



Council Directive 2011/70/Euratom

The implementation of the Radioactive Waste Directive

M. Garribba

Acting Deputy Director General

European Commission – Directorate General for Energy



RESPONSIBLE & SAFE MANAGEMENT of SPENT FUEL and RADIOACTIVE WASTE

A unique regional binding legislation aiming at ensuring safety in the backend of nuclear life-cycle without undue burden to future generations and with the necessary public information and participation

HOW DID WE GET THERE?



PRINCIPLES for a responsible & safe management of SPENT FUEL and RADIOACTIVE WASTE

- ❖ Minimise generation of waste as far as reasonably practicable
- ❖ **Comprehensive** scope from generation to disposal
- ❖ **Long-term passive** safety features
- ❖ **Costs** borne by those who generates radioactive waste
- ❖ **Evidence-based** and documented decision-making process



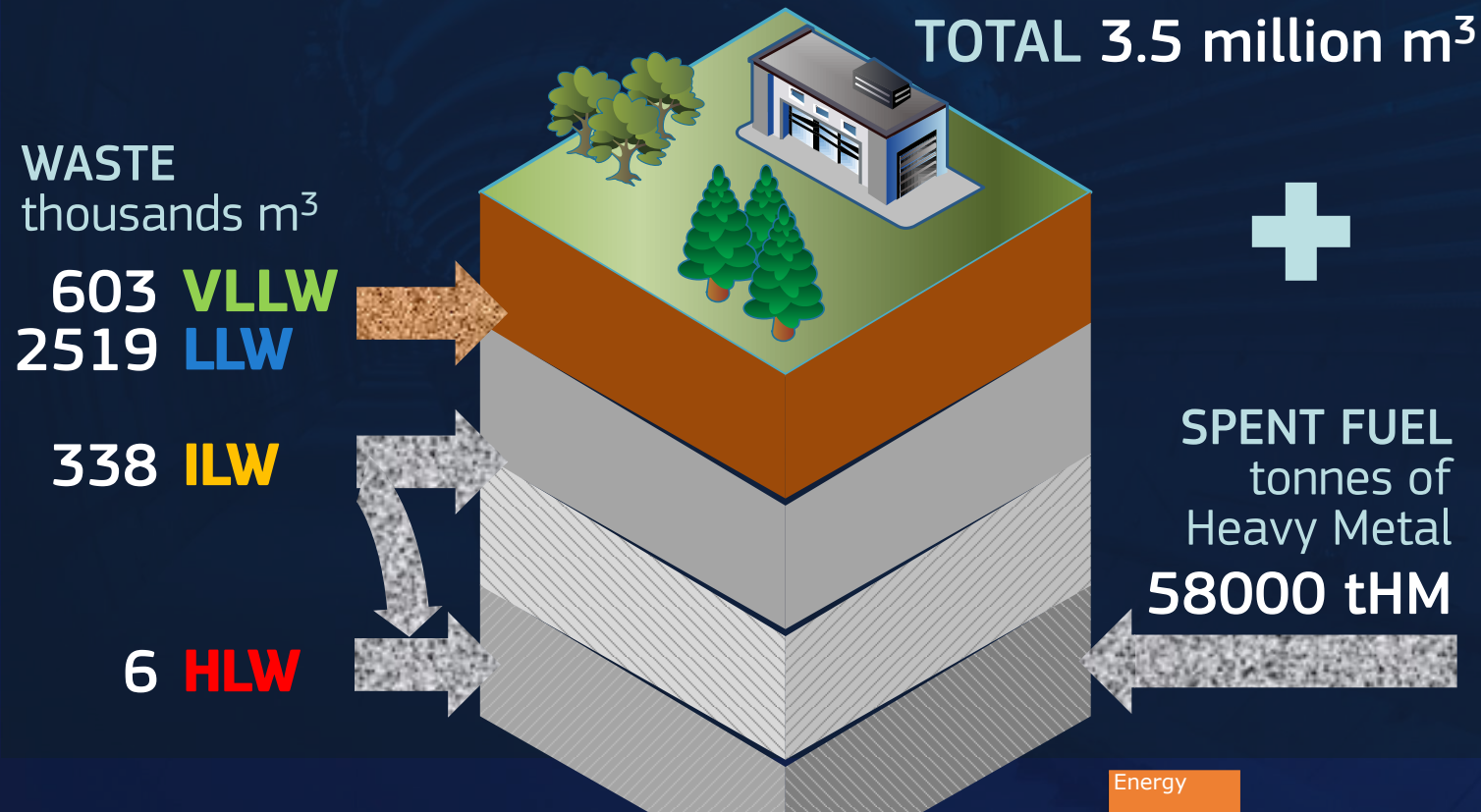
