



# ghgt-14



14<sup>th</sup> International Conference on  
Greenhouse Gas Control Technologies

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October 21-25 2018

Melbourne Convention Centre - Melbourne, Australia

# GHGT-14: Melbourne, Australia

The GHGT conference series has long been established as the principal international platform for presenting and discussing developments in greenhouse gas mitigation technologies. This is especially true with respect to the technologies surrounding CO<sub>2</sub> Capture and Storage (CCS).

When the series started 27 years ago, CCS was very much a novel concept. Now with the technology being tested at commercial scale and industry looking to CCS to help reach their emission reduction targets, CCS is poised to take its place amongst the suite of climate change mitigation options that we need to deploy if we are to successfully limit CO<sub>2</sub> emissions, and prevent catastrophic climate change.

We therefore invite you to share your research, results and enthusiasm at GHGT-14, bringing together the CCS, energy and industrial communities and proving to decision makers that CCS is a viable and necessary option.

## Overview & Objectives

The 14<sup>th</sup> event in the GHGT series will take place in the Melbourne Convention Centre, Melbourne, Australia and as with previous conferences, the programme will consist of both oral and poster presentations, together with panel discussions, keynote talks and plenary lectures. Time will also be allocated for networking and informal discussions.

As ever, the objective of the GHGT conference is to bring together all stakeholders involved in CCS, the power sector, transport and industry to present and discuss new insights, experiences, developments and research in GHG emission reduction, from theory to experiment, from research to demonstration, from investment to deployment, from potential to risk, from cost to acceptance, and from policies to opportunities.

## Technical Themes

- Advances in capture technology development**
- Developments in CO<sub>2</sub> geological storage**
- Developments in other storage options for CO<sub>2</sub>**
- CCS for industrial sources (non-power)**
- CO<sub>2</sub> Transport and infrastructure development**
- Towards negative CO<sub>2</sub> emissions**
- CO<sub>2</sub> utilisation options**
- Demonstration projects and major national and international CCS research, development and demonstration programmes**
- CCS technology assessment, cost and system integration**
- Perceptions of CCS and education activities**
- Energy, climate change and CCS policies**
- Legal and regulatory aspects of CCS and long term liability for CO<sub>2</sub> storage**
- Abatement of non-CO<sub>2</sub> greenhouse gases from Geological activities**

## Proceedings

Elsevier have ceased to publish conference proceedings in Energy Procedia, so in a change from the past few conferences, full papers will be published online by Knowledge E Publishing. The proceedings will be fully citable and indexed in major databases (e.g. Scopus, Web of Science). Alternatively, authors will be able to opt for their full papers to be considered for inclusion in a Virtual Special Issue (VSI) of the International Journal of Greenhouse Gas Control. The TPC hopes to include approximate 10% of papers submitted to the conference to the VSI

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## Call for Papers

You are invited to submit abstracts for consideration, for both oral and poster presentations, related to the technical themes of the conference. It is important that sufficient information is included in your abstract to allow it to be fairly assessed. The abstract must represent the actual paper that will be presented at the conference. In the selection of papers for the conference, emphasis will be placed on the presentation of results and new developments. Replacement of papers will not be accepted. A condition of submission and acceptance is that at least one author will register and attend the conference. Presenters will be required to pay the full registration fee.

Please note that if your abstract is selected for oral or poster presentation, a full paper is still required.

## Abstract Format

Abstracts should be between 500 and 1000 words, on the conference template, in English, and contain the paper title, author(s) name(s) and organisation(s). Abstracts submitted below or above this word limit will not be accepted for review.

## Deadline

Abstracts should be submitted via the conference web site ([www.ghgt.info](http://www.ghgt.info) and following the links to the abstract submission). The abstract submission will open on 1<sup>st</sup> September 2017. Abstracts must be received by the conference organisers no later than 31<sup>st</sup> December 2017. Please note: the online abstract submission system will close at midnight GMT on this date.

## Assessment

The Technical Programme Committee will assess and select the abstracts, based on the technical input from the Expert Panel, and allocate selected abstracts for oral or poster presentations. Authors may indicate their preference upon submission of their abstract.

The Technical Programme Committee comprises:

- Tim Dixon (Co-Chair) - IEAGHG, UK
- Matthias Raab (Co-Chair) - CO2CRC, Australia
- Carlos Abanades - CSIC, Spain
- Lincoln Paterson - CSIRO, Australia
- Mohammad Abu Zahra- Masdar, UAE
- Gary Rochelle - University of Texas, USA
- Andrea Ramirez - Delft University, Netherlands
- Sue Hovorka - University of Texas, USA
- Sean McCoy - LLNL, USA
- Kevin Dodds - ANLEC R&D, Australia

The Expert Panel will be comprised of a number of technical experts covering the range of themes, and

their expertise will be called upon to support the evaluation of the submitted abstracts.

The Technical Programme Committee and Expert Panel will also be supported by a Technical Advisory Group, whose role will be to assist the collation of reviewer comments and compiling specialist sessions. The Expert Panel members of these groups will be listed on the conference website.

## Notification

You will receive notification of your paper acceptance or rejection by 1<sup>st</sup> May 2018. If the paper is accepted, a full copy must be submitted by 5<sup>th</sup> October 2018 to guarantee publication on the conference website prior to the conference and inclusion in the conference proceedings. To be included in the conference proceedings a copyright agreement form with the publisher will also be required.

