

NEA Activities in Decommissioning and Radioactive Waste Management

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The NEA: 34 Countries Seeking Excellence in Nuclear Safety, Technology, and Policy

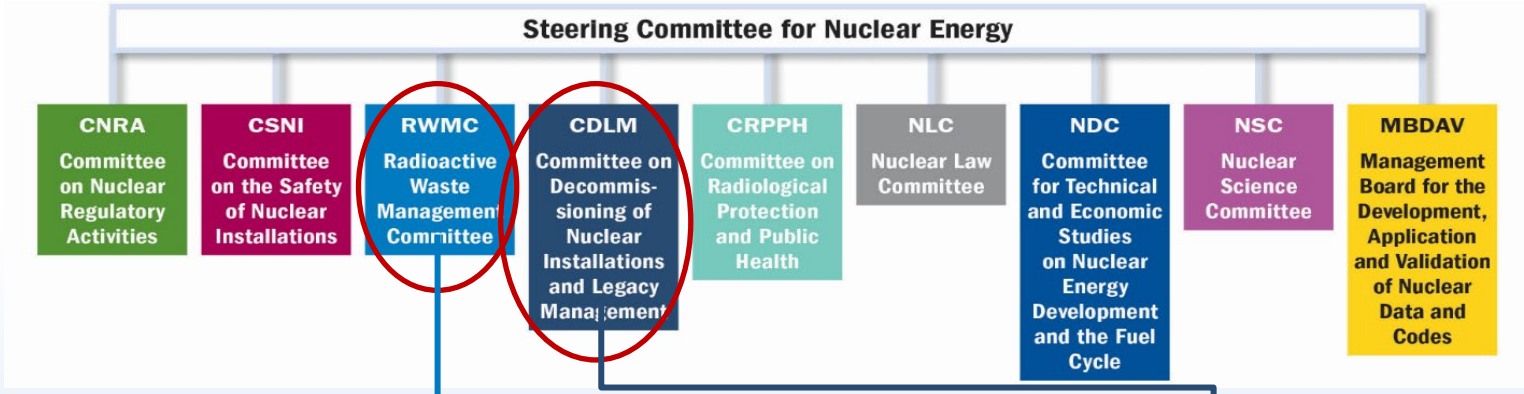
- 34 member countries + strategic partners (e.g., China and India)
- 8 standing committees and more than 80 working parties and expert groups
- 23 International joint research projects
- Expanding global relationships with industry and universities.



NEA countries operate about 86% of the world's installed nuclear capacity

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NEA's Framework for Managing the Back-end



RWMC: Developing strategic policies, best practices in managing radioactive wastes in all phases.

CDLM: Developing strategic policies, best practices in nuclear decommissioning and management of legacy facilities

- **Regulatory aspects**
- **Legal issues**
- **Environmental factors**
- **Operational Safety**
- **Societal factors**
- **Economic factors**

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Key Milestones at the NEA in Decommissioning


(ENSI, 2015)

1975

Establishment of the Radioactive Waste Management Committee (RWMC)

1978

First decommissioning programme in the NEA

1985

NEA Co-operative Programme for the Exchange of Scientific and Technical Information Concerning Nuclear Installation Decommissioning Projects (CPD)

2001-2018

Working Party on Decommissioning and Dismantling (WPDD)

2018

Committee on Decommissioning of Nuclear Installations and Legacy Management (CDLM)

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Recent Development in the RWMD

Radioactive Waste Management Committee (RWMC)

Regulators' Forum (RF)

Forum on Stakeholder Confidence (FSC)

Committee on Decommissioning of Nuclear Installations and Legacy Management (CDLM)

Joint Project

CPD

Co-operative Programme for the Exchange of Scientific and Technical Information on Nuclear Installation De-commissioning Projects (CPD)

Integration Group for the Safety Case (IGSC)

- Working Group on the Characterisation, the Understanding and the Performance of Argillaceous Rocks as Repository Host Formations (Clay Club)
- Expert Group on Repositories in Rock Salt Formations (Salt Club)
- Expert Group on Geological Repositories in Crystalline Rock Formations – Crystalline Club (CRC)
- Expert Group on Operational Safety (EGOS)

Expert Group on the Application of Robotics and Remote Systems in the Nuclear Back-end (EGRRS)

Expert Group on Building Constructive Dialogues between Regulators and Implementers in Developing Disposal Solutions for Radioactive Waste (RIDD)

Working Party on Information, Data and Knowledge Management (WP-IDKM)

