

The OECD Nuclear Energy Agency:

Projects and Areas of Work in Radioactive Waste Management

IAEA Technical Meeting on
Establishment of a Radioactive Waste Management Organisation

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OECD Nuclear Energy Agency: Who are We?

- ❖ Semi-autonomous agency of Organisation for Economic Cooperation and Development (OECD), based in Paris
- ❖ OECD Strategic Objectives
 - Promote sustainable *economic growth*, *financial stability* and structural adjustment
 - Improve *human capital* and *social cohesion*, and promote a sustainable environment
 - Contribute to *shaping globalisation* through the expansion of trade and investment
 - Enhance public and private sector *governance*
 - Contribute to the development of *non-member economies*

OECD Nuclear Energy Agency: Our mission

- ❖ To assist its member countries in developing the **scientific, technological and legal** bases required for **safe and economical use of nuclear energy**.
- ❖ To provide authoritative assessments and to forge common understandings on key issues
 - as **input to government decisions on nuclear energy policy**
 - as **input to broader OECD policy analyses**, in areas such as energy and sustainable development.

3

NEA: Who are We?

Like the IAEA...

- ❖ We cover broadly many areas concerning nuclear energy development, fuel cycle and safety.
- ❖ We co-operate closely with other international agencies that have related missions.
- ❖ We seek to identify and provide guidance on best practices.

4

NEA: Who Are We?

However...

- ❖ NEA is NOT a standard-setting organisation
- ❖ We have a smaller, more homogeneous membership
 - 29 member countries: developed countries representing 85% of the world's nuclear power capacity
 - More than 10 000 reactor-years of operating experience
- ❖ We are a smaller agency:
 - 80 staff, 7 standing technical committees

Our strengths: identifying trends, defining concepts and finding consensus in emerging areas

5

NEA Membership

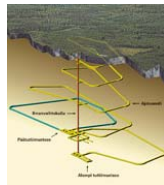


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| • Australia | • Iceland | |
| • Austria | • Ireland | |
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| • Canada | • Japan | |
| • Czech Republic | • Korea | • Sweden |
| • Denmark | • Luxembourg | • Switzerland |
| • Finland | • Mexico | • Turkey |
| • France | • Netherlands | • United Kingdom |
| • Germany | • Norway | • United States |
| • Greece | • Portugal | |
| • Hungary | • Slovak Republic | |
| | • Spain | |

6

NEA Objective for Management of Radioactive Waste and Materials

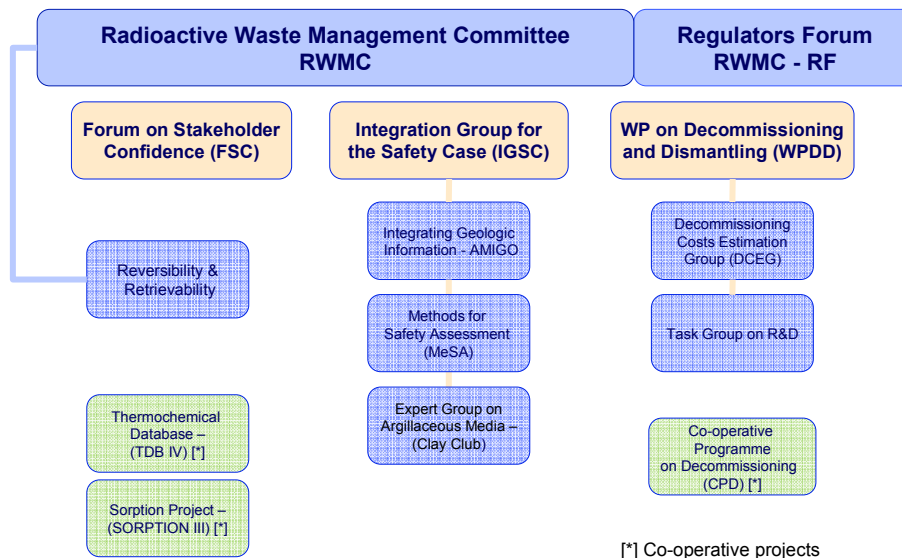
- ❖ Assist members in the area of management of radioactive waste and materials, focusing on the development of strategies for the safe, sustainable and broadly acceptable management of all types of radioactive waste, and in particular long-lived waste and spent fuel



Radioactive Waste Management: Major Areas of Work

- ❖ Strategic and policy aspects
- ❖ Technical issues and safety
- ❖ Societal confidence and stakeholder engagement
- ❖ Decommissioning strategies and costs

