



MEETING OUR ENERGY NEEDS

*– driving forward coal's role in a
clean, clever and competitive
energy future*

PROGRAMME

IEA Coal Industry Advisory Board workshop
IEA Headquarters in Paris, 9 November 2005

IEA – 9, rue de la Fédération – 75739 Paris Cedex 15

Background to workshop

At both the IEA Ministerial meeting and the G8 summit in 2005, fossil fuels were recognised as playing an important and continuing part in the global energy mix, well into the future. Yet, the energy security and environmental implications of a rising, global energy demand pose a significant, long-term challenge.

Ministers, representing the 26 IEA member countries, noted that:

- Timely **investment** in energy supply and delivery infrastructure is needed, demanding the removal of any **barriers** that would impede investment.
- **Market transparency** is a prerequisite to the **private sector** providing the flow of capital needed by 2030 (estimated to be \$16 trillion by the IEA).
- **Environmental impacts** of **fossil fuel** use must be reduced, in both IEA and non-IEA member countries.

To achieve these objectives, there is a strong emphasis in the Ministerial communiqué, dated 3 May 2005, on **“leadership and co-operation”** for a **“clean, clever, and competitive energy future”**.

In practical terms, the message on the need for R&D on **“cleaner combustion technologies and carbon capture and storage”** is an acknowledgement that coal has an important role in the future, but that a high level of international and industry co-operation is needed to develop environmentally-friendly technologies, given their cost, complexity and lead times. The strong commitment by the coal industry to address environmental aspects of coal use was noted, including the CIAB report on this subject¹.

IEA forecasts clearly show the need to utilise all energy sources if long-term energy security is to be maintained and that countries should avoid ruling out particular energy sources. Security of supply is not just an oil issue; coal, through its wide availability, contributes to energy security in many countries. However, a key issue remains the need to remove obstacles to investment in the energy sector as a whole.

Ministers from IEA member countries highlighted that **technology** and **efficient markets** would be key factors in reducing the environmental impacts of energy production and its use. **International co-operation** and sharing of **best practices**, in conjunction with industry, would be pivotal to accelerating progress towards this goal (**“the power of the market and promise of technology”**).

During the G8 summit, held at Gleneagles on 6-8 July 2005, world leaders drew attention to why reliable and affordable energy supplies are essential for **strong economic growth** and **poverty alleviation**. In response to the accepted environmental challenge, the G8 communiqué focuses on energy efficiency and technological development through co-operation. In the case of coal, some specific actions are proposed:

- Review, assess and disseminate information on the **energy efficiency** of coal-fired power plants with the aim of promoting the most cost-effective, **best practices** in all countries, including **developing countries**.

¹ *Roadmapping Coal's Future*; a report prepared by the International Energy Agency's Coal Industry Advisory Board in collaboration with the IEA Working Party on Fossil Fuels; London: IEA Clean Coal Centre [available from www.iea.org/ciab].

- Demonstrate the potential of **advanced clean coal technologies** through national and international research programmes and partnerships with industry.
- Develop and commercialise **carbon capture and storage technology**, including a study of the “capture ready” plant concept and the role of economic incentives.

The IEA Clean Coal Centre is well placed to assist with the first action; the IEA Working Party on Fossil Fuels will continue to promote programmes and partnerships, increasingly with CIAB support; and, the IEA will work with the US-led Carbon Sequestration Leadership Forum on carbon capture and storage.

Overall, during 2005, governments have sent strong signals on the need for **all** energy sources to contribute to a **secure, affordable and competitive** energy supply, and for international co-operation, especially in mitigating the environmental impacts of fossil fuel use.

Themes and aims of the workshop

A number of themes present themselves for co-operation between the coal-related industries and governments, including:

- **Investment in the coal supply chain** – including production, transport and port infrastructure to ensure coal plays its role in meeting global energy security goals.
- **Investment in low-emissions technologies** – identifying the opportunities and instruments that might stimulate investment in state-of-the-art commercial clean coal technologies.
- **International demonstration** – establishing an international, collaborative effort for the cost-effective demonstration of carbon capture and storage.
- **Technology transfer** – ensuring the environmental benefits of modern technology are available to developing countries.

