

WM2011

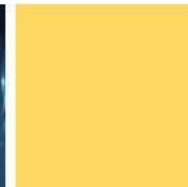
Session 3

International Deep Geological Repository Progress

Posiva Oy's Developments in Finland
Marjatta Palmu, Senior Adviser



POSIVA

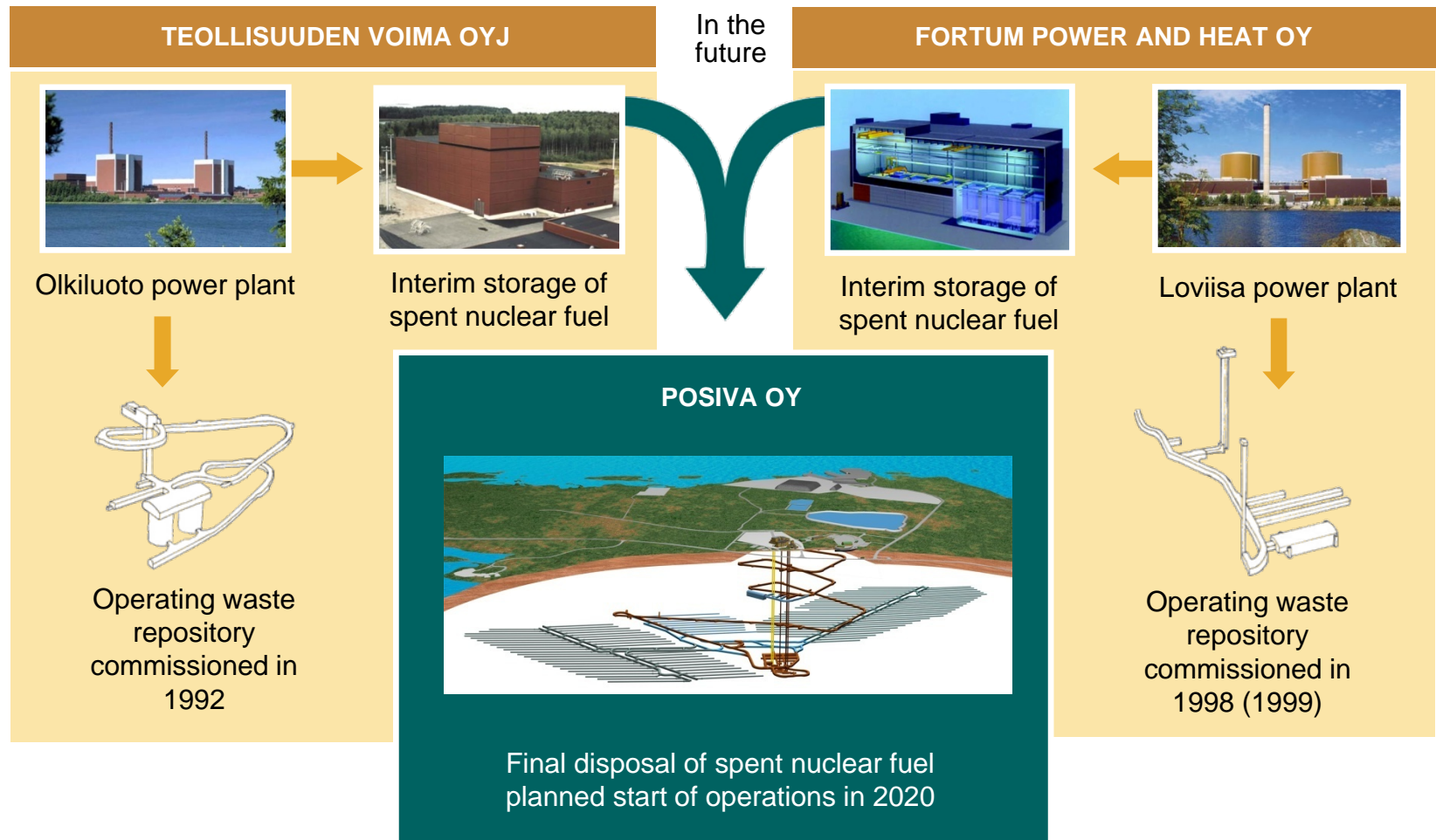


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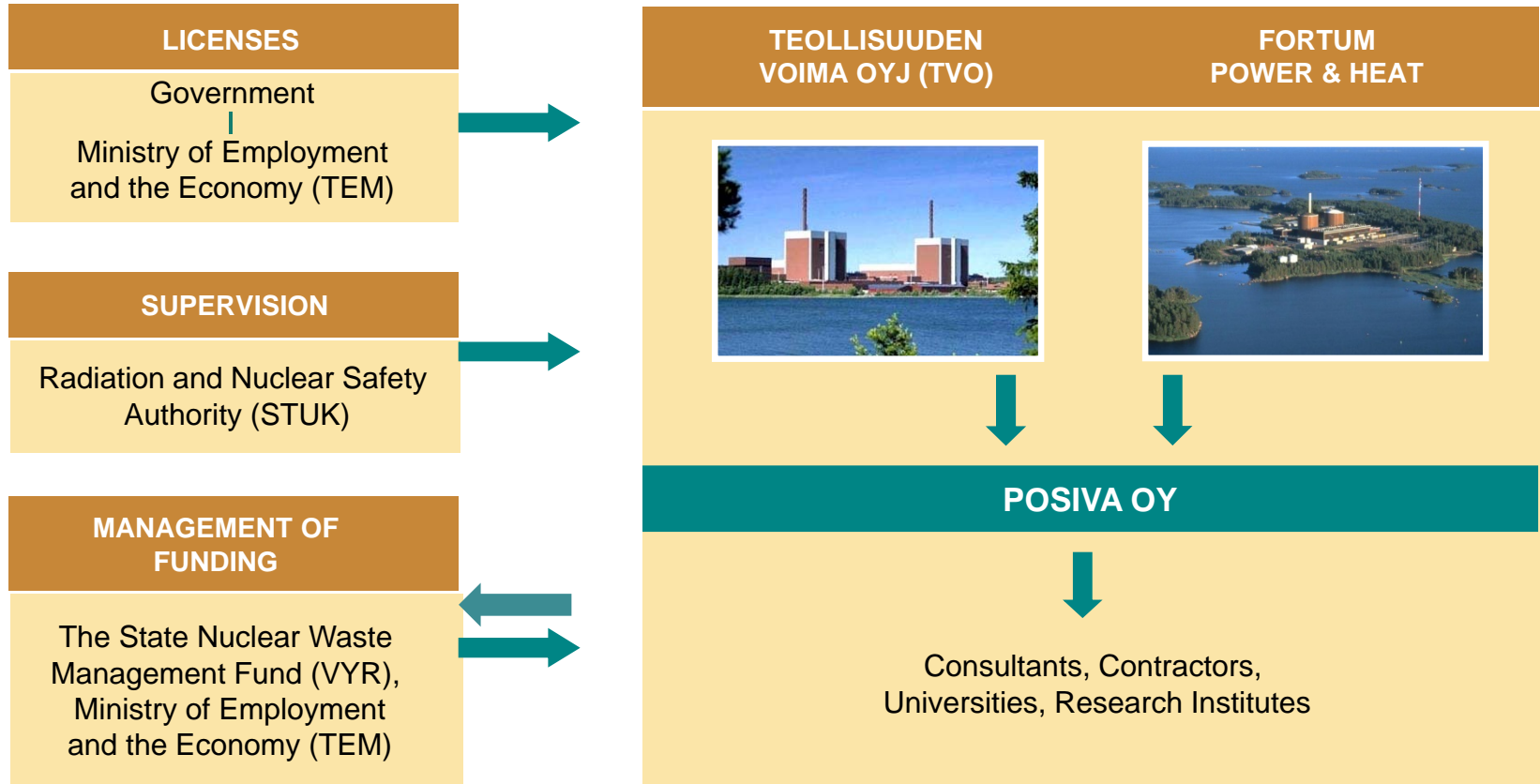
Palmu Marjatta

