



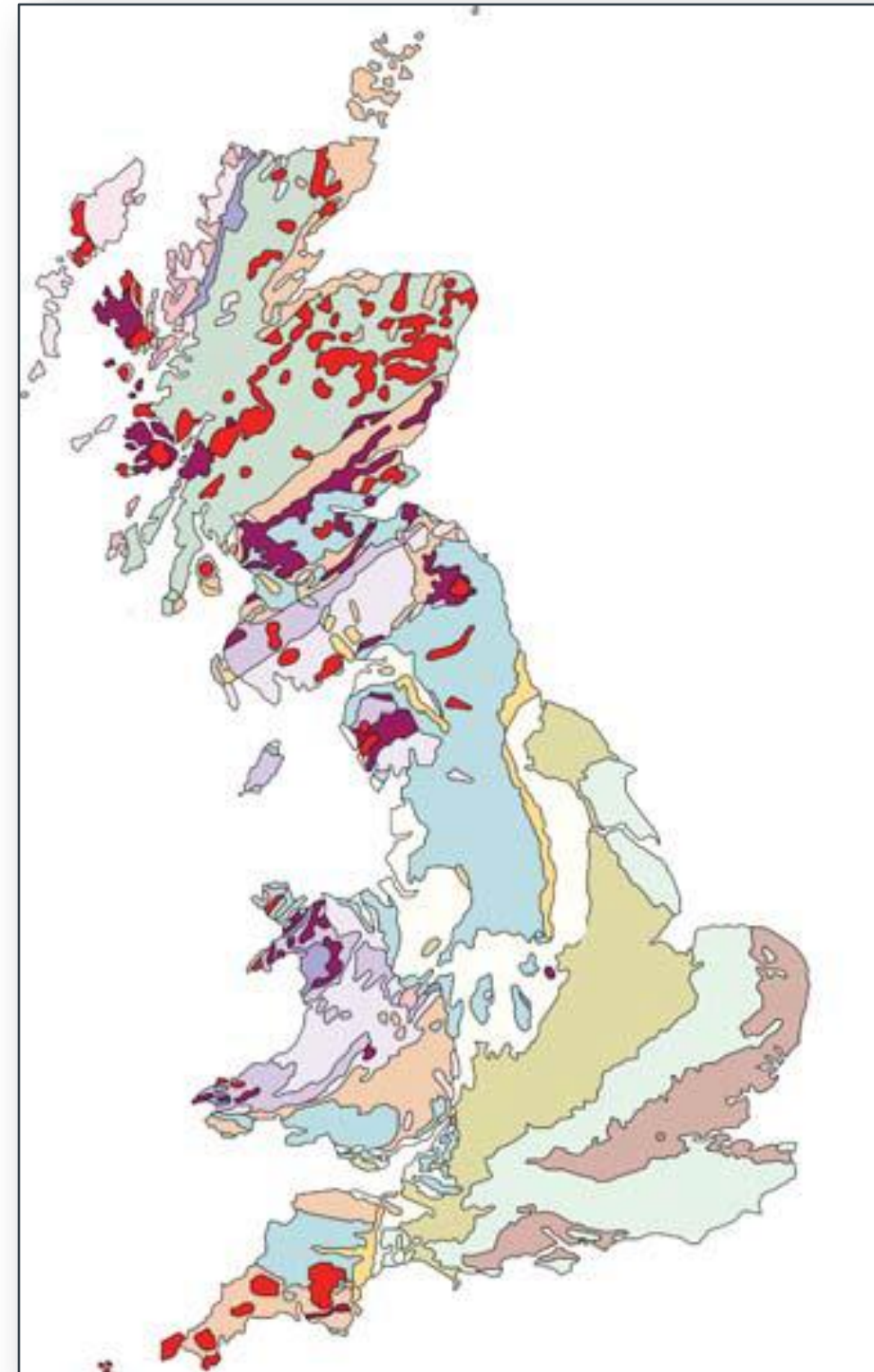
**Radioactive Waste  
Management**

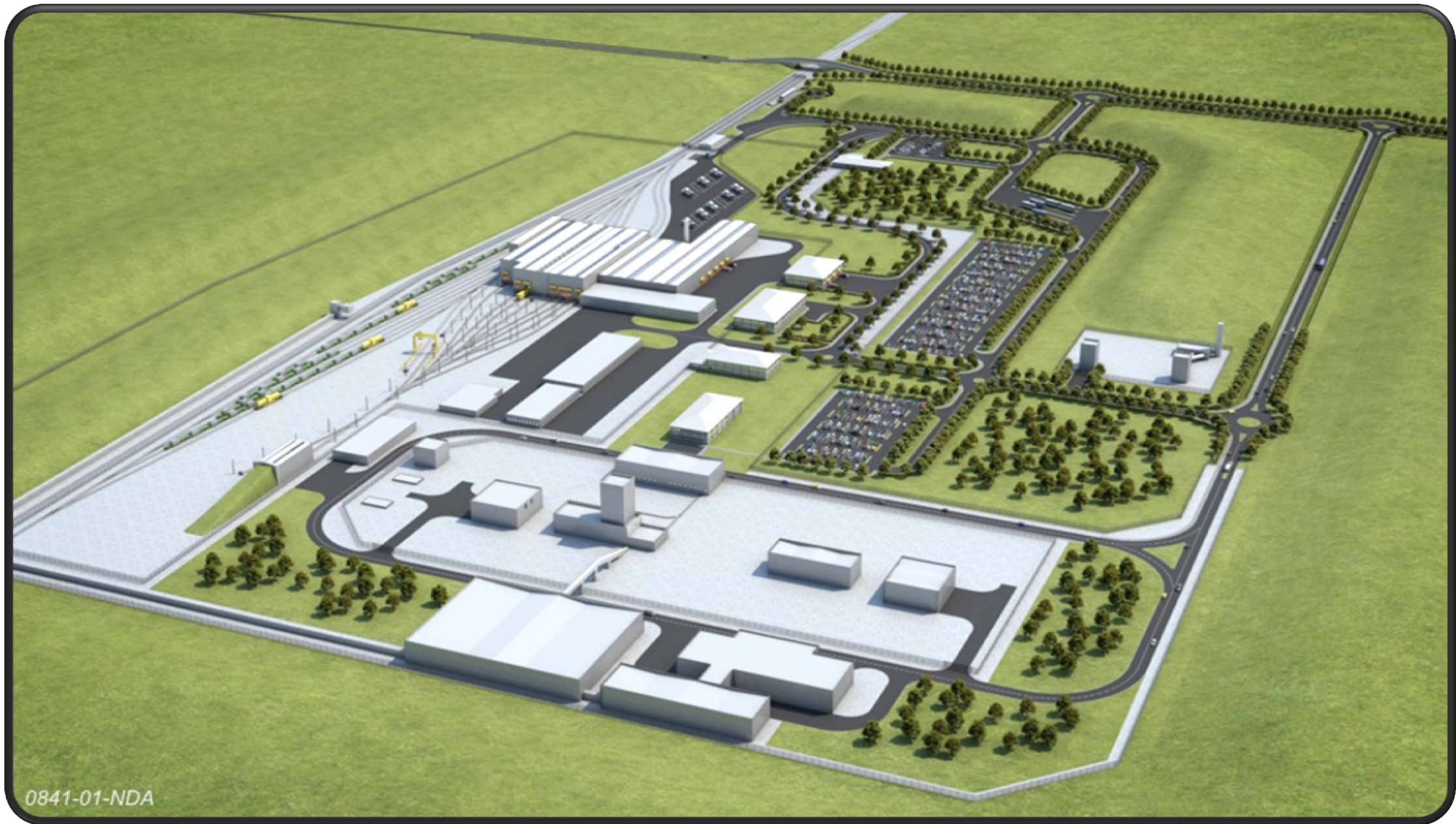
# Delivering Safety

**John Corderoy**

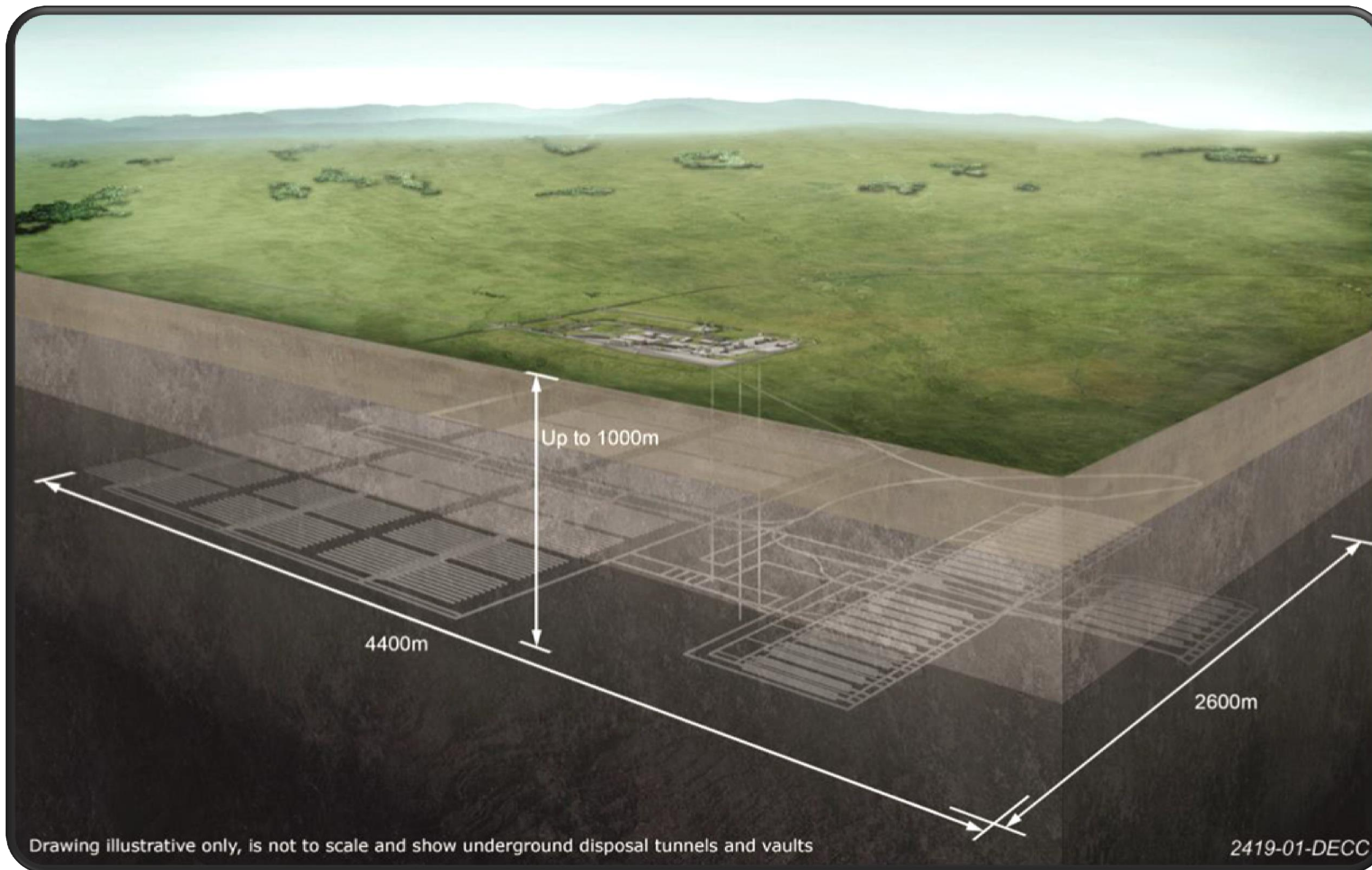
