

Passive Trust or Active Mistrust?

Finnish and French Approaches to Monitoring of Radioactive Waste Repositories

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Introduction

Institutional trust & safety argumentation concerning the role of monitoring in national-level RWM decision-making in Finland and France

Spanning the boundary between technical and “societal” monitoring:

- ensuring the appropriate functioning of a repository, and
- collection and dissemination of information on societal and economic impacts of the repository

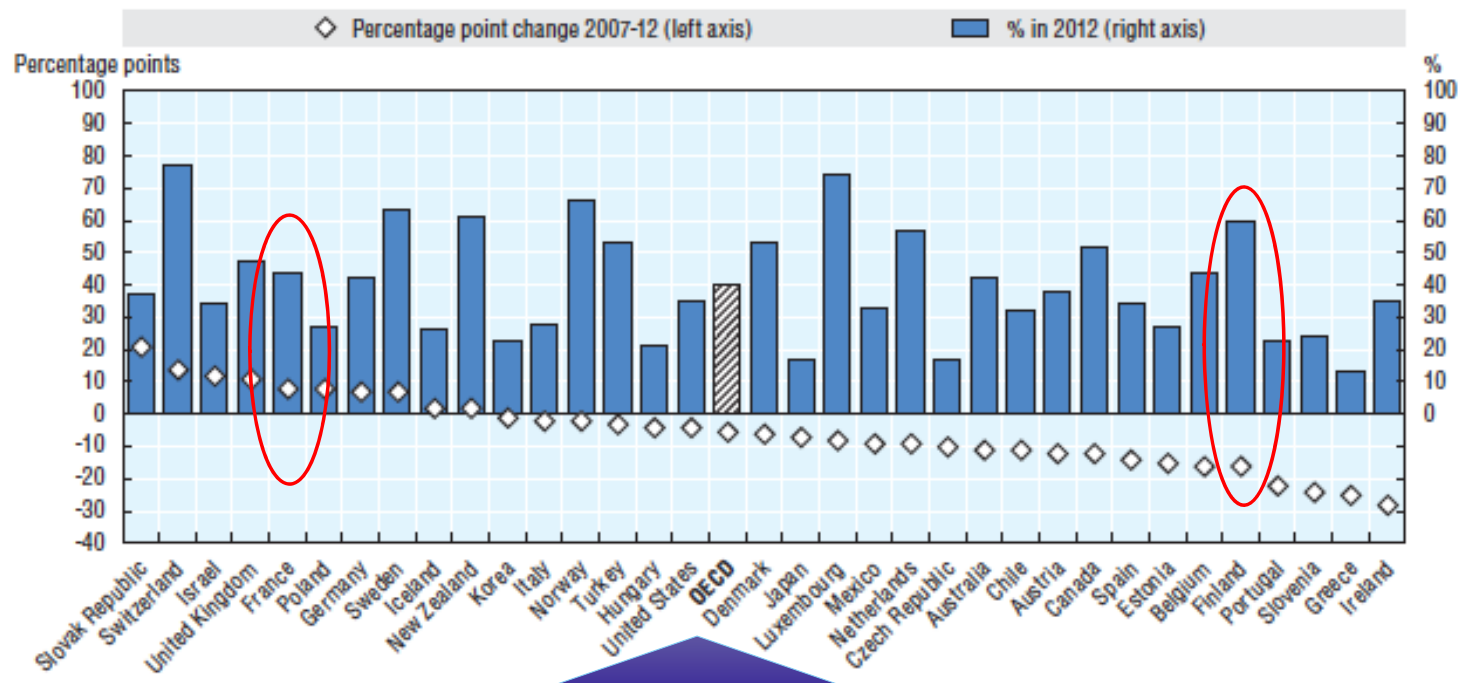
Focus on argumentation by policymakers and key stakeholders, especially in national parliaments

Passive safety as the key principle, but diverging approaches to monitoring:

- In Finland, “truly” passive safety (?)
- In France, the principle of reversibility – enshrined in law – governs the project

