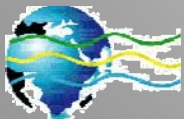


ICAO Workshop on Aviation and Carbon Markets

**Emissions Trading:
What is it for?
Where has it got to?
What is its future?
What role for aviation?**

Henry Derwent – CEO IETA

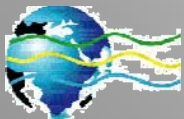
23 June 2008



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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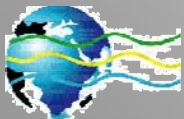
Emissions Trading:

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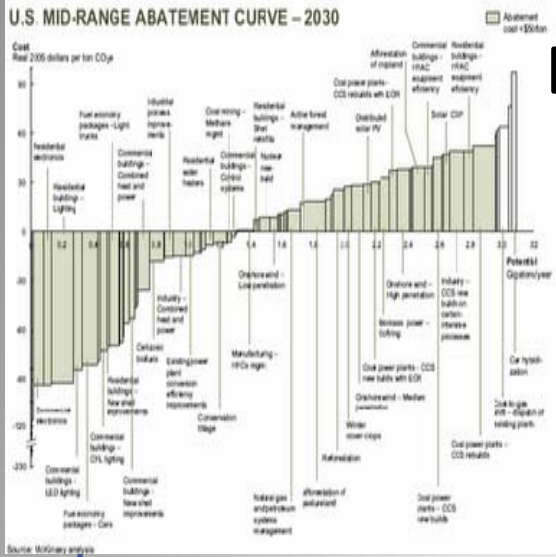
Where has it got to?

What is its future?

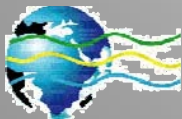
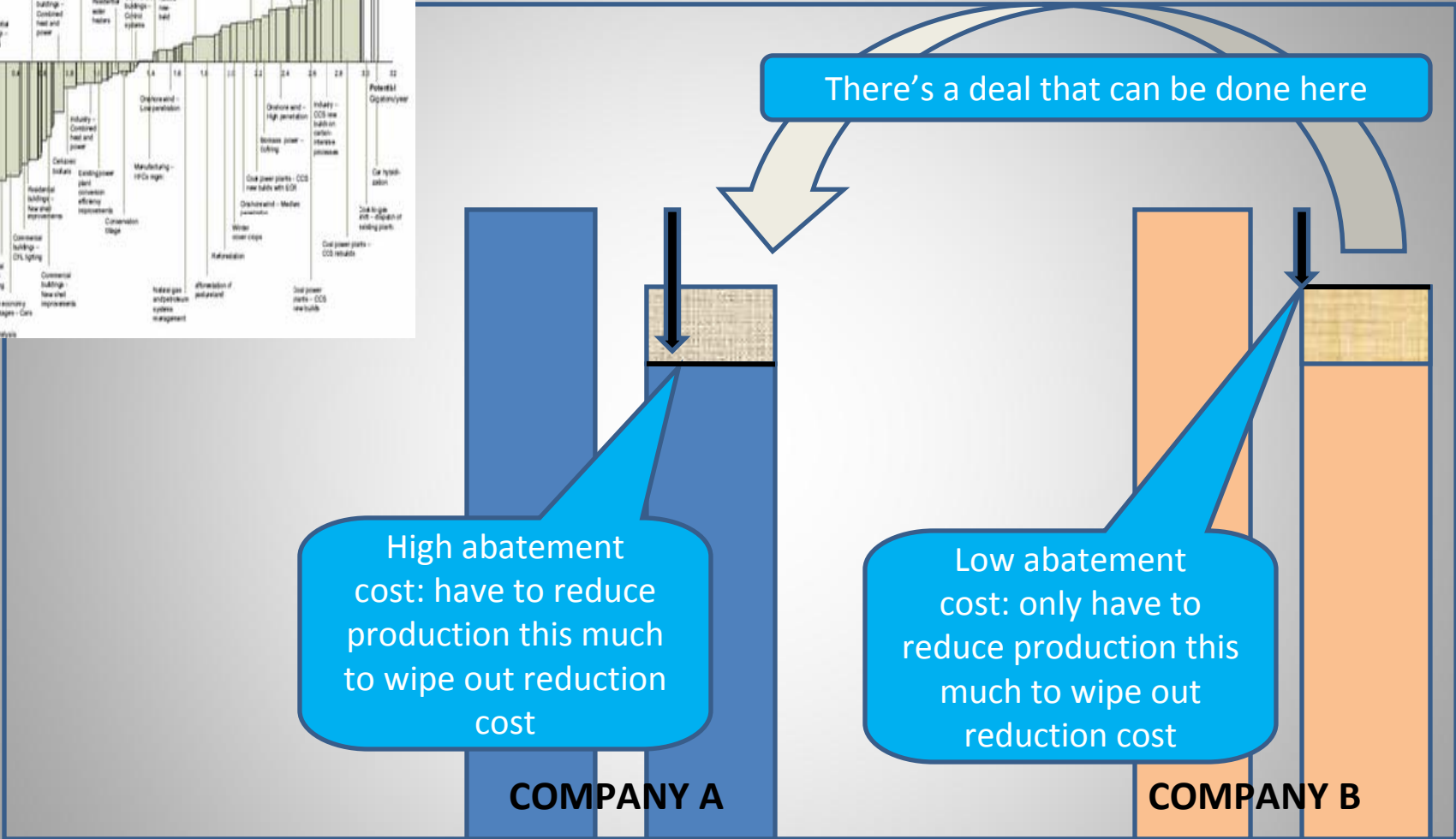
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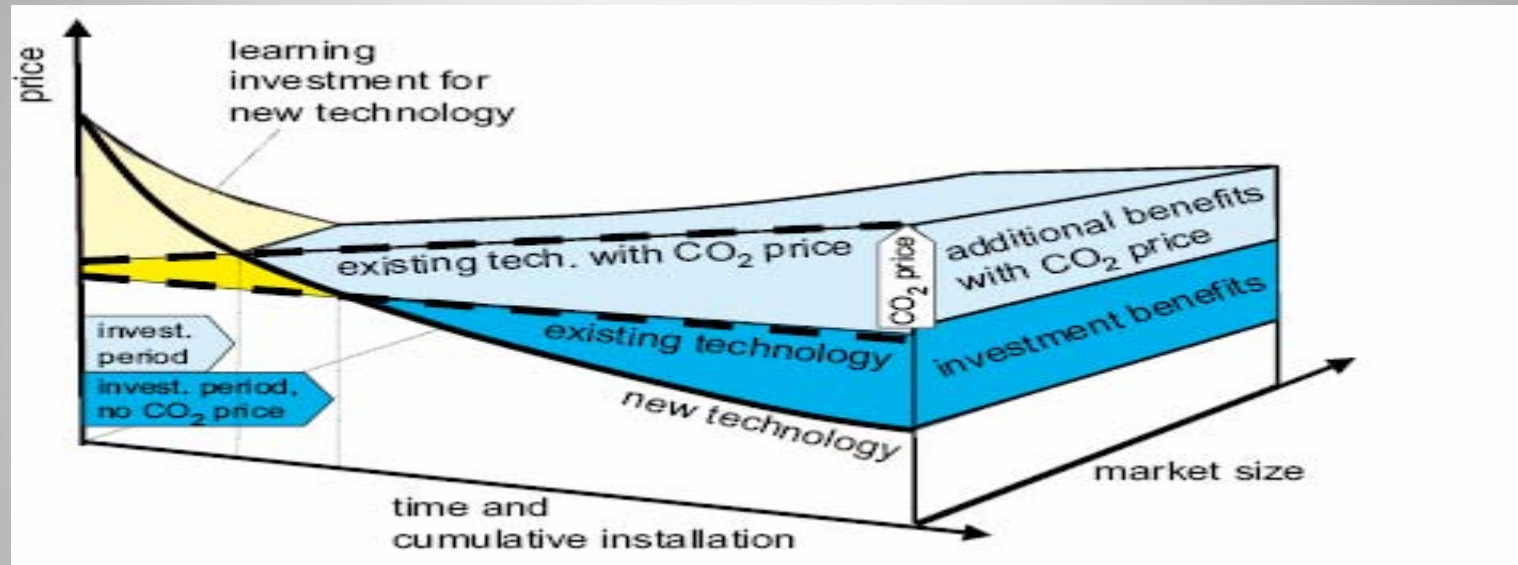
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Emissions reductions with more flexibility

