



Breakout Session 3 CCS Phases Group 1: Site selection and Characterisation

- CO2CRC slides provided introduction
- Some highlighted issues:
 - Characterise injectate chemistry
 - Old and future wells
 - Onshore versus offshore considerations
 - No such thing as a perfect site



2

Some assumptions made:

- Selection process – this is best site
- Due diligence has been done
- EIA not required
- Access rights granted
- *Regulatory requirements known*
- *Liability issues resolved*



3

- CAPACITY
- INJECTIVITY
- CONTAINMENT
- Risks – leakage
 - Wells ***
 - Seals
 - Faults
- Plans to monitor (baseline), verify, remediate
- Longer timescale considerations



4

- Uncertainties to resolve:
- Geochem reactions (injectivity and capacity effects)
- Methods to resolve uncertainties:
- Lab tests and/or pilots



5

- Data needs:
- Characterisation of adjacent strata (above/below)
- Receptors e.g. Potable aquifers
- Oil field production and exploration data
- Potable aquifers
- Well data



6

- Key source of risk: containment issues
- Main risk scenario involves 100 existing wells
- Existing records?
- Location, integrity, remediation?
- Well liability issues resolution
- Re-entry of wells may be required



7

- Knowledge gap: how to handle old wells
- What do we think standards should be for treatment of old wells
- Avoid interaction with old wells where possible
- Performance standards for regulations



8

- Key messages for main scenario:
 - Capacity, injectivity, containment issues
 - Risks – seals and faults easier to resolve
 - Wells more difficult
 - Monitoring and verification, remediation plan
 - Uncertainties – geochemical effects
 - Data needs



9 – New Scenarios

Saline aquifer:

- Much more effort needed for characterisation – lack of data and costs of acquisition
- Larger study volume of rock
- Capacity calculations
- Containment integrity and methods of appraisal
- Trapping mechanisms
- Geochemical data and effects



10

For alternative saline aquifer scenario: issues (networks) other than wellbore become of increasing relative importance



IEA Greenhouse Gas R&D Programme