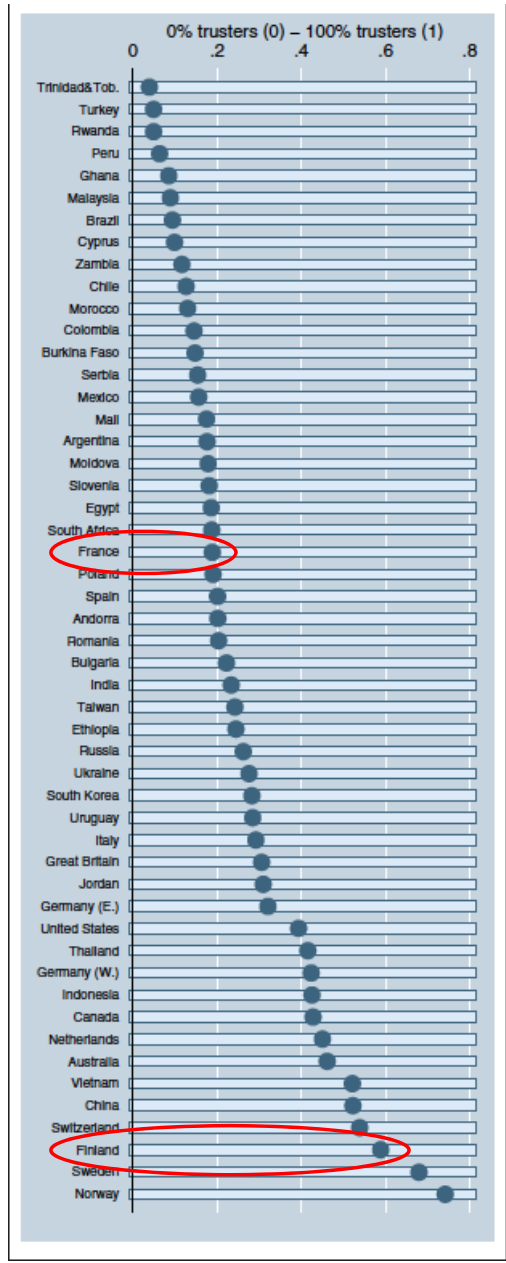
Funded by the Finnish Research Programme on Nuclear Waste Management (KYT2022)

Figure 1.1. Confidence in national government in 2012 and its change since 2007
Arranged in descending order according to percentage point change between 2007 and 2012



OECD 2013. Governance at glance. (percentage of “yes” answers to the question: “In this country, do you have confidence in each of the following, or not? How about national government?”)

Delhey et al. 2011. Answers to question: “Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?”



