



Update from Risk Assessment Task Force (RATF)

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Task Force Phase I (complete)

Phase I Charter

(Initiated Nov. 2006, London Tech. Group Meeting)

- **Examine risk-assessment standards, procedures, and research activities relevant to unique risks associated with the injection and long-term storage of CO₂**
 - **Risks associated with CO₂ near-term (injection) processes (including fracturing, fault re-activation, induced seismicity)**
 - **Risk associated with long-term processes related to impacts of CO₂ storage, including:**
 - **health, safety, and environmental risks**
 - **potential impact on natural resources (such as groundwater, mineral resources, etc.)**
 - **return to the atmosphere**



Task Force Membership

- **Australia**
- **Canada**
- **France**
- **India**
- **Japan**
- **Netherlands**
- **Norway**
- **United Kingdom**
- **United States, chair**
- **IEA Greenhouse Gas Programme**
- **Global CCS Institute**
- **Poland**



Phase I Summary

- **Initiated at London (Nov 2006)**
- **Recommendations finalized at Oslo (Apr 2009)**
- **Final draft to Secretariat (May 2009);
circulated to TG for review/comments (summer 2009)**
- **Phase I report complete and submitted to TG (fall 2009)
(posted at www.cslforum.org)**
- **Phase II initiated (spring 2010)**



Recommendations from the Phase I Report

(section 4.1)

- ***The link between risk assessment and liability should be recognized and considered.***
- ***Storage integrity goals (e.g., acceptable risk levels) for sites should be discussed.***
- ***Risk assessment should be considered in the context of stakeholder outreach and communication.***
 - ***This recommendation was passed to PG***



Outreach/Communication Documents on CSLF Website

- **Task Force recommendation to Policy Group was incorporated into development of “inFocus” documents**
- **Five information documents now posted on <http://www.cslforum.org/education>**
 - “Why Carbon Capture and Storage?”
 - “Is Geologic CO₂ Storage Safe?”
 - Underground CO₂ Storage: A Reality?”
 - “CO₂ Capture: Does it Works?”
 - “CO₂ Transportation: Is It Safe and Reliable?”
 - “10 Facts About CCS”

The image shows the cover of a document titled "inFocus Carbon Capture & Storage: Is Geologic CO₂ Storage Safe?". The cover features a green and white design with a stylized wave graphic. The text on the cover includes the title, a summary paragraph, an overview section, and a "Did You Know?" box. The "Did You Know?" box contains a quote: "The reason CO₂ storage works is simple: it uses the same natural trapping mechanisms which have already kept huge volumes of oil, gas, and carbon dioxide underground for millions of years." The quote is attributed to the European Technology Platform for Zero Emission Fossil Fuel Power Plants (ZEP). The cover also includes a small logo for the Carbon Sequestration Leadership Forum (CSLF) in the top right corner.

CSLF
inFocus Carbon Capture & Storage
Is Geologic CO₂ Storage Safe?

THERE IS SCIENTIFIC CONSENSUS, AND GROWING EVIDENCE, THAT GEOLOGIC STORAGE HAS GREAT POTENTIAL FOR SAFELY AND PERMANENTLY STORING CARBON DIOXIDE (CO₂). ADDITIONAL RESEARCH IS UNDERWAY TO ACQUIRE THE DATA NEEDED TO COMPLETELY VALIDATE CO₂ STORAGE POTENTIAL, CAPABILITY, RELIABILITY, AND SAFETY.

OVERVIEW

The idea of injecting large quantities of CO₂ underground and having it stay there without leaking or causing environmental harm is a concern for some people unfamiliar with carbon capture and storage (CCS) technology. But there is a growing body of evidence that geologic storage is both safe and effective. Ongoing global research is helping scientists accumulate information needed to conclusively verify all operational and safety aspects of long-term CO₂ storage in depleted or declining oil and natural gas fields, saline reservoirs, unmineable coal seams, and other significant geologic formations. The goal is to scientifically confirm storage safety across the diversity and composition of storage sites, both necessary predecessors of large-scale commercial CCS deployment. CCS is widely considered a key component of a portfolio response strategy (including renewable and nuclear energy, and increased energy efficiencies) necessary for meeting ambitious worldwide atmospheric CO₂ reduction goals.

CAN CO₂ BE SECURELY STORED IN DEEP UNDERGROUND GEOLOGIC FORMATIONS?

Evidence, both natural and human-generated, strongly suggests the answer is a definitive “yes.” The United Nations Intergovernmental Panel on Climate Change (IPCC) notes there are many natural geologic deposits of CO₂ trapped in rock formations underground: “Underground accumulation of carbon dioxide (CO₂) is a widespread geological phenomenon, with natural trapping of CO₂ in underground reservoirs.” Natural trapping mechanisms, including pressure and physical and chemical characteristics of rock and geologic formations, have kept large volumes of not only CO₂, but also oil and natural gas deep underground for millions of years.

“The reason CO₂ storage works is simple: it uses the same natural trapping mechanisms which have already kept huge volumes of oil, gas, and carbon dioxide underground for millions of years.”

European Technology Platform for Zero Emission Fossil Fuel Power Plants (ZEP)

Did You Know?

United Nations Intergovernmental Panel on Climate Change (UN) IPCC, “Special Report on Carbon Dioxide Capture and Storage, Chapter 5, Underground Geologic Storage”, 2005, 5-4.

Carbon Sequestration Leadership Forum



Phase II Tasks (plan from last TG meeting)

- ***Gap assessment to identify CCS-specific tools and methodologies that will be needed to support risk assessment***
 - RATF will leverage IEA-GHG Risk Assessment Network meeting in May (Denver, CO, USA) with respect to identification of needs/gaps
 - inform Network of CSLF-RATF phase II activity
(Complete; presentation at May 2010 IEAGHG RA Network meeting)
 - circulate discussions/outbrief from Network to RATF evaluation as input into gap assessment ***(IEAGHG to circulate when available)***
 - coordinate gap assessment for risk assessment with overarching CSLF gap assessment and development of technology roadmap
(in coordination with PIRT activity)
- ***Feasibility assessment of developing general technical guidelines for risk assessment that could be adapted to specific sites & local needs.***
 - ***(Suggest re-focus around updating Phase I assessment of risk-assessment approaches/drivers within ongoing activities)***

ACTION: Request approval to re-focus (anticipate report by summer 2011)