

# Oil and Gas Innovation in the Fossil Fuel Future

*European Seminar and Dialogue  
Brussels, 22 & 23 February 2006*

## IEA Advisory Group on Oil and Gas Technology

The cover features the IEA logo and the text 'INTERNATIONAL ENERGY AGENCY'. The main title is 'Day 1: Resources to Reserves'. Below it, the subtitle reads 'Oil & Gas Technologies for the Energy Markets of the Future'. The cover is divided into two sections: 'Day 1' and 'Day 2'. The 'Day 2' section includes the text 'How Can Carbon Capture and Storage be Taken one Step Further?' and 'Accelerating Frontier Options of Technology - Role of Enhanced Global Oil Recovery'. The cover also features a large 'CO<sub>2</sub>' graphic and an image of an oil pumpjack. The OECD logo is visible in the bottom left corner.

Program

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Background

**Venue:** *Royal Windsor Hotel Grand Place, Brussels*

# Resources

## About the Book

Since its global launch at the World Petroleum Congress in South Africa last fall, IEA's first oil and gas technology study *Resources to Reserves, Oil and Gas Technologies for the Energy Markets of the Future* has become one of the Agency's best selling 2005 publications. Providing a new strategic backdrop for further dialogue on the long-term role of oil and gas during the 21st century, it is now a well established source of information.

The publication takes a detailed look at the techno/economic conditions for ensuring an abundant worldwide supply of conventional and unconventional hydrocarbons in support of stronger long-term energy security and sustainability. The study highlights include the following:

- Oil and Gas will continue to dominate the world energy scene, with global oil demand projected to grow by more than 50 % to 2030, and natural gas demand expected to almost double.
- Increasingly, our energy future will therefore be contingent on bringing more oil and gas to world markets in an even more globalized manner to meet rising import needs across regions.
- Physically, there is no shortage of hydrocarbon resources in the ground.
- Most of the world's recoverable hydrocarbon resources would be economical at oil prices significantly below current prices.
- But technology is key to ensuring that oil prices do not threaten economic growth around the world in the face of rising costs of long term supply.

## The European Seminar and Dialogue on Oil and Gas Technology, Brussels, 22 & 23 February, 2006

This two-day event will explore the overall technology and policy context associated with the study's main conclusions and findings. It will be of interest to key stakeholders in national governments and international bodies, the oil and gas industry and the hydrocarbon-related research community.

### Day One of the seminar will engage industry and policy makers in a dialogue on overall exploration and production technology and policy perspectives.

Drawing on decades of oil field practice, and more lately geological storage of CO<sub>2</sub>, the oil and gas industry is the key innovator behind carbon dioxide capture and storage (CCS). Given the current high cost of capturing CO<sub>2</sub>, the question is when CCS will be commercially available.

**Day Two will explore overall perspectives on the role of using CO<sub>2</sub> for enhanced oil recovery in moving CCS towards large-scale, global deployment, and what roles governments may play in helping to advance developments in this direction.**

### Venue

**Royal Windsor Hotel Grand Place  
5, rue Duquesnoy 1000, Brussels  
Phone: + 32 2 505 55 55**



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# Wednesday, 22 February 2006

*Certain presentations and speakers to be confirmed*

08.30	<b>Registration</b>
09.00	<b>Welcome and Introduction to Dialogue</b> <i>Jostein Dahl Karlsen, Chair, IEA Advisory Group on Oil and Gas Technologies</i> <i>Vice Chair, Sustainable Energy Supply, IEA Working Party for Fossil Fuels</i>
	<b>Session: “Resources to Reserves, Oil and Gas Technologies for the Energy Market of the Future”</b>
09.10	Policy and Industry Perspectives – Overall Policy and E & P Trends <ul style="list-style-type: none"><li>• <b>Resources to Reserves, Oil and Gas Technologies for the Energy Markets of the Future - introduction to IEA's pioneer book on Oil and Gas Technologies</b> <i>Dr. Antonio Pflüger, Head, Energy Collaboration Division, IEA</i></li><li>• <b>Perspectives on Long Distance Natural Gas Sourcing and Supply - the Global and Eurasian Context</b> <i>Lars Oyno, Chevron (to be confirmed)</i></li><li>• <b>EU Policy for Long Term Energy Security in light of overall Energy Perspectives and Trends</b> <i>Nina Commeau-Yannoussis, Head of Unit, Energy Policy and Security of Supply, DG TREN</i></li><li>• <b>National Level RD&amp;D</b> <i>Odd Sverre Haraldsen, Director General, Ministry of Petroleum and Energy</i></li></ul>
	<b>Coffee Break</b>
	Industry View – Innovation <ul style="list-style-type: none"><li>• <b>Role of Radical Innovation in Long Term Upstream Expansion</b> <i>Paul Ching, Vice President Technical, Research &amp; Development</i> <i>Shell International Exploration and Production</i></li><li>• <b>The Technology Dimension of Northern Europe and Polar Supply</b> <i>Eli Aamot, Vice President, Technology and Projects, Statoil</i></li><li>• <b>Delivering the Frontier Case of Field Solutions</b> <i>Jan Egil Arneberg, Manager Technology Management, FMC Technologies</i></li><li>• <b>Supplying the Technology for Sustainable Fossil Energies towards a Green Energy Economy</b> <i>Claude Roulet, EUROGIF</i></li></ul>
	<b>Lunch</b>
	<b>Panel Discussion: “Energy Policies and Large Fuel Innovation”</b>
	Is national level hydrocarbon R&D a sufficient critical base to back future innovation in long term oil and gas supply – a case for community level support?  <i>Panellists:</i> <ul style="list-style-type: none"><li>- Jerzy Buzek, European Parliament</li><li>- Bonifacio Garcia Porras, Cabinet of the EU Commissioner for Transport and Energy</li><li>- Paul Ching, Shell</li><li>- Olivier Appert, IFP</li><li>- Claude Roulet, EUROGIF</li><li>- Emile Elewaut, TNO, Netherlands</li><li>- Niels Peter, Christensen, GEUS Denmark</li><li>- Erik Skaug, Research Council of Norway</li></ul>
	<b>Wrap-up/follow-ups - Antonio Pflüger, IEA</b>