Finland: legalism and trust in institutions as the backbone of society

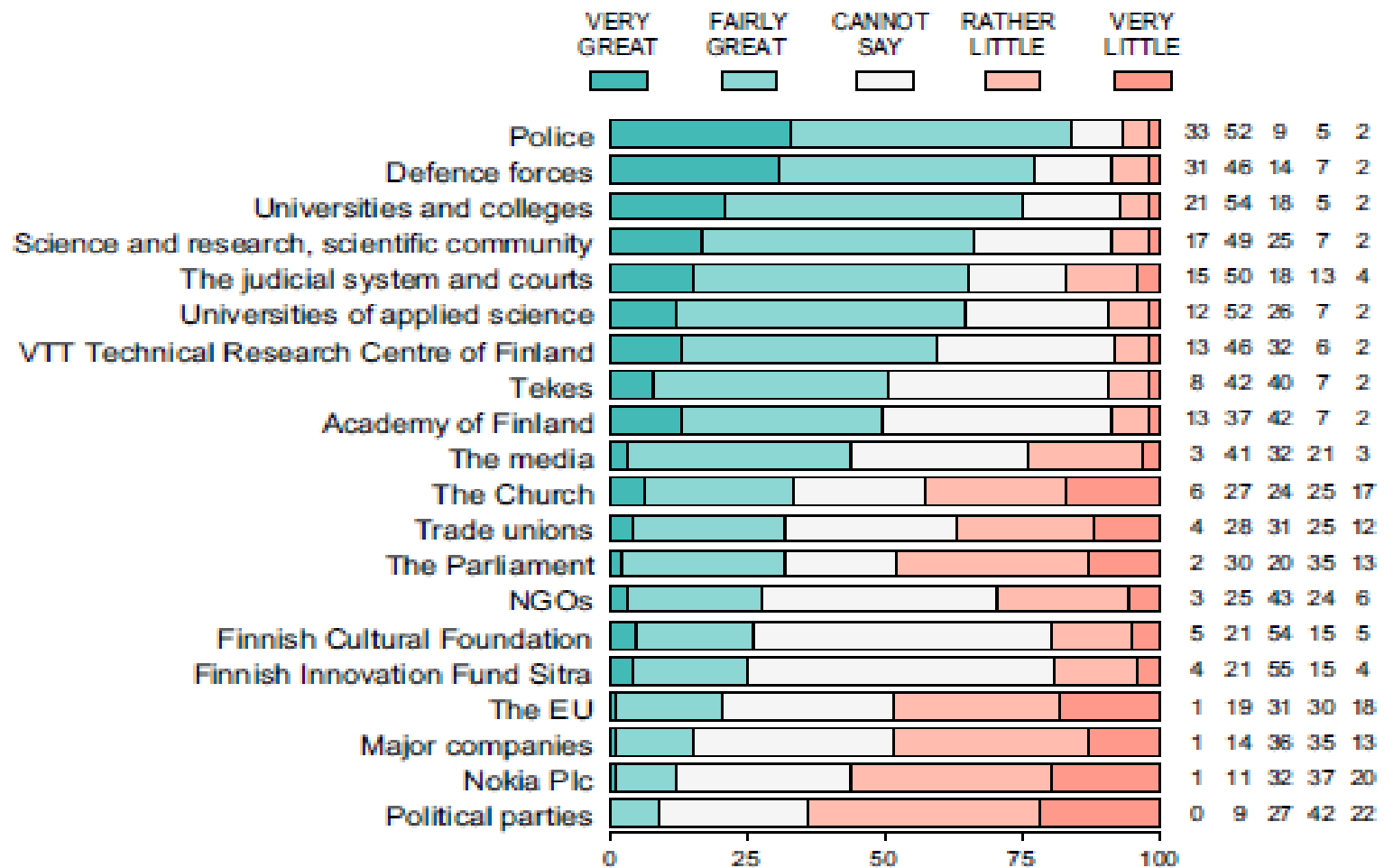
The Nordic high-trust societies

- Social trust; trusting “the unknown other”, i.e. generalised social trust, and
- Trust in institutions: e.g. government, parliament, civil service, experts, political parties, the news media

High levels of trust especially in public sector organisations and societal institutions = particular strength of the Finnish society

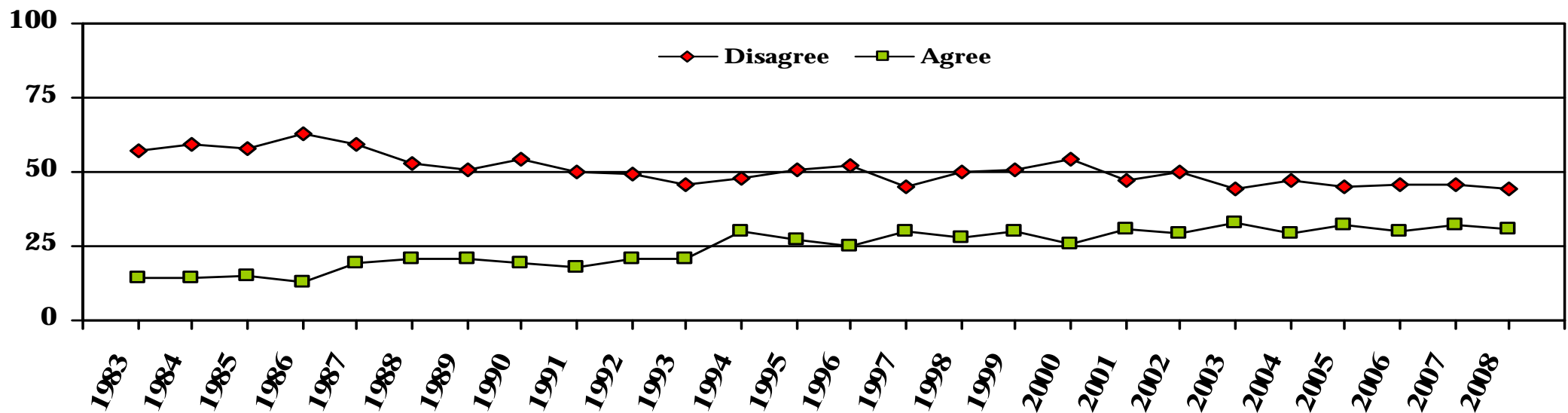
Science Barometer 2016

Figure 4. TRUST EXPRESSED BY FINNS IN CERTAIN INSTITUTIONS (%).



