



## Monitoring Network – Breakout Group 1

- Definition of Monitoring
- Quantification
- Drawing from other experience
- Screening technologies by regulatory regime
  - Two key regulatory questions
- Storage security without quantification



## Definition of Monitoring

- We need to decompose monitoring to its specific purposes
- We need to identify who we are speaking to
- Perhaps we need a matrix of monitoring tools and what they can do and where they are appropriate
- Overlay IPCC guidelines appendix on monitoring with case studies



## Quantification

- Quantification of CO<sub>2</sub> in the reservoir
  - To what degree of sensitivity?
  - To what degree of certainty?
  - What measurements to address these
  - To what degree of integration
  - May be a secondary process
- What does this imply for the measurements?
- Experience from O&G because of uncertainties inherent in heterogeneities may well indicate unrealistic to get quantification
- Process to iterate modelling and measurements to provide reduced uncertainty and assurance of performance
- Quantify leakage rather than volume ?



## Draw from other experience

- What have we learned from analogue processes?
- Potential to screen monitoring recommendations for existing projects and assess their ability to meet requirements
- What would this process imply as optimum range, accuracies, sensitivities ?



## Screen technologies by regulatory regime

- From a regulatory perspective can we categorise the monitoring that we need to achieve objectives?
- Keeping in mind there are two types emissions accounting and storage security.
- Per regulatory requirements
- What are key requirements
- What technologies suitable to answer questions
- What accuracies, thresholds etc
  - What monitoring tools have no application for regulators but may be used for other purposes?



## Two key regulatory questions

- Concept of area of influence? How to define it  
Very open question, depends on modelling
- Should we monitor a positive to report back that performance is OK.



## Storage security without quantification

- One strategy is to concentrate your monitoring at the reservoir and immediately above in seal and porous zone
- Implies active strategy of measurements that can provide confidence in performance
- Requires mitigation plans in place
- Does not require quantification as a primary goal
- Reduces near surface monitoring to public assurance role
  - In the case of leakage we then need to apply additional monitoring.