

Coal Forum World Markets Sub-Group

Nigel Yaxley
Coal UK Conference 2008

World Markets Sub-Group – Remit

- Current and future world market for coal
 - Stability
 - Political risks
 - Price movement/volatility
 - Non-price issues affecting demand
- UK security of supply implications
 - Relative costs imported/UK mined
- Review scenarios and assumptions on future UK demand for coal

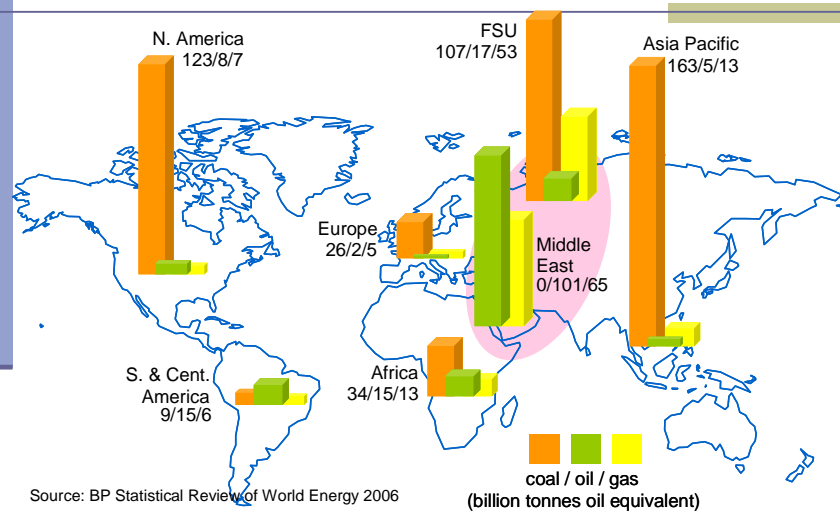
Membership

- UK generators
- UK and international suppliers
- Unions
- Future Generation Sub-Group representative
- Consultants/experts
 - IEA/IEA Clean Coal Centre
 - CoalInk (McCloskeys' consultancy)
 - Dti

Key Areas of Work

- Long-term considerations
- Identify information sources
 - World coal reserves
 - Supply and demand forecasts
 - Cost curve data
 - Price forecasts
- Assess and compare information in context of sub-group remit
- Consider and identify issues and risk factors affecting world supply/prices

Global Energy Reserves – 2005



Proved Recoverable Reserves of Hard Coal at End of 2005

| Rank | Country | Reserves (Million Tonnes) | Country Share | Cumulative Share |
|-------|--------------|---------------------------|---------------|------------------|
| 1 | USA | 218,818 | 30.1% | 30.1% |
| 2 | Russia | 97,470 | 13.4% | 43.5% |
| 3 | PR China | 95,902 | 13.2% | 56.7% |
| 4 | India | 91,631 | 12.6% | 69.3% |
| 5 | Australia | 66,800 | 9.2% | 78.4% |
| 6 | South Africa | 48,751 | 6.7% | 85.1% |
| 7 | Kazakhstan | 28,151 | 3.9% | 89.0% |
| 8 | Ukraine | 16,239 | 2.2% | 91.2% |
| 9 | Poland | 8,354 | 1.1% | 92.4% |
| 10 | Colombia | 6,611 | 0.9% | 93.3% |
| World | | 727,484 | | 100.0% |

Source: BGR

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World Energy Council Triennial Reserves Update (October 2007)

- "While questions regarding the size and location of reserves of oil and gas abound, coal remains abundant – and broadly distributed around the world"
- Available in more than 70 countries and in each major world region
- Global proved recoverable coal reserves 847.5 billion tonnes (end 2005)
 - 143 years supply at current rate of consumption
 - 6.8% lower than total reported at end-2002
 - "More of a refinement than a revision"
- "It is clear that coal will be with us for many decades if not centuries, to come"