Opinions regarding safety of final disposal into Finnish bedrock (%), Finnish population

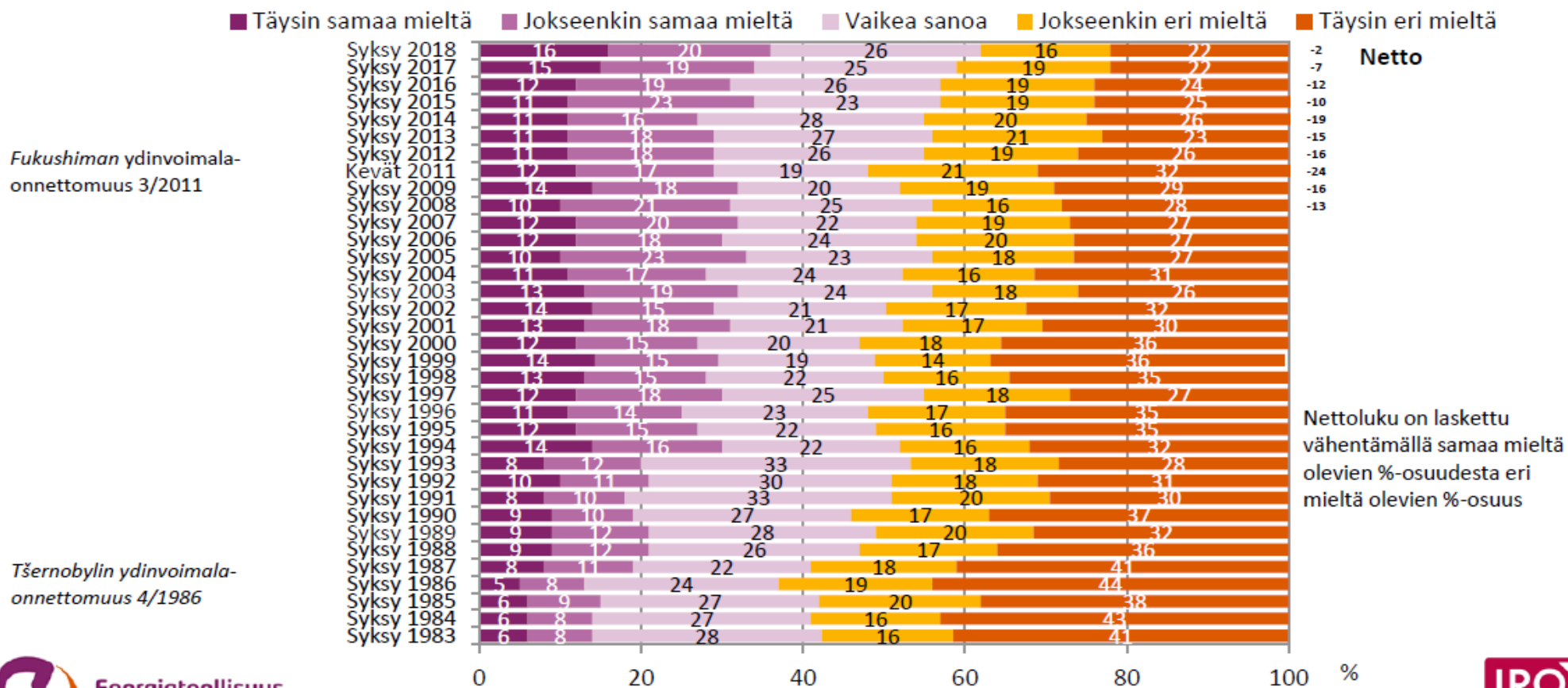
Based on data from annual Finnish
energy attitudes study (1983 – 2008)



Nuclear waste can be disposed of safely in Finnish bedrock

Ydinjätteet voidaan turvallisesti loppusijoittaa Suomen kallioperään

Kaikki vastaajat, n=1000



Question: QA10.5. To what extent do you agree or disagree with each of the following statements?

