



# IEAGHG Update to CSLF

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IEA GHG R&D Programme

CSLF Technical Group, 25 March 2014

# IEA Greenhouse Gas R&D Programme (IEAGHG)



- A collaborative international research programme founded in 1991
- Aim: To provide information on the role that technology can play in reducing greenhouse gas emissions from use of fossil fuels.
- Focus is on Carbon Dioxide Capture and Storage (CCS)
- Producing information that is:
  - Objective, trustworthy, independent
  - Policy relevant but NOT policy prescriptive
  - Reviewed by external Expert Reviewers



**ieaghg**



**Partner Organisations:**



# IEAGHG



- Flagship activities:
- Technical Studies >250 reports published on all aspects of CCS
- International Research Networks
  - Risk Assessment
  - Wellbore Integrity
  - Monitoring
  - Modelling
  - Environmental Impacts
  - Oxy-combustion
  - Post-combustion Capture
  - Solid Looping
  - Social Research
- GHGT conferences – GHGT-12 in Austin USA, 5-9 Oct 2014



# IEAGHG



- Other activities include:
- Facilitating R&D and demonstration activities eg IEAGHG Weyburn-Midale CO2 Monitoring and Storage Project – ‘Best Practices for Validating CO2 Geological Storage’ published Nov 2012
- International CCS Summer Schools - 2012 Beijing, 2013 UK, 2014 University of Texas Austin, USA
- Peer reviews, eg US DOE, US EPA; CO2CRC
- Active in international regulatory developments – **London Convention, UNFCCC, ISO TC265**
- Collaborations with IEA, GCCSI, CSLF, CCSA, EU ZEP and others



# Update on IEAGHG activities

# Reports published



	Contractor	Report number	Publication date
UK FEED Studies – A Summary	IEAGHG	2013-12	17/10/2013
The Process of Developing a CO2 Test Injection Experience	CO2CRC	2013-13	24/10/2013
Information Sheets for CCS	Digital Creative	2013-16	06/11/2013
Summary report of the IEAGHG Modelling Network and the Risk Management Network Meeting	IEAGHG	2013-14	20/11/2013
Monitoring Network and Environmental Research Network – Combined Meeting	IEAGHG	2013-15	02/12/2013
IEAGHG OPEC Report of Workshop on CCS and CDM	IEAGHG	2013-17	14/01/2014
Review of CO2 storage in low permeability strata	IEAGHG	2013-TR7	

# Studies being reported



	Contractor	Publication date
Comparing Different Approaches to Managing CO <sub>2</sub> Storage Resources *	BGS	March 2014
Deployment of CCS in Cement Industry *	ECRA	February 2014
CO <sub>2</sub> Pipeline Infrastructure Review *	Ecofys	January 2014
Assessment of costs of capture at baseline coal power plants	Foster Wheeler Italia	May 2014
CO <sub>2</sub> Storage Efficiency in Aquifers	EERC	April 2014
Post Combustion Capture Process Flow Sheet Modifications	Hamburg University of Technology	April 2014
Geomechanical Fault Stability	NGI	May 2014



# Studies underway



Title	Contractor	Draft Report date
Xtl to Liquids	Now being covered in Study Proposal 45-13	tbc
Monitoring Selection Tool	BGS	December 2014
Impact of CO <sub>2</sub> Impurity on CO <sub>2</sub> Compression and Transportation	Newcastle University	June 2014
Oxy Gas Turbine Power Plants	Foster Wheeler	August 2014
Operating Flexibility of CO <sub>2</sub> Storage and Transport	EERC	August 2014
Evaluation of CO <sub>2</sub> Adsorption Process in Natural Gas Production	WorleyParsons	July 2014

# Studies in tender



	Proposal number
Understanding the Cost of Retrofitting CO <sub>2</sub> Capture in Oil Refineries (consortium formed, co-funding under negotiation, expected start date summer 2014)	42-07
Cost components for Storage of CO <sub>2</sub> in association with enhanced oil recovery (tender deadline 31 March)	42-14
Quantifying and monitoring emissions reductions from CO <sub>2</sub> -EOR (tender deadline 10 March)	42-13
Techno-economic evaluation of CO <sub>2</sub> capture for Pulp and Paper (under negotiation, expected start date summer 2014)	43-10
Evaluation of Various Process Control Strategy for Normal and Flexible Operation of PCC	43-03
Review of Offshore Monitoring Techniques	44-09
What Have We Learnt from Large Scale Operational Projects – (Storage Study)	44-11

# Studies awaiting start



	Proposal number
Environmental Impact Statements – Review of Gaps (will now be an IP)	41-09
Energy Storage and CCS	43-02
Public perception of CO <sub>2</sub> pipelines	43-11
Value of Flexibility in CCS Power Plants	44-04
Evaluation and Incorporation of Future Improvements in CO <sub>2</sub> PCC Technologies	44-02
Production of Hydrogen with CO <sub>2</sub> Capture	44-01
Design and Costs of Full Scale Solid Looping CO <sub>2</sub> Capture Plants	44-03
What Have We Learnt from Large Scale Operational Projects - Capture Study)	44-11