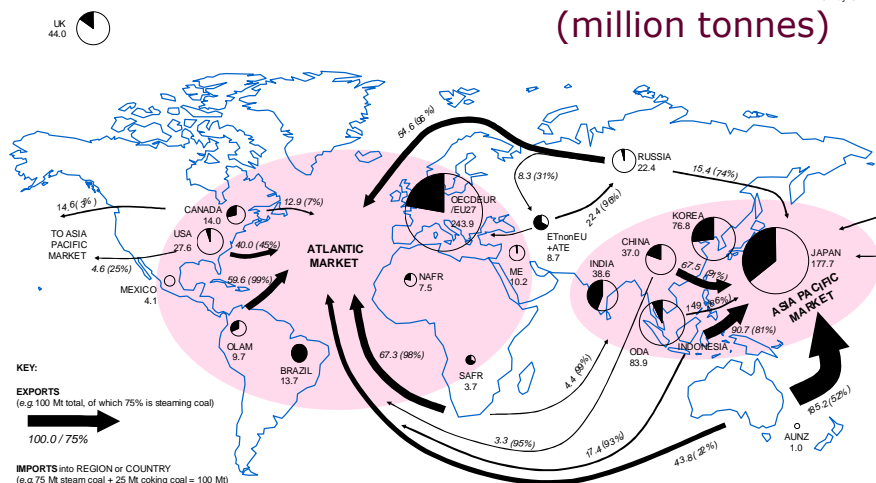
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Hard Coal Trade 2005

3 May 07



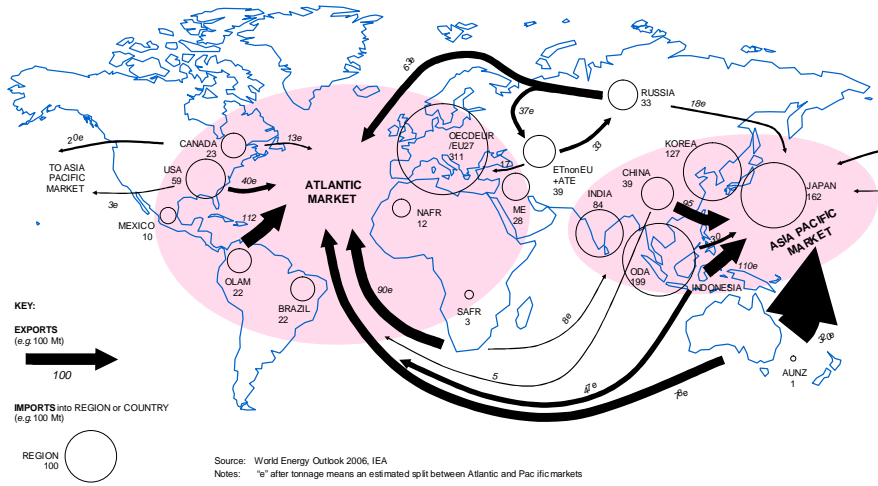
Source: IEA

Source: Coal Information 2006, IEA plus revisions
Notes: Exports shown total 780 Mt.

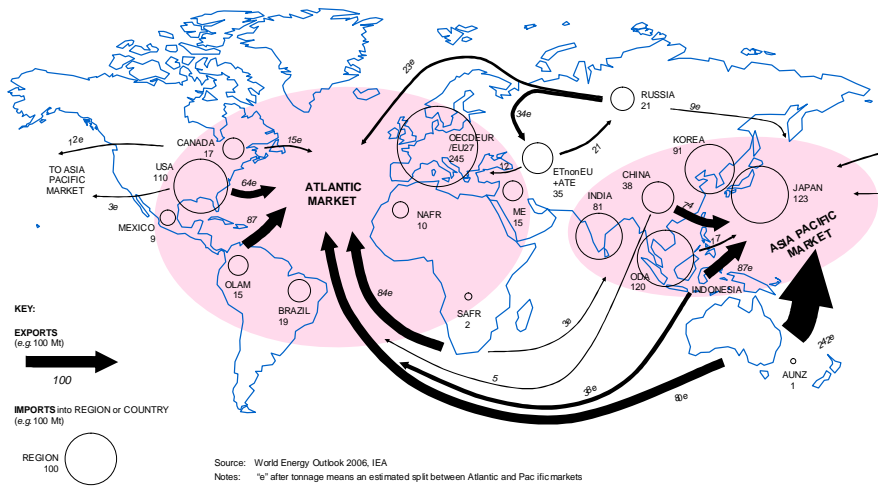
Exports shown total 727 Mt. Additional reported trade between countries within the regions shown totalled 46.4 Mt in 2005, principally 27.8 Mt exporte d, mainly to other countries within the EU, from Poland, the Czech Republic and Norway, plus transfers through Netherlands totalling 7.4 Mt. Approximately 9.5% of the world coal trade shown was overlaid, p principally USA to Canada, and Russia to Europe, but also within the regions shown.