Option: The disposal of radioactive waste can be done in a safe manner

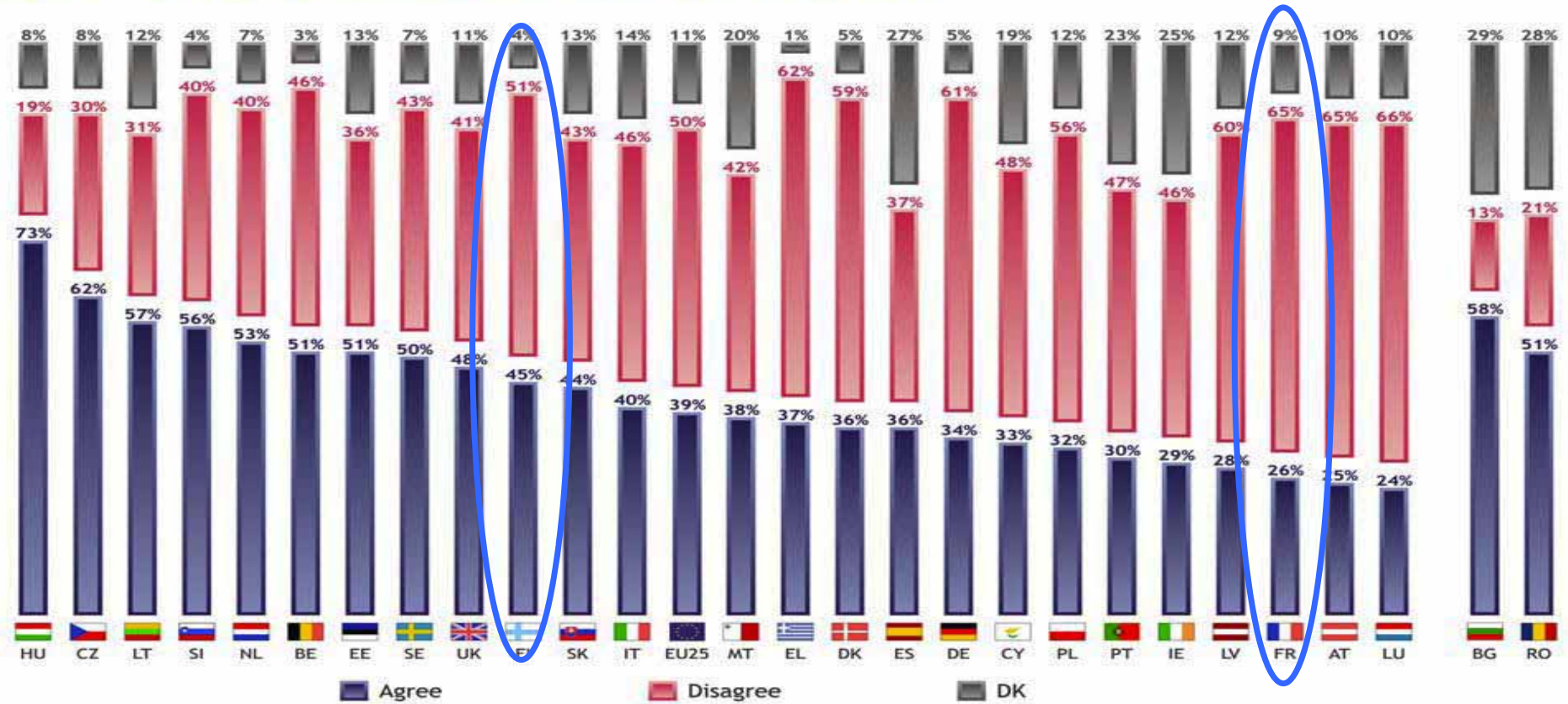


Figure. Europeans disagreeing and agreeing with the view that disposal of radioactive waste can be done safely. (Eurobarometer 2007).

Finland: legalism and trust in institutions as the backbone of society

Trust in the safety of the final disposal has not always been there

In 2000, when the government adopted a Decision-in-Principle (DiP) on final disposal of spent nuclear fuel (SNF), trust in the safety of the project:

