



IEA Greenhouse Gas R&D Programme

Update Report from IEAGHG

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IEAGHG**

CSLF Technical Group, Melbourne

17 October 2018

Greenhouse Gas R&D TCP



Part of the IEA ETN since 1991



33 Members from 15 countries plus OPEC, EU and CIAB

What We Are:



Members set strategic direction and technical programme



Independent Technical Organisation

- We don't define policy
- We are not advocates

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



- *Flagship activities:*
- *Technical Studies* >320 reports published on all aspects of CCS
- *International Research Networks*
 - Risk Assessment/Management
 - Monitoring
 - Modelling
 - Environmental Research
 - High Temperature Solid Looping
 - Costs
- *GHGT conferences –*
- *GHGT-14, Melbourne, Australia, 22-26 Oct 2018*
- *PCCC conferences*

IEAGHG



Other activities include:

- International CCS Summer Schools: 560 alumni, 59 countries
- 2018 – 25-29 June, Trondheim, NCCS



- Peer reviews, eg US DOE, US EPA; CO2CRC
- Active in international regulatory developments – UNFCCC, IPCC, London Convention, ISO TC265
- Collaborations with IEA, CSLF, CCSA, EU ZEP and many others



International Energy Agency



United Nations Framework Convention on Climate Change



CCS Side Events at COP20, COP21, COP-22, **COP-23**

Input to WPF



Expert Reviewers, Accredited Observer



IEAGHG Technical reports to CSLF Technical Group



ISO Technical Committee on CCS, TC-265 4 draft standards, 2 technical reports – **IEAGHG input**



London Convention: Regular updates on CCS: **ROAD permit assessment; Offshore workshops**



ipcc
INTERGOVERNMENTAL PANEL ON
climate change





ieaghg



KHALIFA UNIVERSITY



RWE The energy to lead



Update on CSLF and IEAGHG Collaboration

Arrangement between CSLF Technical Group and IEAGHG

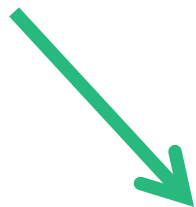


- *How CSLF TG/PIRT and IEAGHG will interact for mutual benefit through increased co-operation*
 - Mutual representation of each at CSLF TG and IEAGHG ExCo (no voting)
 - Liaison with PIRT co-chairs to discuss potential activities or projects – two way process
 - Activities would require approval by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



