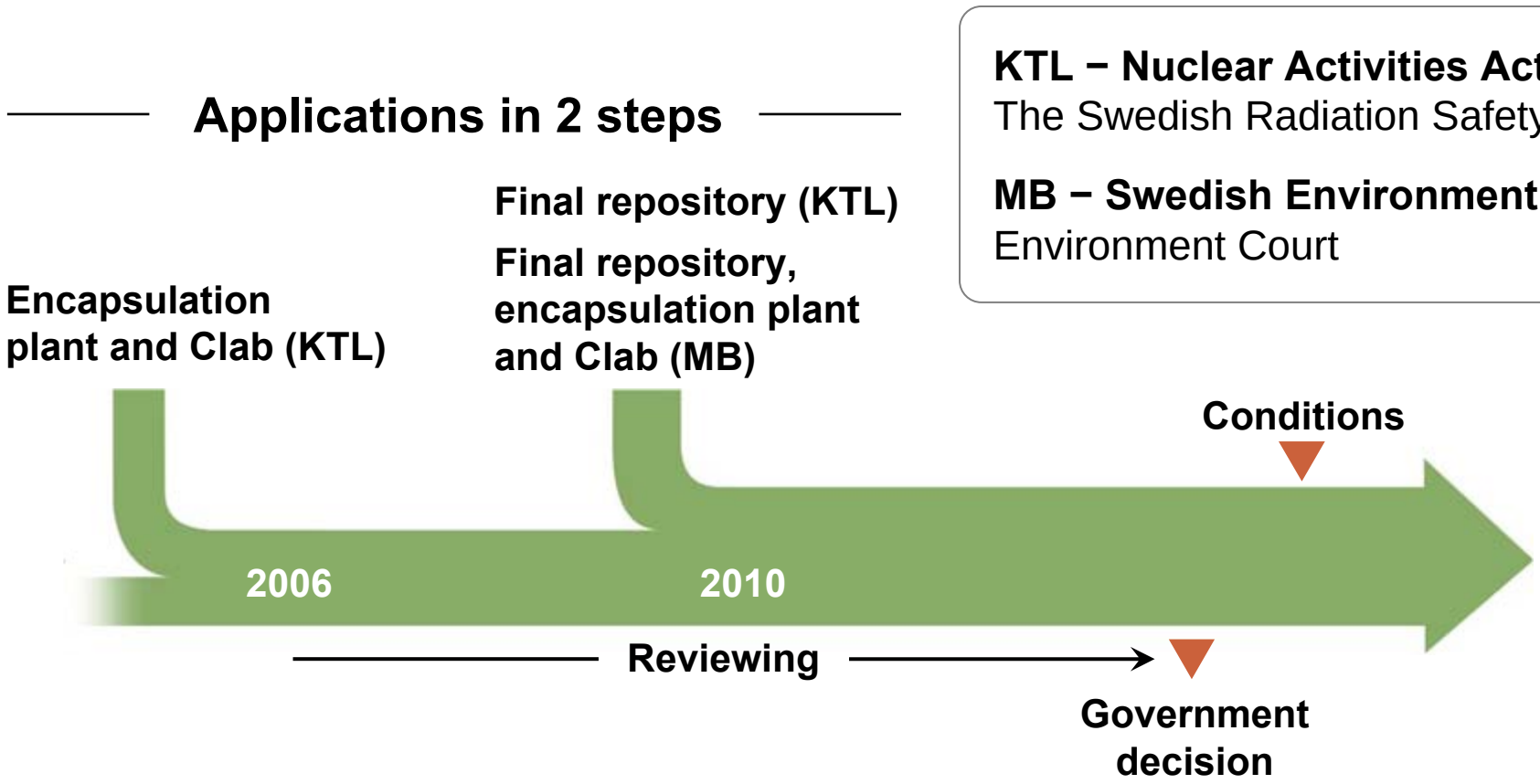
# Final repository Oskarshamn



# Applications – reviewing – decision

**KTL − Nuclear Activities Act**
The Swedish Radiation Safety Authority

**MB − Swedish Environment Code**
Environment Court



FUTURE

2045 — SFL 3–5

2022 — Routine operation

2020 — Trial operation

2010 — Appl. final repository

2009 — Site selection

2006 — Appl. encapsulation plant

HISTORY

2002 — Site investigations

