

Carbon Capture and Storage

Programme and Registration Brochure

12 November 2008

IMechE, 1 Birdcage Walk, London

www.imeche.org/events/S1326



Great Plains Synfuels Plant
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Carbon Capture and Storage

Carbon capture and storage is the most exciting proposition for reducing emissions and tackling climate change across a broad range of industries. Engineers need to take the lead in ensuring the public accepts this emerging technology, by addressing key issues.

The need to maintain secure and diverse sources of electricity generation, along with the planned closure of the UK's coal-fired power stations – those that opted out of the EU Large Combustion Plants Directive – has led to renewed interest in coal-fired plant.

All new coal-fired plants are required to be carbon capture-ready. However, there is little experience of carbon capture at the scale needed for utility power stations. This seminar will explore carbon capture, transmission, sequestration and storage technologies.

Attending will help you:

- Appreciate the latest technological developments in carbon capture and storage
- Gain insight into carbon dioxide capture, transmission and subsurface sequestration
- Learn how to make this exciting technology a commercial reality
- Improve knowledge of the technical challenges to be overcome
- Learn how to retrofit to existing plant
- Appreciate the concerns of the Health and Safety Executive
- Discover E.ON's views on the subject
- Study oxyfuel power generation
- Develop best practice in plant design
- Explore options for transportation and storage of carbon dioxide
- Gain a deeper understanding of the potential pitfalls with the commercial delivery of this emerging technology
- Find out which areas need further development
- Meet, greet and network with experts/key industry professionals
- Find collaborators for future projects

Who should attend

This event is an ideal opportunity for fossil plant owners, operators, investors, financial advisers, insurers and policymakers to gain an understanding of the range of issues involved in developing, owning and operating power/process plants with carbon capture.

Exhibition and sponsorship

Why not take this opportunity to display an exhibition stand, or provide inserts about your company in the delegate packs? For more information contact Aman Duggal on +44 (0)20 7973 1309 or email a_duggal@imeche.org

Organising Committee

Mr John Armstrong	Engineering Manager, Enfield Power Station, E.ON UK Generation
Eur Ing Andy Brown	Engineering Director, Progressive Energy Ltd
Mr Tim Jackson	Business Development Manager, RWE npower Energy Projects

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PROGRAMME

12 November 2008

09:00 Registration

09:25 Chairman's Welcome

09:30 Keynote

Dr Jeff Chapman, Chief Executive, The Carbon Capture and Storage Association

Capture Processes

09:50 Capture-Ready Coal-Fired Power Plants – Suitable for Oxyfuel or Amine Scrubbing

Dr Mike Farley, Director of Technology Policy Liaison

Co-Authors: Mr Graham Welford and Mr Mark Bryant, Doosan Babcock Energy Limited

The authors will present answers to the following questions, from the perspective of a leading global supplier of cleaner coal-

power plant and a provider of carbon capture solutions:

- What are the options for CO₂ capture on power plant?
- What is a capture-ready power plant?
- Why build capture-ready power plant?

10:10 The Pathway to Zero Emission and the Role of CCS Demonstration

Mr Nick Otter OBE, Director of External Affairs and Technology, ALSTOM Power Systems

- Role of CCS demonstration in an overall strategy to get to (near) zero CO₂ emission from fossil fuels
- Activities and recommendations of the European Technology Platform ZEP and their impact on EU Energy Policy
- CCS technologies, focusing on post-combustion capture and the ability to retrofit together with a 'capture-ready' approach

10:30 Retrofitting CO₂ Capture to Capture-Ready and Other Existing Power Plants: Costs, Regulations and Incentives

Dr Jonathan Gibbins, Senior Lecturer, Energy Technology for Sustainable Development Group, Mechanical Engineering Department, Imperial College

Co-Authors: Ms Hannah Chalmers, Mr Mathieu Lucquiaud and Ms Jia Li, Imperial College

- Retrofitting capture to existing plants can be a relatively fast and cost-effective way to reduce CO₂ emissions
- Making plants capture-ready can avoid many of the potential problems with retrofit
- Societal costs of retrofit as part of a transition to CCS can be reduced significantly with the right regulatory approach
- The lost output when capture is added is easier to accommodate with flexible systems and incentives
- Flexible retrofitted plant can also complement increased nuclear and renewables in the electricity mix

10:50 Questions

11:05 Coffee

Capture Plant

11:30 Pre-Combustion Carbon Capture Power Plant

Mr Michael Rolls, Divisional Director, Power Plants, Siemens Plc

11:50 Oxyfuel Power Generation – Technology Developments and Opportunities

Dr Vince White, Lead Development Engineer, Air Products Plc

- Oxyfuel combustion is one of the technologies available to permit power generation from coal combustion while capturing the resulting CO₂
- This presentation will describe the technology, particularly the downstream CO₂ purification and compression system
- The process used to treat the CO₂ means that conventional pollutant control technologies may not be required in the power plant

12:10 Pre-Combustion Carbon Capture – a Key Technology towards a Low-Carbon Economy

Eur Ing Terry Raddings, Energy Solutions Manager – W Europe, GE Energy

- Market outlook
- The technology
- Making it happen

12:30 Questions

12:45 Lunch

13:35 Keynote Address – Regulatory Developments

Mr Tim Dixon, IEA GHG

Current Projects

13:55 Pre-Combustion Capture

Eur Ing Andy Brown, Engineering Director, Progressive Energy Limited

- Description of IGCC technology
- Environmental credentials of IGCC
- Requirements for IGCC with pre-combustion CO₂ removal
- The Eston Grange Project
- Engineering challenges of a coal-based carbon capture and storage project in the UK