IEAGHG – Study generation

IEAGHG ExCo members



IEA GHG Proposal Outlines

CSLF TG



*ExCo Proposals
Member Voting*

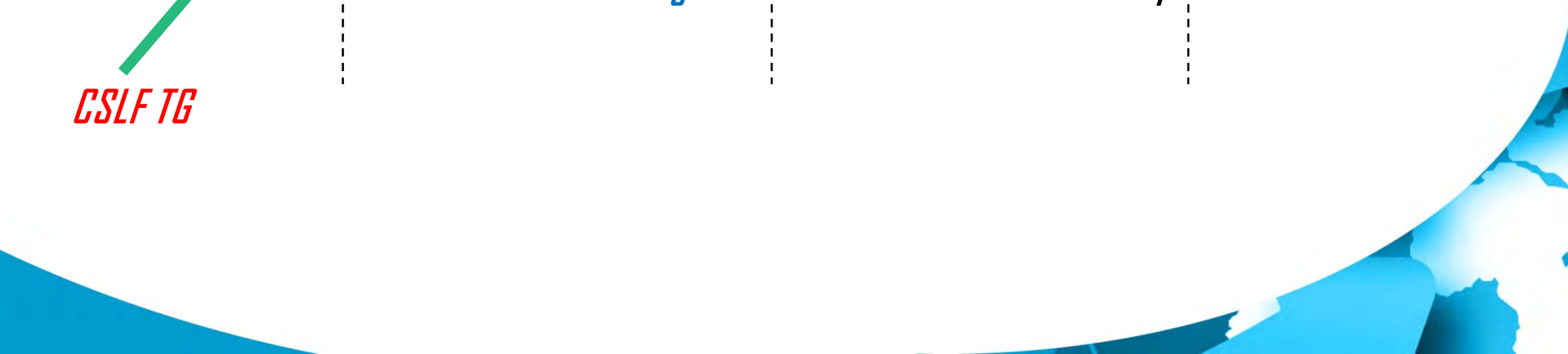


ExCo

Studies



and Reports





CSLF proposed/related studies

- 'Development of Storage Coefficients for CO₂ Storage in Deep Saline Formations'. IEAGHG Report 2009/13. Presentation at CSLF TG Mar 2010
- 'Geological Storage of CO₂ in Basalts', IEAGHG Report 2011/TR2. Presentation at CSLF TG Sep 2011
- Potential Implications of Gas Production from Shales and Coal for CO₂ Geological Storage. ARI. Report published 2013. IEAGHG Report 2013/10. Presentation at CSLF TG Nov 2013
- 'LCA of CCUS – Benchmarking'. Developed as round-table/workshop: 11-12 Nov 2015 London. CSLF on Steering Committee. Report "Workshop on LCA in CCUS", IEAGHG 2016/03, March 2016. Presented to CSLF TG June 2016.
- International Workshop on Offshore Geological CO₂ Storage, 2016-TR2, July 2016. Presented at CSLF TG June 2016
- 2nd International Workshop on Offshore CCS. 2017/TR12. Nov 2017
- 3rd International Workshop on Offshore Geologic CO₂ Storage. 2018/TR02. Aug 2018

Additional new study ideas invited from CSLF TG

Outline required by Jan 2019

Reports recently published (1)



	Contractor	Report number	Publication date
Effect of Plant Location on Costs of Capture	AMEC (Italy)	2018-04	26/04/2018
GHG Emissions Accounting for Carbon Dioxide Capture and Utilisation (CCU) Technologies - Characterising CCU technologies, policy support, regulation and emissions accounting	Carbon Counts UK	2018-TR01a,b,c	05/07/2018
Re-Use of Oil & Gas Facilities for CO ₂ Transport And Storage	Pale Blue Dot Energy and Costain	2018-06	09/07/2018
3 rd International Workshop on Offshore Geologic CO ₂ Storage	N/A - Meeting	2018-TR02	09/08/2018
Cost of CO ₂ Capture in the Industrial Sector: Cement and Steelmaking Industries	N/A - Review	2018-TR03	05/09/2018

Reports in progress to be published



Title	Contractor	Publication date
Techno-Economic Evaluation of CO ₂ Capture in LNG Process	Costain	Oct 2018
Addressing Residual Emissions from CCS	CSIRO	Nov 2018
CCS in Climate Scenarios - Update	University College Cork	Nov 2018
Well Engineering and Interventions	Talib Syed Associates	Nov 2018
Further Assessment of Emerging Capture Technologies - Update	CSIRO	Jan 2019
Review of Fuel Cell Technologies with CCS	Doosan	Nov 2018

Studies underway



Title	Contractor	Draft Report date
CO2STCAP (Cutting Capture Costs in Process Industries)	Consortium led by Tel-Tek, funded by CLIMIT	2019
Understanding the Cost of Reducing Water Usage in Coal and Gas Fired Power Plants with CCS	CSIRO	Nov 2019
Refineries and Electricity Production	Wood plc	May 2019
Beyond LCDE - Value of CCS in different generation and grid scenarios	Imperial College	Apr 2019
Gas-and coal-fired power plant with CO ₂ capture	Wood plc	Feb 2019
Sustainable Development Goals and CCS	TNO	Apr 2019

Studies awaiting start



Title	Expected start
Addressing Challenges of the Powergrid with CCS	Q4 2018
Value of emerging and enabling technologies in reducing the costs, risks and timescales for CCS	Q3 2018
Techno-economic potential of biorefineries with CCS	Q1 2019
State of the Art Review of Current and Emerging Storage Technologies and their Benefits (Stage I)	Q4 2018
Shipping Infrastructure	Q1 2019
Waste to Energy and CCS	Q1 2019

