



IEA Greenhouse Gas R&D Programme

Update Report from IEAGHG

Tim Dixon
IEAGHG

ADB
June 2018

IEA Greenhouse Gas R&D Programme (IEAGHG)



- A collaborative international research programme founded in 1991
- Aim: To provide information on technology options for greenhouse gas mitigation from energy and industrial systems
- 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

An International Energy Agency Technology Collaboration Programme



Part of the IEA ETN/TCP since 1991



33 Members from 15 countries plus OPEC, EU and CIAB

Members set strategic direction and technical programme

Independent Technical Organisation

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



ieaghg



IEAGHG



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

IEAGHG



Other activities include:

- International CCS Summer Schools: 550 alumni, 50 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

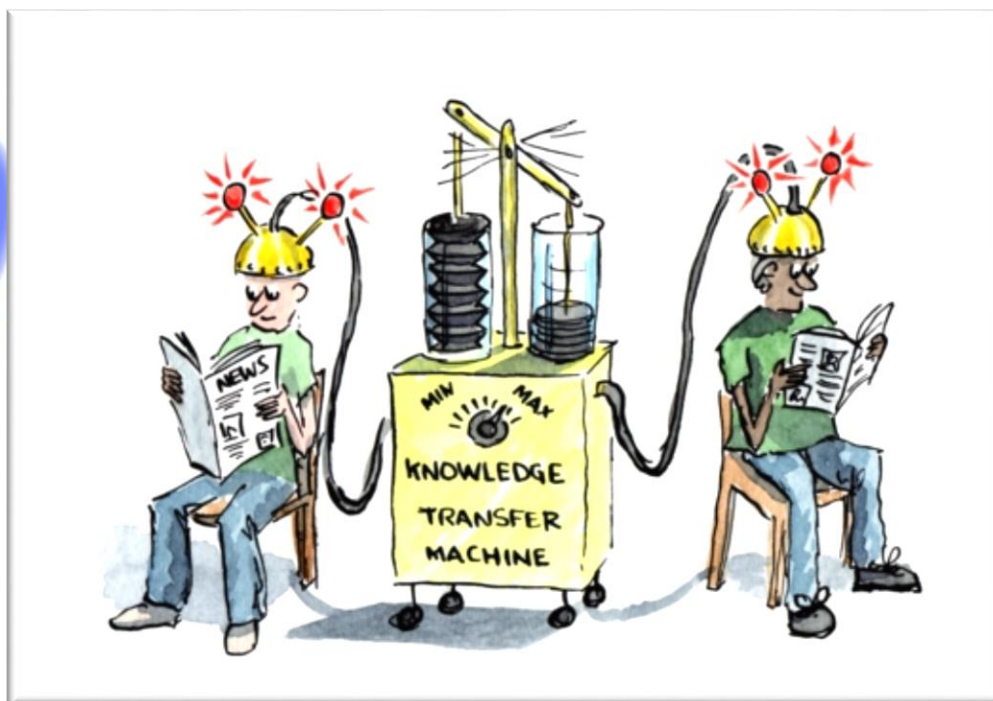


CCS Side Events at COP20,
COP21, COP-22, **COP-23**

Input to WPF



IEAGHG
Technical reports
to CSLF
Technical Group



ipcc
INTERGOVERNMENTAL PANEL ON
climate change

CCS-SR 2005,
Expert Reviewers
AR5 and 1.5SR,
Accredited
Observers



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

Reports recently published (1)