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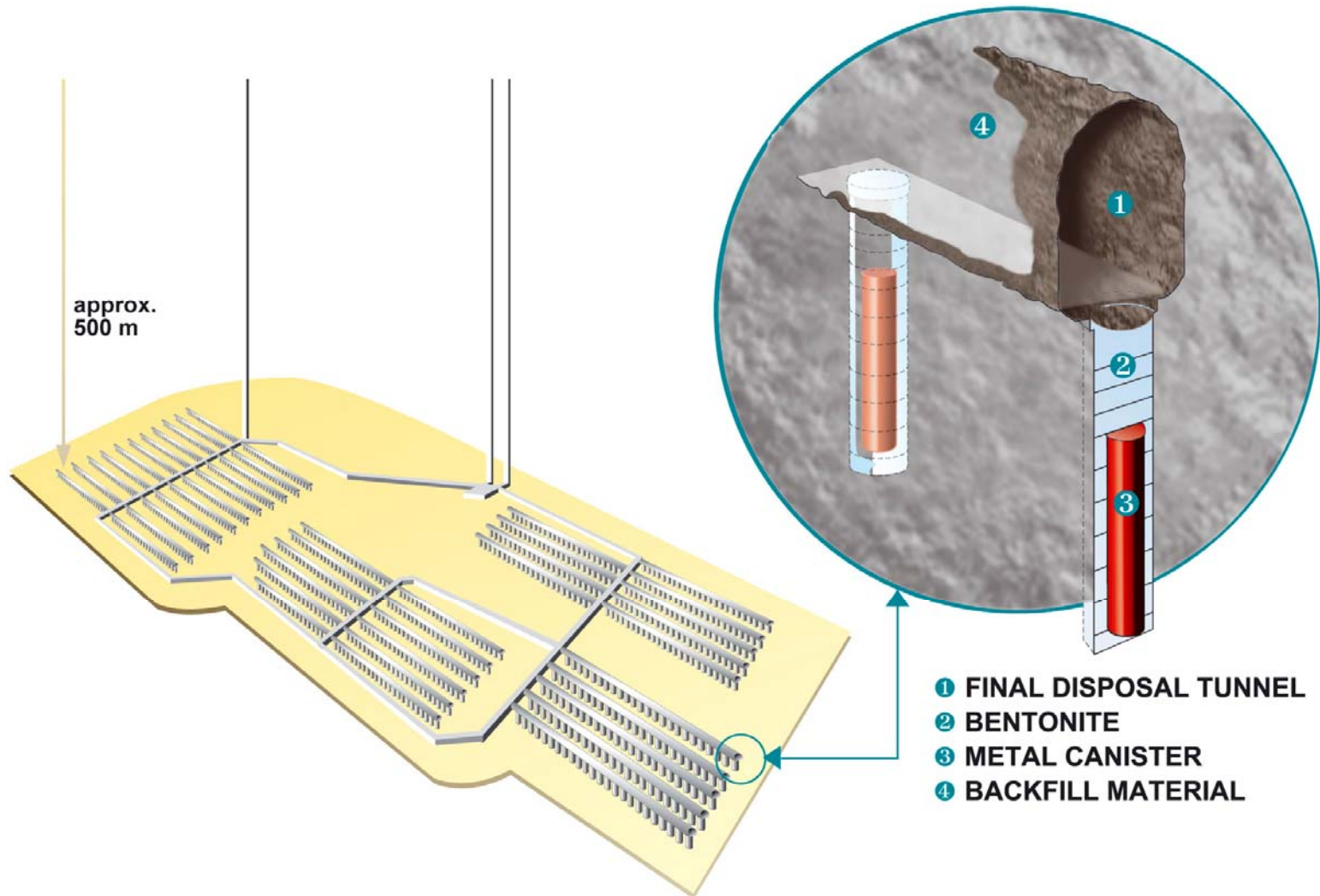
Nuclear Waste Management of the Existing NPP's in Finland