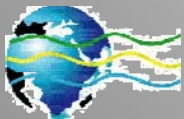


Bringing forward new technologies earlier



Source: IPCC, from Neuhoff

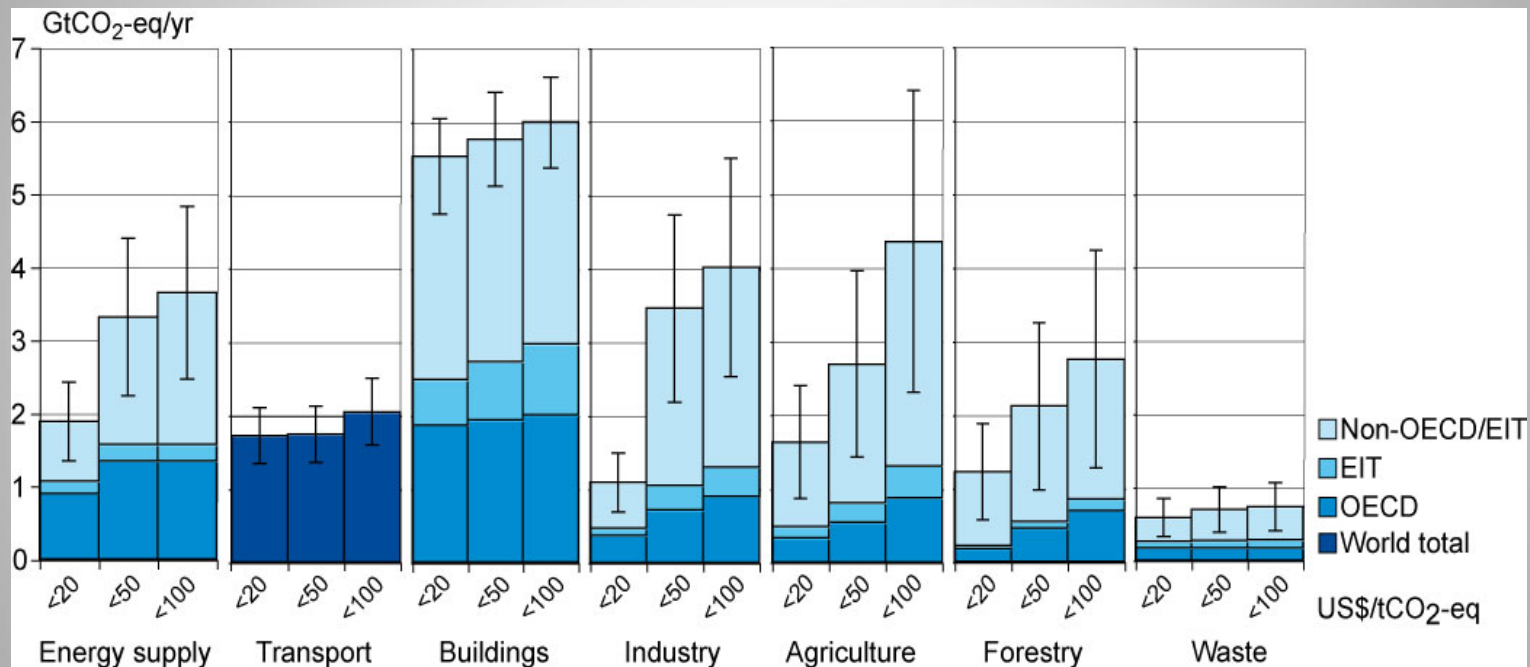
...depending on the perceived duration and level of prices



