

# NRWMF CONCEPT DESIGN

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# Concept Design Update

- Generic concept design being developed
- ANSTO with specialist design consultants
- Streamlining essential and desirable requirements
- Reviewing facility services demand

# Guiding Design Principles

- Reduction of environmental impacts:
  - Flow paths
  - Materials used
- Minimisation of overall infrastructure
- International best practice

# Influence of Site Characterisation on Design

- **Hydrogeology**
  - Confirms groundwater flows
  - Acceptability of conditions for generic design
- **Geology**
  - Confirms stability of ground
  - Defines requirements for civil and structural criteria
- **Seismicity**
  - Locates and defines properties of potential fault lines
  - Support development of seismic design in accordance with appropriate standards

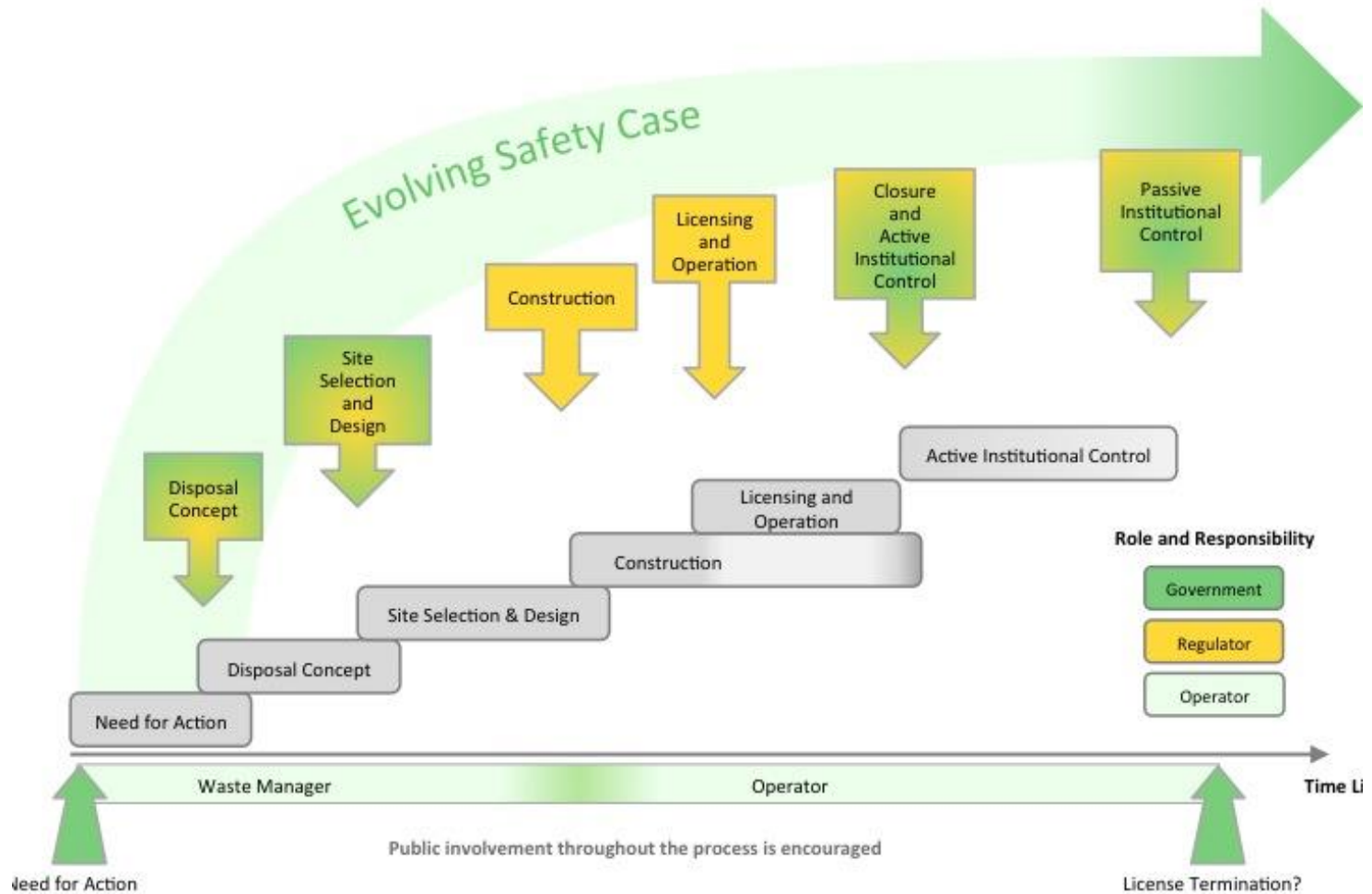
# Influence of Site Characterisation on Design

- **Climate study**
  - Evaluate wind, rain, cold/heat etc
  - Informs design of building fabrics, structure and HVAC systems
- **Bushfire study**
  - Site master planning
  - Facility separation
  - Distances from boundaries
  - Fabric choices

# Influence of Site Characterisation on Design

- **Utilities study**
  - Availability of existing services e.g. water & power
  - Developing options to utilise renewable energy sources
- All information is an input to the safety case

# Safety Case



# Safety Case

- All hazards and accidents will be assessed, all risks evaluated and mitigations put in place for risks rated low and above.
- Engineered controls
  - Alarms, shielding, confinements, machine guarding etc
- Administrative controls
  - Procedures, security provisions, QA/QC etc
- Defence-in-depth mitigation strategies incorporated into the facility design