1998 — Canister Laboratory

1995 — Äspö Hard Rock Laboratory

1988 — SFR

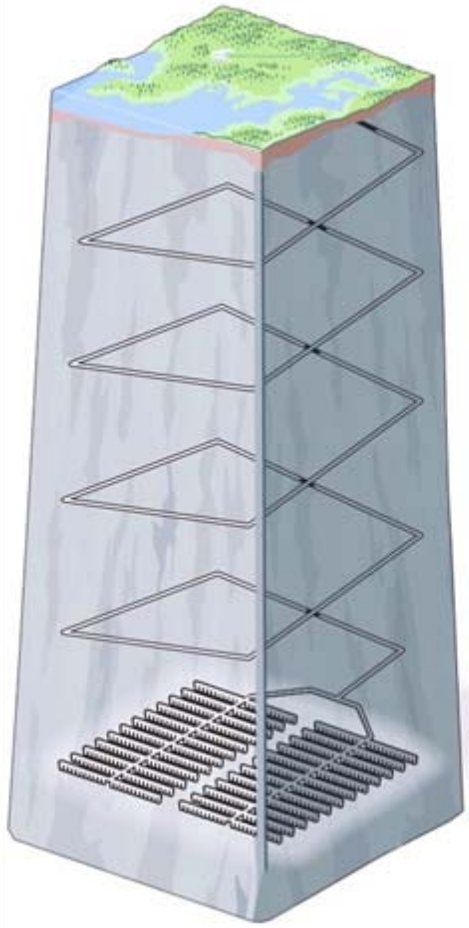
1985 — Clab

1984 — KBS-3

1982 — m/s Sigyn

1977 — Stripa project

1976 — KBS project



# Dialogue with stakeholders

# Talking to the local people

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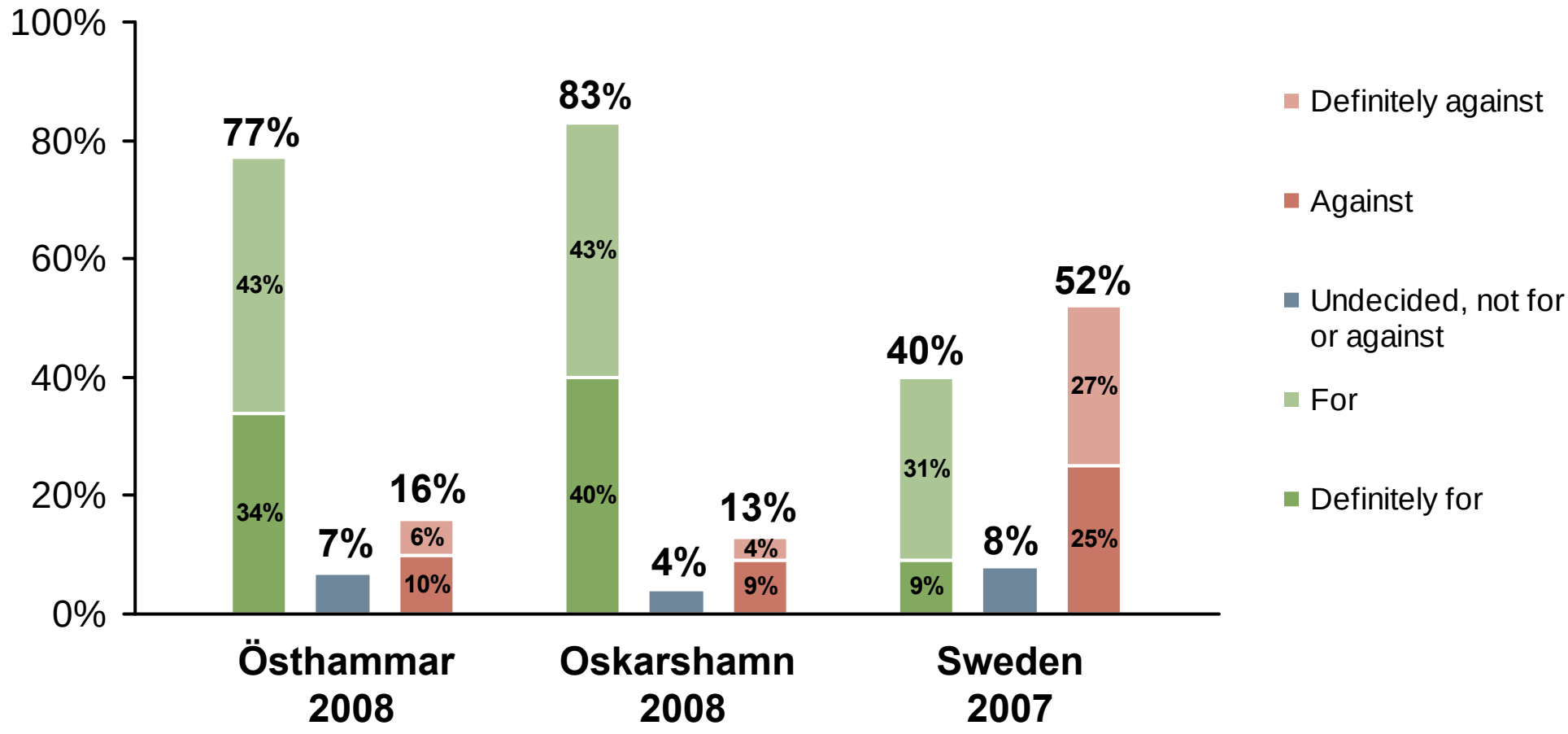
# Final repository in own municipality?

**Opinion 2008**




Source: Synovate