- Expert Group on a Data and Information Management Strategy for the Safety Case (EGSSC)
- Expert Group on Knowledge Management for Radioactive Waste Management Programmes and Decommissioning (EGKM)
- Expert Group on Archiving for Radioactive Waste Management Activities (EGAR)
- Expert Group on Awareness Preservation after Repository Closure (EGAP)

NEW

Working Party on Technical, Environmental and Safety Aspects (WPTES)

Working Party on Management and Organisational Aspects (WPMO)

- Expert Group on Costing for Decommissioning of Nuclear Installations and Legacy Management (EGCDL)

Expert Group on Holistic Process for Decision Making on Decommissioning and Management of Complex Sites (HDCS)

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Committee on the Decommissioning of Nuclear Installations and Legacy Management (CDLM)

It is supported by two forums, two working parties and two expert groups, addressing:

- ***Regulatory Challenges*** *(strategies, public communication, ensuring funding, etc.)*
- ***Social Engagement*** *(stakeholder dialogue, confidence & trust building, etc.)*
- ***Management and Organisational Aspects*** *(programme & project management, supply chain considerations, commercial aspects)*
- ***Technical, Environmental and Safety Aspects*** *(risk impacts, characterization, decontamination and decommissioning technologies and innovative techniques)*
- ***Costing*** *(international costing structure for decommissioning and legacy management, benchmarking)*
- ***Decision-Making Process Development***

In cooperation with Radioactive Waste Management Committee:

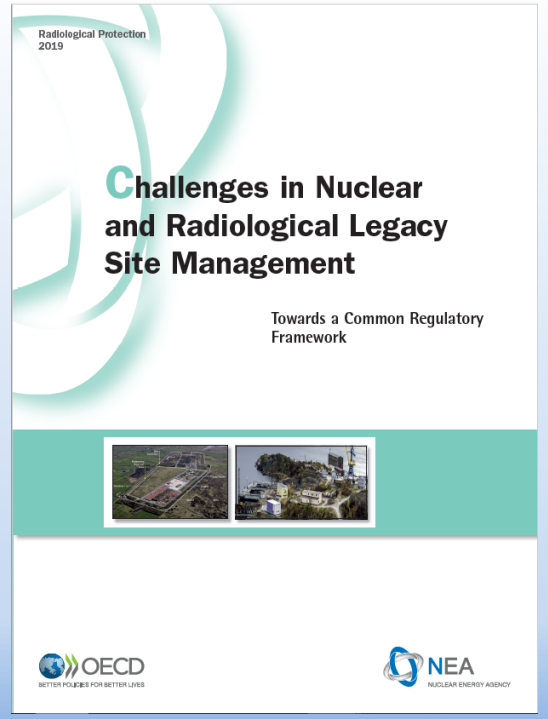
- ***Information, Data and Knowledge Management***
- ***Robotics and Remote Systems***

See Structure under: www.oecd-nea.org/rwm/cdlm/

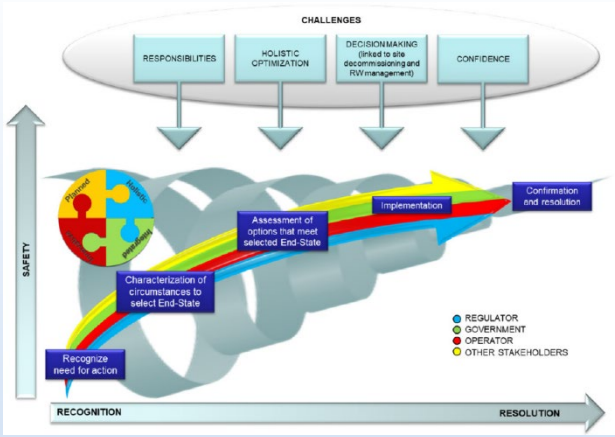
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Relevant Activities

Challenges in Nuclear and Radiological Legacy Site Management: Towards a Common Regulatory Framework, NEA Report, 2019



- Recognizing the challenges at legacy sites
- Meeting the challenges and uncertainties, covering:
  - Regulatory framework
  - Characterisation of circumstances
  - Societal aspects
  - Deciding and achieving the desired end-state
  - Long-term protection values



- Based on experience of **13 documented Case Studies** (Wide geographic distribution, different types of source term and site);
- Providing recommendations towards a common framework for the regulation of nuclear and radiological legacy sites and installations;

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Expert Group on Holistic Process for Decision Making on Decommissioning and Management of Complex Sites (HDCS)

Objective:

1. To develop a reliable, effective and efficient process that identifies, assesses, controls and manages risk (societal, economic, environmental) associated with decommissioning and legacy management of complex sites.