The Division of Duties in Nuclear Waste Management

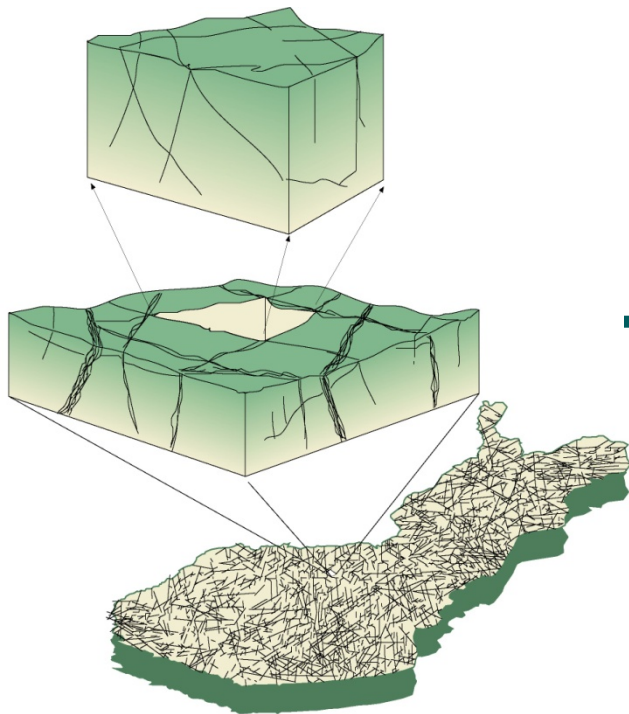


Isolation Principle



Site Selection Research Programme 1983-2000

Site identification
1983-1985



More than 100 candidate sites were identified

Preliminary site characterisation
1986-1992



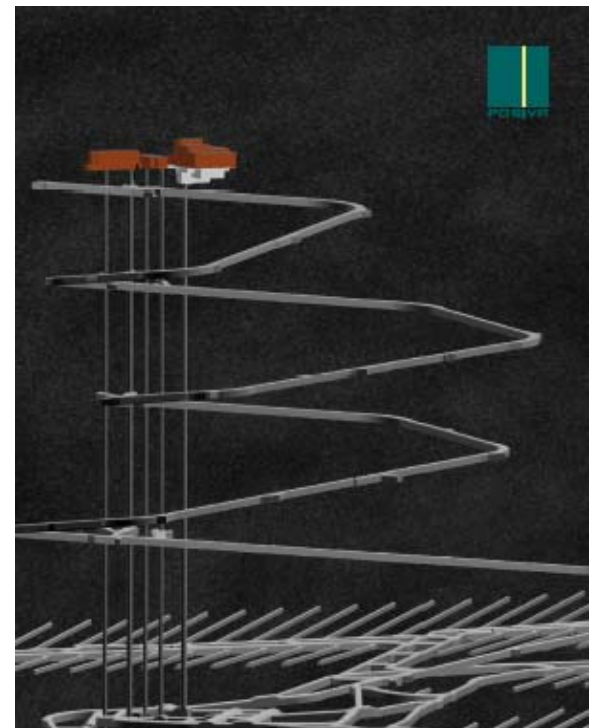
Detailed site characterisation
1993-2000