See the RWMC [fact sheet](#) for further description of the mission and areas of work



Current Issues and Projects:

Strategic and Overarching Issues

- ❖ Regulatory safety criteria and their application
- ❖ Radiation protection concepts in the context of waste disposal
- ❖ Reversibility and retrievability
- ❖ Long-term memory and knowledge management
- ❖ Waste acceptance criteria
- ❖ Defining resources, skills and opportunities for waste management as a profession

Current Issues and Projects:

Technical and Safety Issues

- ❖ Interpretation and implementation of optimisation and best available techniques (BAT)
- ❖ Dealing with very long timescales in performance assessment and in regulatory criteria
- ❖ Evaluating the state of the art in safety assessment methods
- ❖ Balancing operational safety and long-term safety considerations
- ❖ Understanding and integration into safety cases of key aspects of disposal systems: geological aspects, materials and engineered barriers

11

Current Issues and Projects:

Societal Confidence

- ❖ Institutional behaviours and other factors that contribute to confidence in safety
- ❖ The interests and roles of regional authorities
- ❖ Interactions with the news media, how to increase the knowledge base of journalists
- ❖ Providing added value (beyond economic benefits) to potential host communities for waste management facilities.

12

Current Issues and Projects:

Decommissioning and Dismantling

- ❖ Management of large components
- ❖ Research and development needs
- ❖ Standardisation of reporting norms for decommissioning cost estimates
- ❖ Cost control on decommissioning projects

13

NEA projects have documented the themes evident in this meeting:

- ❖ Transparent and stepwise decision-making processes
- ❖ The need for trust in institutions, characteristics that foster trust
- ❖ The importance of defining clear roles of key players and the mechanisms for their interactions
- ❖ The value of early and open dialogue and partnerships with potential host communities
- ❖ Practical issues in implementing disposal strategies and managing projects over multiple decades
- ❖ Robust information base and performance assessment to support safety

14

Selected Bibliography

- ❖ A Common Objective, a Variety of Paths: Synthesis and Main Lessons of the 3rd International Conference on Geological Repositories (2009) ([link](#))
- ❖ International Experiences in Safety Cases for Geological Repositories (2009) ([link](#))
- ❖ Moving Forward with Geological Disposal of Radioactive Waste: A Collective Statement by the NEA Radioactive Waste Management Committee (2008) ([link](#))
- ❖ Cultural and Structural Changes in Radioactive Waste Management Organisations: Lessons Learnt (2007) ([link](#))
- ❖ Fostering a Durable Relationship Between a Waste Management Facility and its Host Community Adding Value Through Design and Process ([link](#))
- ❖ Confidence in the Long-term Safety of Deep Geological Repositories: Its Development and Communication (1999) ([link](#))
- ❖ These and many other documents are available on the NEA web site at www.nea.fr . Further information on the RWMC and its activities can also be found at <http://www.nea.fr/rwm/>

15

Why Participate? What is the Value?

- ❖ Access to a network of experienced experts
- ❖ A clearer definition and understanding of issues and challenges in the field
- ❖ The benefit of “lessons learned” from the experience of others with similar missions and mandates
- ❖ The opportunity to explain challenges and explore ideas in an informed but neutral forum
- ❖ The means to assess your progress and programme against international best practice

16

How to participate in NEA activities ?

- ❖ Organisations in NEA member countries
 - Represented by delegates in our technical committees
 - Experts participate directly in specific activities
- ❖ Involvement by non-NEA member countries
 - Open access to documents and reports (www.nea.fr)
 - Workshops co-sponsored by IAEA or with open registration
 - Forum on Stakeholder Confidence: 10th Anniversary Colloquium (Sept 2010, Paris, FR)
 - Reversibility and Retrievability (Dec 2010, Reims, FR) ([link](#))
 - International Conference on Geological Repositories (Oct 2011, Japan)
 - Joint technical projects (Sorption, Thermodynamic database)
 - [Monthly news bulletin](#) informs on activities and reports

17

Conclusions

- ❖ NEA has a broad mission to support safe and sustainable use of nuclear energy, and radioactive waste management is an important component of our work.
- ❖ We address policy, technical and societal aspects of radioactive waste management.
- ❖ Our products and many of our activities are open to non-NEA members and your participation is invited.
- ❖ International cooperation provides important lessons and tools – for experienced as well as developing programmes.

18