2. To develop guidelines and identify needed decisions on how to implement this process.

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HDCS Programme of work

Global Task 1: Common understanding and identification the key constraints affecting the control of risks for decommissioning and legacy situations:

- Common understanding of "complex site" (or situations)
- Key constraints of a "complex site"

Global Task 2: Develop recommendations on the type of information/approach required to support risk-informed decision making processes:

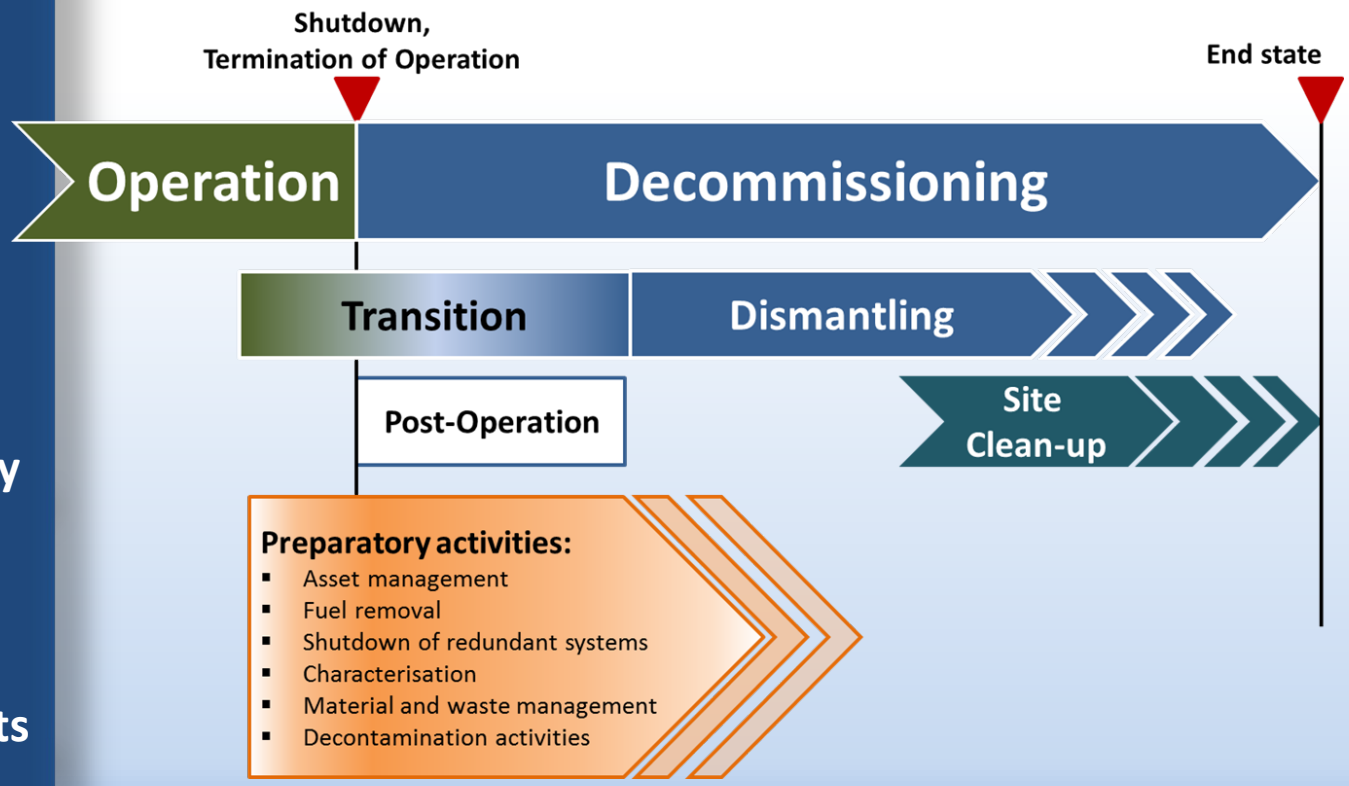
- Recognition of complex sites or complex situations
- Identification of criteria and/or factors relevant for decision-making to be considered
- Review of existing approaches for decommissioning and legacy management
- Approach for resolution of complex situations

Global Task 3: Describe the overarching holistic process as a framework for moving from recognition of a complex situation at a site to resolving all issues

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Key Considerations for Sustainable Decommissioning

1. A characteristic feature of policies and strategies for the decommissioning of nuclear facilities is the relatively long-time horizons involved.
2. The health and safety of current and future generations is the primary concern of decommissioning and decommissioning funding.
3. The generations using nuclear power facilities have an obligation to assemble and to preserve the financial, technical and scientific resources necessary for the later decommissioning of these facilities. "Polluter Pays Principle" should be applied.
4. A principle of intergenerational continuity should apply and thus must ensure that funding for the costs of decommissioning.