2nd COMMISSION REPORT

COM(2019) 632 <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=COM:2019:0632:FIN>

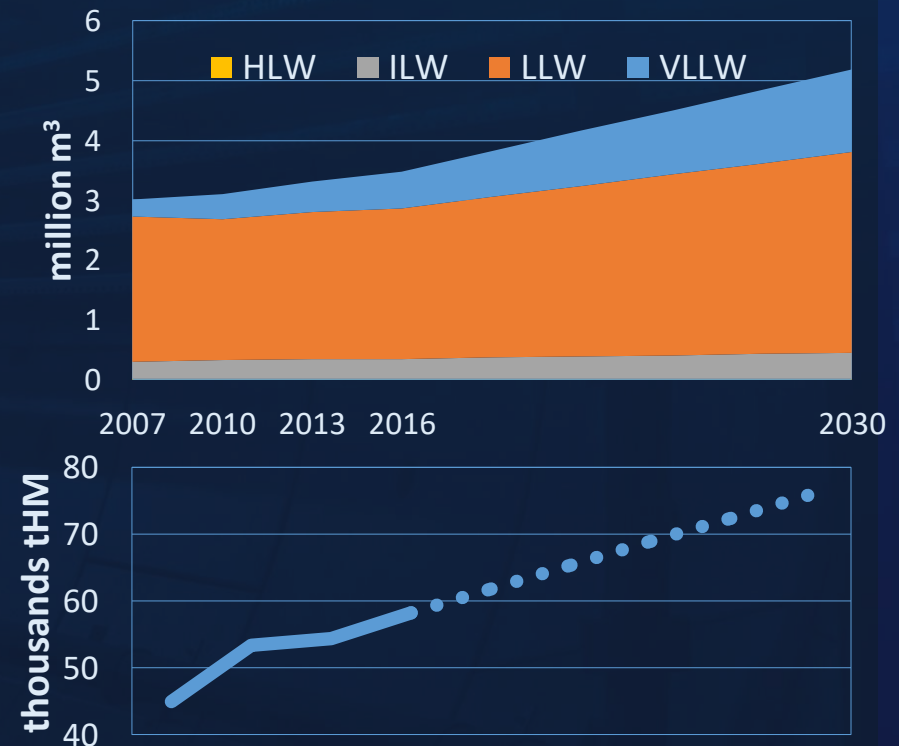
SWD(2019) 435 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019SC0435>

SWD(2019) 436 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019SC0436>

EU28 Inventory 2016



Projections



DISPOSAL OF SPENT FUEL & HIGH-LEVEL RADIOACTIVE WASTE

A group of forerunners, also on global scale, precedes by several decades the others

RESEARCH



CLOSED

SWEDEN

Äspö HRL - North of Oskarshamn
Research activities on performance of barriers for spent fuel disposal
Stripa mine - Closed in 1991
Research from 1977 to 1991

GERMANY

Gorleben - Discontinued in 2013
Salt formation



OPERATIONAL

BELGIUM

HADES - SCK-CEN site at Mol
Boom clay

FRANCE

Bure - Meuse/Haute Marne
Callovo-oxfordian clay
Tournemire - Southern Aveyron
Methodological lab



