



Overview of IEA Greenhouse Gas Programme activities

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Chairman**

IEA Greenhouse Gas R&D Programme

Visit to China Huaneng Group

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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 - July 2011



Membership Changes



- 5 Countries have joined since 2006
 - Austria, India, OPEC, South Africa, Spain
- 10 Sponsors joined since 2006
 - CEZ Group, CIAB, ConocoPhillips, DoosanBabcock, ENEL, EnBW, , GCCSI, JGC, Schlumberger, ScottishPower
- New members invited
 - CEPAC/Brasil
 - Masdar (UAE)
 - IIE (Mexico)



IEAGHG Activities



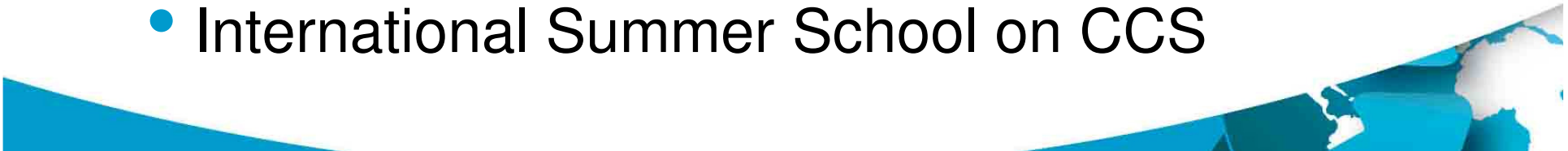
- **Task 1: Evaluation of technology options**
 - Based on a standard methodology to allow direct comparisons and are peer reviewed
- **Task 2: Facilitating implementation**
 - Provision of “evidence based information”
- **Task 3: Facilitating international co-operation**
 - Knowledge transfer from existing, laboratory, pilot and commercial scale CCS projects globally
- **Task 4: To disseminate the results as widely as possible.**



Summary of activities



- Task 1 -Technical evaluations
 - 65 technical reports and 15 technical reviews published on technology options
 - Focus on CCS
- Task 2 – Facilitating Implementation
 - Active engagement on technical issues with groups like:
 - IEA, CSLF, G8 CCS initiative, GCCSI, EU, UNFCCC, IMO/OSPAR,
 - Targeted studies on barriers to implementation
 - International Summer School on CCS



Summary of activities



- Task 3 – Facilitating International Co-operation
 - 9 international research networks operational
 - Storage – risk assessment, modelling, monitoring, well bore integrity, environmental impacts
 - Capture – post combustion, Oxyfuel and Solid looping
 - 26 workshops held since 2007 (50-100 attendees)
 - 8 other technical workshops held
 - Oxyfuel and Post Combustion networks developed into conference series due to popularity
 - OCC-1 held in Cottbus, Germany 2009 (200 participants), **OCC-2, Yeppon, Australia (Sept 2011)**
 - PCC-1 held in Abu Dhabi, May 2011 (125 delegates)
 - GHGT conference series
 - GHGT-10, Amsterdam, September 2010 was attended by 1670 delegates from 55 countries, **GHGT 11, Kyoto 2012**

Summary of Activities



- Task 4 – Dissemination
 - Quarterly newsletter – Greenhouse Issues
 - 4500 copies in 80 countries
 - New web site
 - www.ieaghg.info
 - Twitter feed
 - Wikipedia web page
 - Summary reports
 - 13 reports issued
 - Technical papers
 - 30 in conference proceedings
 - 8 in peer reviewed journals
 - International Journal of Greenhouse Gas Control established with Elsevier in 2007



Specific key achievements

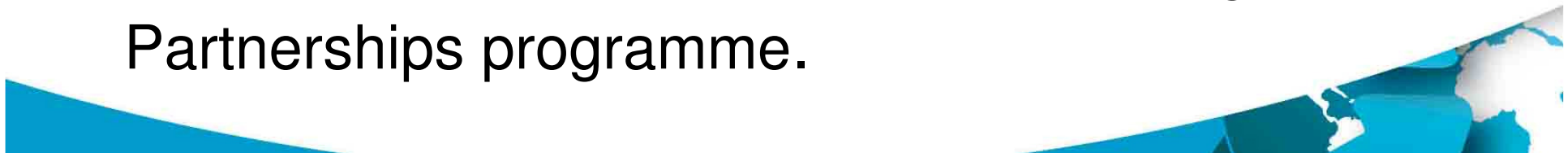


- Technical work extensively cited in Phd theses, conference papers etc.
 - One paper currently most cited paper in the Journal Energy
- Cited in IEA reports
 - Prospects for CO₂ storage (2007), legal Aspects of storing CO₂ (2007), IEA CCS Road Map (2009), Energy Technology Perspectives (2010), IEA Legal and Regulatory Framework (2011)
- Others include:
 - MIT, USA report on Future for Coal
 - G8 action plan on CCS
 - Main contributor to IPCC Special Report on CCS

Specific Key Achievements



- Capture Ready report
 - Used by EU in drafting CCS Directive
 - Utilised by UK Government in Consultation process on implementation of CCS directive
- Workshop report on environmental impacts of post combustion capture
 - Used by Norwegian Government to frame its investigations on amine degradation products from Post combustion capture.
- USDOE invited IEAGHG to act organise on going technical review of multi million dollar Regional Partnerships programme.



Interactions with other IEA groups



- Other IA's
 - Clean Coal Centre
 - Electricity Co-ordination Group (Smart Grids)
 - Others: Bioenergy, Hydrogen & Wind
- CIAB is a member of IEAGHG
- Examples of IEA interactions
 - IEA NEET workshops in Brazil, China and Russia
 - IEA CCS workshops in Russia and Ukraine
 - IEA/MOST Workshop, China 2010
 - IEA Communication workshops
 - WPF Meetings





IEA CCS Unit

- Clear technical/policy divide
- Building relationship
 - Regular ad hoc discussions/cross exchange
- Recent links
 - IEA Regulators network – on-going
 - IEA Capture cost report
 - Studies referenced and staff interactions
 - Costs network – 2nd meeting hosted by IEA in Paris
 - Policy messages from IEAGHG reports – Retrofits and Bio-CCS

Other International Bodies



- CSLF
 - IEAGHG member of Technical Group
 - Participated in Risk Management and HSE task forces
 - Chair of Academic Task Force
 - Exchange of study ideas
 - One study funded by IEAGHG
- EU ZEP
 - Members of Policy and Technical working groups
- EU Project Network
 - Strategic Advisory Group



Other International Bodies



- GCCSI
 - One member of staff seconded for period of time
 - GM is member of Technical Advisory Committee to GCCSI Board
 - Research Provider Agreement
 - Technical studies
 - Impurities work just released
 - Supporting our GHGT and research network activities
 - Started up Social Research Network on public outreach jointly



Plans for Next 5 years



- Strategic plan for 2011 to 2016 agreed with members
- Balance of activity to be agreed with members at 40th ExCo
- Core of plan is to continue existing tasks with continued evolutionary refocusing of technical needs
 - Continue to focus on CCS
 - Key Issues:
 - System Integration/Flexible Operation
 - CCS interactions with renewables – biomass/geothermal/solar
 - Focus on 2nd/3rd generation capture technologies
 - Review breakthrough technologies
 - Assess status of new technology developments, e.g biochar
 - Continue to address research needs in geological storage





Thank you

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