=> Eurajoki site selected in 2000

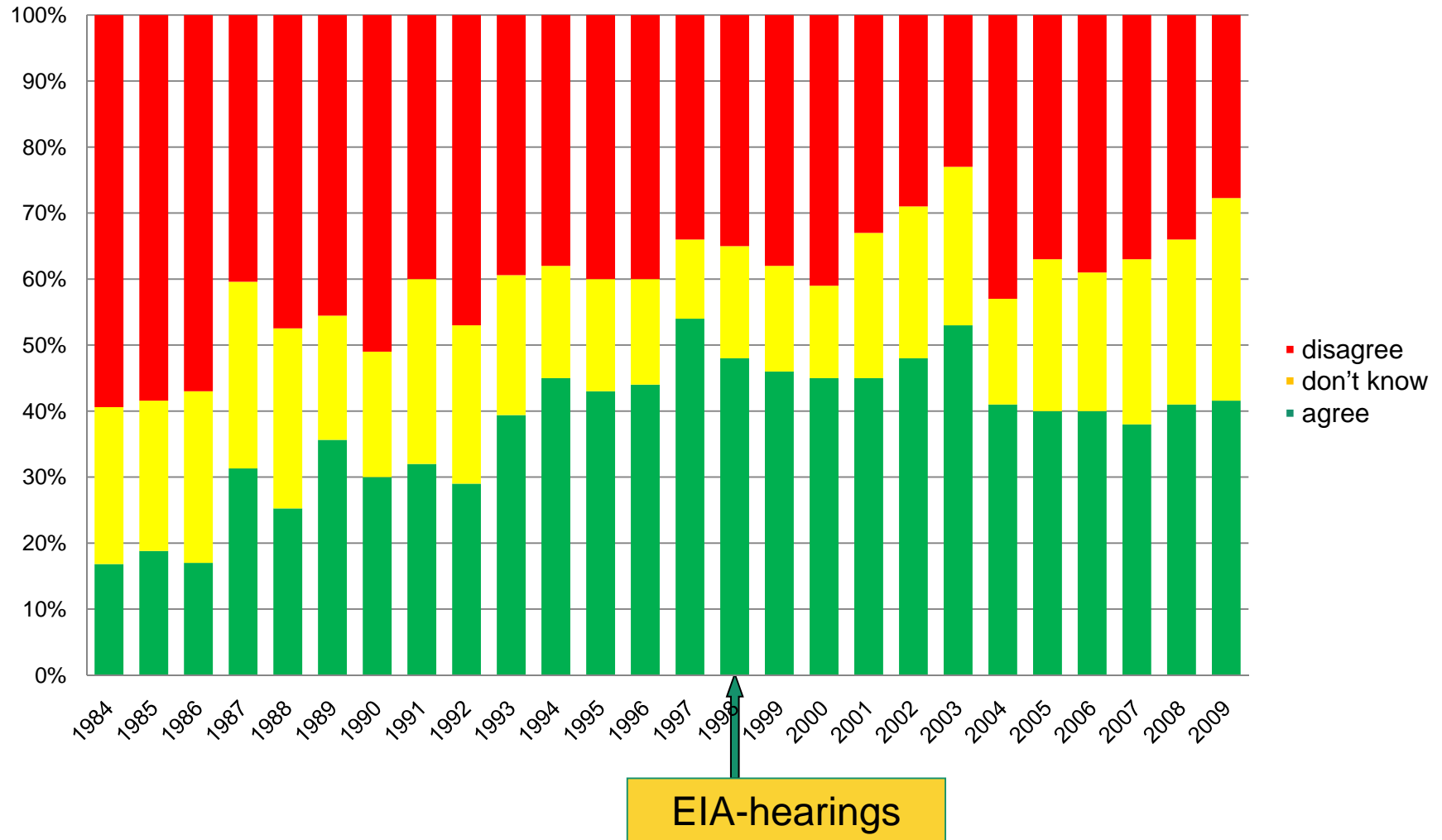
Posiva Oy Established in 1995

- Ownership: Teollisuuden Voima Oyj 60 %, Fortum Power and Heat Oy 40 %
- ISO 9001 certified in 2008, ISO 14000 certified in 2010
- Mission: Final disposal of spent nuclear fuel of the owners
 - and other tasks of expertise within nuclear waste management
- Gradual change from a R&D company to an implementing organisation
 - Organisation evolves according to changing demands
 - Long-term planning of the organisation on-going
- Steady increase of personnel: ~ 90 people
 - coupled with extensive use of contractors around 70 working at Olkiluoto
 - total employment effect over 300 persons
- Accrued budget in 2010 : EUR 61 million
 - Estimate for 2011: EUR 71 million