CEng, PG Dip(Nuc), MSc, MA, FIMarEST

Science & Technology Director





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# Delivering Safety, what “Safety”?

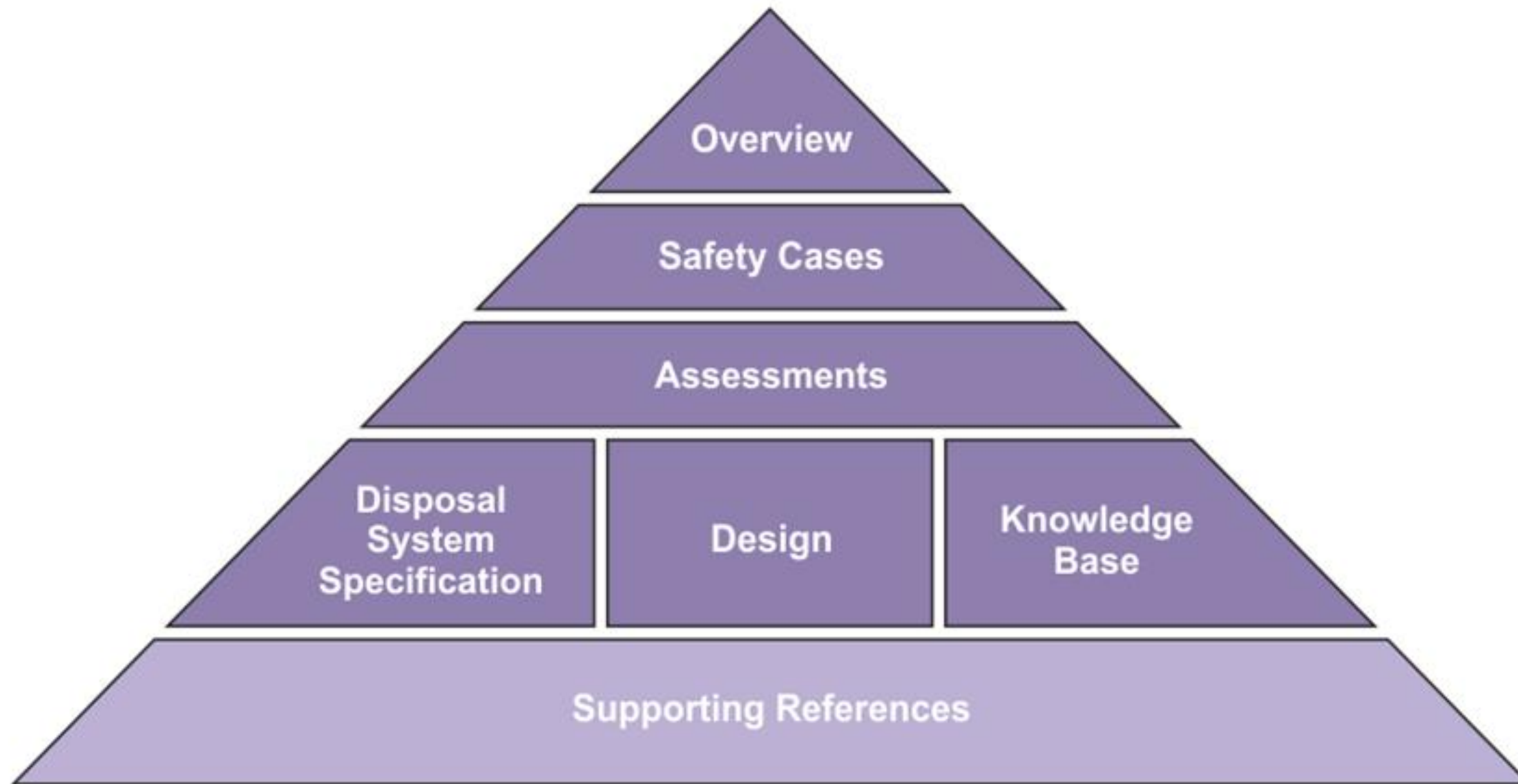
- Environmental **Safety**
- Nuclear **Safety**
- Conventional Health & **Safety**
- Construction **Safety** (CDM Regulations)

