Overview of the IEA Greenhouse Gas R&D Programmes Activities
IEA Greenhouse Gas R&D Programme

A collaborative research programme founded in 1991 as an IEA Implementing Agreement fully financed by its members

Aim: *Provide members with definitive information on the role that technology can play in reducing greenhouse gas emissions.*

Scope: *All greenhouse gases, all fossil fuels and comparative assessments of technology options*

Focus: *On CCS in recent years*

Producing information that is:
- Objective, trustworthy, independent
- Policy relevant but NOT policy prescriptive
- Reviewed by external Expert Reviewers
- Subject to review of policy implications by Members
Membership
IEAGHG Activities

• Task 1: Evaluation of technology options
  • Based on a standard methodology to allow direct comparisons and are peer reviewed

• Task 2: Facilitating implementation
  • Provision of “evidence based information”

• Task 3: Facilitating international co-operation
  • Knowledge transfer from existing, laboratory, pilot and commercial scale CCS projects globally

• Task 4: To disseminate the results as widely as possible.
Technical Evaluations

Recently Reported
- Corrosion and selection of materials for CCS
- Injection strategies for CO₂ Storage Sites
- Building a global pipeline infrastructure
- Life cycle analysis of CCS, literature review
- Geothermal energy and CO₂ storage
- Prospects for storage of CO₂ in EOR
- Removal of impurities from CO₂
- Retrofit and repowering with CCS
- Evaluation of water usage/loss in power plants with CO₂ Capture

Underway
- Quantification techniques for CO₂ leakage
- CO₂ Capture - Iron and Steel Industry
- Emissions of substances other than CO₂ from power plants with CCS
- Monitoring for substances mobilised by CO₂ storage
- Chemical emissions from post-combustion capture and deep removal
- Post-combustion capture process scale-up challenges and strategy
- Abstraction of formation brine from CO₂ geological storage
- Capture for gas-fired power plant
- Potential for reducing the life cycle emissions of CCS plant
- Use of renewable energy in CO₂ capture
- Ship transport of CO₂

Reporting in Progress
- Biomass and CCS
- Cap rock systems
- Potential Risks to Potable Groundwater from CO₂ Storage
Technical Evaluations

Recently approved studies

- Subsurface resource interaction with CO2 storage
- Potential implications for gas production from shales and coal for CO2 geological storage
- Induced seismicity
- Key messages for communication needs for stakeholders
- Technical review of storage in low permeability reservoirs
- Technical review of latest knowledge sets on CCS costs
- Update of web based monitoring tool
Implementation

International Bodies
- London Convention/OSPAR
- UNFCCC/SBSTA
- EU ZEP
- FENCO-ERA
- UNIDO
- IEA/CSLF/GCCSI G8

Direct activities
- GCCSI
- IEA CCS Unit/IEA Regulators network
- CSLF Technical Group

Educational Capacity
- International Summer School series
- Mentored programmes at GHGT conferences
- Chair CSLF Educational Task Force

Barrier identification
- Capacity constraints to implementation of CCS
- Global storage resource gap analysis (GCCSI)
International Cooperation

Research networks

- Solid Looping
- Monitoring and modelling of CO2 injection
- Well bore integrity
- Risk Assessment
  - Natural Analogues
  - Environmental Impacts
- Communications research
- Costs – being set up

Practical R,D & D

- Weyburn-Midale, Canada
- Sleipner
- CO2SINK, Germany
- CO2Remove
- Dynamis
- MOVECBM, Poland

Research Programmes

- Regional Carbon Sequestration Partnership Programme, USA
- CATO-2, Netherlands
- CCS-Potential in Austria
- OPEC Carbon Management Programme
Dissemination

- Twitter Feed
- Wikipedia page
- Face book page
- Information library
Databases

- Global CO2 emissions database
- Global R,D and D database
- Best practise database
- Risk scenarios database
- Monitoring selection tool
Conferences

PCCC1
Post Combustion Capture Conference
17th – 19th May 2011
Abu Dhabi, UAE

Oxyfuel Combustion Conference 2
12th – 16th September 2011
Yeppoon, Queensland, Australia

GHGT-11
18th – 22nd November 2012
Kyoto, Japan.
www.ghgt.info
Thank You

Further details can be found at:
www.ieaghhg.org
www.ghgt.info