

Policy, strategy and legal issues related to implementing a regional repository

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Interest in Multinational Repositories (MNR)

Past and current involvement with ERDO-WG

Austria

Bulgaria

Croatia

Denmark

Ireland

Italy

Lithuania

Netherlands

Norway

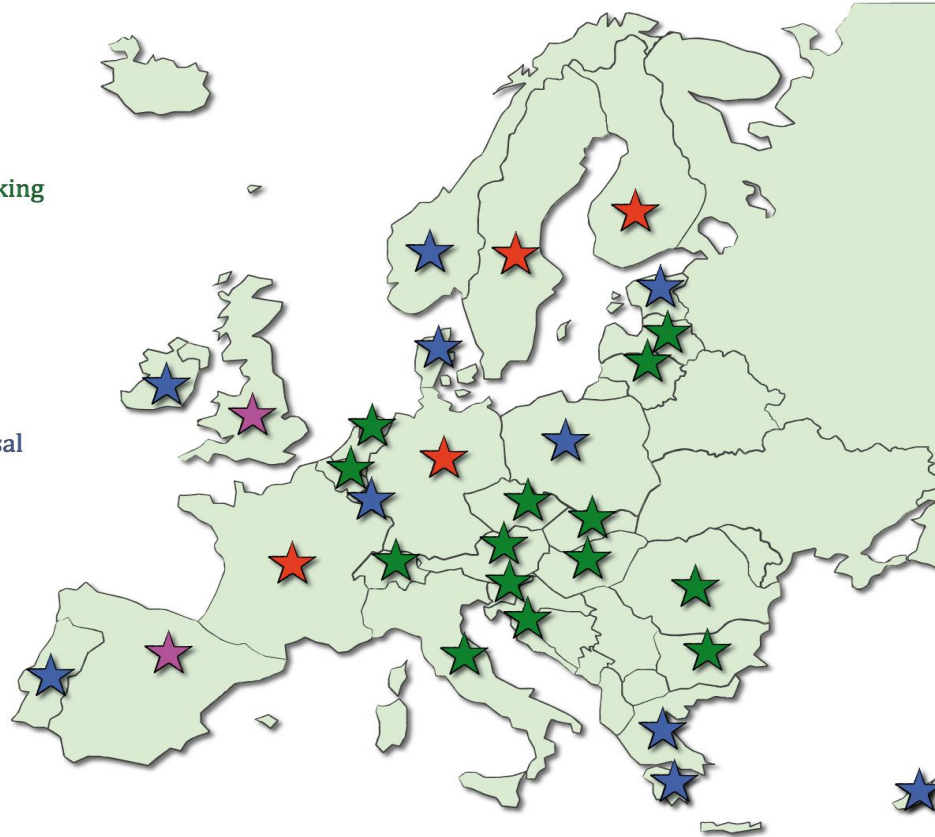
Poland

Romania

Slovakia

Slovenia

- ★ The 14 SAPIERR working group members
- ★ National disposal programme only
- ★ No formal official policy
- ★ No NPP but some waste for deep disposal



SAPIERR
WG Member
Countries
(2006-2009)

Austria
Belgium
Bulgaria
Croatia
Czech
Republic
Hungary
Italy
Latvia
Lithuania
Netherlands
Romania
Slovenia
Slovakia
Switzerland

MNR: Advantages and Requirements

ADVANTAGES

- Economies of scale
- Wide access to safe disposal
- Enhanced global nuclear security
- Lower environmental impact
- More geological siting options

REQUIREMENTS

- Ethical
- Environmentally sound
- Safe in a radiological sense
- Secure against terrorist acts
- Economic

RAW repositories: ethical requirements

- Generations using NPP are responsible for their RAW
- Each country is responsible for safe management of its RAW
 - This responsibility can also be fulfilled with disposal abroad
 - Transparency is required
- Local acceptance
 - No repository should be sited against the will of the host
 - No advantage to be taken of politically weak, less developed or poor areas
 - Fair compensation to host region and/or community

