



**Climate Change Responses:
Regulation**
Presentation to UKELA London

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About ClientEarth

- ClientEarth is a non-profit law, science and policy environmental organisation based in London and Brussels
- Public interest lawyers
- Legal analysis and strategy, advice and test case litigation
- Climate and energy programme focuses on EU and UK legal and regulatory frameworks

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Overview: climate change responses



1. Climate change science and risk
2. Coal and climate
3. Regulatory responses
4. UK/EU response to new coal
5. Carbon Emissions Performance Standard (EPS)

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1. Climate change science and risk



- Past GHG emissions will produce 1.6°C warming. Business as usual will produce up to 6.5°C by 2100
- Global temperature rise above 2C threshold for greatly increased damage (e.g. EU & UK political commitment)
- IPCC 2007 and Stern **excluded** extreme impacts and tipping points
- Global emissions must peak and decline in next 10 years

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2. Coal and climate



- Coal is the single largest source of CO2 emissions and is responsible for nearly half of all global CO2 emissions.
- Coal is abundant and has high carbon intensity compared to other fossil fuels
- Global coal use is growing at an unprecedented rate
 - UK: EON's Kingsnorth
- CCS needs to be demonstrated and deployed as quickly as possible

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James Hansen on coal



"If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted"...

"the solution to global warming must include phase-out of coal except for uses where the CO2 is captured and sequestered"

Source:

Target atmospheric CO2: Where should humanity aim? (2008)
Letter to Gordon Brown December 2007

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3. Regulatory responses

- Climate change now subject of major legislative and regulatory programmes
 - **UK:** Climate change programme, Climate Change Bill
 - **EU:** Climate and energy package – emissions trading, renewable energy, effort sharing (non-ETS), CCS framework
- EU ETS cornerstone of UK and EU response
- Regulation e.g. energy efficiency standards for buildings, appliances, transport

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Toolkit of policy responses to climate change

- Stern's three steps:
 - Establish a **carbon price** via regulation or tax
 - **Technology policy** to drive innovation and deployment of low carbon technology
 - Behaviour change for consumers
- Risk management, not "cost optimisation" – urgency and potential impacts
- Avoid lock-in to long-lived high-carbon infrastructure
 - Especially in early years of trading scheme

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Regulation establishes carbon price

- Cap and trade **is** regulation: the EU ETS establishes a cap on total emissions, and allocates allowances that can be traded
- Carbon price only an alternative to regulation when other option is a carbon tax (Hepburn 2006, Burke 2008)
- Efficient way of sending investment signal but recognise limitations of scheme
 - Level of cap, free allocation or auctioning, use of international credits

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4. UK/EU response to new coal

- Companies may decide to retrofit CCS or close power station at a later stage depending on future carbon price
- “Carbon capture readiness” means:
 - Some space for CCS equipment
 - Assess technical feasibility of CCS
(Draft Article 32, Commission’s Proposal for a Directive on Geological Storage of CO₂)
- Unabated coal with no guarantee of retrofit - fails to address lock in risk.

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5. Carbon Emissions Performance Standard



- California GHG EPS model in January 2007
 - Set at 500kg CO₂ per MWh
 - Applies to all new baseload investment
 - Energy plan "loading order" prioritises efficiency, renewables, efficient fossil fuel
- A regulatory alternative that provides certainty and a strong signal
- Meeting the standard means coal must have CCS from the outset
- Supplements EU ETS to avoid carbon lock-in

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Next step: Priority support for demonstration of CCS



- Priority support for large scale CCS demonstration
 - EU financing mechanism for at least 12 projects in EU and beyond e.g. China
- Costs of demonstration in order of €60-€90 per tonne of CO₂ saved; €30-€45 by 2030 (McKinsey & Company 2008)
- Early answer on costs and feasibility

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