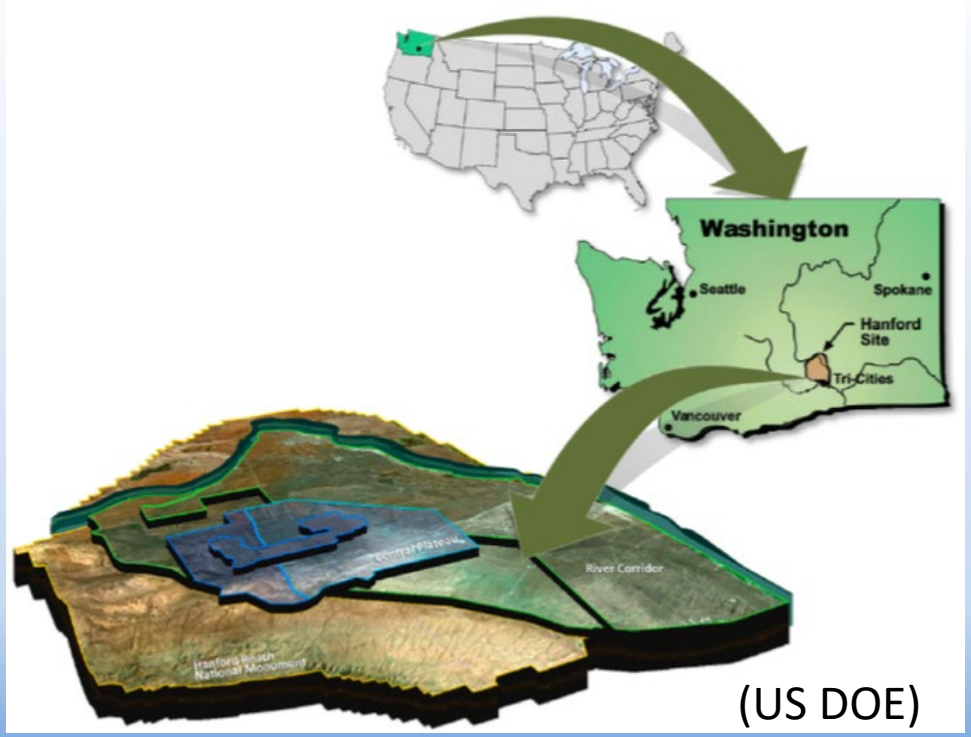
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Challenges

Lack of Timely Response

Hanford

The largest nuclear clean-up project in the United States



(US DOE)

Legacy reservoir



(US DOE)

Prolonged delays in making decisions and in implementing decisions that have been made increase costs and the probability of failure.