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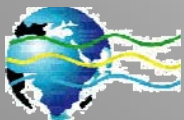
And finding the cheapest reductions across the world

IPCC 4AR: majority of lower-cost opportunities are in non-OECD countries



Source: 4AR

To achieve Stern's low GDP costs, transfers to developing countries of between \$50 and \$100bn a year are required



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Better than tax

Tax is:

- ✓ Predictable
- ✓ Low incremental transaction costs

But:

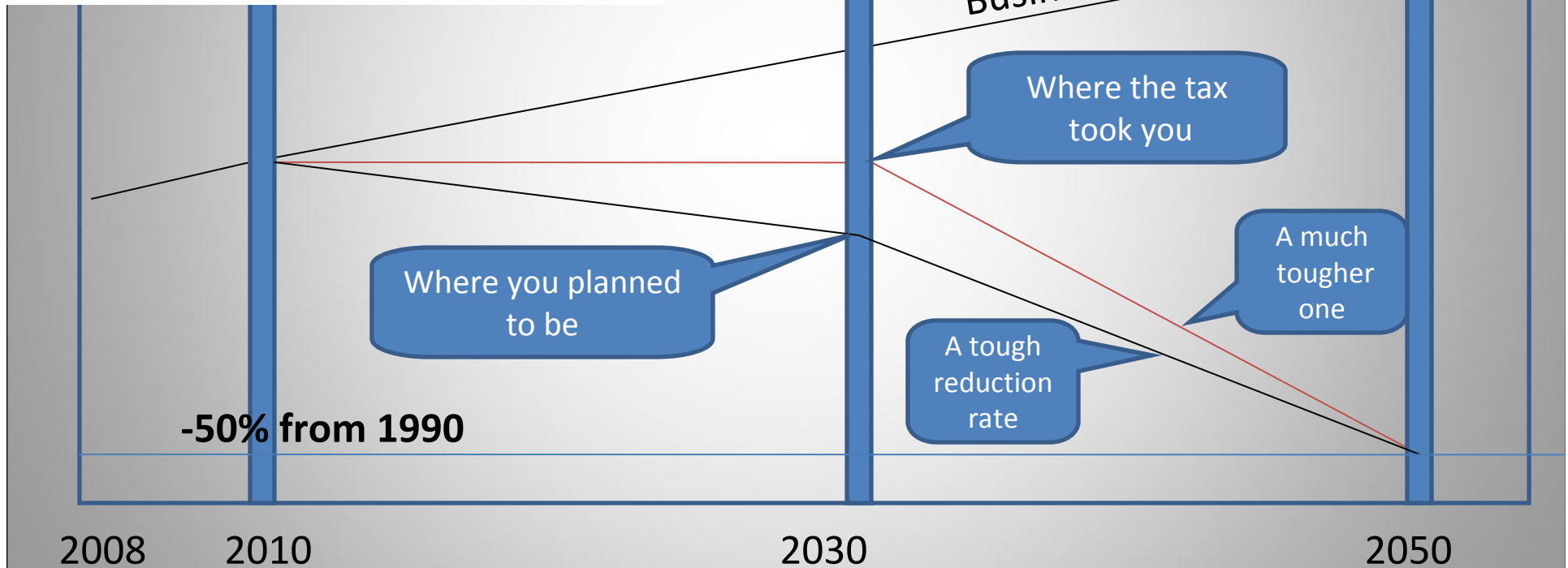
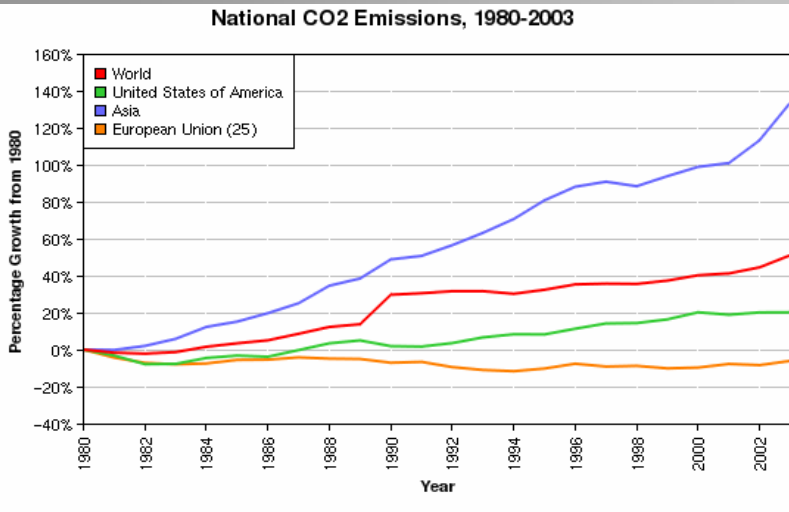
- No certainty of outcome – *see illustration*
- Not much evidence of behavioural change: where's the “cliff-edge”?
- Not much of a vote-winner
- Not where the rest of the world is going – trade impacts?
- Hard to adjust for particular policy outcomes
- Revenue gets spirited away
- Inflexible - no positive incentive – *see illustration*
- Project credits can reach where tax can't
- Easier to reflect pass-through and competitiveness through trading

...and you can do both!