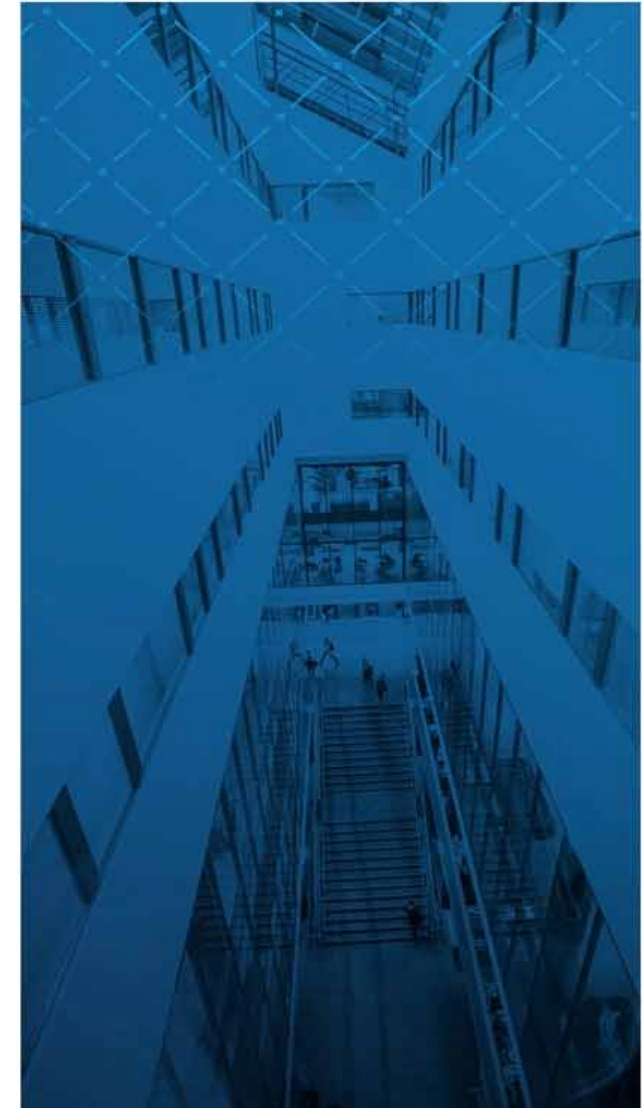
- 27% nationally
- 45% in Eurajoki

Eurobarometer study (2002): Finns as among the least worried amongst in Europe concerning the way radioactive waste was handled in their country

Trust in safety, developer and regulator: a Finnish paradox?

	France	Finland
Safety of disposal	78% ¹⁾	41% ¹⁾
Developer*	63% ¹⁾	56% ¹⁾
Safety authority	40-76% (national level)	82% (local & natl)

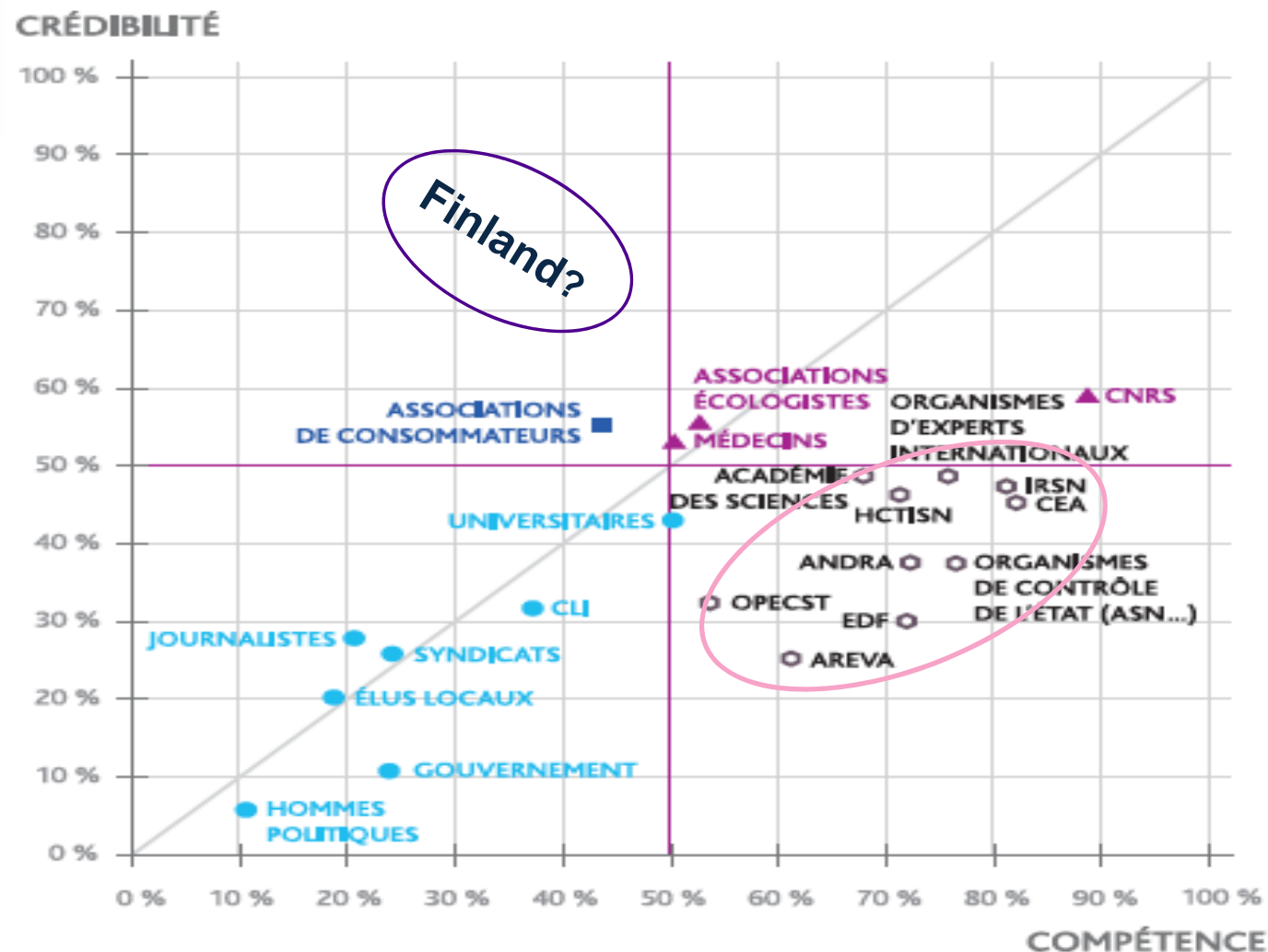
*) Trust as a source of information on safety.