# Safety Case(s)

*“A safety case is a logical and hierarchical set of documents that describes risk in terms of the hazards presented by the facility, site and the modes of operation, including potential faults and accidents, and those reasonably practicable measures that need to be implemented to prevent or minimise harm... The safety case clearly sets out the trail from safety claims through arguments to evidence.”*

**Office of Nuclear Regulation**

# RWM's Generic Disposal System Safety Case



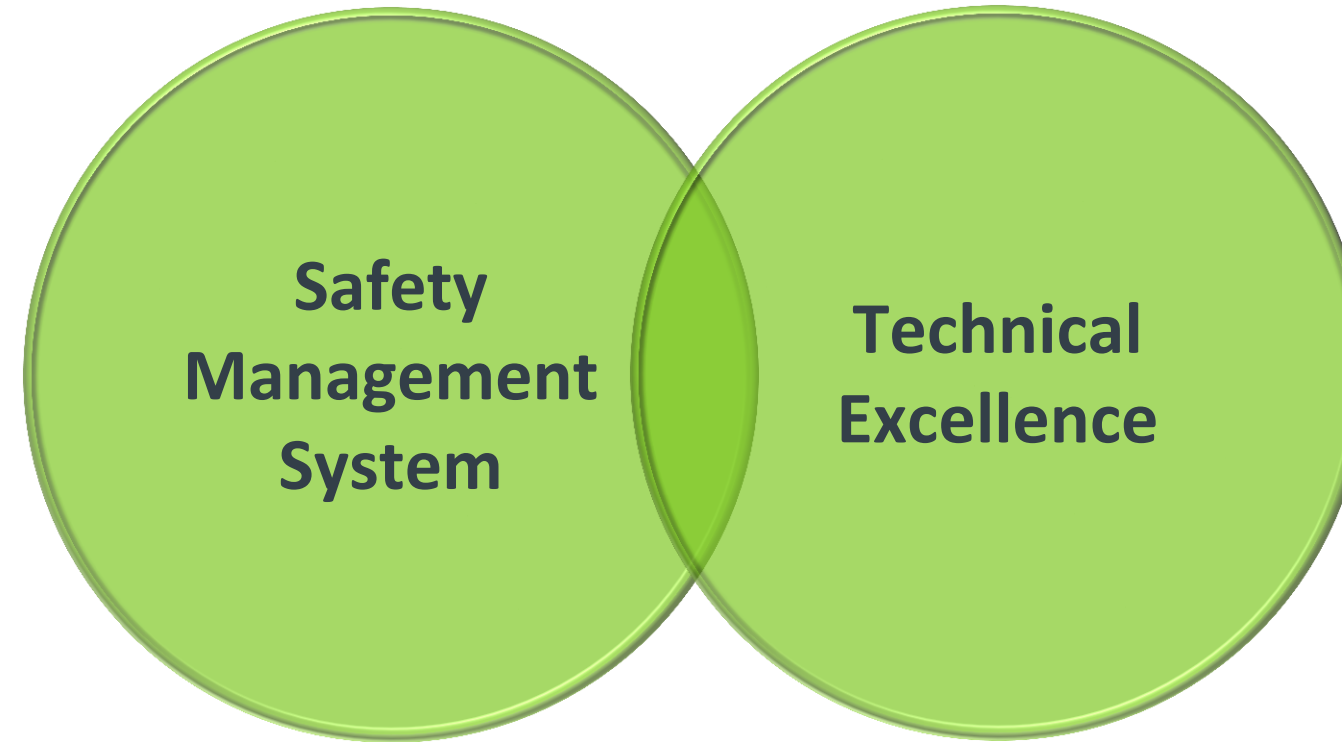
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| Overview                                  |  |
|---|--|
| DSSC/101/01                               | Overview of the generic Disposal System Safety Case                                |
| Safety Cases                              |  |
| DSSC/201/01                               | Generic Transport Safety Case Main Report  |
| DSSC/202/01                               | Generic Operational Safety Case Main Report  |
| DSSC/203/01                               | Generic Environmental Safety Case Main Report                                      |
| Transport Safety Assessment               |  |
| DSSC/301/01                               | Generic Transport Safety Assessment  |
| DSSC/302/01                               | Transport Package Safety Report  |
| Operational Safety Assessment             |  |
| Generic Operational Safety Assessment     |  |
| DSSC/311/01                               | Vol. 1 - Non-radiological and Construction Safety Assessment                       |
| DSSC/312/01                               | Vol. 2 - Normal Operation Safety Assessment  |
| DSSC/313/01                               | Vol. 3 - Accident Safety Assessment  |
| DSSC/314/01                               | Vol. 4 - Criticality Safety Assessment   |
| DSSC/315/01                               | Generic Operational Environmental Safety Assessment                                |
|   | <i>This document supports both Operational and Environmental Safety Assessment</i> |
| Environmental Safety Assessment           |  |
| DSSC/321/01                               | Generic Post-closure Safety Assessment   |
| Environmental & Sustainability Assessment |  |
| DSSC/331/01                               | Generic Environmental Assessment   |
| DSSC/332/01                               | Generic Socio-economic Assessment  |
| DSSC/333/01                               | Generic Health Impact Assessment   |

