

***Carbon Capture and Storage:
Financing Challenges and
Opportunities***

Mansion House, 15 September 2008

**Emissions Trading, CDM,
Incentive Options and
Other Financing Sources**

Henry Derwent – CEO IETA



INTERNATIONAL EMISSIONS TRADING ASSOCIATION

Who are IETA ?

- Only cross–sectoral private sector international organization promoting emissions trading to secure environmental goals
- Founded in 1999
- Membership: 181 companies
 - 49%: emitters
 - 51% project developers, intermediaries, financial institutions, brokers, verifiers, legal firms
 - 60% EU, 30% US/Canada, 10% Asia
- Swiss non profit
- Offices: Geneva, Brussels, Washington, Ottawa



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How much do we need?

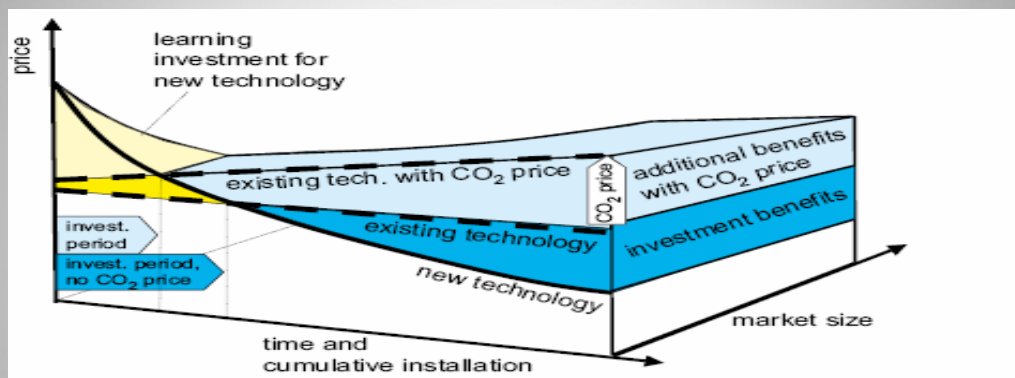
All by 2050	BASELINE	"ALL CURRENT TECHNOLOGIES" \$50 per tonne	"BLUE" \$200-500 per tonne
Global Gtonnes of energy CO2 emitted (today 27)	62GT	27GT	16GT
CO2 concentration in 2050 (today 385ppm)	550ppm	485ppm	445ppm
Coal's share of power generation	49% (of 49kTWh)	13% (of 39kTWh)	11% (of 41kTWh)
Amount of power sector CCS expected	0 (some EOR)	379GW new coal capacity 239GW retrofitted 280GW gas/CHP capacity	543GW new coal capacity 157 GW retrofitted 817GW gas/CHP capacity
Proportion of CO2 reduction from power gen CCS	-	8%(2.9GT)	10% (4.9GT)
Proportion of CO2 reduction from all CCS	-	14% (5.1GT)	19% (10.4GT)



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Source: IEA Energy
Technology Perspectives

Bringing forward new technologies earlier



Source: IPCC, from Neuhoff

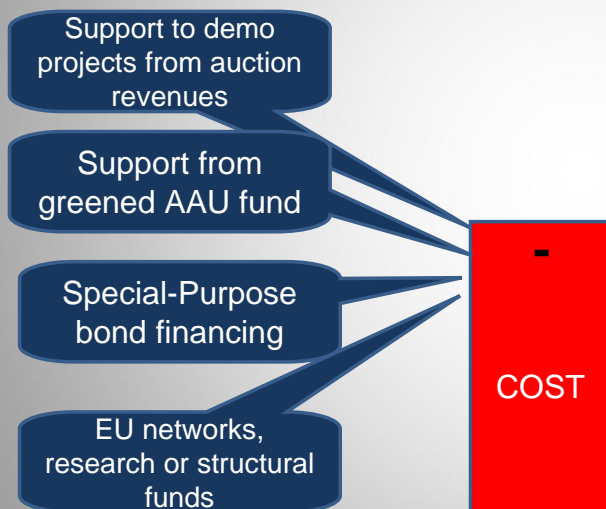
...depending on the perceived duration and level of prices



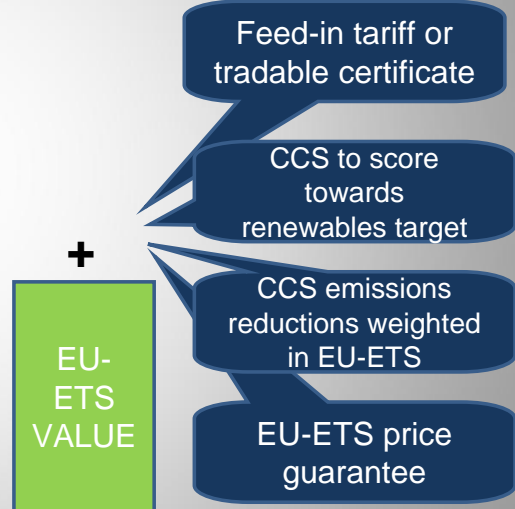
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Different ways of providing support to CCS in the EU

Reducing the cost



Increasing the value



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Multiple Crediting

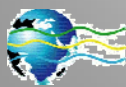
- “50 new coal-fired power stations to be built in Europe in the next 5 years”
- Multiple crediting for CCS-derived emissions reductions, part of Chris Davies amendments:
 - Prohibition by 2015 of any new power plant not equipped to capture 90% of CO₂ emissions
 - CCS retrofitting by 2025
 - Priority to fund 12 European CCS demonstration projects, from EU-ETS new entrant reserve
- Continued possibility of applying auction revenues
- Does “a tonne is a tonne” matter?



Creating an incentive – Non Annex 1

Reference Scenario	1990	2005	2015	2030
China: Capacity GW	87	368	814	1259
China: CO2 Mt	598	2424	4328	5997

- Developing country own emissions trading
- Technology transfer
- Special Fund endowed by developed countries
- Clean Development Mechanism
- Non-Kyoto offsets
- Power sector sectoral agreement
- Developed country tariffs for failure to price carbon



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CCS in the CDM – Recent History

2001	UNFCCC invites IPCC to prepare technical paper
2002	IPCC workshop proposes Special Report
2002	Outline of Report agreed
2005	IPCC Report submitted First CCS Methodology submitted; EB seeks guidance from COP`
2006	SBSTA in-session workshops Two more methodologies submitted COP requests EB to continue work
2007	No discussion at SBSTA: submissions requested by September Discussions at COP stalemate; synthesis report for next SBSTA; further submissions by June
2008	SBSTA considers EU/Japan pilot approach; no agreement, remitted to COP discussions



CCS in the CDM – Who is the Problem?

From statements at the Bali COP

Strongly in	In favour	Opposed	Strongly
Norway Japan Canada China Saudi Arabia Pakistan Australia Kuwait Qatar UAE Oman	EU Nigeria (Africa Group) Indonesia Korea FoE	India	Brazil Micronesia Barbados Senegal Tuvalu Jamaica Greenpeace

...and the US?



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CCS in the CDM – What Chances?

- Further technical information - or demonstration -required?
- Displaced by improved combustion efficiency methodology?
- Unsuitable in principle for CDM?
- Real risk of flooding the market?
- Just a bargaining chip?
- Possible negotiating linkages



The Future for International Support

- Some form of carbon finance necessary
- Candidate for a policy or programme CDM?
- Incentivisation of an intensity target
- National sectoral targets
- International benchmarking and regulation - moral hazard
- Demonstration a preliminary in all cases



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