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Because You need certainty In the medium term



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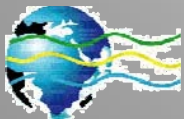
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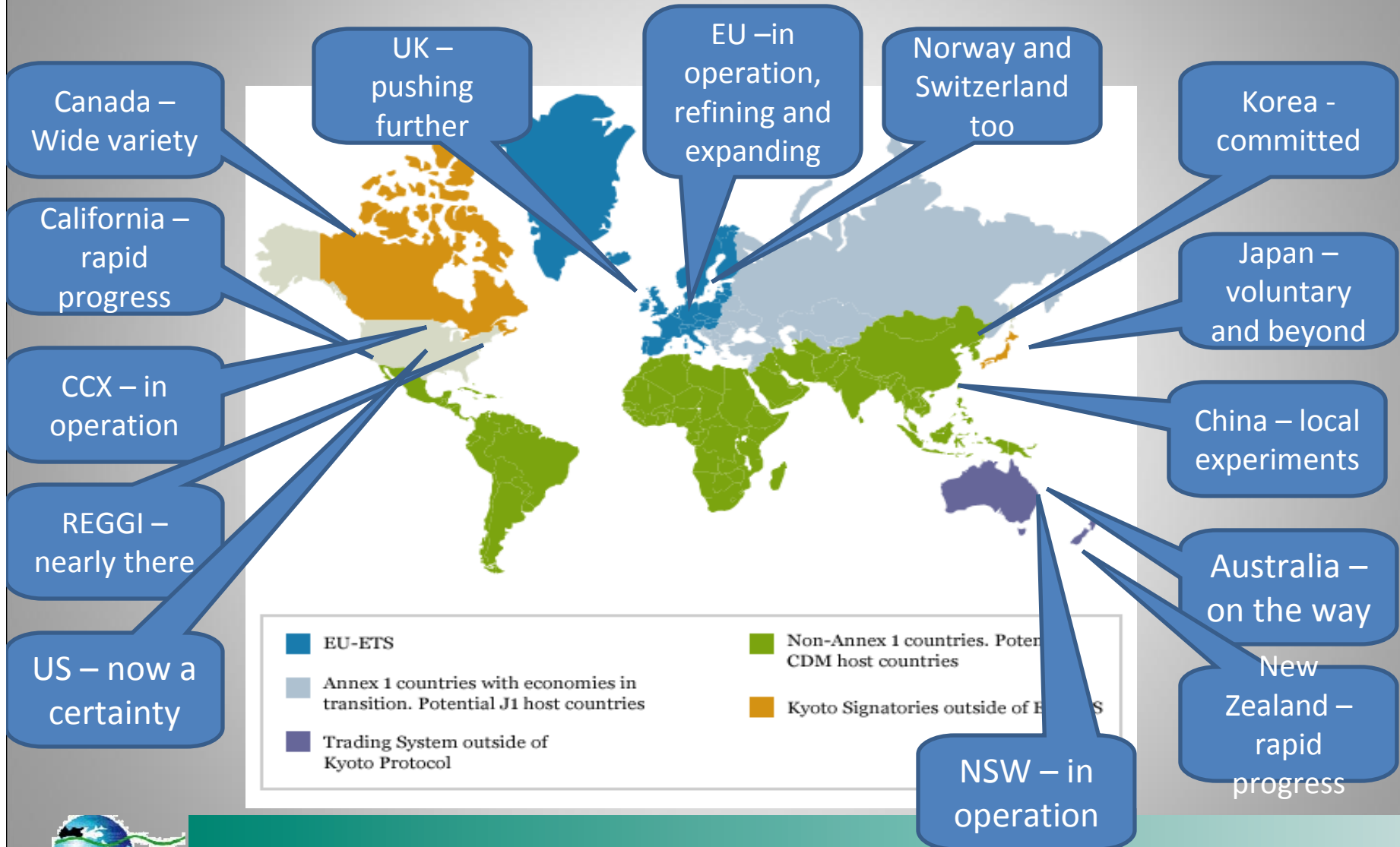
What is its future?

What role for aviation?