| Disposal System Specification         |  |
|---------------------------------------|--|
| Generic Disposal System Specification |  |
| DSSC/401/01                           | Part A: High Level Requirements  |
| DSSC/402/01                           | Part B: Technical Requirements   |
| DSSC/403/01                           | Derived Inventory Report   |
| DSSC/404/01                           | Derived Inventory: Scenarios Report  |
| Design                                |  |
| DSSC/411/01                           | Generic Transport System Design  |
| DSSC/412/01                           | Generic Disposal Facility Design   |
| Knowledge Base                        |  |
| DSSC/421/01                           | Technical Background to the generic Disposal System Safety Case                      |
| DSSC/422/01                           | Disposal System Safety Case: Data Report   |
| DSSC/431/01                           | Safety Case Production and Management  |
| DSSC/441/01                           | Waste packages and the assessment of their disposability                             |
| Research Status Reports               |  |
| DSSC/451/01                           | Waste Package Evolution Status Report  |
| DSSC/452/01                           | Engineered Barrier System Status Report  |
| DSSC/453/01                           | Geosphere Status Report  |
| DSSC/454/01                           | Biosphere Status Report  |
| DSSC/455/01                           | Gas Status Report  |
| DSSC/456/01                           | Behaviour of radionuclides and non-radiological species in groundwater Status Report |
| DSSC/457/01                           | Waste Package Accident Performance Status Report                                     |
| DSSC/458/01                           | Criticality Safety Status Report   |

# Ingredients





# Ingredients



# What is safety culture?

The IAEA defines a strong safety culture as:

*“The assembly of characteristics and attitudes in organisations and individuals which establishes that, as an overriding priority, protection and safety issues receive the attention warranted by their significance.”*



## Our vision

A safer future by managing radioactive waste effectively, to protect people and the environment.

**Our mission is to**  
Deliver a geological disposal facility and provide radioactive waste management solutions



## Our Vision, Mission and Values

Following engagement with stakeholders, staff and our Board of Directors, we have established a vision for RWM.

Our vision is aspirational and challenging, supported by a mission statement which says what we will do in order to achieve that vision. The mission statement and a number of supporting objectives provide the basis for our Business Plan which describes our work programme on a rolling three year basis.

We have also, through a similar process of engagement, established a set of values which describe the kind of organisation we strive to be. We actively use these values in developing the organisation and our people, who are central to the strategy set out in this document. The values are factored into our assessment of how well we are performing as individuals and as an organisation.

### Professional

We are experts in our field, acting with integrity and efficiency to deliver the best solutions.

### Responsible

We are committed to achieving the highest standards of safety and environmental protection.

### Accessible

We are open and communicate in a straight-forward way that enhances understanding and encourages engagement.

