

THE ROLE OF SOUTHERN AFRICAN COAL IN THE FUTURE CARBON-CONSTRAINED WORLD ECONOMY

Part 2: Will the coal industry survive to 2050?

Wednesday 28th July 2010

Glen Hove Conference Centre, Melrose, Johannesburg, South Africa



Coal is an abundant and affordable global energy resource; it has provided the base for the growth of many economies and is now the largest contributor to world electricity generation (41% in 2006).

Southern Africa is well endowed with significant reserves, and coal is widely used for power generation, coal-to-liquids, metallurgical processes and a host of smaller scale industrial activities.

However, climate change is now on the world's radar screen; global pressures to reduce greenhouse gas emissions, and hence limit the effects of climate change, are requiring a drop from today's emissions of

6.7 tons for every person on Earth to 1.6 tons by 2050. Coal alone accounts for 1.9 tons per person today.

The coal industry needs to understand the gathering forces and issues ahead:

- There was no formal agreement at the 2009 Copenhagen Climate Conference. *What will happen next?*
- The US and South Africa are talking about renewed nuclear programmes. South Africa has had some difficulty in raising finance to complete coal-fired Medupi due to environmental concerns related to climate change. *Will nuclear and renewable energy play a more prominent role in the future?*
- South Africa is drafting policy and legislation for emissions accounting and carbon-related market-based instruments to be implemented by 2012. *What does this mean for coal?*
- Without significant increases in coal combustion efficiencies and successful carbon capture and storage, *will the industry survive to 2050?*
- The South African Coal Road Map is an effort by the major producers to address all the issues facing the supply of and demand for Southern African coal: *how will this influence South African coal's future?*
- Whatever the future holds, *is there enough coal available?*

This is not just "another conference". The coal industry is under long-term threat from climate change response measures. If you have an interest in the coal industry and its fortunes you need to attend.

Leading experts Dr. John Topper of the IEA Clean Coal Centre and Dr. Tony Surridge of the SA Centre for Carbon Capture & Storage will review what is being done to reduce emissions from coal use.

This conference is the second of two events. Part 1 was held in November 2009 and was highly successful in setting the scene for the crisis ahead for the coal industry.

Since then the world has moved on significantly.

Who should attend?

- Coal producers and users
- Government
- Alternative energy producers
- Energy efficiency managers
- Marketing directors
- Environmental consultants
- Researchers and technical innovators
- Project developers and constructors



Topics to be covered

0800: Opening: Dick Kruger, President of the Fossil Fuel Foundation

0810: Setting the scene: Dave Collins, MAC Consulting

- The great majority of nations have agreed to limit the average world temperature rise to 2 °C, which will in turn require a decrease in greenhouse gas emissions of 6.7 tons for every person on Earth to 1.6 tons by 2050: coal currently contributes about 1.9 tons per person

0825: Coal demand scenarios and industry mitigation actions: Dr. John Topper, IEA Clean Coal Centre, UK

- Global coal demand scenarios overview
- Update on world developments on improving combustion efficiency
- China's move into building supercritical units at home, joint venturing with all the big western suppliers and exporting its old sub-critical technologies
- Postponement of 500MWe demonstration unit in Germany and implications

0905: The other side of the debate: Paul White, Venmyn

- There are potentially destructive outcomes of policies that might phase out coal too rapidly, before alternative energy sources are available, thereby raising the cost of energy to unaffordable levels for the poor and for the world's economic growth
- There are possible positive aspects of increased temperatures in the colder regions of Earth

0930: The transition to a low-carbon future: Saliem Fakir, WWF

- This is inevitable and will involve two stages
- The first will be one of continued fossil dependence; the second will be a revolution in energy technologies and the way energy usage is managed

The world will move away from using fossil fuels to a carbon-constrained economy. But when, and how?

0955: International agreements on climate change: Andrew Gilder, Imbewu Sustainability Legal Specialists

- Copenhagen (December 2009) - what happened / didn't happen
- Regional and bilateral agreements relevant to South Africa
- What is likely to happen next – Mexico 2010 and South Africa 2011
- Other relevant international development: US, EU, BASIC group and China

1020: Break

1045: South African developments on climate change: Marie Parramon, Imbewu Sustainability Legal Specialists

- The South African government has given strong signals that the country needs to start to outline its low carbon economy vision
- Green paper on Climate Change Response Policy (mid-2010) and a White Paper before the end of the year: policy development
- IEP / IPAP / IRP
- Current and pending tax related legislation and policy

1110: Climate change: risks and opportunities for the South African Economy: Alex McNamara, Camco

- The mining sector is at considerable risk from regulation, including the introduction of carbon taxation; coal exports are unlikely to be negatively impacted in the short to medium-term
- Eskom is at marked regulatory risk through mandatory power efficiency requirements, carbon capture and storage requirements and the pricing of carbon emissions; end users of electricity are at considerable risk of carbon pricing being passed down in the form of higher electricity prices
- The combination of commercially viable renewable energy technologies and energy efficiency has the potential to reduce overall electricity prices within a decade relative to conventional practices

1135: Coal industry mitigation actions: Dr. Tony Surridge, South African Centre for Carbon Capture & Storage

- Update on world developments on carbon capture and storage (CCS)
- CCS is a vital transition measure between an increasing short- to medium- reliance on fossil fuels to a greater long-term reliance on nuclear and renewable energy

1200: South African Coal Road Map: Ian Hall, Anglo American

- Update on this national initiative which is supported by the government of South Africa and many coal industry and related stakeholders
- The road map will detail and assess options and scenarios for the future development of the domestic coal industry, and will make recommendations to maximise the economic opportunities for coal as a valuable energy and chemical resource whilst ensuring a better quality of life for current and future generations

1225: Water: Dr. Danie Vermeulen, University of the Free State

- The looming water availability crisis and implications for the coal industry, especially for the Waterberg development

1250: Lunch

1340: Coal reserves and resources: Xavier Prevost, XMP Consulting

- 2010 update
- The need to find and develop new deposits

1405: Coal demand

- Update from the major sectors on demand requirements
 - Sasol
 - Eskom: Callie Fabricius
 - Export: Bill Lamont, Mhlatuze Coal

1450: Waterberg coal beneficiation: Johan de Korte, CSIR

- The Waterberg coalfield has vast potential to take over from the Highveld and Witbank coalfields as they near depletion
- Beneficiation will play an important role in the future utilization of the Waterberg coal, especially with regard to water use

1515: Infrastructure issues: Dick Kruger, Fossil Fuel Foundation & Chamber of Mines

- Road and rail transport, ports

1540: Break

1600: Alternative energy sources: Richard Worthington, WWF

- Applicability of alternative energy sources such as nuclear, solar and wind
- Potential impact on the coal industry

1625: Panel discussion and key conclusions

- Dr John Topper, IEA Clean Coal Centre
- Prof. Rosemary Falcon, Wits
- Marie Parramon, Imbewu
- Saliem Fakir, WWF
- Paul White, Venmyn.

1710: Closure: Dave Collins

Organising committee

- Dave Collins (Chairman) (*MAC Consulting*)
- Professor Rosemary Falcon (*University of the Witwatersrand*)
- Marie Parramon (*Imbewu Sustainability Legal Specialists*)
- Paul White (*Venmyn*)
- Robbie Cameron (*RCA*)

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