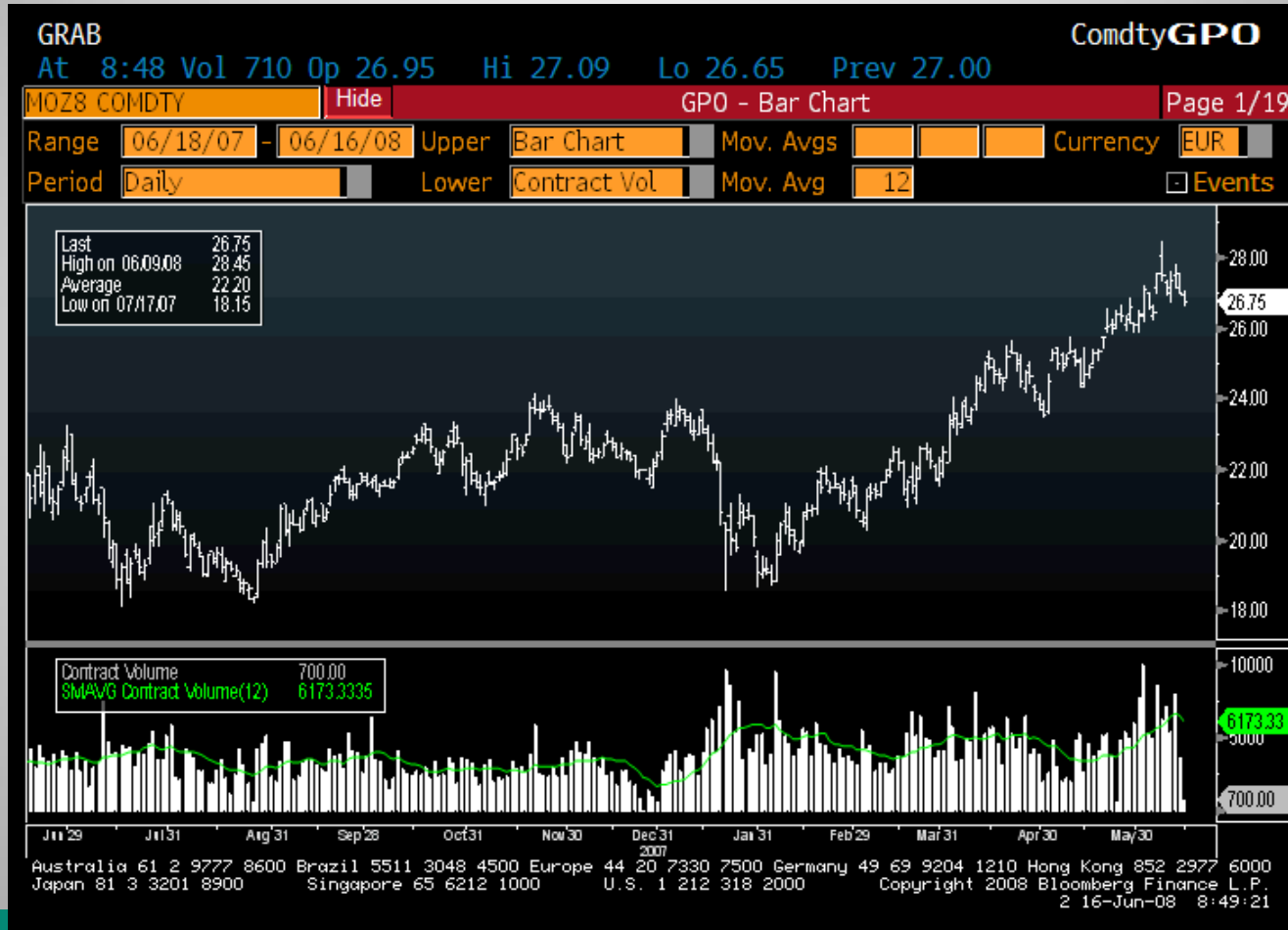
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Spreading across the World



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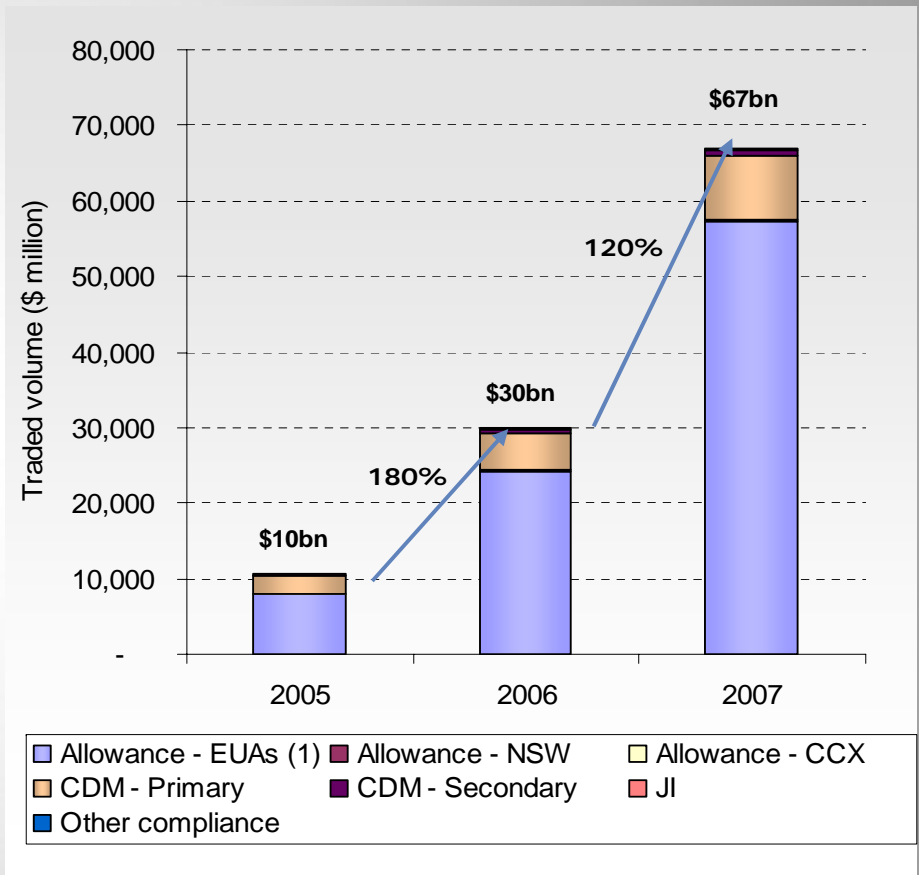
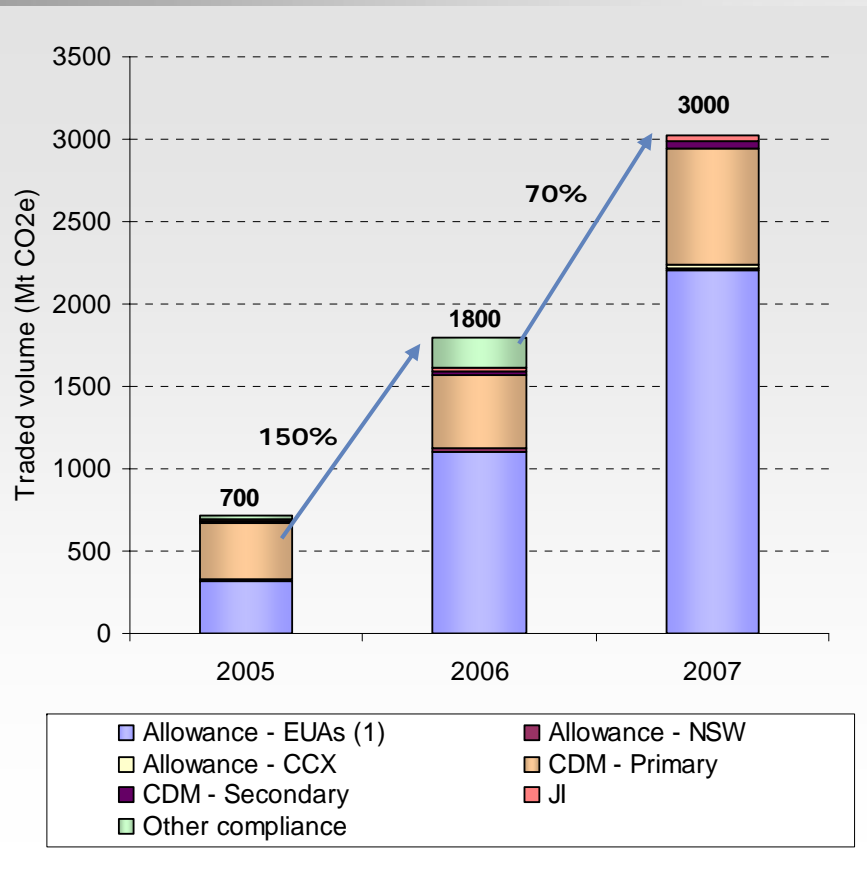
Prices and Volumes – a vibrant market