### Learning

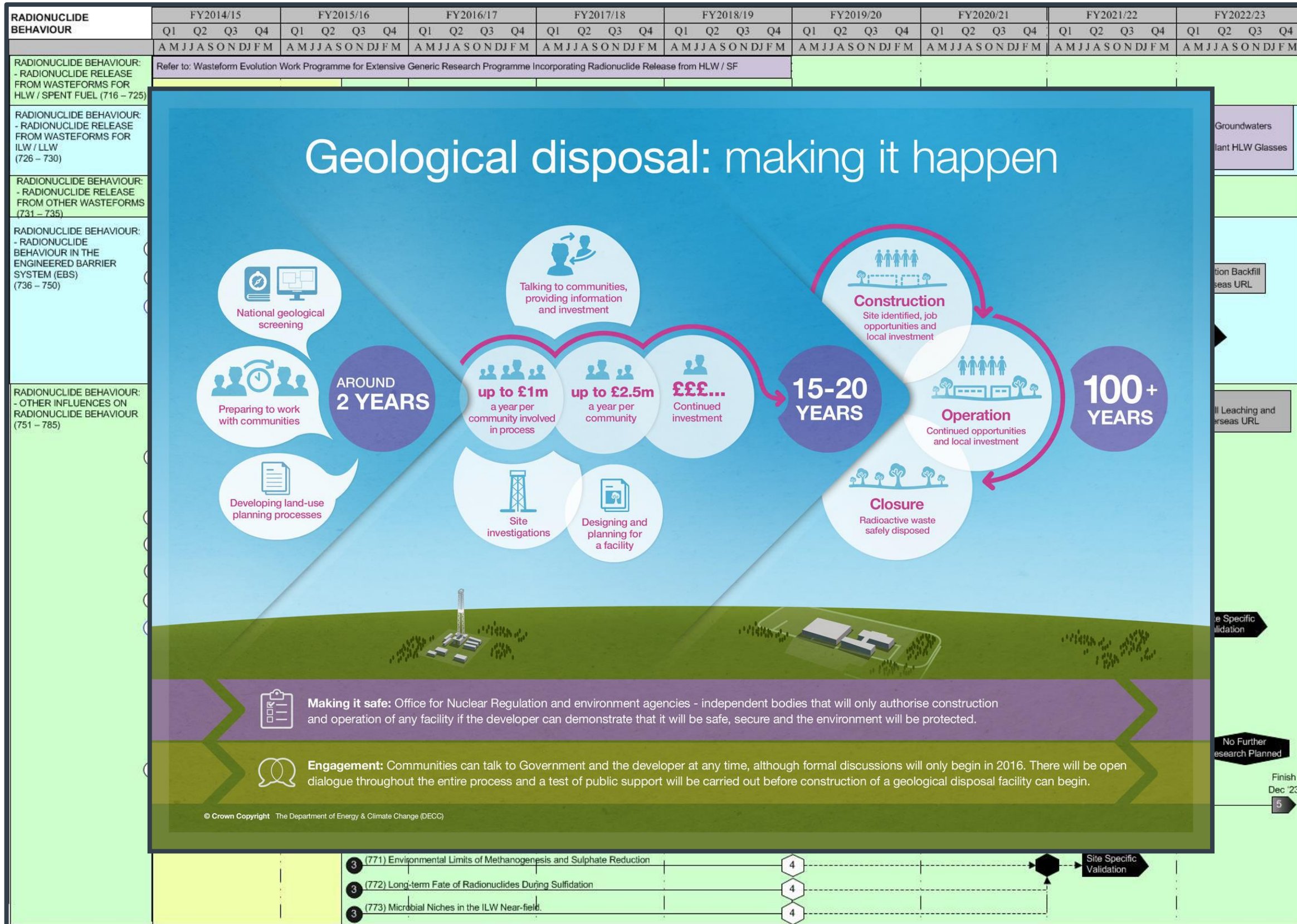
We continuously learn, share knowledge and build strong mutually beneficial relationships.

safer future

# Ingredients







|   |   |   |                          |
|---|---|---|--------------------------|
| 3 | (771) Environmental Limits of Methanogenesis and Sulphate Reduction | 4 | Site Specific Validation |
| 3 | (772) Long-term Fate of Radionuclides During Sulfidation            | 4 |                          |
| 3 | (773) Microbial Niches in the ILW Near-field.                       | 4 |                          |