This IEA Coal Industry Advisory Board workshop sets out to develop these themes and provide an opportunity for senior figures in the coal industry to:

- influence IEA and senior government officials’ thinking on policies in these important areas;
- agree respective roles of coal-related organisations to avoid duplication of efforts and to build on those areas where shared messages would be appropriate to inform governments, industry players and a wider, public audience;
- propose steps to ensure the wider application of best available technologies; and,
- consider how coal-related organisations should develop joint industry RD&D programmes that involve all those in the coal supply chain and capitalise on academic participation.

Prior to the workshop, all participants will receive a set of background briefing papers to supplement the introductory remarks to be made by panel members.

WORKSHOP PROGRAMME

Wednesday, 9 November 2005

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| 08:30–09:00 | Registration of Participants |
| 09:00–09:15 | <p>Opening Session</p> <p><i>Mr Claude Mandil, Executive Director, International Energy Agency</i></p> <p><i>Mr Preston Chiaro, Chief Executive, Rio Tinto Energy & CIAB Chairman</i></p> |
| 09:15–10:15 | <p>SESSION 1: Coal's Contribution to Global Energy Supply <i>A panel-led discussion chaired by Noé van Hulst, Director – Long-term Co-operation and Policy Analysis, IEA</i></p> <p>Coal is a competitive fuel, but will this remain the case in all sectors and regions? Will local use continue to dominate the coal scene? Will international coal trade grow? How does coal consumption change under the IEA's alternative policy scenario and what does this mean for energy security? Can coal meet rising energy demand in China and India?</p> <p>Coal in World Energy Outlook 2005 (10 min) <i>Dr Fatih Birol, Chief Economist, International Energy Agency</i></p> <p>International Coal Trade – its role in power generation (10 min) <i>Mr Matthias Hartung, Executive Board Member, RWE Power</i></p> <p>WEC Scenarios to 2050: the storyline for coal (10 min) <i>Mr Gerald Doucet, Secretary General, World Energy Council</i></p> <p>Is the necessary investment being made in new mines, transport infrastructure, including ports and shipping, and power plants? Are there examples of where timely investment is being made? What are the barriers to investment? Should governments address these barriers, or is it best left to industry stakeholders? Are there any regulatory issues of concern? Do coal industry subsidies have any impact on investment decisions?</p> <p>30-minute discussion examining the outlook for coal and addressing the investment needs in the coal supply chain.</p> |
| 10:15–10:45 | Coffee Break |
| 10:45–12:00 | <p>SESSION 2: Environmental Performance of Coal Plant <i>A panel-led discussion chaired by Gerald Doucet, Secretary General, World Energy Council</i></p> <p>What technologies are available today? Which technologies are being installed around the world, and what are the reasons for these investment decisions? Are the costs of emerging technologies well understood? What steps can be taken to ensure that all new plant is built using the best available technologies, particularly in developing countries?</p> <p>Gauging the Environmental Performance of Recently Constructed Coal-fired Power Plants (10 min) <i>Dr John Topper, Managing Director, IEA Clean Coal Centre</i></p> <p>Lessons from the Power Plant Construction Boom in China (10 min) <i>Mr Zhiyong Jin, Chinese Embassy, London</i></p> <p>Coal Gasification – the wider impact of recent projects in China (10 min) <i>Mr Bill Koppe, Development Manager, Anglo Coal Australia</i></p> <p>45-minute discussion exploring the barriers to wider deployment of best available technologies.</p> |