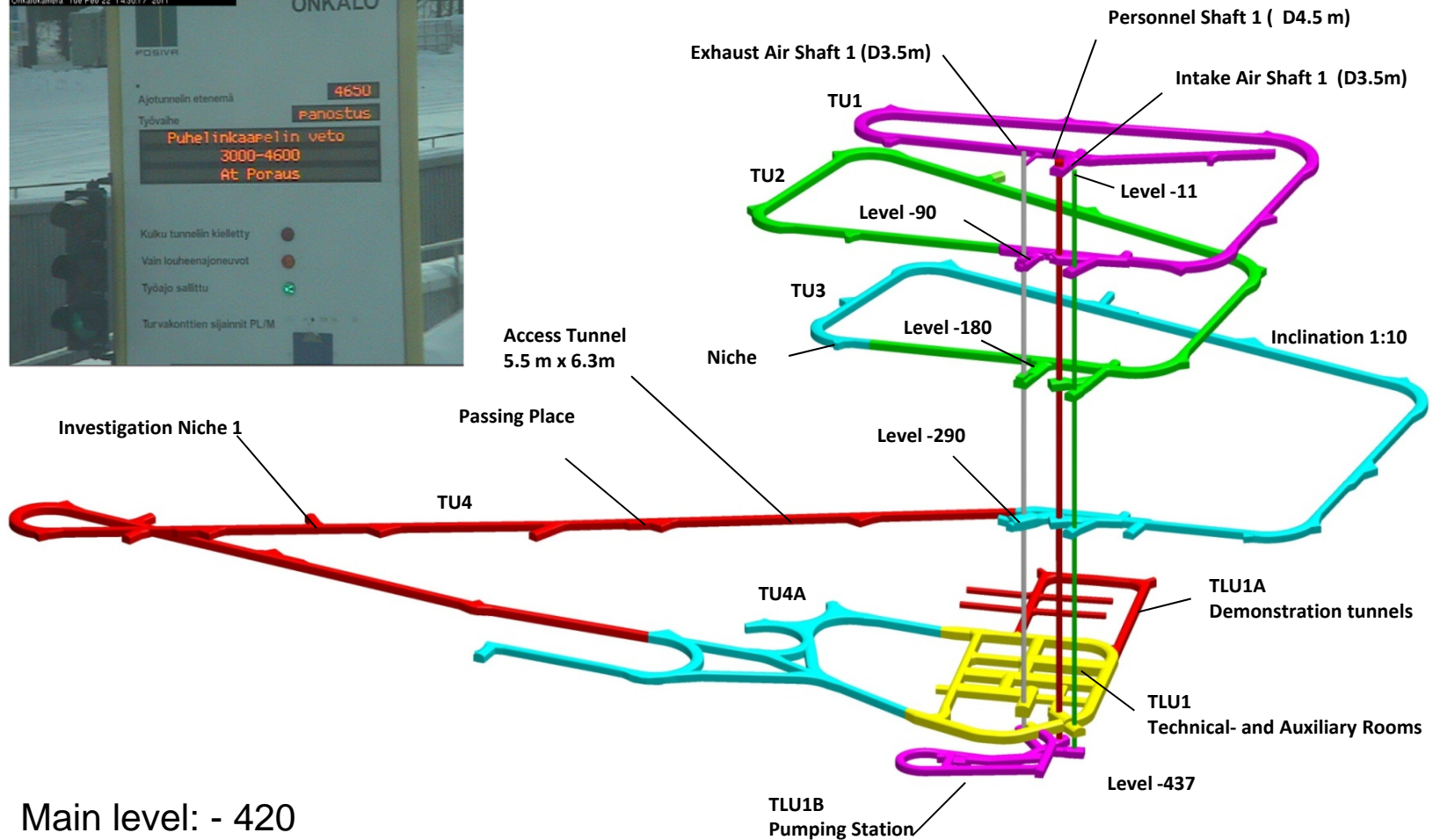
Eurajoki municipality's inhabitants views

"Nuclear waste can be safely disposed of into the Finnish bedrock"



ONKALO's Current Layout (Construction started in 2004)

Excavation at PL 4650 (22.2.2011)



