

ENERGY EDGE

Coal Emissions and Environmental Considerations

Coaltrans Training Course, Oxford
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Coal Emissions and Environmental Considerations

- ▶ Introduction
- ▶ Emissions from Burning Coal
- ▶ Effects of Emissions
- ▶ Abatement and Control Technologies
- ▶ Coal and Climate Change
- ▶ Existing Regulations and Future Impacts

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Introduction

Dirty coal
Conventional pollutants
Greenhouse gases
Abatement choices
Regulation

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Dirty Coal – Sheffield 1953



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Beijing Smog - Current Times



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Conventional Pollutants

Particulates

SO₂ – sulphur dioxide

NO_x – nitrogen oxides

Also minor and trace pollutants,
including trace elements (e.g. Mercury)

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Greenhouses Gases

CO₂ – carbon dioxide

CH₄ – methane

N₂O – nitrous oxide

NB CH₄ released during mining

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Abatement Options

Fuel switching

Coal cleaning

Reduced operating hours/closure

Retrofitting old plant

New state-of-the-art plant

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Regulation

Voluntary action

- Action plans
- Non-binding targets

Command and control

- Emissions concentrations in flue gases
- Annual caps on emissions
- Old/new plant standards common
- 'BAT' concept – mandate Best Available Technology
 - ('MACT' in USA – Maximum Achievable Control Technology)

Market mechanisms

- Emissions trading

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Scene-Setting Discussion

How do public attitudes to coal differ across continents?

Which are the most important environmental issues around coal?

How should the industry respond to the barrage of anti-coal propaganda?

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Emissions from Burning Coal

Particulates
Sulphur dioxide
Nitrogen oxides
Mercury etc
Carbon dioxide

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Effects of Emissions

Particulates
Sulphur dioxide
Nitrogen oxides
Mercury etc

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Abatement and Control Technologies

Particulates
Sulphur dioxide
Nitrogen oxides
Efficiency and 'clean coal'

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Coal and Climate Change

Coal emissions
UN processes
Technology solutions

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Existing Regulations and Future Impacts

Types of regulation
World summary
EU regulation
The future of coal

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EU Regulation

Large Combustion
Plants Directive
Industrial Emissions
Directive
2030 Energy Package
Emissions trading

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The Future of Coal

Climate activism
Divestment campaigns
Pragmatism

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Discussion

How should coal companies brief delegations for Paris 2015?
How do the challenges for coal differ across continents?
Can we put our faith in technology?

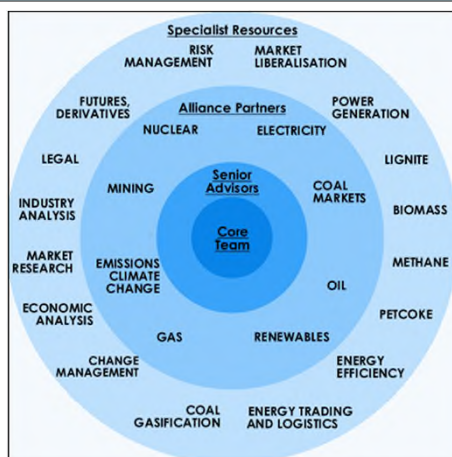
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Discussion

The way forward for coal
Is coal doomed to be the new tobacco
or is there a better solution?

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Energy Edge Tailored Solutions



- ▶ **Core team**
 - Senior strategic level experience in major businesses
- ▶ **Expert network**
 - Active and deep working knowledge of relevant sector
 - Use of specialists tailored to meet clients' requirements

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