Groundwaters  
Plant HLW Glasses

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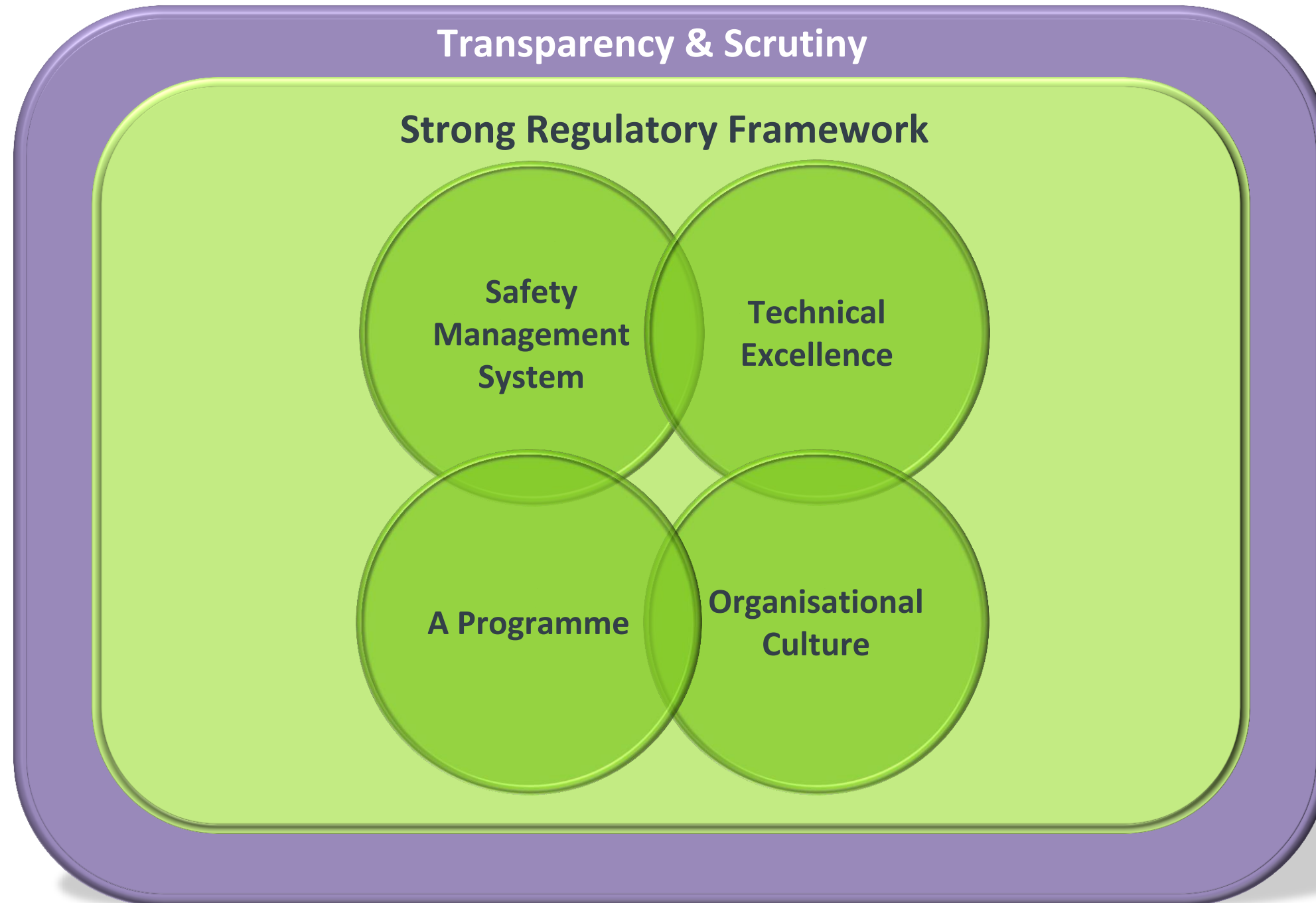
Site Specific  
Validation

No Further  
research Planned

Finish  
Dec '23

5

# Ingredients



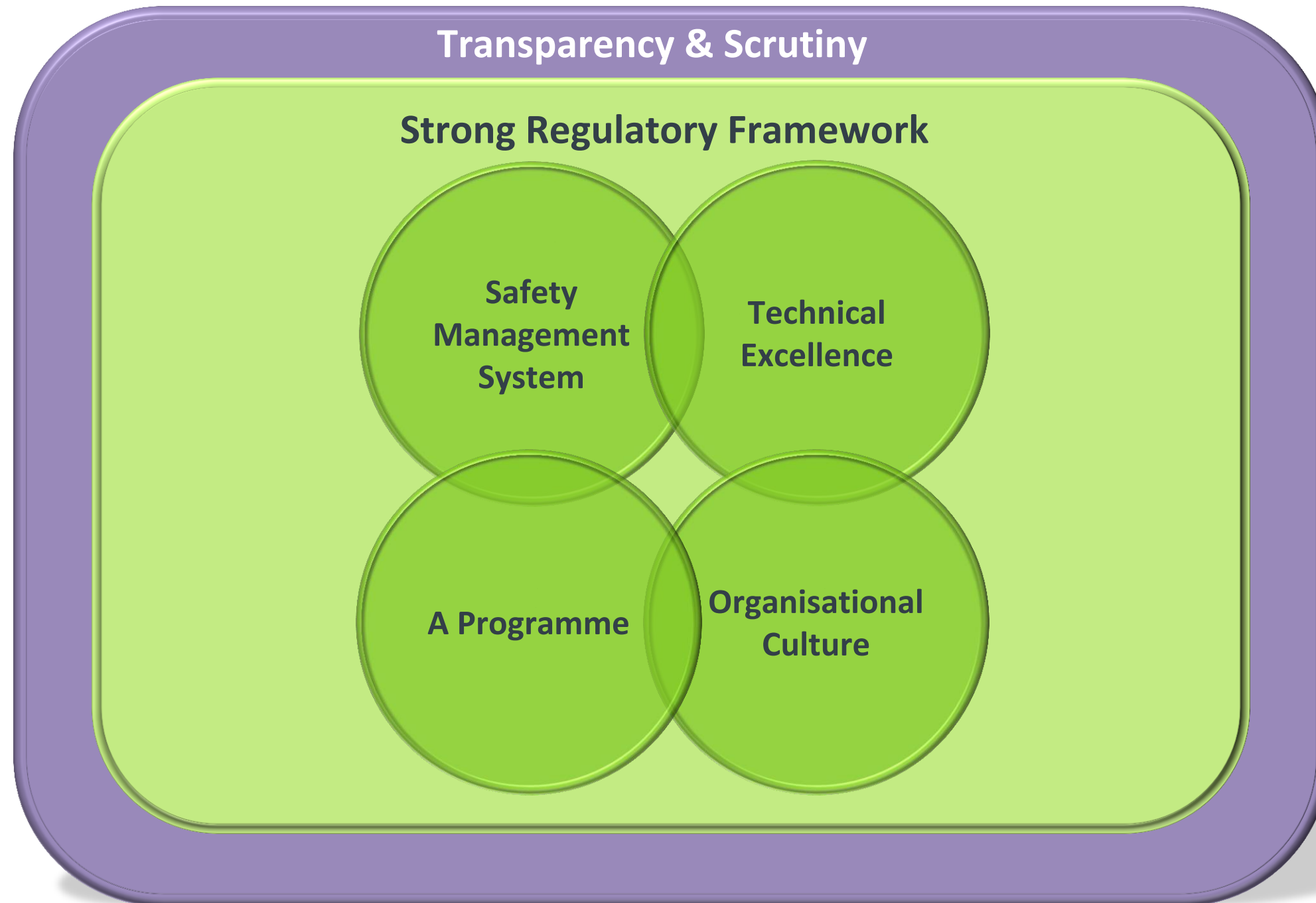
# Geological disposal: roles and responsibilities



