



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



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



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



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



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



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



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



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