Webinar series



- Established June 2015
- 14 webinars to date

Webinar title	Date	Presenter	No. attendees	No. YouTube views to date
CO ₂ Data Share Consortium	24/05/2018	Odd Anderson (SINTEF), Philip Ringrose (Equinor) and Grethe Tangen (SINTEF)	70	28
CO ₂ Data Share Consortium: Shaping the functionality of the CO ₂ Data Share platform	20/09/2018	tbc		



Research Networks and other events

2018

- **Risk Network and Modelling Network**, hosted by EERC, 18-22 June 2018, Grand Forks, North Dakota, USA

With IEAGHG involvement and CSLF support:

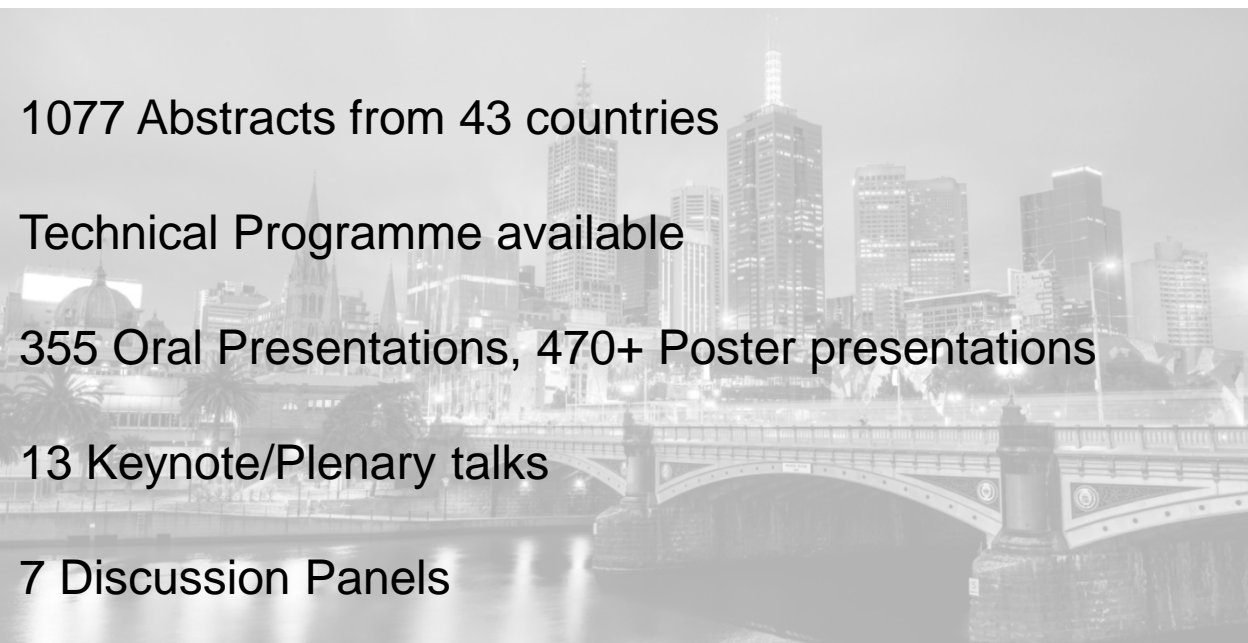
- **3rd International Workshop on Offshore CCS**, hosted by Norwegian Research Council, Oslo, 3-4 May 2018

2019

- **PCCC5** – 17-20 Sep 2019, hosted by RITE, Kyoto
- **CCS Cost Network** – 19-20 March 2019, EPRI
- **Monitoring/Environment Networks** – tbc 2019, Alberta
- **HTSLN** – tbc October, TNO in Belgium



ghgt-14



1077 Abstracts from 43 countries

Technical Programme available

355 Oral Presentations, 470+ Poster presentations

13 Keynote/Plenary talks

7 Discussion Panels



www.ghgt.info

MELBOURNE, AUSTRALIA, OCTOBER 21-26, 2018