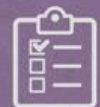
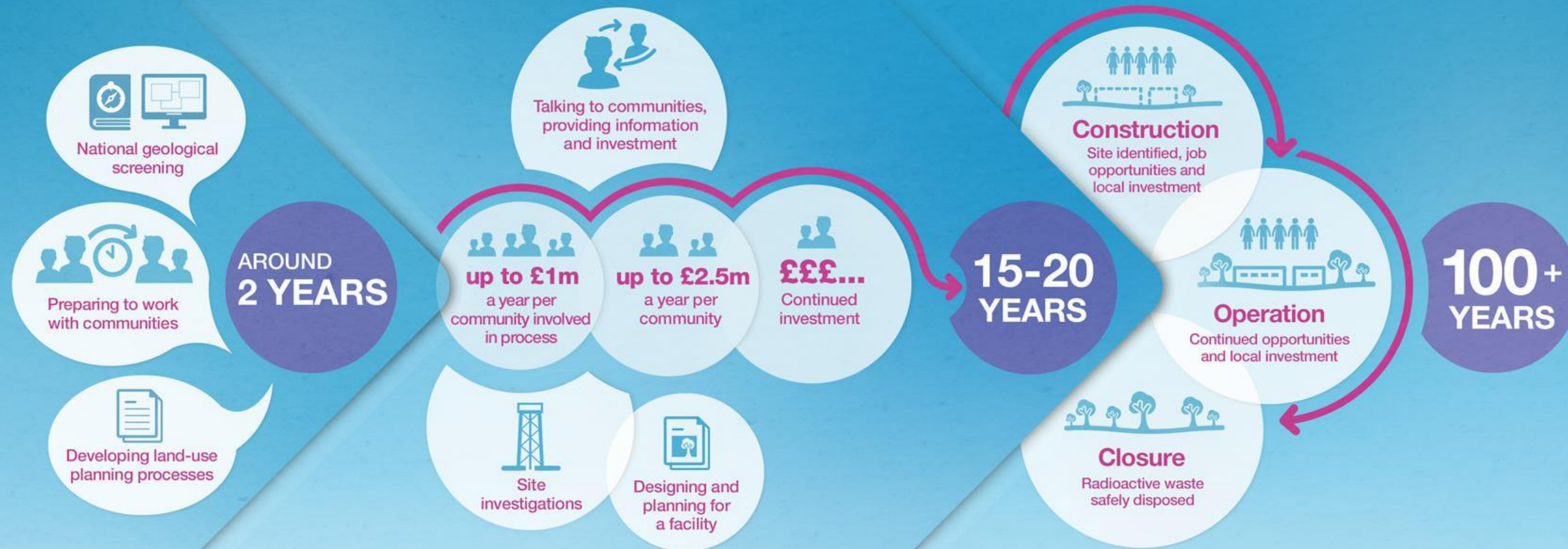
## Key

- Communities**  
Sit at the heart of this process – they can talk to Government and the developer throughout. A geological disposal facility (GDF) cannot proceed without community support.
- Government**  
Owns the policy, sponsors the project and provides funding.
- Regulators**  
Independent bodies will only authorise construction and operation of a facility if the developer can demonstrate that it will be safe, secure and the environment will be protected.
- Developer**  
Responsible for designing, building, operating and closing a facility safely.
- Committee on Radioactive Waste Management (CoRWM)**  
Provides independent advice to Government and scrutiny on radioactive waste management.

# Ingredients



# Geological disposal: making it happen



**Making it safe:** Office for Nuclear Regulation and environment agencies - independent bodies that will only authorise construction and operation of any facility if the developer can demonstrate that it will be safe, secure and the environment will be protected.



**Engagement:** Communities can talk to Government and the developer at any time, although formal discussions will only begin in 2016. There will be open dialogue throughout the entire process and a test of public support will be carried out before construction of a geological disposal facility can begin.