Institutional trust in France

The French trust in the competence of their nuclear-sector organisms, but not in their sincerity...

Widespread perception in both countries: “Our engineers are the best in the world”



Finland: passive safety instead of monitoring

Retrievability in Finnish nuclear waste regulation

The KBS-3 concept is based on passive safety, but retrieval of SNF would be possible, should a justified reason emerge in the future

The demand for retrievability was brought to the Finnish RWM policy debates at the end of the 1990s.

1998: An opinion poll among the Finnish parliamentarians revealed that most were in favour of retrievability. STUK started to prepare for what it foresaw as an “unavoidable” debate.

1999: Retrievability was then introduced in **the government decision on safety of final disposal.**

2000: The retrievability requirement was added **to the government DiP**

2001: Parliament ratified the DiP (votes 159–3). Safety was discussed but final disposal was seen as “better” and “safer” option than interim storage

2008: Government decree on safety of final disposal: no requirements related to opening of the disposal facility

2012: **Posiva**’s construction licence application included a legally mandatory statement on retrievability.

STUK: retrievability shall not impair post-closure safety; geological disposal was not designed to facilitate retrievability but to isolate the waste from the living environment

2015: The then Minister of Economy considered retrievability as a key criterion for the disposal solution.

France: reversibility to build trust

Reversibility: from an option to an obligation

Waste Act 1991 (loi Bataille): introduces the idea of reversible geological disposal – 15-year research on 1) reversible or irreversible disposal, 2) long-term interim storage, 3) partitioning and transmutation

- Reversibility emerged as a demand from the ‘civil society’

1998 government declaration: reversible disposal as a prerequisite for public acceptance of the project

2005-06 public debate (CNDP): advocates research on long-term interim storage (earlier suggested e.g. by Barthe, 2001)

2006: Planning Act and TSN Act

- **reversible geological disposal** the reference option
- distinction between *retrievability* of waste and *reversibility* of decisions
- independent *regulator* (ASN)
- High committee on nuclear *transparency*, information and safety (HCTISN)

