



North Sea  
Transition  
Authority

# MMV: a Regulator's view

## Evolution of Monitoring Plans

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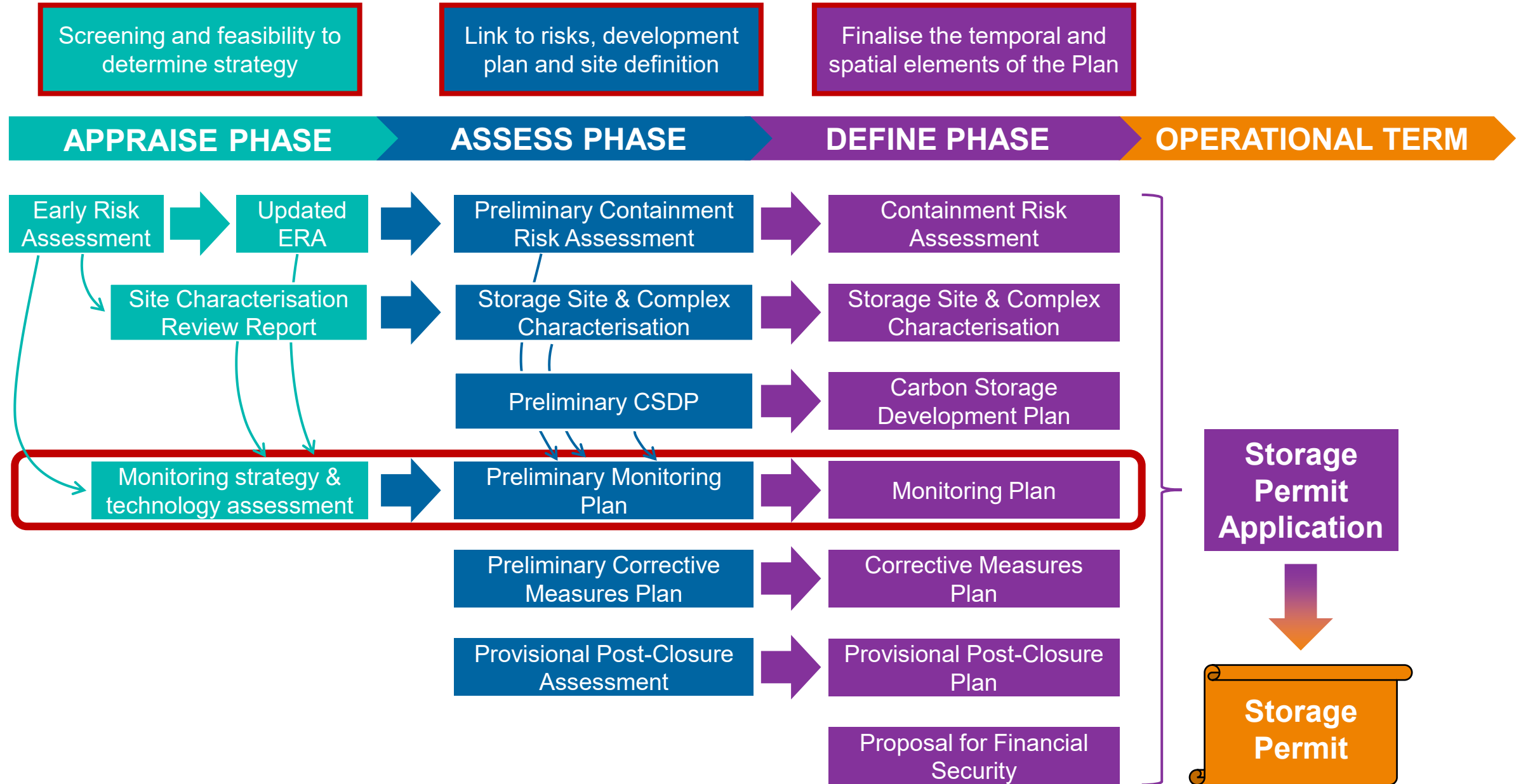
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- Monitoring should be considered early in the appraisal of potential stores – as the Monitoring Plan is a mandatory part of a permit application and an approved document as part of any permit
- Supports early identification of technology (and co-location) opportunities/challenges
- Plans will evolve during the Appraisal Term, and should continue to evolve throughout the life of the store
- Regulatory requirement for 5-yearly updates from the date of permit grant – taking into account changing perceptions of risk, changes in store behaviour and management, etc...
- New technology should be evaluated and tested and, where there is a clear use case, incorporated into the Monitoring Plan

# Appraisal Term and evolution to a Permit



# Some observations

- Testing is important! You WILL learn something.
  - Could be technical, could be operational...
  - Design requirements may surprise
  - Experience backs this up!
- Consider how the Plan may evolve – how easy is it to update?
  - How might things change in Execute? This could be 3-4 years from permit!
  - How will you incorporate lessons learned from early injection?
- Each store is unique and can face different challenges and monitoring requirements
  - Early projects tend to be relatively straightforward, later projects more complex?
- Cross-operator and supply chain collaboration and sharing – within bounds of competition & economic licence



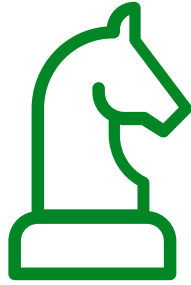
# Evolution in the Operational Term

- Regulatory requirement for 5-yearly updates is an explicit recognition that plans should evolve
- How to judge appropriate update points?
  - Consider things like injection volumes and when that may trigger a review outside the five-yearly regulatory cycle
- Lessons learned may be along the lines of:
  - what works/doesn't work
  - changing expectations and
  - evolving understanding of risk
- Opportunity to update the spatial and temporal aspects of monitoring
- New technology should be evaluated and incorporated where there is a use case, such as:
  - lower environmental impact
  - technical requirements (spatial/temporal)

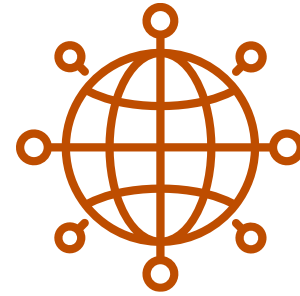


- *“But I don’t have a baseline from the start of injection, so don’t I have to stick to the same technology from the start?”*
- No – but do ensure that for new technology there is a period of parallel deployment to ensure alignment of results

# Summary



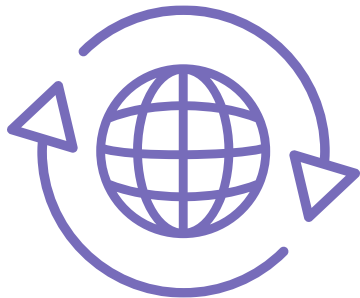
**Consider monitoring early in the Appraise Phase**



**Strong link to site definition, risk, and development plan**



**Consider technology co-location opportunities and risks**



**Evolve in line with experience, understanding, and technology**



**Engage early to discuss updates and changes**



**Collaborate to share experience**