Breakout Session 1
Wellbore Integrity Network

- Aspects missing from morning presentations, 1
  - Leakages to intermediate zones,
  - Permeability of cement system isn't completely understood,
  - Increased emphasis on steel and elastomers,
  - Flux of CO_2 as function of wellbore condition / type,
  - Risk associated with CO_2 vs. brine flows to shallower regions,

Breakout Session 1
Wellbore Integrity Network

- Aspects missing from morning presentations, 2
  - Impacts of pressure pulse on:
    - Wells,
    - Caprock,
  - Attenuation of pressure wave,
  - What are the end-state permeabilities for cement in CO_2 wells?
  - State of CO_2-brine as it encounters wells
    - pH, chemistry etc.

Breakout Session 1
Wellbore Integrity Network

- Aspects missing from morning presentations, 3
  - Pipe-cement experience shows good performance – requires further study,
  - Reconcile differences between field experience with some experimental results,
  - What role have corrosion inhibitors, as added to injection streams, played in wellbore integrity?
  - Translating production problems (e.g. SCP) into problems following abandonment,

Breakout Session 1
Wellbore Integrity Network

- Aspects missing from morning presentations, 4
  - Full life history geomechanical model,
  - Definition of initial state of cement sheath,
  - Long term creep of cement / formation impacts on well integrity,
  - Biological corrosion and behaviour,
  - Significance of dehydration induced by CO_2 injection,

Breakout Session 1
Wellbore Integrity Network

- Needs from Monitoring Network:
  - Leakage to intermediate zones:
    - Detection,
    - Impact,
  - Detailed studies along individual wells, e.g. pressure communication and temperature sensors for significant flow and measurement of noise,

Breakout Session 1
Wellbore Integrity Network

- Needs from Risk Assessment Network:
  - How to move from the study of a few wells to the statistics of 1000's?