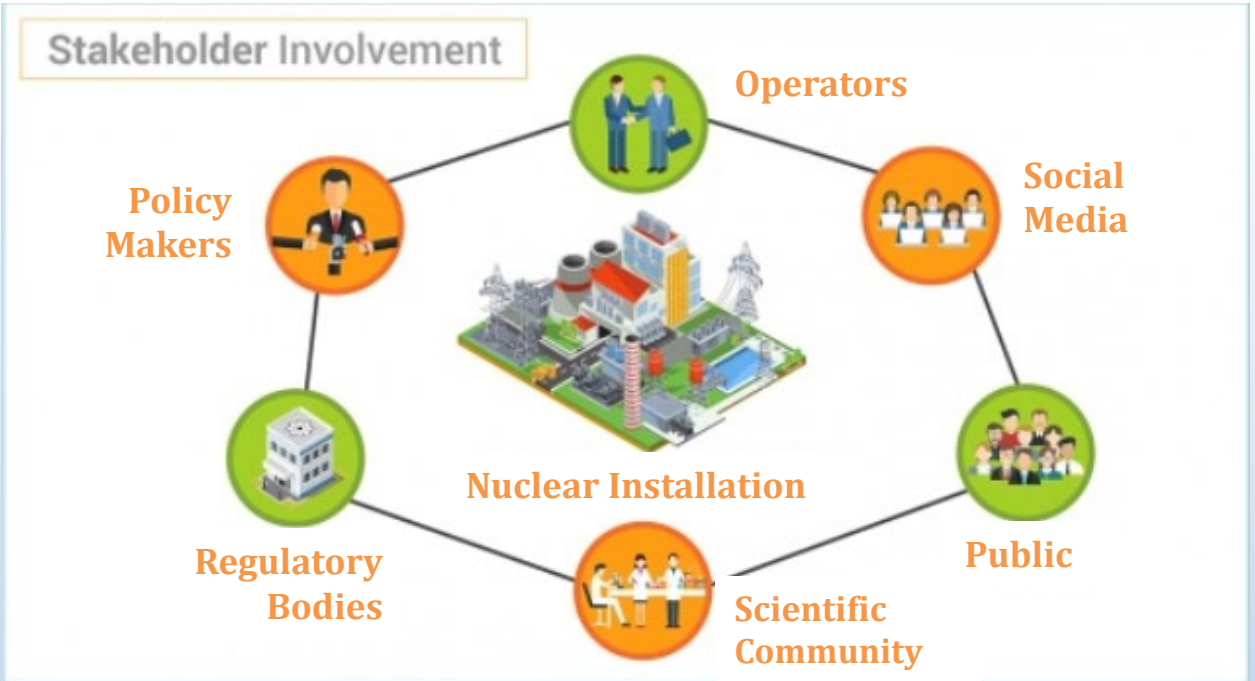
– NEA Optimisation Workshop 2020

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Challenges

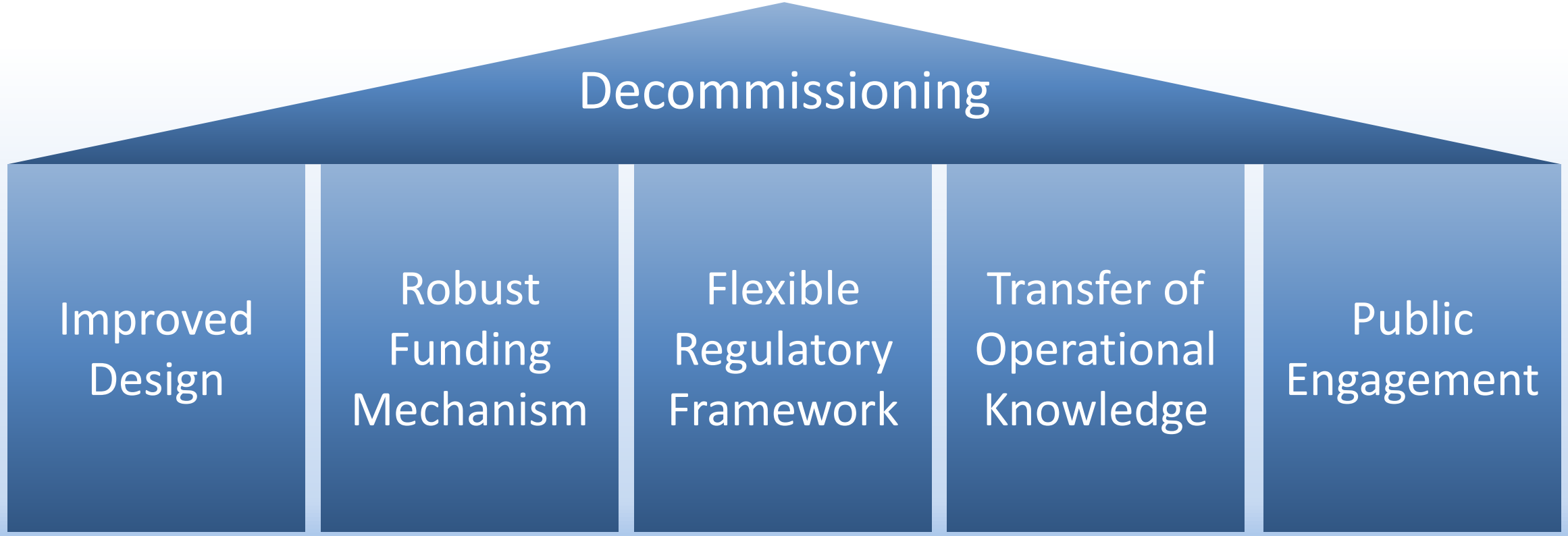
Insufficient Stakeholder Engagement

- Decision-making processes lack collaboration and integrated approach
- Conflicting regulatory standards
- All stakeholders not engaged throughout fuel cycle process
- Conflicting international standards



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What Changes Need to be Made?



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Thank you for your attention



If you have questions of this presentation, contact Rebecca Tadesse [Rebecca.Tadesse@oecd-nea.org].

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