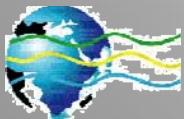
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Value of world carbon market increased by 120% in 2007

- Mostly driven by increased volume and price of EUAs



Source: New Carbon Finance estimates



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Tonnes delivered – by market (2007)

Market	Volume mtco2e	Growth over previous year
EUAs	2061	x2
NSW	25	x1.3
Chicago	23	x2
CDM	551	x1
Jl	41	x2.5
Voluntary	42	x3
(secondary market	240	x10

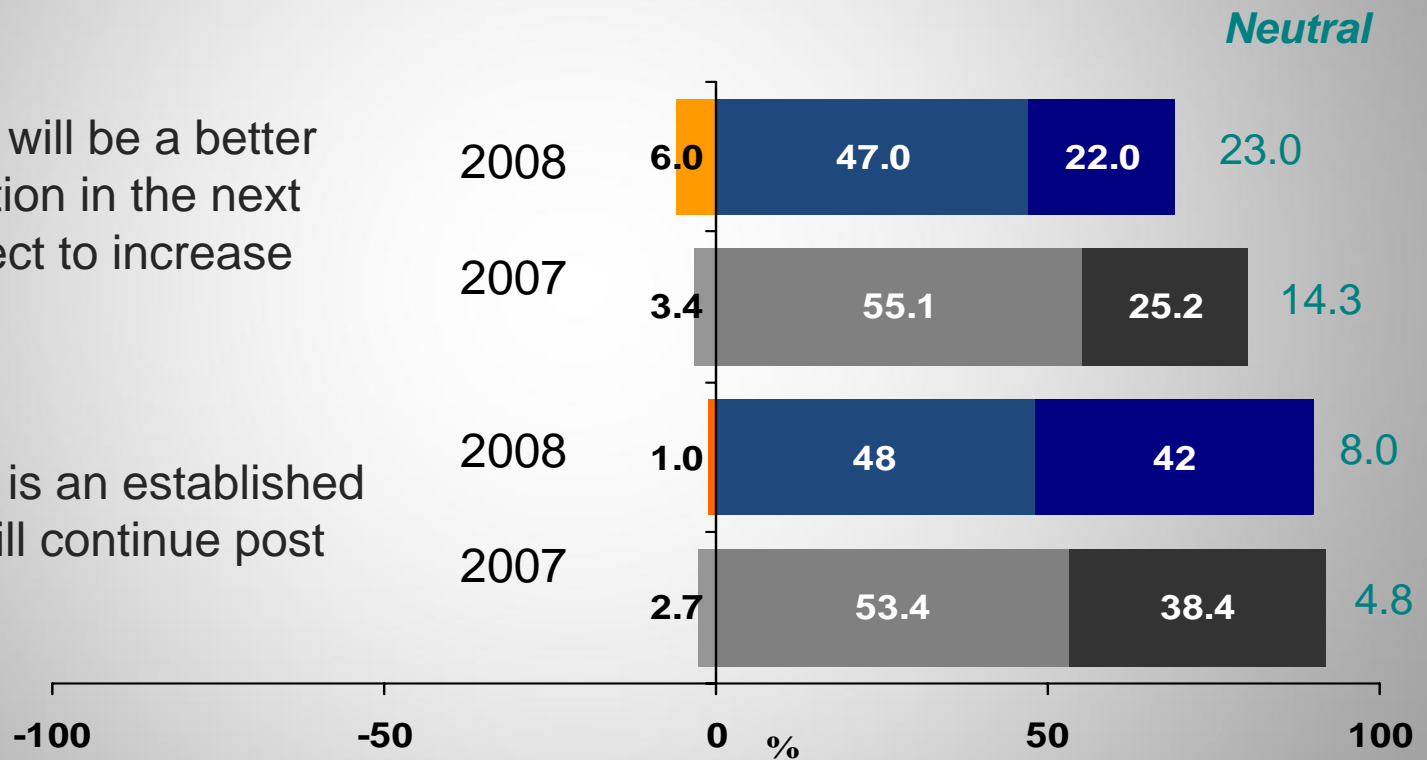


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Market sentiment – still confident, but slowing down a little?