Hard Coal Trade in Reference Scenario, 2030 (million tonnes)

3 May 07



Hard Coal Trade in Alternative Policy Scenario, 2030 (million tonnes)



Issues and Risk Factors

- Reliability of growth forecasts for China, India, Brazil etc.
 - Self-sufficiency of China
 - Scale of Indian imports
- Increased own use of coal in exporting countries
 - Eg Russia, Indonesia, South Africa
- Half of worlds reserves in USA, Russia and China
- Mining costs – less accessible reserves
- Impact of social/safety issues
- Russian costs and infrastructure issues
- Volatility of sea freight
- Changes in shipping fleet
- Exchange Rates
- Climate change policies
- LCPD etc

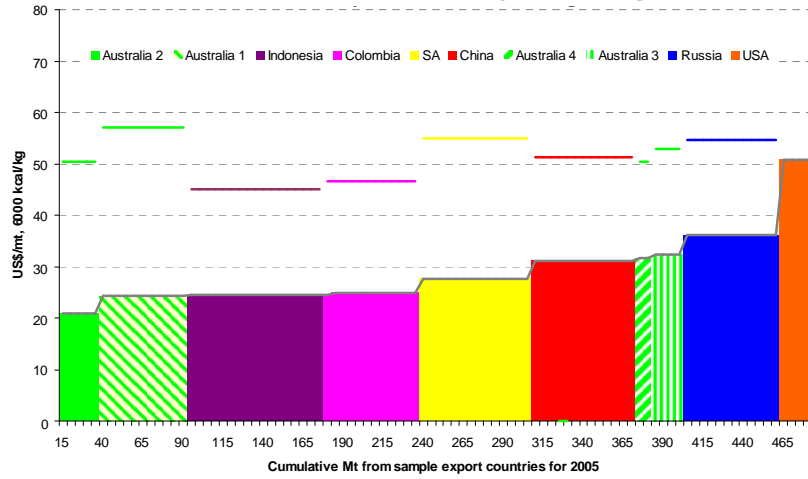
... and related comments

"The Sub-Group considered that the international reserve base is sufficient, and the international market sufficiently flexible and robust, to cope with such issues, but a combination of these could lead prices to trend towards the upper levels of the envelope of forecasts and could also lead to greater price volatility. In the case of any major demand growth it may take some time for the market to normalise."

"..the shipping market generally responds well to price signals and corrects accordingly over time (although seaborne trade of other dry bulk materials will also dictate/extend the normalisation period)."

".. the current supply pattern represents a market solution the international market is sufficiently flexible and robust to respond to a shortfall of Russian supply or an attempt to charge excessive prices."

FOB Cash Cost and Price of World Steam Coal from Major Exporters



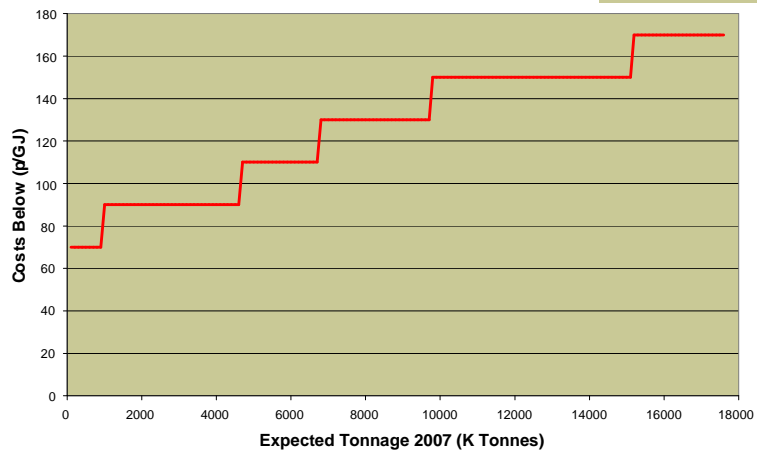
Source: IEA Clean Coal Centre

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Indigenous Coal Cost Curve

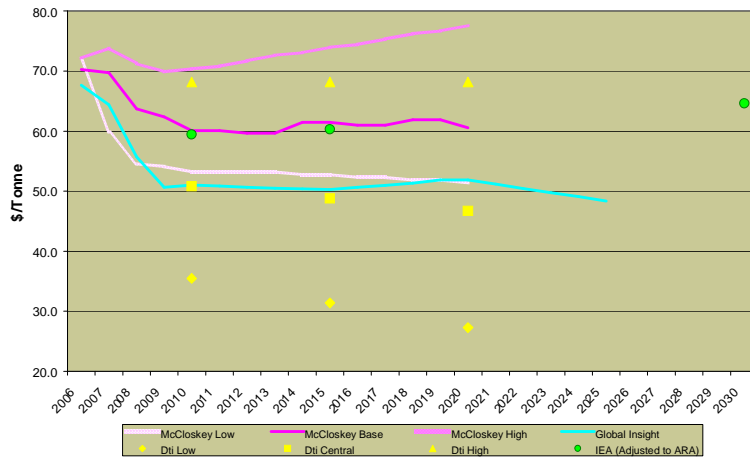


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Comparison of Price Forecasts as at early 2007.....



