



Carbon Abatement: A Catalyst for Business Opportunities

DRIVERS

Cost – capital costs / relative fuel costs /
efficiency / %overheads

Legislation

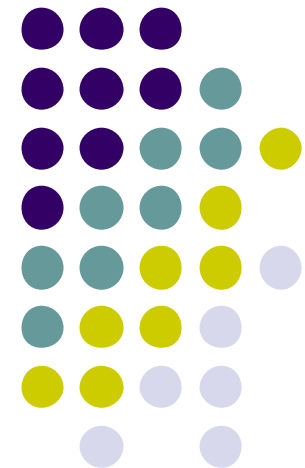
Risk management

Waste reduction

Sustainability

Security of supply / uncertainty

Markets / Availability





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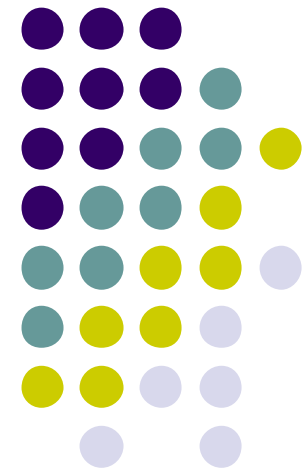
- Government - ROC's for generation
 - ETS for primary processes
 - ROC's for heat?
 - long term sustainability / uncertainty?

WID – barrier and opportunity

Fuel emissions characteristics

Corporate Social Responsibility

Public perception

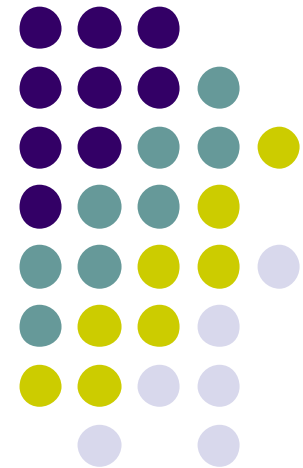




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TECH.

- Hydrogen
- Oxygen enrichment / oxy-fuel / economic O₂ production
- Biomass
- Refuse derived fuels
- Underground / surface gasification
- CO₂ Capture
- Gas Turbines
- Cycle efficiency improvements
- Auxiliary plant efficiency





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TECH.

New materials

“Designer fuels”

CHP

Pre-treatment

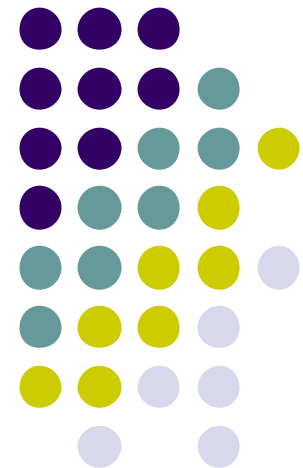
Post-treatment

Low grade fuels

Fuel transportation costs and distance

CO2 price / permits

Integrated solutions

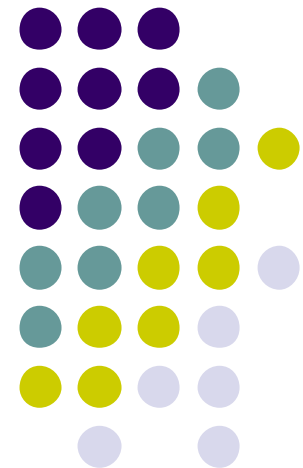




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CURRENT STATUS

- Lots of “unused” technology
- Risk Management
- Solutions sector & process dependent
- Public Perception
- Corrosion issues
- Local air quality implications

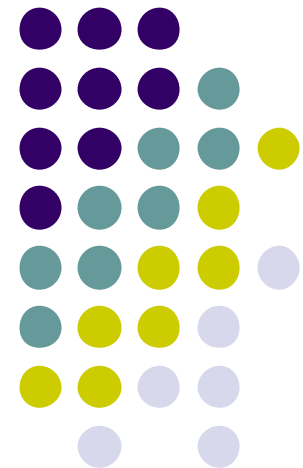




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CURRENT STATUS

- Biomass – steel / generators
- H2 – not developed
- O2 – stagnant – some use for low quality fuels
- RDF – cement & waste industry
- “Designer” fuels – cement
- Fuel cells
- Switch to gasification
- Better process control
- Heat recovery better but expensive

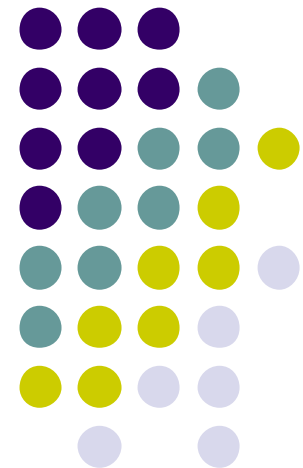




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IMPACT

Sector / market dependent
Good news and bad news
US gearing up to cash in
Over regulation
OEM's follow opportunities – equipment sales but link weak





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IMPACT

- Could drive investment off shore
- Could drive equipment production off shore
- Stifles innovation
- Opportunity for UK R&D but competition from US & developing countries
- Distortion from inaccurate stats