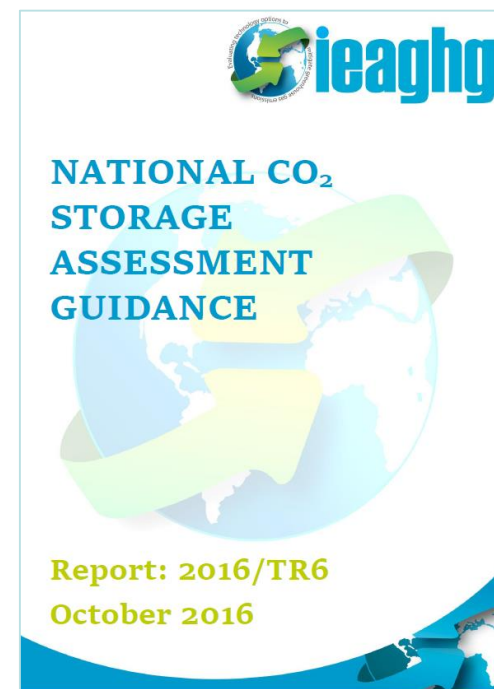
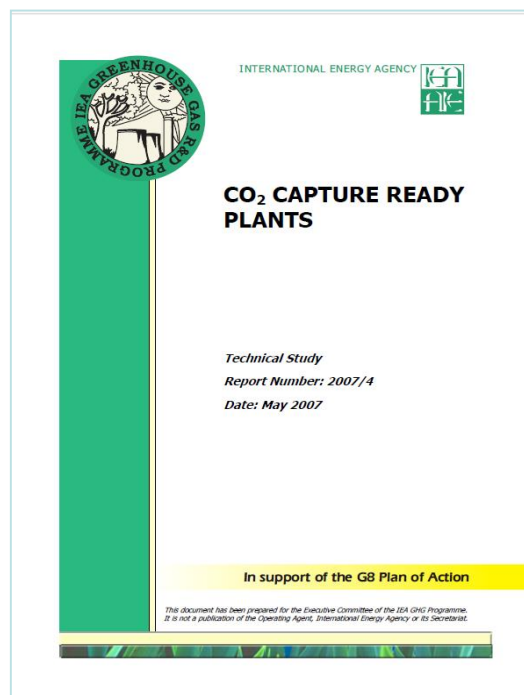
	Contractor	Report number	Publication date
Valuing Flexibility in Power Plants	Imperial College London	2017-09	07/12/2017
12th IEAGHG Monitoring Network Meeting	N/A	2017-10	21/11/2017
2nd International Workshop on Offshore Geologic CO2 Storage	N/A	2017-TR12	21/11/2017
Public Perception of Pipelines	N/A	2017-TR9	09/01/18
Enabling CCS Clusters	Element Energy	2018-01	19/02/2018
CO2 Storage Efficiency in Deep Saline Formations - Stage 2	EERC / University of North Dakota	2018-02	11/01/2018
Greenhouse Gas Emissions Accounting for CCU Technologies - Characterising CCU technologies, policy support, regulation and emissions accounting	Carbon Counts	2018-TR01	16/03/18
CCS Cost Network 2017 Workshop	N/A	2018-03	4/4/18

Reports in progress to be published



Title	Contractor	Publication date
Effect of Plant Location on Costs of Capture	AMEC (Italy)	June 2018
Techno-Economic Evaluation of CO ₂ Capture in LNG Process	Costain	June 2018

Of specific relevance to ADB



Studies underway



Title	Contractor	Proposal number	Draft Report date
CO2STCAP (Cutting Capture Costs in Process Industries)	Consortium led by Tel-Tek, funded by CLIMIT		2019
Well Engineering and Interventions	Talib Syed Associates	50-05	June 2018
Further Assessment of Emerging Capture Technologies	CSIRO	48-03	June 2018
Review of fuel cell technologies with CO ₂ capture	Doosan	51-01	June 2018
Re-use of O&G facilities for CO ₂ Transport and Storage	Pale Blue Dot	51-09	June 2018
Understanding the Cost of Reducing Water Usage in Coal and Gas Fired Power Plants with CCS	CSIRO	48-12	Phase 1 October 2018 tbc

Studies out to tender



Title	Expected start	Proposal number
Refineries and Electricity Production	Q1 2018	48-04
Beyond LCOE - Value of CCS in different generation and grid scenarios	Q1 2018	51-04
Gas-and coal-fired power plant with CO ₂ capture (techno-economic update)	Q1 2018	51-03

Studies awaiting start



Title	Expected start	Proposal number
Role of CCS in the power sector and incentives for flexible generation	Q1 2019	52-01
Value of emerging and enabling technologies in reducing the costs, risks and timescales for CCS	Q1 2018	52-12
Techno-economic potential of biorefineries with CCS	Q1 2019	52-06
State of the Art Review of Current and Emerging Storage Technologies and their Benefits (Stage 1)	Q4 2018	52-09
CCS and Sustainable Development Goals	Q1 2018	53-14
CO2 Shipping Infrastructure	tbd	53-12
Waste to Energy Plant and CCS	Tbd	53-04