## Publications

Abstracts will be available on the conference website by 1<sup>st</sup> May 2018. The final version of the papers to be presented will be available on the conference website by 5<sup>th</sup> October 2016. All papers presented (orally or by poster) will in principle be published in the conference proceedings or the VSI after the conference.

## Registration

Online registration will be available by 6<sup>th</sup> March 2018. Early Bird Registration will end on 13<sup>th</sup> June 2018.

## Contact

For assistance with the abstract/paper submission process, please contact Suzanne Killick at

[suzanne.killick@ieaghg.org](mailto:suzanne.killick@ieaghg.org)

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

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# Theme/subtheme Breakdown

The GHGT-14 Technical Programme Committee have detailed a list of subthemes under each main theme which can be found listed in the following pages. Authors are requested to select the subtheme most appropriate for their paper during submission to assist with the review process. The list is not exclusive and should an abstract not fit under any of the listed subthemes, it will still be considered for inclusion and can be submitted under 'other'.

## **Advances in capture technology development.**

- Alternative gas separation principles
- CO<sub>2</sub> capture technologies in industrial systems
- High temperature solid looping: Calcium looping
- High temperature solid looping: Chemical looping
- Oxy- combustion: ASU and CO<sub>2</sub> processing
- Oxy-combustion: CFBC technology
- Oxy-combustion: NG systems
- Oxy-combustion: Pilot testing & operation
- Oxy-Combustion: Process modelling
- Oxy-Combustion: PC technology
- PCC: Amine fundamentals, rates and thermodynamics
- PCC: Alternative aqueous amines
- PCC: Amine degradation
- PCC: Ionic liquids, two-phase amines, nonaqueous & other advanced solvents
- PCC: Amine aerosols
- PCC: Corrosion in amine systems
- PCC Other process modelling
- PCC: Amine process dynamics and control
- PCC: Amine pilot plants
- PCC: Solid sorbent materials
- PCC: Solid sorbent processes
- PCC: Polymeric amine materials
- Ceramic and metallic membrane materials
- Pre-combustion processes with membranes
- Pre-combustion with solvents
- Pre-combustion: Solid sorbent materials and processes
- Other

## **Energy, climate change and CCS policies**

- CCS and other pollutants
- CCS technology transfer
- Emissions trading schemes (California, China, CDM, EU, etc)
- GHG footprint of energy systems
- Policy approaches
- The role of CCS in future energy systems
- UNFCCC and future global climate policy and policy tools
- GHG footprint of energy options
- Other

## **CCS for industrial sources (non-power)**

- Cement
- (Petro) chemical
- High concentration CO<sub>2</sub> sources
- Iron and steel
- Refineries
- Gas/LNG production
- Other

## **Transport**

- Pipelines
- Shipping
- Safety & CO<sub>2</sub> Quality
- Infrastructure & source sink matching
- Other

## **Towards negative CO<sub>2</sub> emissions**

- Biomass energy combined with CCS
- Capturing CO<sub>2</sub> from the air or oceans
- Enhancing natural mineralisation
- Ocean fertilisation
- Other

## **CCS technology assessment cost and system integration**

- CCS and water use
- CCS integration into competitive energy markets
- Costs, including comparison to other mitigation options
- Energy efficiency in CCS systems
- Integrated CCS systems
- Health, safety and environmental risk assessments
- Life cycle assessment studies
- Project financing, commercial arrangements, and pricing in risk
- Other

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### **Advances in CO<sub>2</sub> geological storage**

- Case studies
- CO<sub>2</sub> injectivity
- Environmental impacts
- Geomechanics
- Geomechanics modelling
- Pore-scale modelling
- Wellbore modelling
- Leakage modelling
- Field-Scale reservoir modelling
- Monitoring: Geophysical methods
- Monitoring: Technologies and techniques
- Monitoring: Pressure methods
- Monitoring: Geophysical methods
- Novel storage concepts
- Remediation and contingency planning
- Risk assessment and management
- Site characterisation and selection
- Storage capacities
- Storage costs
- Storage reservoir engineering
- Trapping mechanisms
- Wellbore integrity
- Other

### **Demonstration projects and major national and international CCS research developments and demonstration programmes**

- Integrated commercial CCS projects (private-govt. funded)
- Integrated demonstration projects (govt. funded)
- Integrated pilot projects (research project vehicles)
- Storage only CCS projects
- Capture only CCS projects
- Non-conventional integrated storage/capture projects
- Early stages of integrated projects
- Other

### **Developments in other storage options for CO<sub>2</sub>**

- Basalts and other low permeability reservoirs
- Coal beds
- Mineralisation
- Ocean storage
- Other

### **Legal and regulatory aspects of CCS and long term liability of CO<sub>2</sub> storage**

- Emissions accounting
- International marine treaties
- Long term responsibilities, and liabilities
- Management of pore space and property rights
- Operational liabilities, financial security and project closure
- Permitting storage site exploration, project development and CO<sub>2</sub> storage
- Other

### **CO<sub>2</sub> Utilisation for GHG mitigation**

- CO<sub>2</sub> use for production of algae or chemicals
- CO<sub>2</sub> for enhanced geothermal
- CO<sub>2</sub> for enhanced hydrocarbon recovery
- CO<sub>2</sub> for energy (storage)
- Other

### **Perception of CCS (public, industry and other stakeholders) and education activities**

- Attitudes towards CCS and the portfolio of low carbon energy technologies
- Capacity building for CCS deployment
- Case studies of CCS communication activities
- Education and training issues
- Social science research for CCS deployment
- Other

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

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