



*Carbon Capture &
Storage Association*

A photograph of several hot air balloons against a clear blue sky. One balloon in the foreground has yellow, black, and red horizontal stripes. Another balloon to the right is multi-colored with red, purple, blue, and green sections.

THE CARBON CAPTURE AND STORAGE ASSOCIATION (CCSA)

Advanced Power Generation Technology Forum

Incentivising CCS

30th January 2007

Dr Jeff Chapman

Chief Executive - CCSA



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THE CARBON CAPTURE AND STORAGE ASSOCIATION (CCSA)

REGULATION

The level playing field

- **All new power plant to have minimum emission threshold**
- **Level playing field for all technologies**
- **Danger of unintended consequences such as:**
 - **No control over strategic energy mix and**
 - **All new plant is coal + CCS as less expensive/more acceptable than renewables or nuclear**



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REGULATION

Focus on fossil power

- **All new fossil power plant to be capture-ready by?**
- **All new fossil power plant to have CCS**
- **What does capture-ready mean?**
- **Danger of unintended consequences such as:**
 - Keeps old plant on the system**
 - Rush to build plant ahead of deadline**



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REGULATION Obligation

- **Market based instrument – good?**
- **Confusion when running alongside ETS**
- **Value in RO eclipses ETS**
- **RO has proven to be expensive & favours wind**
- **Must be matched by other favourable regulation**



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FISCAL INCENTIVES

Capital Grants

- **Very high cost to HMG**
- **No link to consumption**
- **No behaviour incentive**
- **Can incentivise overspend**
- **State-aids would prohibit except RD&D**



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FISCAL INCENTIVES

Tax Breaks

- **Enhanced capital allowances**
 - Already granted to RE and GQCHP Reduced PRT on additional oil produced
 - Difficult/not impossible to baseline
- **CCL exemption**



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FISCAL INCENTIVES

Tax emissions

- **Must be at a high level therefore high cost**
- **Not exactly a market instrument but does incentivise least cost abatement**
- **No price discovery but then ET has no quantity discovery**
- **Norway has used this effectively in the absence of other policy**
- **HMT gets hooked on the revenue is that good or bad?**
- **Can supplement EU ETS**
- **Possible rebate against allowance purchase (D&T)**



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FISCAL INCENTIVES

Feed-in Tariff

- **In general and successful use for renewables eg Spain, Germany**
- **Not a market mechanism so no price discovery**
- **Consumer pays directly**
- **Long term commitments to arbitrary price**



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Contracts for differences

- **Guarantees fixed price to operator**
- **HMT takes on market risk**
- **Can be negative – subject to contract**
- **Can be a tradable instrument**



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FISCAL INCENTIVES Challenge Fund

- **It is a fund that developers bid their projects into**
 - Capped by MWh**
 - Capped by fund size**
- **NFFO and UKETS were challenge funds**
- **NFFO was technology specific UKETS was not**
- **NFFO rules open to rigging?**
- **Measure of competition – cost only or include other factors like with PPPs**



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FISCAL INCENTIVES

Carbon Contract

- **Operator has contract with Govt. to eliminate agreed number of emissions at agreed price**
- **Like UK ETS**
- **Compatible with Challenge Fund concept**
- **Technology neutral**



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EU ETS

- Phase 1 price <4€, phase 2 <16€
- Confidence damaged in price crash
- Must have tighter NAPs for higher prices
- Will Brussels reign in MS NAPs?
- Need longer term commitments post 2012
- Global post 2012 agenda and extension to non MSs
- Need recognition for CCS
- Impact of inclusion of air travel, other ETS's
- Too many unknowns despite commitments
- Conclusion – not bankable on its own



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EU ETS

Free or auctioned allowances

- **Current projects will be new entrants to the scheme so allocation from NER**
- **May be allocated a proportion of free allowances**
- **Gas and coal get the same under current UK rules**
- **Economists tend to favour auctioning**
- **Auctioning can raise fighting fund**
- **Power sector may pass cost through but not cement**



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Hypothecation of EU ETS auction funds

- **Use of certain tax revenues for a specific purpose**
- **HMT is averse to hypothecation, yet:**
 - CCL is a hypothecated tax on industrial energy
 - NFFO was a hypothecated tax on power
- **The auction should raise €2b+ in phase 2**
- **More in subsequent phases**
- **It raises tax revenues from industrial energy**
- **Particularly from the power sector**
- **Why not use to support carbon abatement?**
- **Do it now before HMT hooked or is it already?**



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So what do we actually want?

- **Sufficient funds to support several projects – not one**
- **Hypothecation of EU ETS auction revenue**
- **Support for a range of technologies**
- **Competitive - price discovery**
- **Working alongside EU ETS**
- **Certainty and longevity**
- **Tax breaks consistent with other technologies**
- **HMG to deliver the promised leadership role**



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