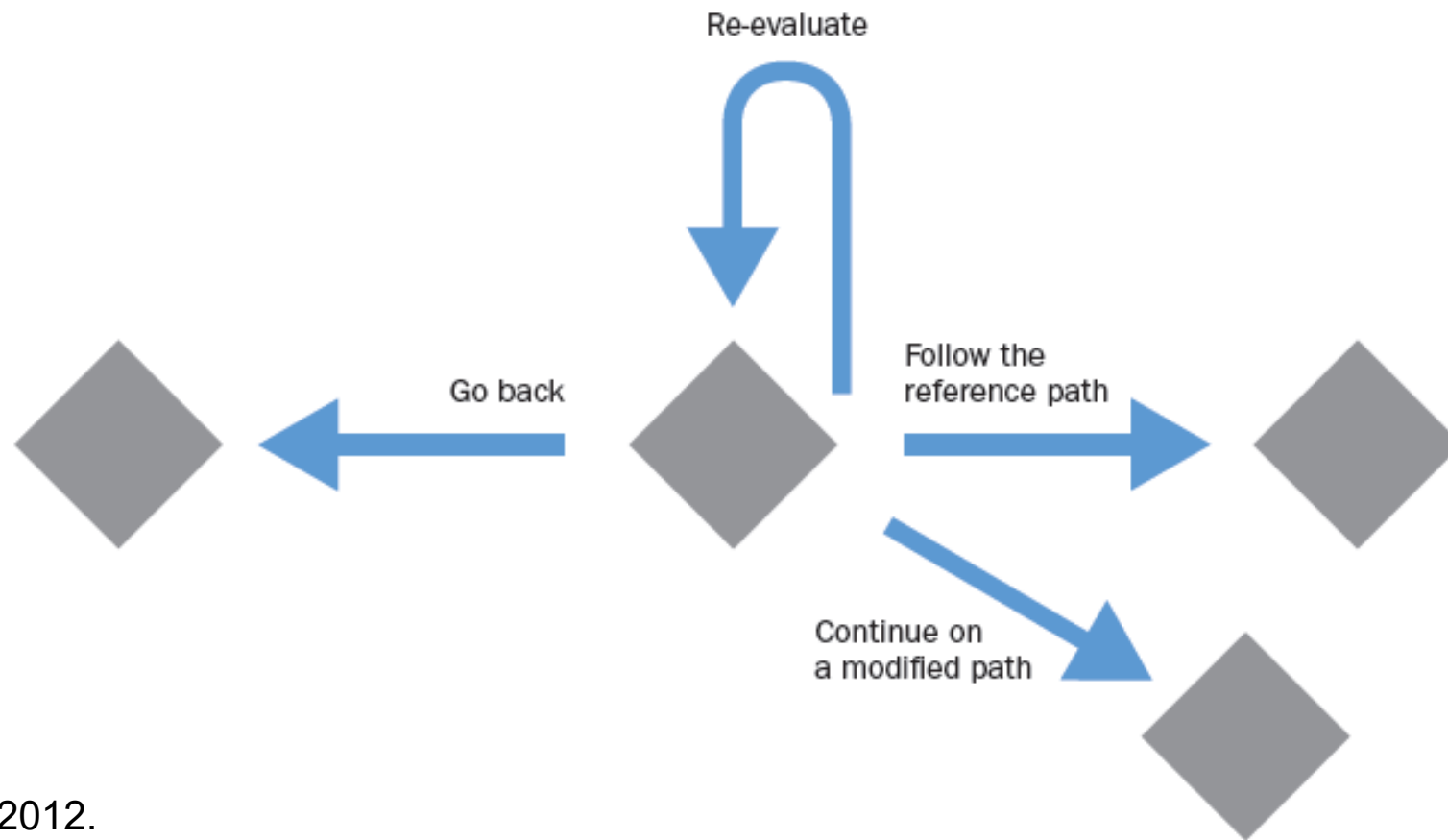
Reversibility Act 2016

Reversibility = ability, of the successive future generations, to either continue the stepwise construction and operation of the facility or re-examine the choices made and modify the waste management solutions

- Progressive, stepwise construction
- Adaptability of the disposal concept
- Flexibility in the operation phase
- Retrievability of waste

Regular ten-yearly safety reviews by ASN, including public consultation

Figure 1: Reversibility of decisions – potential outcomes of options assessment, including reversal



Source: NEA 2012.

Benefits and questions concerning reversibility

Andra's objectives

- Leaving the options open, not closing options for future generations
- Enhancing the acceptability of the project

Need to **trust** both geology and society!

Doubts and questions

- If the concept is safe, why should reversibility be needed?
- If and when passive safety is the principle, then why post-closure monitoring and conservation of memory?
 - Monitoring = strong demand from CLIS
- “Reversibility is a mirage – simply a means to legitimise the project”

Conclusions

Finland

High institutional trust in actors responsible for RWM

The possibility and requirement of retrievability – without the need for monitoring – served to further ensure high degree of institutional trust.

- Monitoring, esp. long-term post-closure monitoring and preservation of memory – are necessary for a success in a low-trust context?
- In a high-trust environment, need for monitoring might undermine institutional trust?

France

Context: enduring mistrust amongst the stakeholders – “mutual suspicion” and surveillance

Reversibility originally designed to strengthen trust and satisfy demands from civil society, but has come under attack by various civil society groups.



Thank you!

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<http://kyt2018.vtt.fi/en/>