PLANNED FACILITIES

FINLAND

ONKALO - Eurajoki
Waste categorization

POLAND

PURL - Planned
Research for Deep Geological Repository

CZECH REPUBLIC

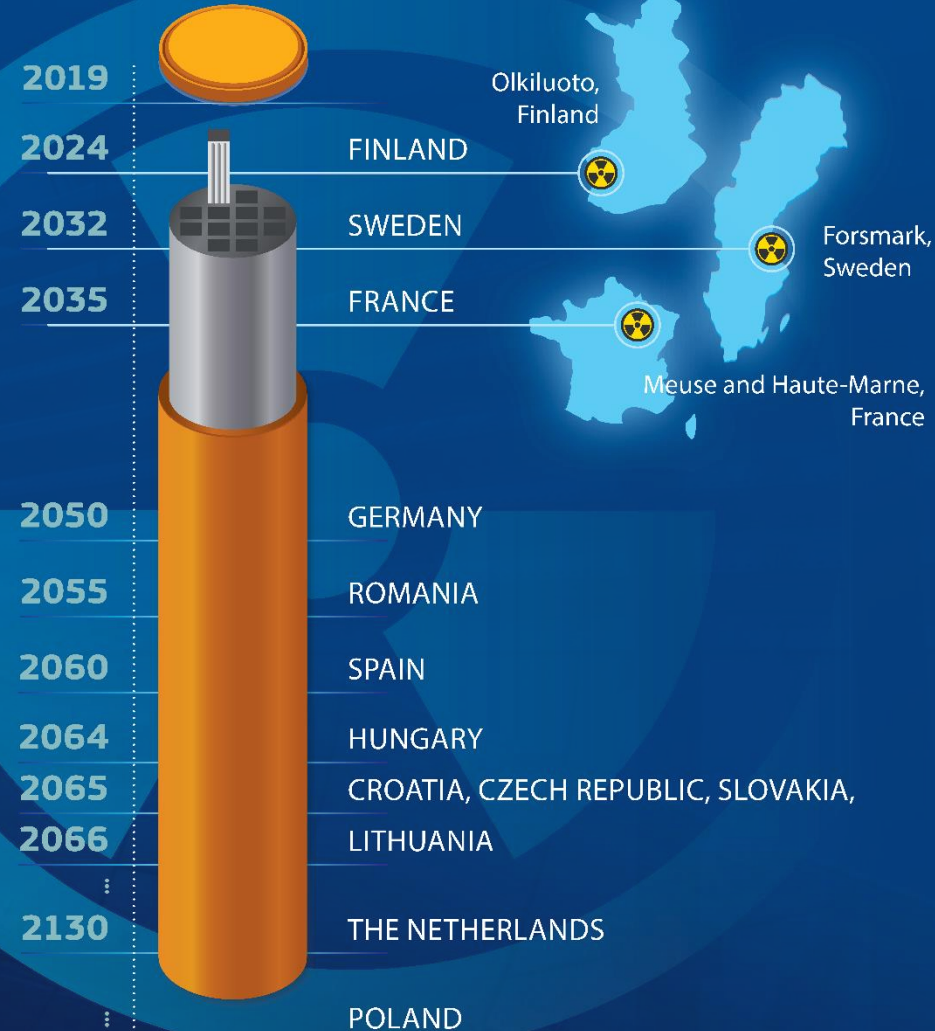
Planned - To be selected
2030 - Long-term site investigations

HUNGARY

Planned - Western Mecsek
Planned from 2020 to 2055

ROMANIA

Planned - Planned
2030 - Sustainability of underground



TRANSPARENCY

Member States to have mechanisms in place to inform workers and public on radioactive waste and spent fuel management



