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# Sustainable Decommissioning What, Why, How?

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# Introduction

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- Nuclear decommissioning is clearly on the rise
- Key time to reflect on lessons learned – and think “outside the box”
- What if nuclear back-end management is viewed through a sustainability lens?

# Nuclear back-end management – Some realities



- Planned shutdown dates tend to change
- Few reactors fully decommissioned
- Spent fuel or waste often stored at site
- New transports protested
- New storage and disposal facilities next to impossible to implement
- Major delays the norm
- Complete program "resets" not uncommon

# What is the problem?

- Multi-generational timelines
- Consequences of shutdown
- Tradition of thinking:
  - Within the fence line
  - Until release from regulatory control

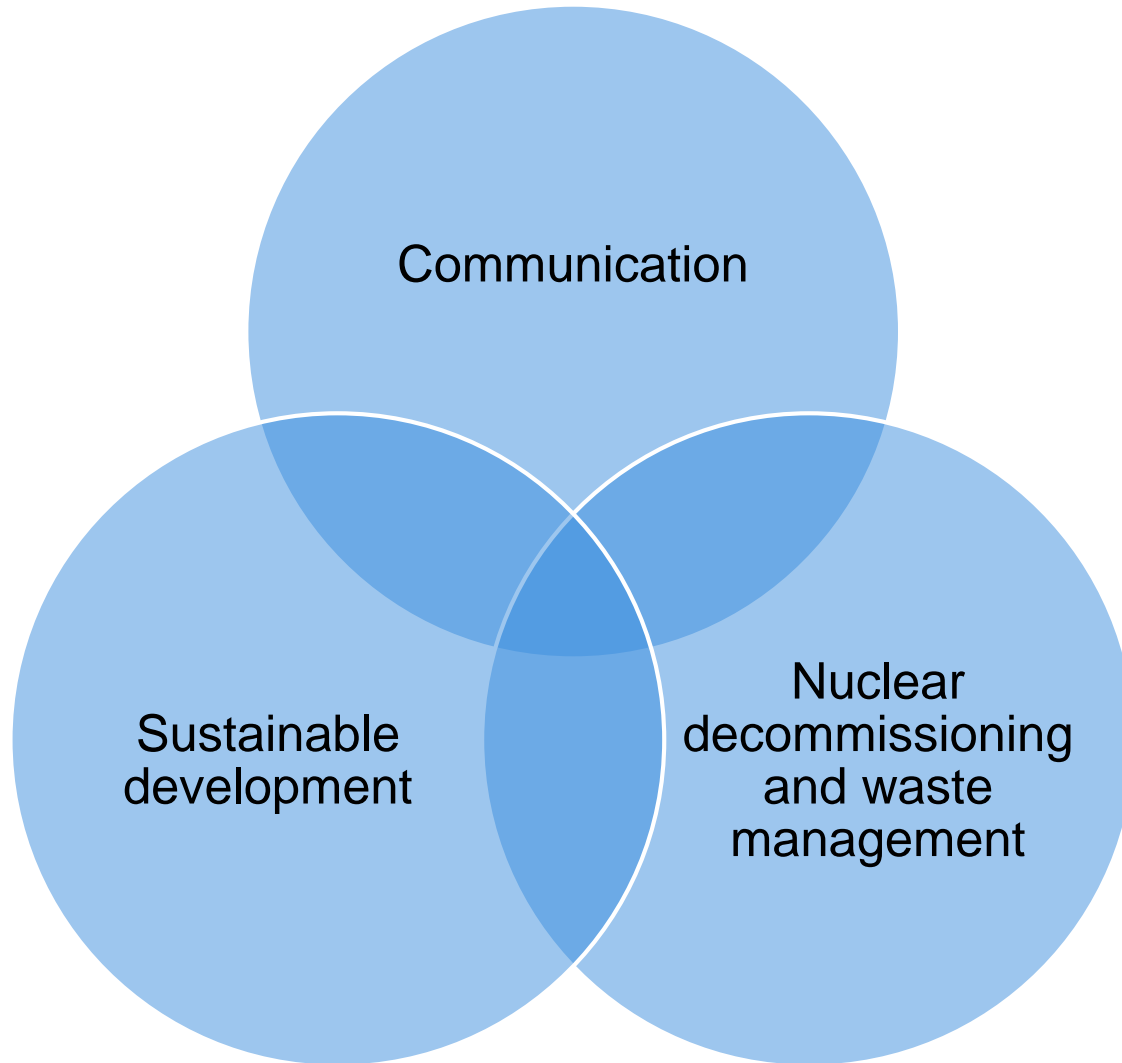
➔ That is, **non-technical** challenges and a need for **systems thinking**.

➔ More relevant to view as a **sustainability problem** – not an engineering problem.



# Cornerstones of sustainable decommissioning

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# Sustainable decommissioning in practice: key principles

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View system's parts as assets – not liabilities



Involve stakeholders in decision-making



Decide new land uses before decommissioning planning

# Is sustainable decommissioning the solution?

## Significant advantages

- Less waste
- Greater potential for public acceptance
- Increased adaptive capacity
- Lower risk of major delays and "dead ends"
- Reduced time between shutdown and new productive uses in operation
- Lower costs



In accordance with general trends, such as **sustainability, circular economy, inclusivity, etc.**

# Conclusions

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1. Surprises will occur – plan for that
2. Stigma can be overcome
3. Sustainable decommissioning more likely to succeed since:
  - Holistic
  - Long-term
  - Inclusive
  - Adaptive





# Thank you

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