



Breakout session outcomes: What is needed for assuring storage capacity?

CO₂GeoNet and EERA



Breakout groups

1. Geological characterisation of storage capacity
2. Modelling and testing dynamic storage capacity and injectivity
3. Workflow for assessing dynamic storage capacity and injectivity:
 - Regional level capacity to meet CO₂ supply (in promising areas initiated by national authorities)
 - Local site level (individual storage project initiated by industry)



Outcomes of the breakout groups

- EERA and CO₂GeoNet will lead on preparation of a report outlining the workshop outcomes and identified research priorities
- All workshop attendees will have the opportunity to contribute to ensure the report is a fair reflection of the workshop outcomes
- When finalised this joint report will be posted on the CO₂GeoNet and EERA websites



Working group 1: Geological characterisation of storage capacity

→ Key discussion topics:

- Data access; what have we got and what is needed?
Need to know who owns the data, how much will it cost and how long will it take to obtain?
- What would we like to see in terms of data access?
Release of all non-sensitive data, but then who will decide what is sensitive and what is not sensitive?
- Studies demonstrate there is capacity, further data will confirm estimate range
- Storage Atlas could be updated to focus on storage 'sweet spots' and regions where there are no conflicts of interest
- Need to consider how to communicate storage capacity to non-specialist audience, particularly how to effectively communicate uncertainties



Working group 2: Modelling and testing dynamic storage capacity and injectivity

→ Key discussion topics:

- Data access; consider what is needed to move from static to dynamic capacity. Pressure data and injection and production testing data are particularly important for understanding dynamic reservoir behaviour
- Best practice on workflows for storage capacity need to be shared
- Boundary conditions are crucial for dynamic modelling, this includes boundaries of the reservoir
- Heterogeneity within the reservoir will play a critical role in dynamic capacity
- Will water production be necessary to manage pressure?
- Dynamic capacity strongly relates to economics and cost for the number of wells needed to achieve required injection rate



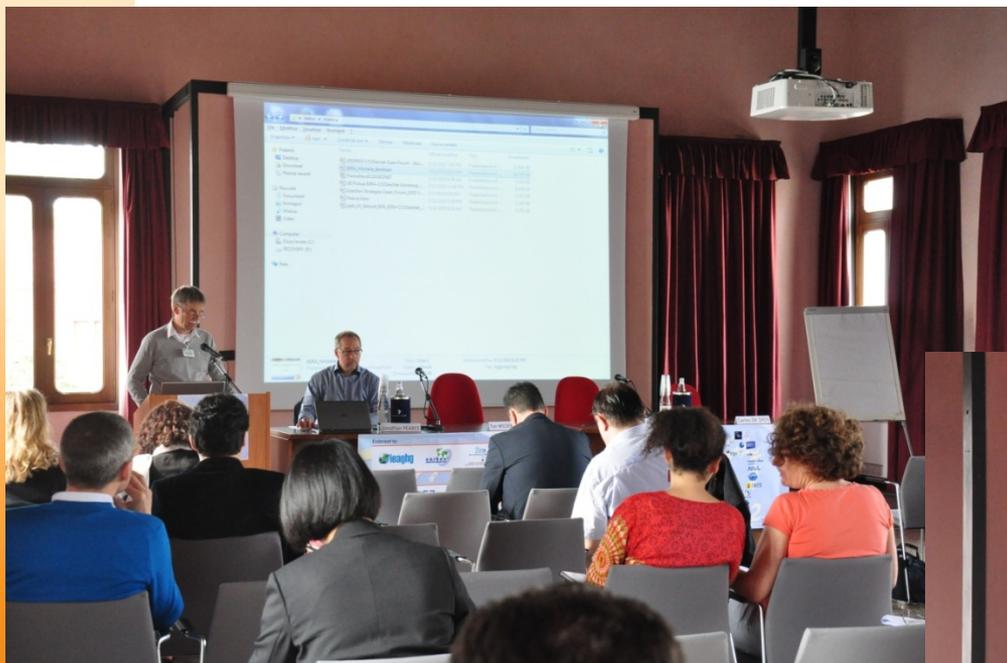
Working group 3: Workflow for assessing dynamic storage capacity and injectivity

→ Key discussion topics:

- Unlike the oil and gas industry there are no private operators searching for capacity. Initial surveys tends to be carried out with public funding
- Need assurance activities to begin the de-risking process for the private sector (i.e. finance sector, CO₂ suppliers, storage operators...)
- How do we develop a portfolio of sites? Where are the 'sweet spots'? How can we maximise learning from existing projects? How can we develop flexible storage options?
- Step by step process. We have storage capacity, as experience grows, will be able to broaden storage portfolio
- Need to consider/decrease timeline between concept and storage
- What can researchers do? Reduce uncertainty, baseline work, coordinate activities and the message...
- How much data do we really need to assure storage capacity?



Many thanks



Storage capacity assessment: what is needed?

- › Storage assessment on critical path of CCS project development
- › Long lead time (7-10 yr from idea to injection)
- › Availability of proven storage capacity is major hurdle to CCS development
- › Storage at 'Matched capacity' level helps
- › Storage: certainty about storage
- › Transport: end points of pipelines and / or ship routes
- › CCS stakeholders: long-term plan, if possible
- › Recommendation: provide a ... of certified storage capacity
- › 'Practical' or 'Matched'?
- › Fully or 'almost' possible?