18.00

Dinner

## Thursday, 23 February 2006

*Certain presentations and speakers to be confirmed*

Accelerating Frontier Options of Technology - Workshop on Global and Regional CO <sub>2</sub> EOR Perspectives	
08.30	<b>Registration</b>
09.00	<p><b>Introduction</b></p> <p><i>Jostein Dahl Karlsen</i> Chair, IEA Advisory Group on Oil and Gas Technology Vice-Chair, IEA Working Party for Fossil Fuels/IEA Zero Emission Technology Initiative</p> <p><b>IEA Follow up to the G8 Initiative – Relevance to Oil and Gas</b> <i>Antonio Pflüger, Energy Technology Collaboration Division, IEA</i></p> <p><b>Focusing Future CO<sub>2</sub> Research Platforms in Europe – the Case of Sub Surface RD&amp;D</b> <i>Olivier Appert, CEO, Institut Français du Pétrole, France/Vice Chairman, European ZEPFF Platform</i></p> <p><b>European Research Focus within CO<sub>2</sub> Storage and EOR – the EU Framework Programme</b> <i>Pierre Dechamps, DG Research, EU-Commission</i></p>
	<p><b>Role of CO<sub>2</sub> EOR in Progressing Carbon Capture and Storage Worldwide</b> <i>Graeme S. S. Sweeney, Executive Vice President, Shell Renewables, Hydrogen and CO<sub>2</sub></i></p> <p><b>Technology Pathways for Matching Global CO<sub>2</sub> Sources with Sinks – Company and E &amp; P Industry Perspectives and Approaches</b> <i>Gardiner Hill, Manager Environmental Technology, Group Technology, BP/CCP Project</i></p> <p><b>The North Sea as a Future Hub for CO<sub>2</sub> EOR – Opportunities and Challenges,</b> <i>Tor Fjæran, Vice President, Environment, Statoil</i></p> <p><b>Next generation CO<sub>2</sub> EOR opportunities in the US and globally</b> <i>Michael Moore, Managing Partner, Falcon Energy</i></p>
	<b>Coffee Break</b>
	<p><b>Documenting The Broader Picture on CO<sub>2</sub> Capture and Storage Opportunities</b> <b>IEA Study on CO<sub>2</sub> Early Markets</b> <i>Pamela Tomski, Managing Partner, EnTech Strategies</i></p>
	<p><b>CO<sub>2</sub> EOR Challenges and Opportunities in Europe – Highlights from a Recent Study</b> <i>Evangelos Tzimas, DG Joint Research Centre, European Commission</i></p>
	<p><b>From Free to Anthropogenic Sources of CO<sub>2</sub> for EOR in the US – Working the Potential through Identification of New Field Opportunities</b> <i>(speaker to be announced)</i></p>
	<b>Lunch</b>
	<p><b>Competitiveness of CO<sub>2</sub> as an EOR Medium</b> <i>Anna-Inger Eide, Chair IEA Implementing Agreement on EOR, Norwegian Petroleum Directorate</i></p>
	<p><b>Addressing CO<sub>2</sub> Sub Surface Gaps – How far have we advanced?</b> <i>Harald Johansen, Deputy Head, Dept. of Environmental Technology, Institute for Energy Technology</i></p>

	<p><b>Europe as a Hub for Sub Surface CO<sub>2</sub> Research and Demonstration</b>  <i>(speaker to be announced)</i></p>
	<p><b>Government Efforts on Making CO<sub>2</sub> Handling Work</b>  <i>George Marsh, UK DTI (to be confirmed)</i></p> <p><b>The Need for Incentives to Take CCS from Research and Demonstrations into Commercial Stage</b>  <i>Jeff Chapman, UK Trade &amp; Investment</i></p>
	<p><i>Germany – Jürgen-Friedrich Hake, Juelich Research Centre (FZJ)</i></p> <p><i>Norway – Tone Skogen, Ministry of Petroleum and Energy</i></p>
17.00	<p><b>Wrap-up/Follow-ups</b>  <i>Jostein Dahl Karlsen/Antonio Pflüger</i></p>