Member States

competent regulatory authority
providing regular updates to citizens

Public

**to be given necessary
opportunities to participate**
effectively in the decision making process

INFORMATION



CONSULTATION



PARTICIPATION



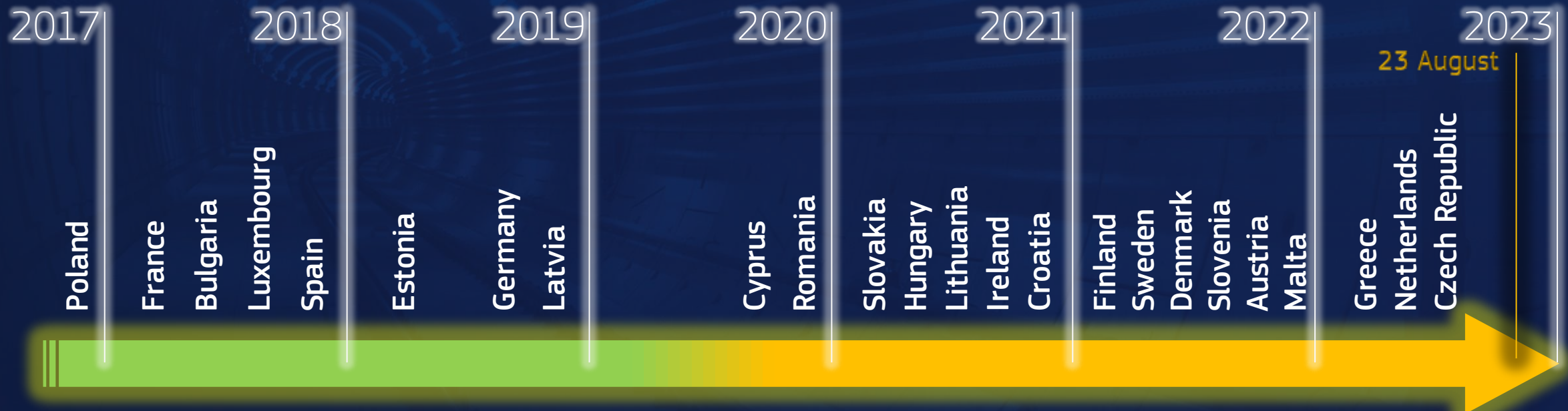
JOINT EFFORTS

SELF-ASSESSMENT AND INTERNATIONAL PEER REVIEWS

ARTEMIS

Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning and Remediation

The IAEA integrated peer review service provides a cross-cutting peer review service for Member States worldwide, as well as in relation to the peer review obligations from the EU Directive on waste management.



THE WAY FORWARD

ADDITIONAL **EFFORTS** AND SPECIFIC **FOCUS** NEEDED ON

Policies, concepts and plans

Projection of inventories

**Disposal facilities for
intermediate- and high-level waste**

**Cost assessments and
financing mechanisms**

Key Performance Indicators
for national programmes

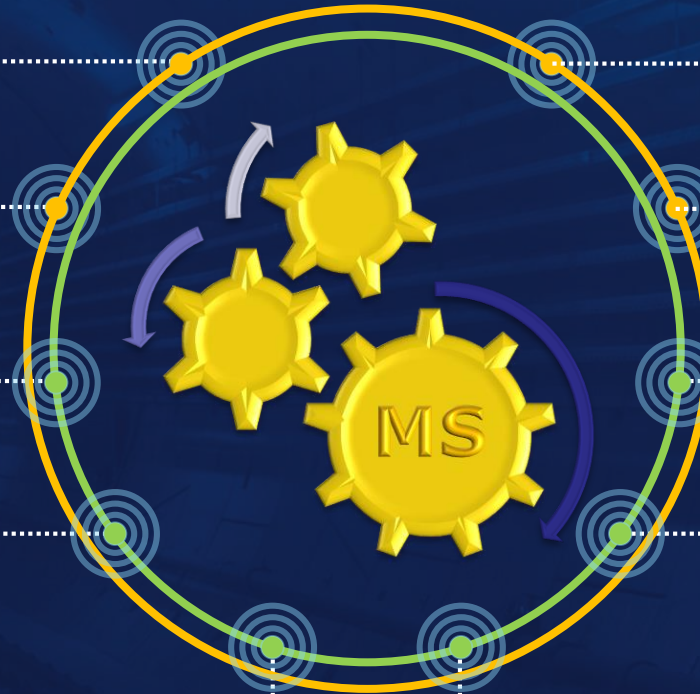
Safety demonstrations

Self-assessments and
international peer reviews

Post-closure and knowledge
preservation information

Shared solutions

Availability of trained and
competent staff





THANK YOU

<https://ec.europa.eu/energy/en/home>