Pre-requirements for Implementing an MNR Approach

- An appropriate national **Policy**
 - Set by Government based on the IAEA Fundamental Safety Principles , but content will depend on country specific aspects, including the types and quantities of waste arising, the financial and human resources available, and the geology and demographics of the country
- An appropriate national **Strategy**
 - Sets out the means for achieving the goals and requirements set out in the national policy. Strategy is normally established by the relevant waste owner or operator, either a governmental agency or a private entity
- An appropriate national Programme
 - Sets out how the national policy and strategy are transposed into practical solutions; normally executed by Waste Disposal Organisation (WMO) or other RAW holders
- Appropriate national **Legislation**
 - Must cover international and national requirements; ultimate responsibility for safety is national

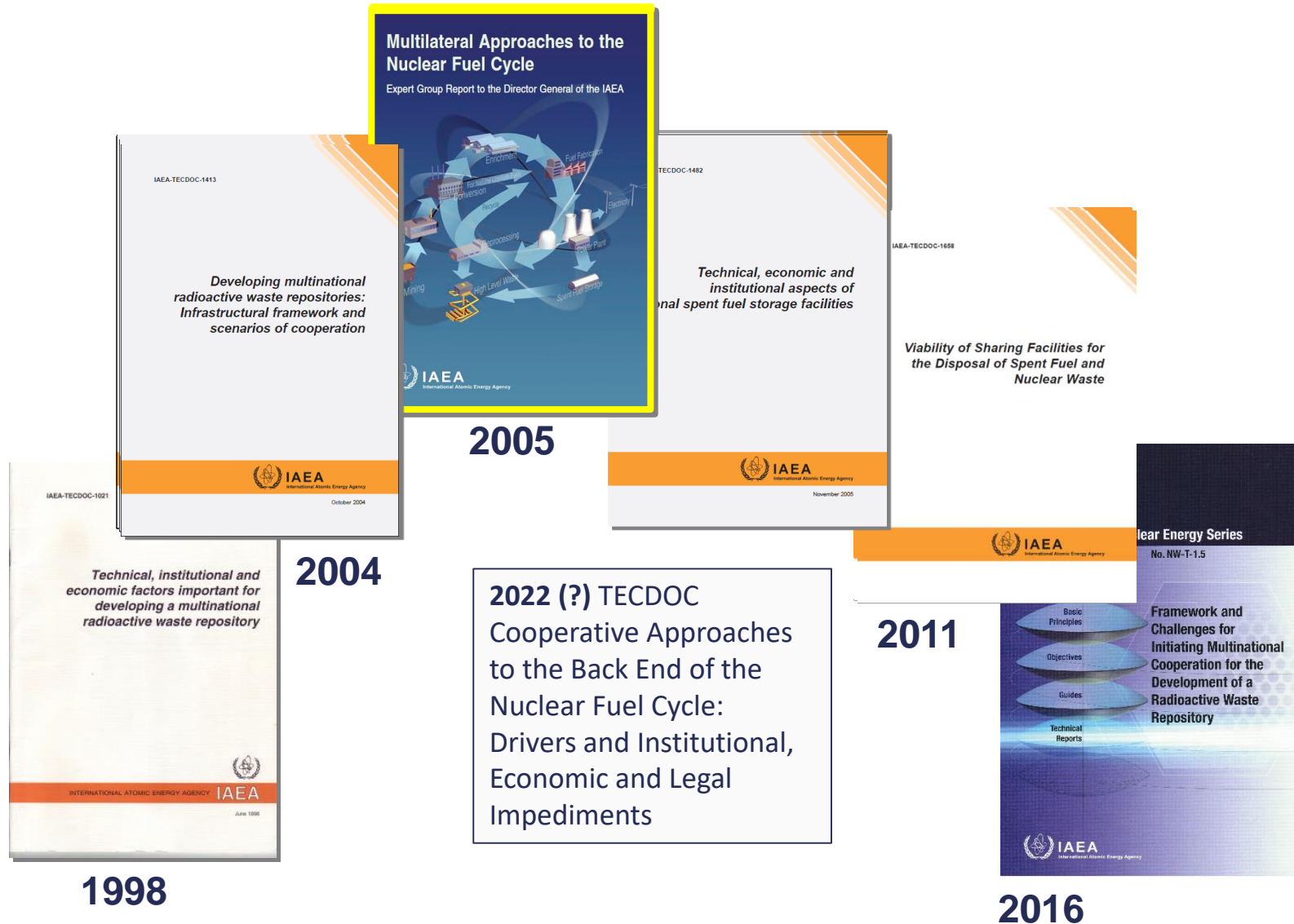
NOTE: countries should also have a parallel national disposal programme
– i.e. should follow a “Dual Track” approach!