14:15 Carbon Capture Trails and Planned Developments

Dr Gerry Riley, RWE npower

- Details of R&D being carried out on oxyfuel combustion at the test facility at Didcot, plus amine capture plant at the test facility at Didcot and the 1MW facility at Aberthaw power station

14:35 Carbon Capture and Storage

Mr Jonathan Periselneris, Project Engineer – Clean Coal Development, E.ON

- The challenges facing the UK energy industry and the role CCS could play
- E.ON's view on CCS
- The latest position on E.ON's entry to the UK Government CCS competition

14:55 Questions

15:10 Tea

Transport

15:35 CCS Compressor Solutions

Mr Roger W Allen – General Manager, MAN Ltd

- Influence of upstream AGR (acid gas removal) process
- Machine design concepts
- Discharge pressure capabilities
- Process integration (if required) within compression process

15:55 HSE Concerns Associated with Major Accident Hazards of Large-Scale Sequestration of CO₂

Mr Stephen Connolly, HSE

- Introduction
- Scale of the thermal cooling envelope
- Toxic contamination effects
- Dry ice 'grit blasting effects'
- Specific challenges associated with dense phase or supercritical carbon dioxide
- Modelling dense phase/supercritical CO₂ releases
- Containment and integrity
- CO₂ detection

16:15 Questions

Storage

16:30 Potential CO₂ Storage Locations and Capacity in the UK

Dr Sam Holloway, Senior Geologist, British Geological Survey

- The UK appears to be well placed for CO₂ storage sites but most, if not all, large potential storage sites are offshore
- Oil and gas fields are prime sites for CO₂ storage, as they are known to have retained buoyant fluids in many cases for millions of years
- The combined storage capacity of all the UK oil and gas fields could be as much as 7.5 billion tonnes CO₂
- Saline water-bearing reservoir rocks (saline aquifers) appear to have very large potential but comparatively little is known about them

16:50 CO₂ Storage - Finding it, Filling it, Fixing it

Dr Anthony K Booer, Business Manager, N Europe, Schlumberger Carbon Services

- What's special about CO₂ storage
- Lifecycle of a CCS project: characterization & monitoring
- Lessons learned from CO₂ storage projects so far

17:10 Questions

17:25 Chairman

17:30 Close of Seminar

17:30 – 19:00 Drinks Reception

19:00 Close of Day

The programme is subject to amendment.

One form per person only (forms may be photocopied)

For added convenience, you can also book online at www.imeche.org/events/S1326

Registration (please complete in CAPITALS)

Family Name _____ Title (Mr, Mrs, Miss etc) _____

First Name _____ Date of Birth _____

Membership No. _____ Institution _____

Job Title _____

Name of Organisation (for name badge) _____

Address for Correspondence _____

Town/City _____

Postcode _____ Country _____

Contact Telephone _____ Fax _____

Email _____

Do you have any special requirements? _____

How did you hear about this event? Direct mail Website Colleague Other _____

Fees and Charges (Please complete the appropriate box)

Registration fees include entry to the sessions, refreshments, lunch and a copy of the event proceedings

	Fee	Vat	Total	£
IMechE Member	£190.00	£33.25	£223.25	<input type="text"/>
Member of Co-Sponsoring Organisation	£190.00	£33.25	£223.25	<input type="text"/>
Non-Member	£230.00	£40.25	£270.25	<input type="text"/>
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IMechE endeavours to provide information to help you achieve your business objectives. By submitting this form, you will be consenting to receiving details of IMechE events and publications we think will be of interest, unless you indicate an objection to receiving such information by ticking this box

Payment Details

Payment must accompany this registration form. Registration will be confirmed only on receipt of full payment

Please indicate method of payment: Cheque Credit Card BACS Invoice (see below)

Cheques should be made payable to IMechE and crossed. Please note overseas delegates may pay only by credit card, BACS or banker's draft. A copy of the draft must accompany this form. It is the delegate's responsibility to pay any bank charges.

Credit Card: Visa MasterCard Eurocard (please note we cannot accept American Express, Diners Club or Maestro)

Card number _____ Valid from ____/____ Expiry Date ____/____

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BACS Bank Transfers can be made to: IMechE Current Account, NatWest Charing Cross Branch.
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12/11/2008

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Conditions of Booking

Completed application forms should be returned to the address below, along with the correct payment. Attendance at the event will be confirmed on receipt of the full balance. All participants are advised to bring a copy of their confirmation with them on the day, to ensure the fastest possible entry.

Special Requirements

Please inform us of any special requirements ie dietary or access, on the relevant section of this form.

Cancellation

For a refund (minus £25 + VAT admin charge), cancellations must be received at least 14 days prior to the event. Replacement delegates are welcome at any time.

Co-Sponsoring Organisations

Members of the following organisations can register at IMechE members rates: IET, IChemE, ICE, Carbon Capture and Storage Association

Venue

This event will be held at IMechE, 1 Birdcage Walk, London SW1H 9JJ. Details will be sent upon registration.

Insurance

The organisers do not accept liability for any injuries or losses of any nature incurred by delegates and/or accompanying persons, nor for loss or damage to their luggage and or/personal belongings.

Accommodation

We have arranged special discounted rates at local hotels via the Corporate Team. Our list of hotels will be forwarded upon receipt of your registration and payment.

If you wish to contact the Corporate Team directly, please use the details below and quote ID number 8488.

Tel: +44 (0) 20 7592 3050

email: events@corporateteam.com

www.corporateteam.com/events/8488ME

Enquiries

For event enquiries, please call Taz Khatun on +44 (0) 20 7973 1306 or email t_khatun@imeche.org

For registration enquiries call Tina Churcher on +44 (0) 20 7973 1258 or email t_churcher@imeche.org

Complete and return this form to:

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