Main level: - 420

Excavation volume: 365,000 m³

ONKALO Construction Site in Summer 2010

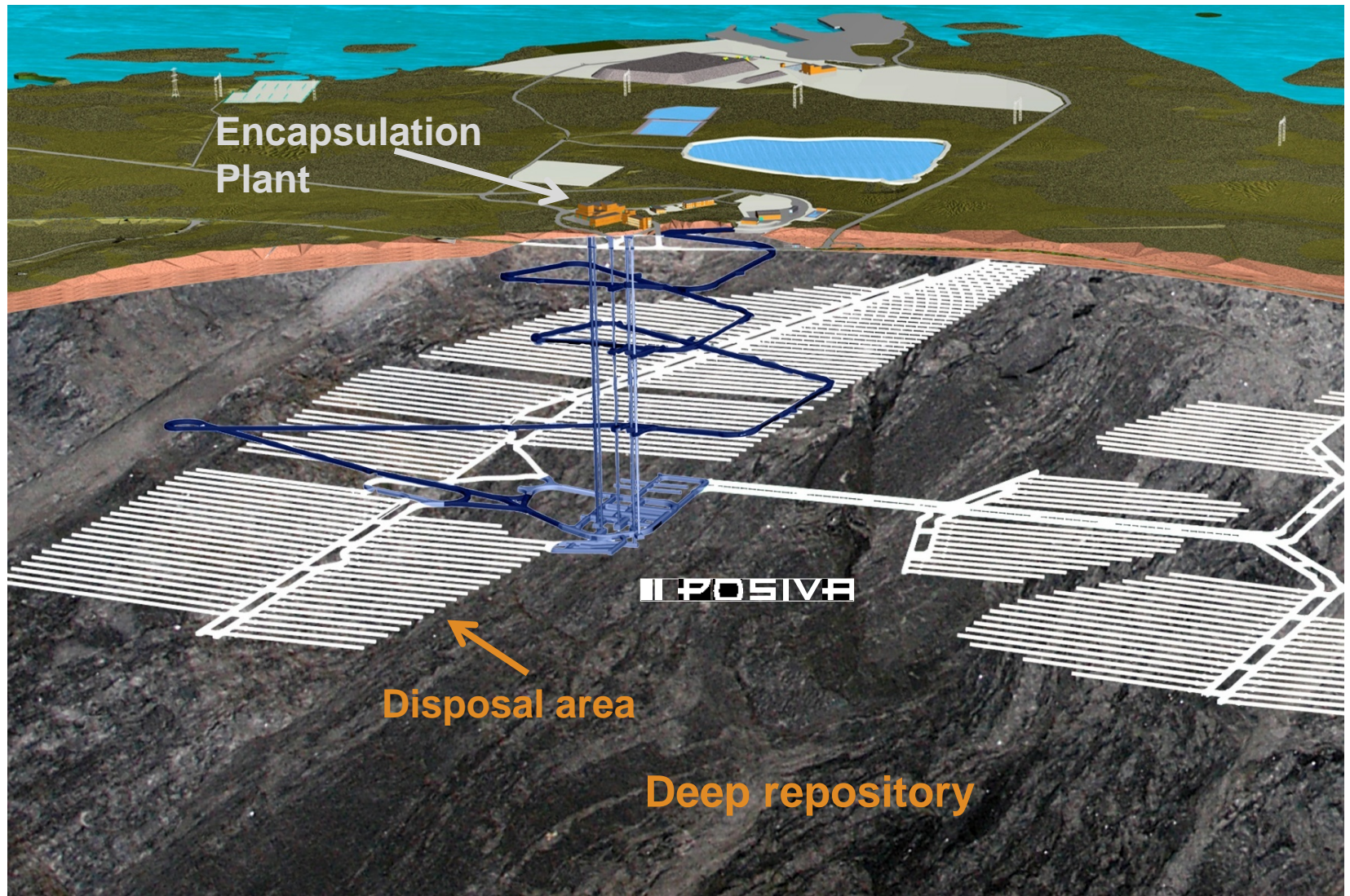


After the Submission of the Construction License Application in 2012

- License expected so that construction of the repository (controlled area) can start in 2014
- Demonstrations on-going in ONKALO
- Preparing for production (operations)

- Construction of encapsulation plant and other permanent buildings after the license is granted
- Training of operating personnel
- Development and manufacturing of equipment
- Preparing to submit the operating license in 2018