The GHG market will be a better business proposition in the next year and we expect to increase our participation

The GHG market is an established instrument that will continue post 2012

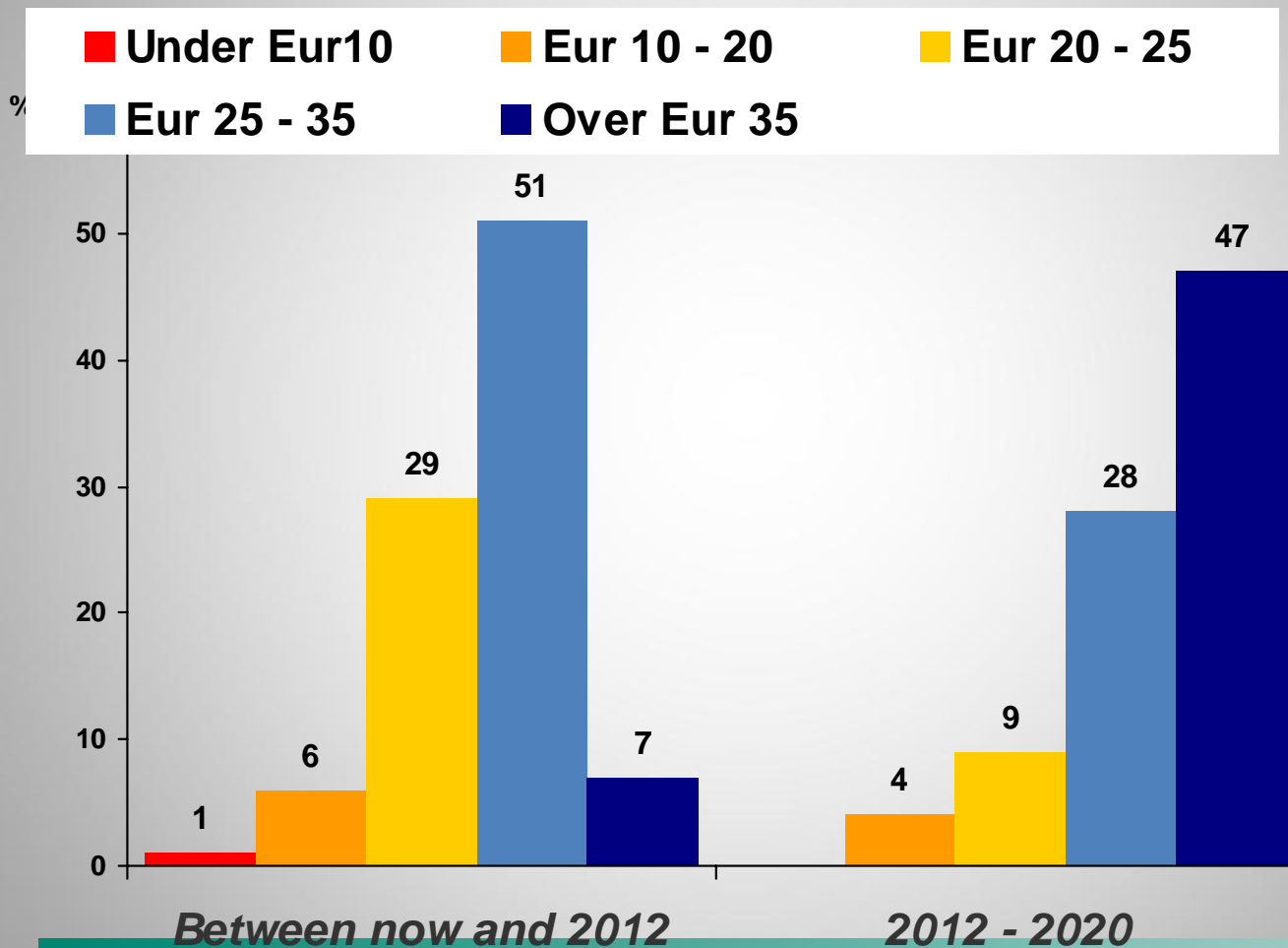


Source: IETA



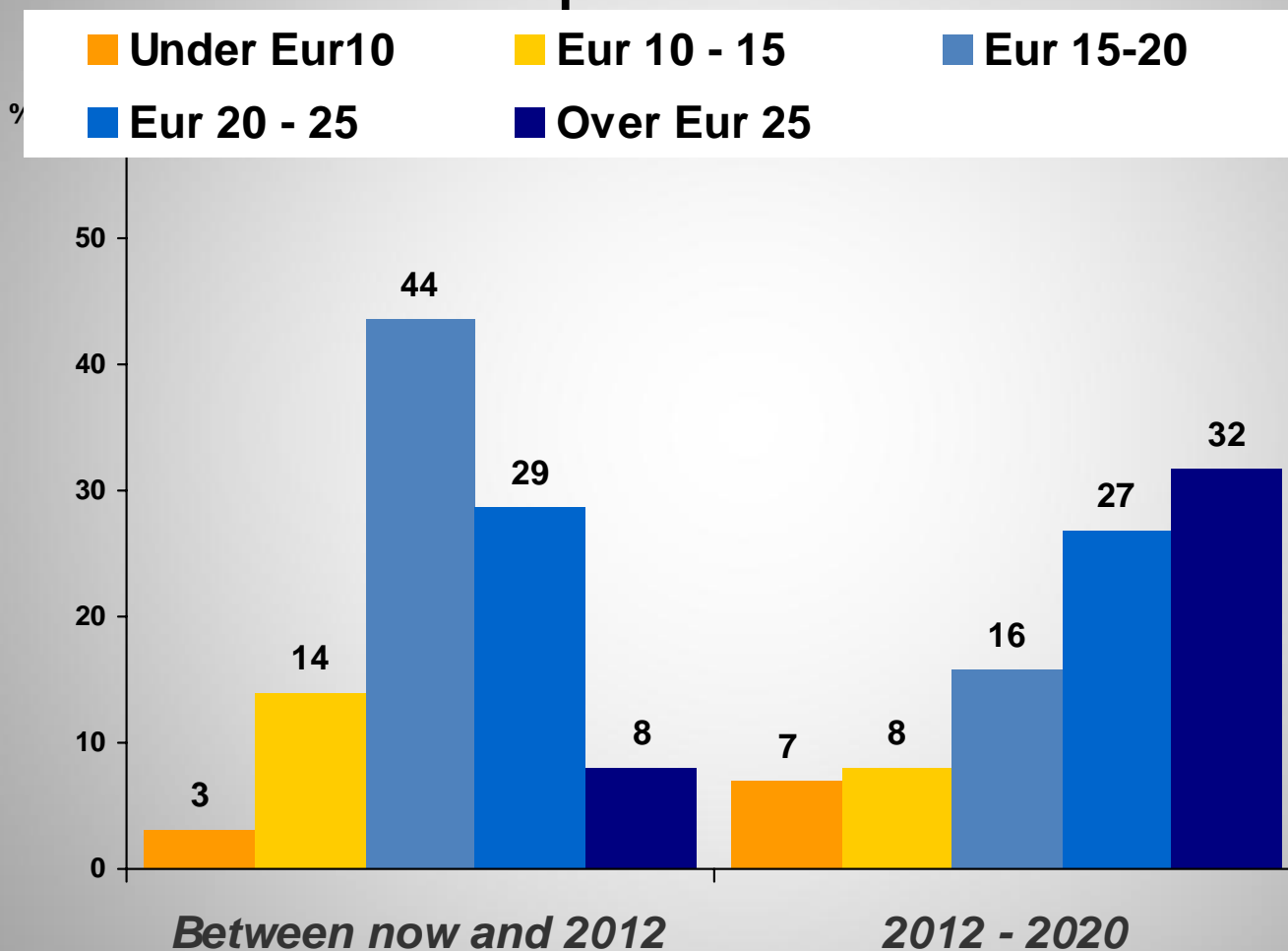
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Significantly higher prices beyond 2012



