World energy consumption

Forecast: IEA reference scenario based on 2007 data
Global energy reserves dominated by hard coal and lignite

Source: BGR, 2007
Global hard coal production and consumption

2008 world production:
- hard coal: 5 850 Mt = 4 797 Mtce
- lignite: 951 Mt = 333 Mtce
- coal total: 5 130 Mtce

Source: VDKI, WCI, 2009
<table>
<thead>
<tr>
<th>Country</th>
<th>Potential (Mt)</th>
<th>Resources (Mt)</th>
<th>Reserves (Mt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
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<td>Germany</td>
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<td>Turkey</td>
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</table>
| Source: EURACOAL

European Hard Coal Potential
European Lignite Potential
EU fossil fuels import dependency

Main hard coal seaborne trading routes in 2009

Global hard coal production: 6.0 Bnt
Seaborne trade: 839 Mt
Included: 658 Mt steam coal
201 Mt coking coal

Source: VDKI, Hamburg 2010
Continuous modernisation provides immediate benefits
Reducing CO₂ emissions from hard coal-fired power plants

- 21% CO₂ reduction (compared to world average today)
- 33%
- 40%
- 90%

Source: VGB
CCS is one of the measures required to meet CO₂ abatement aspirations.
Development of an integrated concept for carbon capture, transport infrastructure and storage in a European context
CCS represents a common challenge for energy suppliers, producers and politicians

EU flagship programme addresses challenges

- Improved efficiency
- Development of CCS technology
- Scaling

- Economic aspects
- Legal framework
- Acceptance