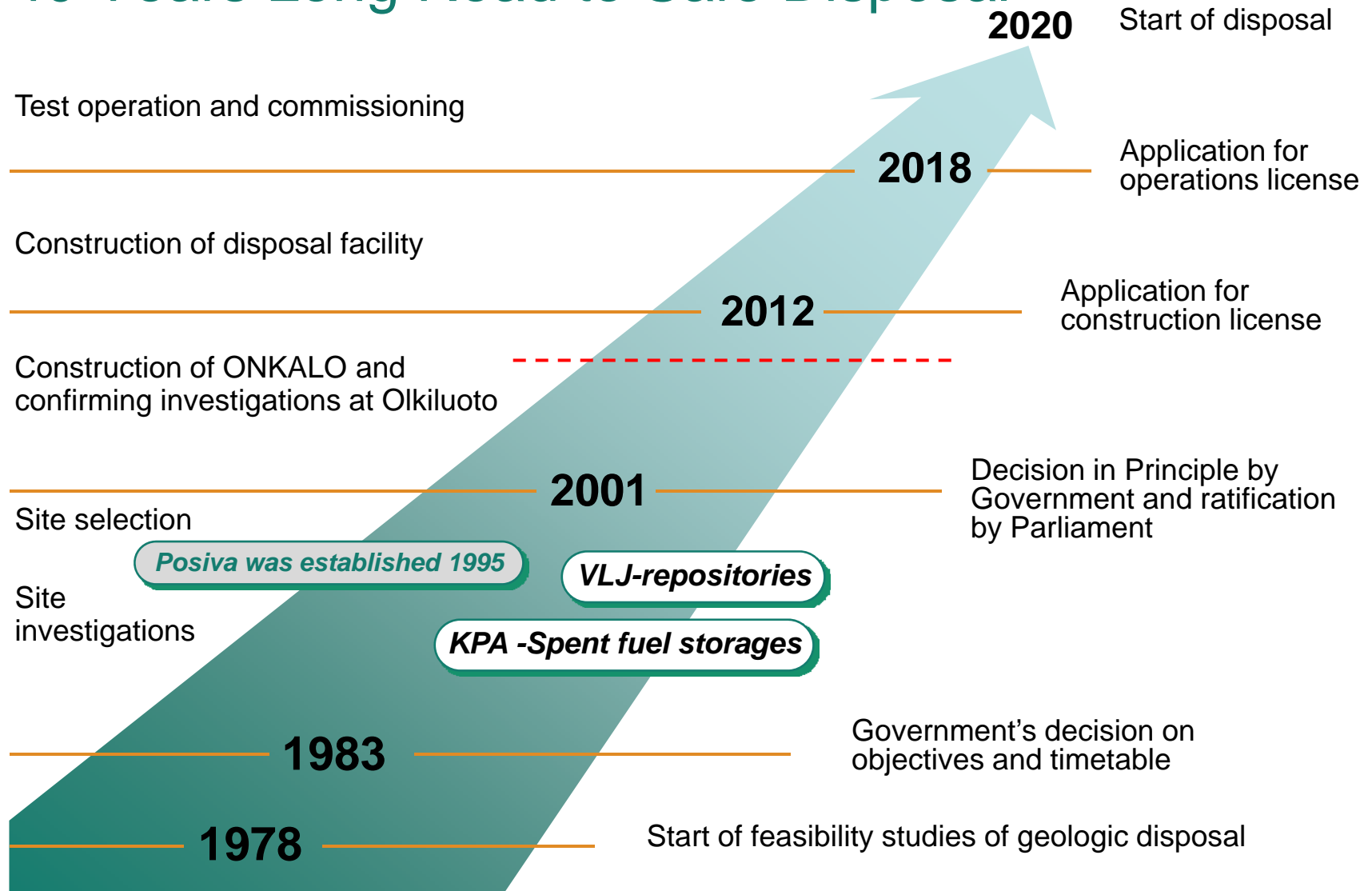
Entire Disposal Facility (in ~ 2100) Foreseen Closure ~ 2130



Costs of Final Disposal

- Total around 3,300 M€ (cost estimate 2009)
 - Investments 700 M€
 - Operation 2,400 M€ (until year 2120)
 - Decommissioning 200 M€
- The cost estimate for the final disposal of spent nuclear fuel assumes
 - that the existing nuclear power plant units will be in operation for 50-60 years and
 - that the new OL3 unit being built at Olkiluoto will operate for 60 years.
 - Some 5,500 tonnes of uranium will have accumulated by then.
- Funds for nuclear waste management are collected in advance in the price of nuclear electricity to the State Nuclear Waste Management Fund (VYR) .

40 Years Long Road to Safe Disposal





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