Webinar series



Webinar title	Date	Presenter	No. attendees	No. YouTube views to date
Reflections on UNFCCC COP-23 - Negotiating the wide range of details of implementing the Paris Agreement	12/12/17	Arthur Lee / Tim Dixon	56	39
Enabling industrial CCS Clusters	26/3/18	Jasmin Kemper	119	45
CO2 Data Share Consortium - an International Platform for Sharing Data related to CO2 Storage Projects	24/05/18			
Mission Innovation CCUS Challenge	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

For more information and to register:

<https://forskningsradet.pameldingssystem.no/us-norway-bilateral-meeting>

2019

- **PCCC5** – 17-20 Sep 2019, hosted by RITE, Kyoto



ghgt-14



1077 Abstracts from 43 countries!

Technical Programme available early May 2018

355 Oral Presentations, 500+ Poster presentations.

Authors notified early May 2018

Registration open. Early bird rate ends 13 June 2018

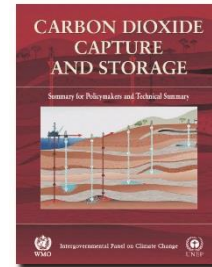
www.ghgt.info

MELBOURNE, AUSTRALIA, OCTOBER 21-26, 2018

CCS in UNFCCC



➤ **2005 - IPCC SR on CCS**



➤ 2005– 2011 CCS in CDM?....

➤ 2011 – CCS CDM Abu Dhabi workshop

➤ **2011 - COP-17 CCS in CDM**



➤ 2014 - ADP TEM on CCS – project focussed

➤ 2014 - COP-20 – CCS projects Side Event

➤ 2015 - COP-21 – CCS projects Side Event

➤ 2016 – COP-22 – CCS in Africa Side Event

➤ 2017 – COP-23 – CCS, Oceans and SIDS



CCS at COP-23 Bonn/Fiji



United Nations
Framework Convention on
Climate Change

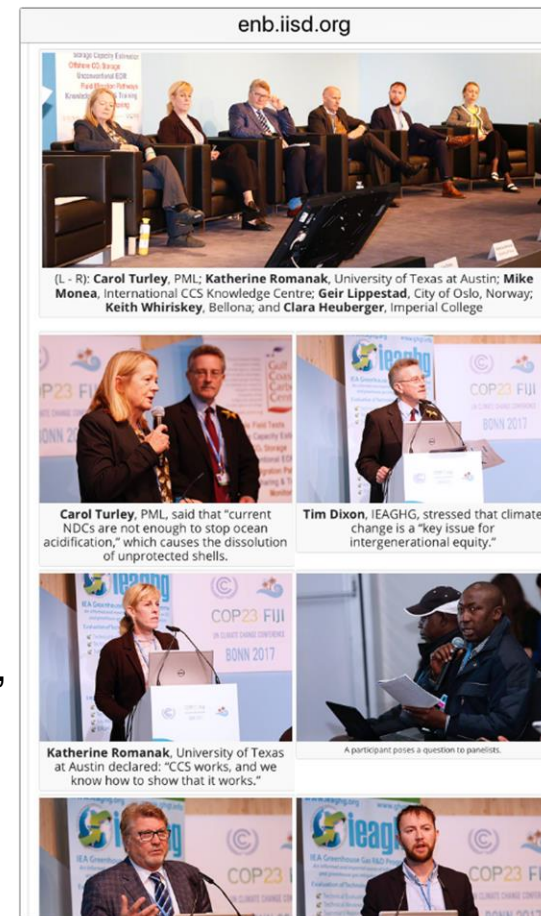
CCS developments towards a 1.5 world. Will it help the oceans and Small Island Developing States?

Organised by UT and IEAGHG, with Bellona and CCSA

Tuesday 07 November, COP-23, Bonn

- **Context setting** – Tim Dixon IEAGHG (Chair)
- **Ocean acidification and the need for CO₂ reduction** – Dr Carol Turley OBE, PML
- **London Convention's response** – Tim Dixon IEAGHG
- **Potential for CCS in Trinidad and Tobago** – Dr David Alexander, The University of Trinidad and Tobago
- **Project updates from SECARB and Offshore** – Dr Katherine Romanak, University of Texas
- **Knowledge Sharing from the International CCS Knowledge Centre** - Mike Monea
- **Preventing the climate impact of residual waste** - Geir Lippestad, Vice Mayor, Oslo, Norway.
- **CO₂ infrastructure to achieve 1.5C**- Jonas Helseth, Bellona
- **CCS supporting renewables** - Clara Heuberger, Imperial College

➤ 150 attendees and IISD coverage





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