Financing investment in coal production and use

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Agenda

• Look at financing from mainly a UK perspective
• Mining Equipment
• Surface mines
• Underground mines
• Power Generation
Indigenous coal has a vital part to play in EU energy mix

• Provides security and diversity
• Can compete with imports
• Quality customer relationship and service valued by the market
• Removes variability associated with exchange rates and long distance transport movements, with the benefit of substantially lower carbon transport footprint
Mining needs continual investment

• Extractive industry
• Easiest reserves already worked
• Financing risks increasing
  – Market
  – Environment
  – Planning
  – Operational
Coal market within the UK much larger than indigenous production

UK Coal Supply 2009

<table>
<thead>
<tr>
<th>Country</th>
<th>Million Tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>18</td>
</tr>
<tr>
<td>Russia</td>
<td>19</td>
</tr>
<tr>
<td>Colombia</td>
<td>4</td>
</tr>
<tr>
<td>S Africa</td>
<td>2</td>
</tr>
<tr>
<td>USA</td>
<td>3</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1</td>
</tr>
<tr>
<td>Australia</td>
<td>2</td>
</tr>
<tr>
<td>Others</td>
<td>2</td>
</tr>
</tbody>
</table>
Mining equipment investment

- Economic downturn impacted on manufacturers as well
- Equipment companies willing to provide flexible payments to help finance some projects
- UK COAL has worked with companies to help provide new face equipment at Thoresby and Kellingley collieries
Surface mine investment

- Comparatively low start up costs, but can still be significant given relative size of companies
- Operationally less risky
- Less market uncertainty as relatively short duration
- Planning consent can be a major obstacle, with potentially a long judicial process before permission is obtained
Deep mine investment

• Long development lead times increases pressure on investment decisions and adds to supply uncertainties
• Potential investors want the certainty that they will get a payback which could be 10-15 years away
• Significant medium to long term market uncertainty
• Harworth Colliery - mothballed UK deep mine prospect - 54Mt in Top Hard seam. Cost around £200m
Sources of finance

• Internal cash resources
• Banking facility
  – Scottish Resources recently increased debt facility to £47.5m
• Share issue
  – UK COAL raised £100m in Q3 2009
• Venture capital
• European Investment Bank
• Government?
Global Financial Crisis

• Has caused the traditional providers of finance to business to become more risk averse
• In an attempt to re-establish credibility with the public all bank dealings have to be visible
• Projects perceived to have environmental benefit are ranked high on the list if viable returns are available
Investors perception of mining projects

- Coal mining projects are high risk (underground mining significantly more risky geologically than surface mine projects)
- Both underground and surface projects have significant planning, environmental and legislative risks
- Long term market decline/uncertainty
- Coal mining has low environmental stature in spite of the possible development of CCS
UK coal market uncertainty

• European environmental legislation on SO₂ and NOₓ will close coal power stations over the next 14 years with inevitable reduction in coal demand
  – 8GW of coal capacity supposedly due to close by 2015 under LCPD
  – IED requires further emissions abatement or close by early 2020s

• Tightening carbon emission caps placing downward pressure on coal burn
  – Coal generators to purchase 100% of EUETS allowances from 2013

• UK Government policy to reduce GHG emissions by 80% by 2050 from 1990 baseline.
  – Intermediate target 34% reduction by 2020
  – >30% renewable electricity by 2020

• No new coal build without partial CCS with obligation to fully retrofit at a later stage
European Investment Bank

• Furthers the objectives of the EU by providing long-term finance
• Corporate Operational Plan 2009-11
  – Support sustainable, competitive and secure energy
  – However, maximise the proportion of its projects associated with low carbon technologies
• Result no funding available for projects involving fossil fuel extraction, e.g Harworth
• Needs new direction from Board of Governors to change this approach
Summary – Mining Investment

• Coal important for security of supply within Europe
• Mining finance difficult to obtain especially for new deep mine projects
• Traditional sources of finance now more risk averse
• Investment emphasis more on renewable energy
• Major coal projects will only get financed with the support of EU / Member States in the medium term
• Coal mining investment needs to be given a higher priority within European institutions
Investment in Coal-Fired Power Generation

• Ageing plant
• Erosion of market by renewables
• Volatile electricity prices in liberalised market
• Carbon price
• No new (or reboilered) coal-fired plant without partial CCS
• Existing plant – 8GW out of 28GW LCPD closures (no FGD investment) by end 2015
• Remainder requires NOx abatement under IED
Investment in Coal-Fired Power Generation

- Load following fossil fuel plant still required
- But coal-fired plant owned by international companies which can invest anywhere
- Gas the lower risk option – lower capital cost, lower carbon cost, no requirement for CCS on new plant
- Government will support four new coal plants with partial CCS (but subsequent CCS retrofit implied)
- Beyond that, why invest in new coal or ageing old coal? Portfolio generators may want to spread risk
Investment in Coal in the UK – the vicious circle

- Market and price uncertainty, and regulatory requirements and uncertainty means limited investment in coal-fired power generation, new or old
- Gas the preferred option
- Uncertainty over market for coal makes investment in new and replacement mining capacity difficult
- Exacerbated by global financial crisis and risk averse financial institutions

Round Table on Coal – 15 September 2010
Is the UK different? Discussion

• Substantial investment in SOx and NOx abatement in Germany to meet LCPD and IED requirements
• Investment in new coal-fired plant in Germany
• But the same international companies are involved
• Germany faces same carbon price and same increased penetration by renewables
• Germany has a liberalised market
• Why the difference? Are there wider lessons here?