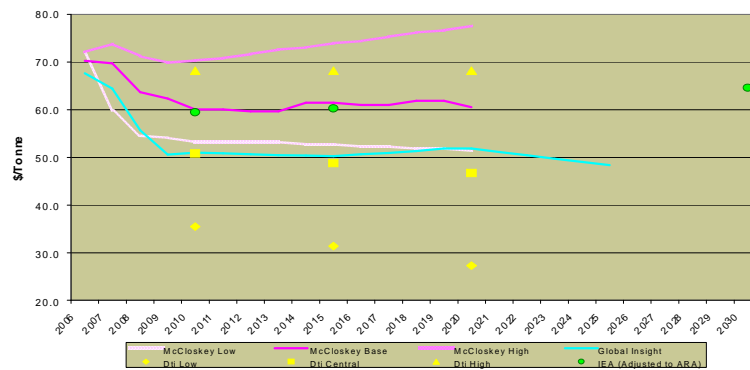
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..... And what happened next

End December 2007
\$127.40 ARA

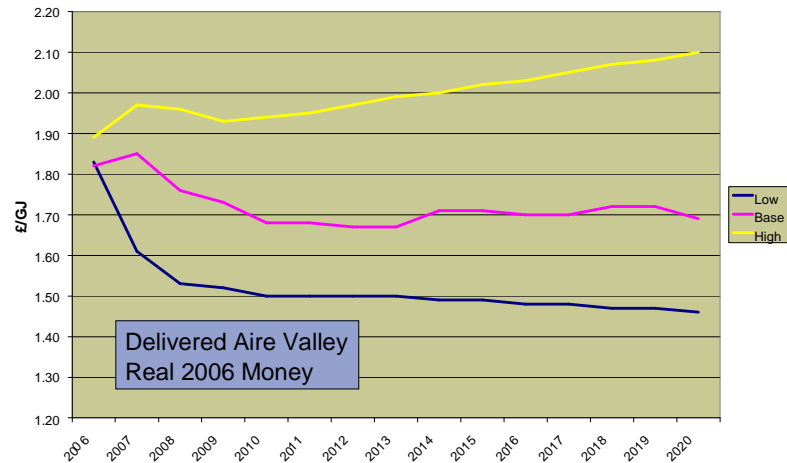


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Aire Valley Delivered Price Forecasts (as at early 2007)...



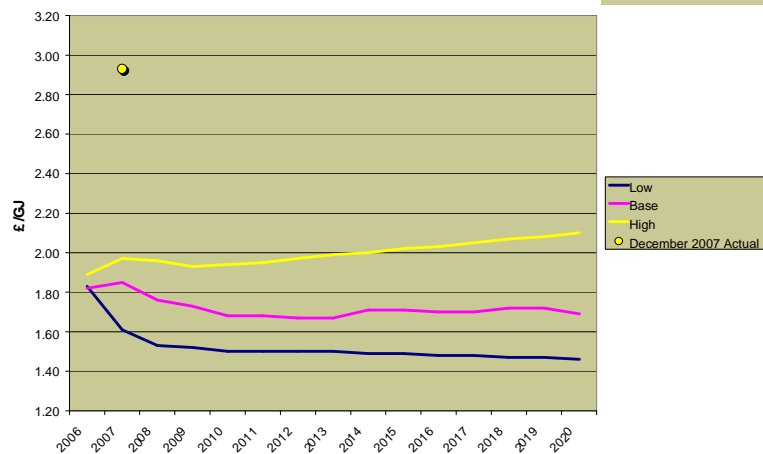
Source: McCloskey Coal

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... and with December 2007 Aire Valley Marker Price



Source: McCloskey Coal

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Sub-Group Conclusions in Overview Report

- World Coal Reserves
 - Most abundant fossil fuel
 - Over 900 bn tonnes - more than 160 years*
 - Supply of coal can be regarded as secure
- Significant coal imports are expected to continue
- On prices and competitiveness of indigenous production...

"...both opencast coal and deep mined coal from UK sources would be able to compete on equivalent delivered price to inland power stations. However, investment in new areas of coal in established deep mines would not be attractive at the lower end of this price scale and, if the forecast of \$60 is indeed the top of the range, then new deep mine production capacity would not be created."

* NB WEC Revision
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Thank you

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