# Research Networks

## 2014 meetings



- **Social Research Network.** Hosted by University of Calgary. 14-15 January 2014
- Combined meeting of **Monitoring Network** and **Modelling Network.** Hosted by West Virginia University, Morgantown, 5-8 August 2014
- Combined meeting of **Risk Management** and **Environmental Research Network.** tbc 2015
- Information on <http://www.ieaghg.org/index.php?/networks.html>



[www.GHGT.info](http://www.GHGT.info)

**5–9 October 2014**  
**AUSTIN, TX – USA**



- Call for papers
- Deadline for abstracts
- Registration opens
- Authors notified
- Early bird closes

27<sup>th</sup> September 2013  
10<sup>th</sup> January 2014  
7<sup>th</sup> March 2014  
2<sup>nd</sup> May 2014  
13<sup>th</sup> June 2014



# Update on CSLF Collaboration with IEAGHG

# Arrangement between CSLF Technical Group and IEAGHG

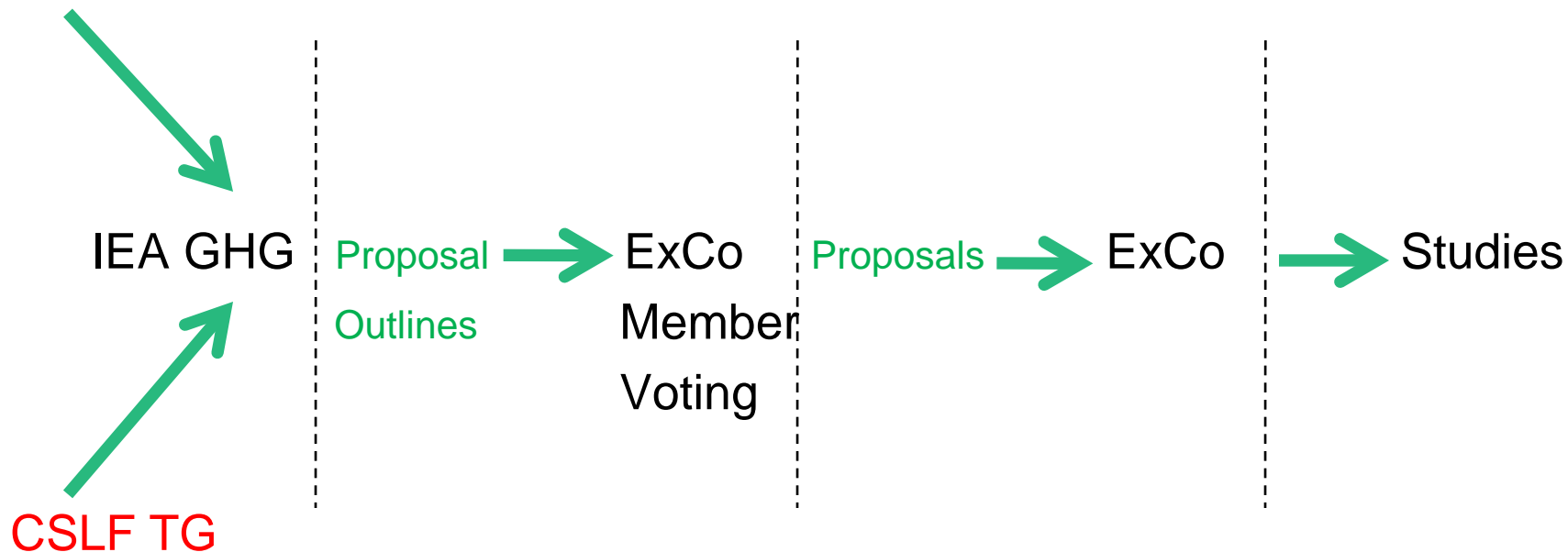


- How CSLF TG/PIRT and IEAGHG will interact for mutual benefit through increased co-operation
  - Mutual representation of each at CSLF TG and IEAGHG ExCo (no voting)
  - Liaison with PIRT co-chairs to discuss potential activities or projects – two way process
  - Activities would require approval by ExCo or TG
  - Due reference to org providing the resource
- Agreed by IEAGHG ExCo Oct 2007 and CSLF Technical Group Jan 2008



# IEA GHG – Study generation

IEAGHG ExCo members





# CSLF proposed studies



- ‘Development of Storage Coefficients for CO<sub>2</sub> Storage in Deep Saline Formations’. IEAGHG Report 2009/13. Presentation at CSLF TG Mar 2010
- ‘Geological Storage of CO<sub>2</sub> in Basalts’, IEAGHG Report 2011/TR2. Presentation at CSLF TG Sep 2011
- Potential Implications of Gas Production from Shales and Coal for CO<sub>2</sub> Geological Storage. ARI. Report published 2013. IEAGHG Report 2013/10. Presentation at CSLF TG Nov 2013
- Additional new study ideas invited from CSLF TG/PIRT
- Outline required by 19 June 2014



**Thank you**

**Any questions?**