IAEA Requirements – Joint Convention 1997

- Article 1: Objective
 - “to achieve and maintain a high level of safety worldwide in spent fuel and radioactive waste management, through the enhancement of national measures and international co-operation, including where appropriate, safety-related technical co-operation”.
- Preamble: Some of the most relevant points made are as follows:
 - the ultimate responsibility for ensuring the safety of spent fuel and radioactive waste management rests with the State;
 - the definition of a fuel cycle policy rests with the State
 - the importance of international co-operation through bilateral and multilateral mechanisms is emphasized
 - radioactive waste should, as far as is compatible with the safety of the management of such material, be disposed of in the State in which it was generated
 - however, safe and efficient management of spent fuel and radioactive waste might be fostered through agreements to use facilities in one country for the benefit of the others
 - any State has the right to ban import into its territory of foreign spent fuel and radioactive waste.

These requirements make clear that each country must ensure that a credible path to safe disposal of its radioactive wastes is established – but that cooperation, including sharing of activities and facilities can be a component of this path.

Key IAEA documents addressing multilateral disposal



EC Recommendation 2008/956/Euratom 4 Dec 2008

- Specifically on criteria for the export of radioactive waste and spent fuel to third countries (i.e. countries outside the EU). In addition to its basic message that all countries exporting or importing wastes must have appropriate national capabilities and arrangements, the recommendation points out explicitly that:
 - The decision to authorise shipments of radioactive waste or spent fuel to third countries is the responsibility of the competent authorities of the exporting Member State
 - Considerations, such as political, economic, social, ethical, scientific and public security matters, may be taken into account for authorising shipments of radioactive waste or spent fuel to a third country
 - States that treat wastes from others or that reprocess fuel from others have a right to return the wastes to the country of origin.

Current European **legislation** (see next slide) allows export to third countries under specified conditions – although EU policy statements have been made against export out of the EU

EC Waste Directive 2011

- Preamble

- (32) “Cooperation between Member States and at an international level could facilitate and accelerate decision- making through access to expertise and technology”
- (33) “Some Member States consider that the sharing of facilities for spent fuel and radioactive waste management, including disposal facilities, is a potentially beneficial, safe and cost-effective option when based on an agreement between the Member States concerned”

EC Waste Directive 2011: Legally binding article 4

- Radioactive waste shall be disposed of in the Member State in which it was generated, unless at the time of shipment an agreement has entered into force between the Member State concerned and another Member State or a third country to use a disposal facility in one of them.
- Prior to a shipment to a third country, the exporting Member State shall inform the Commission of the content of any such agreement and take reasonable measures to be assured that:
 - (a) the country of destination has concluded an agreement with the Community covering spent fuel and radioactive waste management or is a party to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management ('the Joint Convention');
 - (b) the country of destination has radioactive waste management and disposal programmes with objectives representing a high level of safety equivalent to those established by this Directive; and
 - (c) the disposal facility in the country of destination is authorised for the radioactive waste to be shipped, is operating prior to the shipment, and is managed in accordance with the requirements set down in the radioactive waste management and disposal programme of that country of destination.

