

IEA CSLF Workshop on Near Term Opportunities for Carbon Capture and Storage

Presentation to the Breakout Session 2

Technical Issues

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What are technical issues?

- **CO2 transport (early opportunity: existing infrastructure)**
- **Availability and capacity of long-term storage possibilities (early opportunity: proximity to source, EOR, EGR perhaps ECBM)**
- **Potential leakage pathways**
- **Monitoring for leakage**
- **Remediation methods**
- **Technical aspects of safety risks and risk reduction**
- **Capture costs (early opportunity: high purity sources)**

Near term opportunities

- EOR, combining storage
 - 40 Mt/y globally, most without storage
- High purity CO₂ sources globally
 - Current global sources 360 Mt/y
 - H₂, ammonia plants
 - Opportunities in developed and developing countries
- Emerging projects
 - Oil and gas sector
 - Power projects
- Near term opportunities put in place learning/systems that eventual address CCS for the power generation and industrial sectors

External Cross Cutting Issues

- Financing Issues
 - Addressing long-term liabilities
 - Facilitating commercialization
- Communication – risk, standards, costs & benefits
- Permitting processes

Technical Cross Cutting Issues

- Permanence
- Standard costing methodology
- Finance – value chain characterization
- Sustainable development
 - Environmental
 - Water Usage

Storage Issues

- Subsurface characterization – integrity
- Credible risk assessments
- Best practices for monitoring and verification
- Well bore integrity – field data vs modeling

Capture Issues

- System integration / optimization
 - Compatibility – power generation versus CCS
 - Source to sink

List of stakeholders

Industry:

Oil and Gas

Power

Coal

Technology and Service providers

Other CO2 Emitting Industries

Financial Community:

Multilateral/Bilateral Institutions

Insurance Co.

Others:

Environmental NGOs

Regulators/Policymakers

International Organizations

R&D Communities including Educational

Key Issues for Next Workshop

- Addressing long-term liabilities
- Facilitating commercialization
- Separation of Technical Issues Group into Capture and Transport/Storage Groups
 - Group was too large (33 participants)
- We have a list of key actions associated with the critical issues (e.g., case studies, models, systems analyses)