THE COAL RESEARCH FORUM

- Created 22 years ago to bring together
- those with an interest in coal research for
- exchange of information on research
- topics related to the utilisation of coal

April 2011
CRF POLICY

• 1) To provide a forum for exchange of information

• 2) To support the utilisation of coal

• 3) To promote UK coal research and expertise

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CRF ORGANISATION

• Executive Committee – representatives from industry and academia
• **6 divisions:**
  • 1) Combustion
  • 2) Conversion
  • 3) Characterisation
  • 4) Preparation
  • 5) Environment
  • 6) Advanced power generation

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CONVERSION

• a) Carbonisation

• b) Gasification

• c) Liquefaction

• d) Chemicals?
CARBONISATION NEEDS

- **Past** – coal blending
- fundamentals of process
- parameters controlling performance
- **Present** – coke oven life
- waste/biomass utilisation
- **Future** - ? Reduction of carbon footprint
- Replacement of coke ovens

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GASIFICATION NEEDS

• Past – No coal research after natural gas

• Present – IGCC performance and reliability
  UCG development

• Future – Optimisation of combined cycles
  Hot gas clean-up
  Fuel flexibility

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LIQUEFACTION NEEDS

• Past – Indirect method - Fischer- Tropsch

• Present – Improvement/development in direct method, i.e. catalytic hydrogenation

• Future – ? Blending of coal with waste/biomass for direct coal to liquids

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CHEMICALS FROM COAL

• Past – Origins of chemical industry

• Present – Oil based chemical industry

• Future – ? Back to origins
COAL RESEARCH NEEDS

• CLEANER COAL TECHNOLOGY
  
• a) Reduction/removal of emissions
• b) CO₂ capture and storage
• c) Efficiency gains – advanced processes

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WHAT NEEDS TO BE DONE

- CLEAR ENERGY POLICY - Direction, time-scales, realism
- FUNDING – Government, EU, Industry
- SEE – Coal Research & Engineering Needs in the UK (5TH edition) - a CRF report prepared by Dr Andrew Minchener

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