An interesting difference concerns conditions for export to another EU Member State relative to those for export to a third country. In the latter case, an authorised disposal facility must be operating

A positive legal example: Swiss Nuclear Law 2003

For the **import** of radioactive waste from nuclear facilities that do not originate in Switzerland but are to be disposed of in Switzerland, a license can exceptionally be granted if, ..

- a. Switzerland has agreed to import radioactive waste for disposal in an **international agreement**;
- b. a **suitable disposal facility that corresponds to the international state of the art** in science and technology is available in Switzerland;

A positive legal example: Swiss Nuclear Law 2003

As an exception, a license can be granted for the **export** of radioactive waste for storage if

- a. the recipient country has approved the import of the radioactive waste ... in an **international agreement**;
- b. **a suitable disposal facility corresponding to the international state of the art** in science and technology is available in the recipient country;

2013 Response of Swiss Government to Parliamentary Question

- ... for the **import** of radioactive waste from nuclear facilities that do not originate in Switzerland but are to be disposed of in Switzerland, exceptionally and under strict conditions, a permit can be granted. As a counterpart to this, a license for the **export** of radioactive waste for disposal can also only be granted in exceptional cases and under strict conditions.
- In the parliamentary deliberations on the KEG, applications that contained a general ban on imports or exports were rejected. The majority in the councils advocated **keeping the option** of international cooperation on the issue of radioactive waste management open.
- According to the legal concept, according to which import and export are only permitted in exceptional cases, **Switzerland is looking for a solution in its own country** for the disposal of its radioactive waste within the framework of the sectoral plan for deep geological repositories.

Thus, in principle, Switzerland has a “dual track” policy – but with emphasis on a national solution

Current Policies and Legislation: Europe

	Import of RAW: policy	MNR for disposal: policy
AT	Import not allowed.	Open option; Member of ERDO-WG
BE	Yes (under certain conditions)	Open option
BG	Import not allowed.	Open option
HR	Yes (under certain conditions)	Open option; Member of ERDO
CH	Yes, under an international agreement	Focus on national solution
CY	Import not allowed	Open option
CZ	Import not allowed	Open option
DK	Yes (under certain conditions)	Open option; Member of ERDO
EE	Import not allowed	Not considered
FI	The import of RAW is not prohibited.	Not considered
FR	Import not allowed (except Monaco)	Not considered
DE	Not indicated	Not considered
EL	The import for disposal is prohibited.	Not indicated
HU	Yes (under certain conditions)	Not indicated

	Import of RAW: policy	MNR for disposal: policy
IE	Import not allowed from third countries	Not indicated
IT	Yes (under certain conditions)	Open option Member of ERDO-WG
LV	Import not allowed.	Open option
LT	Import not allowed	Not considered
LU	Not indicated	Waste disposal in Belgium
MT	Import not allowed	Open option
NL	Yes	Open option
NO	Yes (under certain conditions)	Open option; Member of ERDO
PL	Import not allowed	Open option; Member of ERDO
PT	Import not allowed	Not considered
RO	Import not allowed	Not considered
SK	Import not allowed	Open option
SI	Yes (under certain conditions)	Open option
ES	Not indicated	Not indicated
SE	Import not allowed, except small quantities.	Not considered
UK	Policy is no import, exception for small quantities	Not considered

Current Policies and Legislation: Rest of the World

- Current Nuclear Countries

- South Korea
- Taiwan
- Mexico
- South Africa
- ...