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| 12:00–13:00 | <p>SESSION 3: Improving Clean Coal Technologies through Collaborative Research, Development and Demonstration <i>A panel-led discussion chaired by Pierre Dechamps, DG Research, European Commission</i></p> <p>What is the current status of clean coal development projects? What is the potential of CO₂ capture and storage, and of “coal-to-liquids”, and at what costs? At what costs and in what timeframe will the EC Technology Platform for Zero Emission Fossil Fuel Power Plants deliver new, clean coal technologies into the market place? What impact will the US FutureGen project have? What are the expectations for the Japanese EAGLE project? What actions should be taken to drive greater international collaboration to achieve results more quickly? Where will funding for demonstration come from? What ownership/funding structures are needed to pursue collaborative demonstration projects? Given the long life of new coal-fired power plant assets, how can they be “future proofed” against tightening environmental standards? How can government and industry work together strategically to advance low emission technologies?</p> <p>FutureGen and EPRI CoalFleet for Tomorrow – future coal generation options (10 min) <i>Mr Michael J Mudd, Program Manager – Generation Technologies, American Electric Power & Acting Chief Executive Officer FutureGen</i></p> <p>Financing and Managing Collaborative Clean Coal Projects (10 min) <i>Mr Jarad Daniels, Senior Program Manager – Clean Coal Power Initiative, Office of Fossil Energy, US DOE</i></p> <p>40-minute discussion on how to promote international co-operation and define the most important objectives.</p> |
| 13:00–14:30 | Buffet Lunch |
| 14:30-15:30 | <p>SESSION 4: Transferring Clean Coal Technologies into the Marketplace <i>A panel-led discussion chaired by Roger Wicks, Head of Energy, Anglo American & Chair of the World Coal Institute</i></p> <p>What does “technology transfer” mean? Is technology transfer an issue for developing countries alone? Can technology transfer be bi-directional? Who will pay for advanced, clean coal technologies? Does the Global Environment Facility have a role? Will JI/CDM ever deliver? How can the IEA improve the market prospects for clean coal technologies? What market incentive will be needed to pull carbon capture and storage technologies into the market place? What role will the US-led Carbon Sequestration Leadership Forum play? Does the “capture ready” plant concept have any benefits or drawbacks?</p> <p>Technology Transfer – learning from experience in India (10 min) <i>TBC: Mr Chandan Roy, Director (Operations), National Thermal Power Corporation</i></p> <p>Collaboration with Developing China (10 min) <i>Mr Cédric Philibert, Principal Administrator – Energy Efficiency and Environment Division, IEA</i></p> <p>Strategic Perspective on the Barriers to Investment in Clean Coal Technologies (10 min) <i>Dr Ken Newcombe, Senior Manager – Environmentally and Social Sustainable Development, World Bank</i></p> <p>30-minute discussion on technology transfer.</p> |
| 15.30-16.00 | Tea Break |

16.00-17.30

SESSION 5: Forging New Alliances – a Plan for Action

Chaired by Preston Chiaro, Rio Tinto Energy & Chair of the CIAB

Panel discussion with:

Mr Noé van Hulst, Director – Long-term Co-operation and Policy Analysis , IEA

Dr Steve Lennon, Executive Director – Resources and Strategy, Eskom & Chair, ICC Energy and Environment Commission

Mr Bill Senior, G8 Team Member, UK Department of the Environment, Food and Rural Affairs

Dr Ken Newcombe, Senior Manager – Environmentally and Social Sustainable Development, World Bank

Mr Gerald Doucet, Secretary General, World Energy Council

Mr Roger Wicks, Head of Energy, Anglo American & Chair of the World Coal Institute

What are the priorities? How can the coal industry best collaborate to accelerate delivery of outcomes which promote coal's role whilst addressing environmental and developmental issues? Where can the industry collaborate? How best might it interact with governments? What mechanisms need to be agreed to drive joint or co-ordinated action?

Panellists will offer their own, short commentary (5 min) on these and any other key issues emerging from the workshop. CIAB Members and other participants will then be invited to join an open discussion (45 min) followed by concluding remarks from Preston Chiaro

For further information on this event, please contact Brian Ricketts at the International Energy Agency (brian.ricketts@iea.org) who can also arrange invitations for those wishing to attend.

Organising Committee: Andy Lloyd, Rio Tinto (chair) / Milton Catelin, World Coal Institute / Ian Cronshaw, IEA / Brian Heath, CIAB / Allan Jones, E.ON UK / Bill Koppe, Anglo Coal / Wendy Poulton, Eskom / Ike Prillaman, Norfolk Southern / Brian Ricketts, IEA / Hans-Wilhelm Schiffer, RWE Power.

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3 October 2005