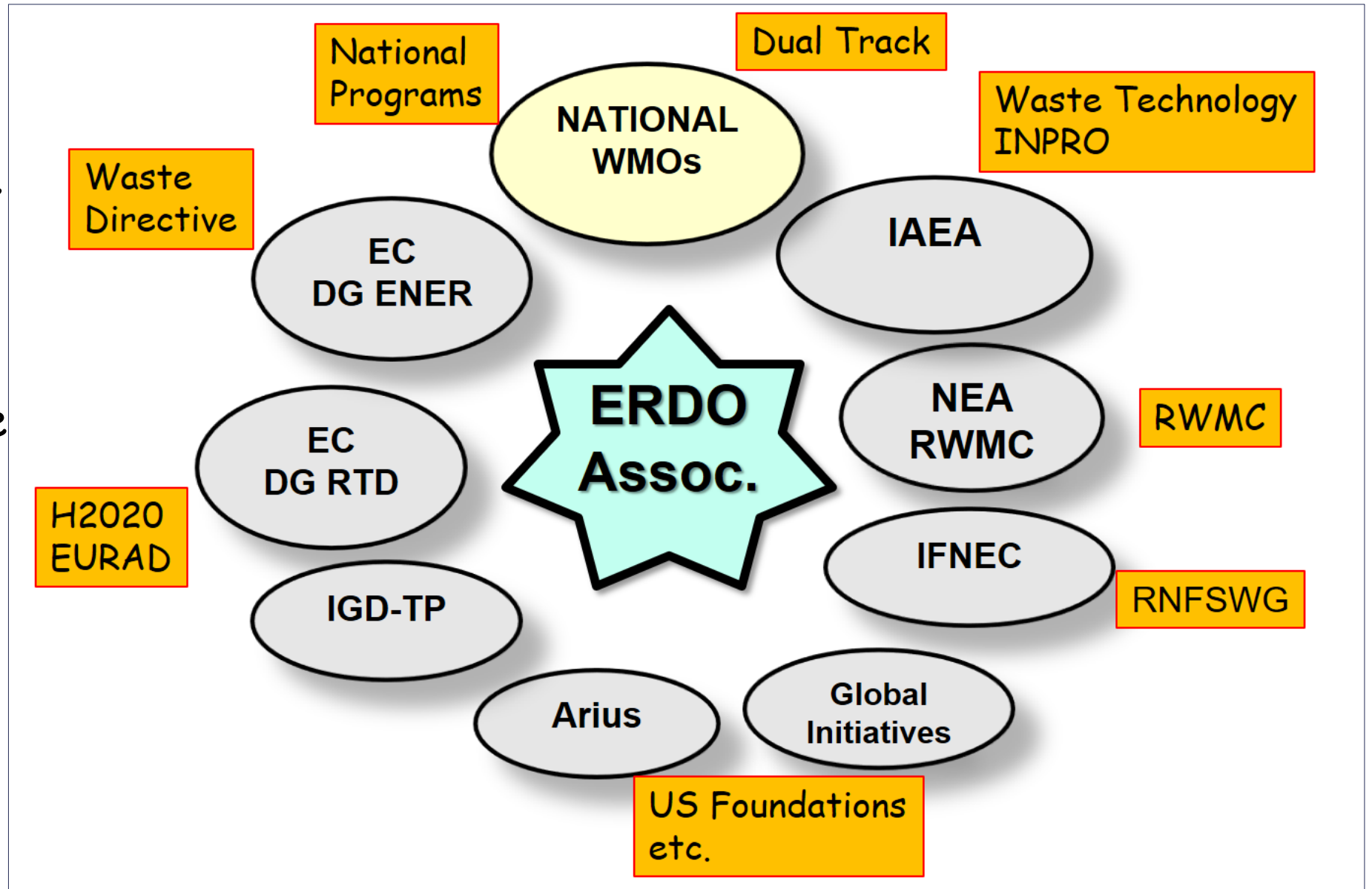
Analysis in progress

- Potential Newcomers

- Jordan
- Vietnam
- Ghana
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Widespread interest in the MNR option

- as shown by the Interactions of the new ERDO Association



Conclusions

- MNR offer multiple advantages
- MNR are ethically justified
- International legislation allows MNRs
- Different legal positions in countries
- Large differences in politics/policies
- Export to foreign MNR more often allowed than is import
- Growing MNR support in international organisations
- Widespread national interest in MNR + dual track policy

END

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