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Prices of CER also expected to increase post 2012



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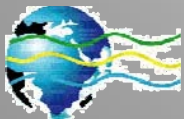
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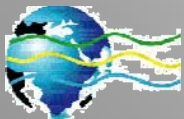
What role for aviation?



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National Cap and Trade going from strength to strength

- EU-ETS expanding in countries, sectors and gases
- Australia, Japan, Korea changing their minds
- Developing countries seeing trading as a possible emissions reduction tool
- US national system looks a near certainty – timing less clear (36 L-W Nays in the Senate)



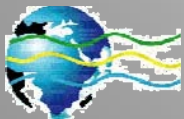
Internationalising Carbon Trading going much less well

- Linking markets an objective for officials and Governments and markets but not high priority for Governments
- Deep suspicion of international offsets in the US and parts of Canada
- European Commission proposals have strong risk of stalling the market
- European Parliament as suspicious as US counterparts



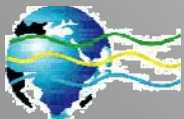
Obstacles in the way of market-based sectoral agreements

- Developing country suspicion
- Multiple interpretations
- Scarcity of global sectoral organisations
- Uncertainty and potential weakness of enforcement
- Disagreement over benchmarks
- Lack of stringency equivalent to national caps



Issues to address if markets are to play their full part

- technical convertibility of instruments derived from different types of commitment – “linking squared”
- duration of agreements
- level of certainty for project/programme baselines
- market supervision against background of political concern about other markets
- lack of political sympathy for non-domestic offsetting



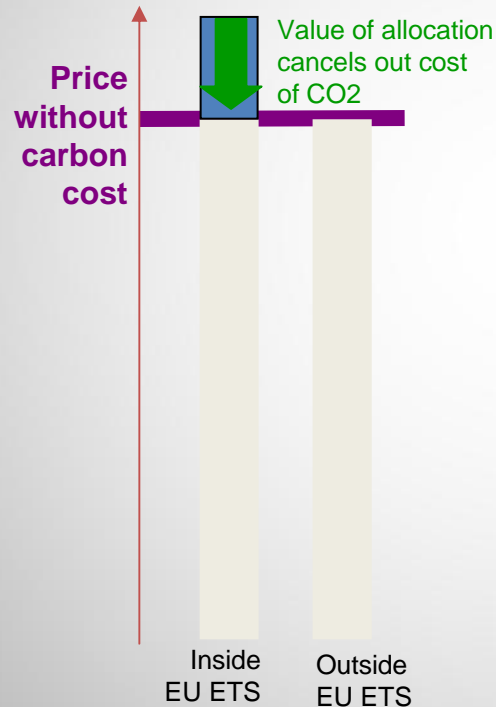
Competitiveness in a patchy world

- what can be done?

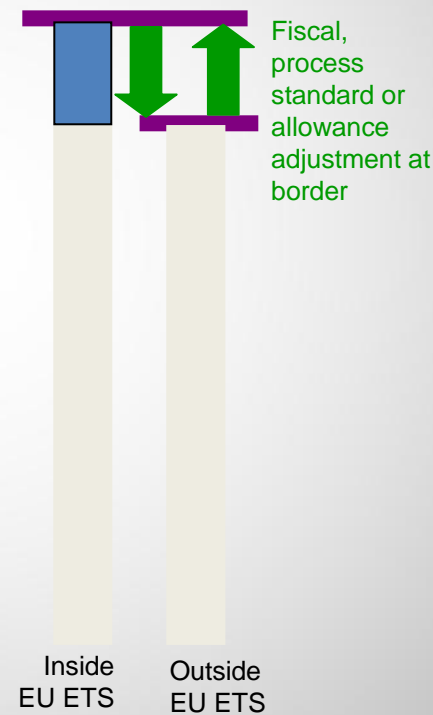
**No mechanism
(fixed free
allocation)**



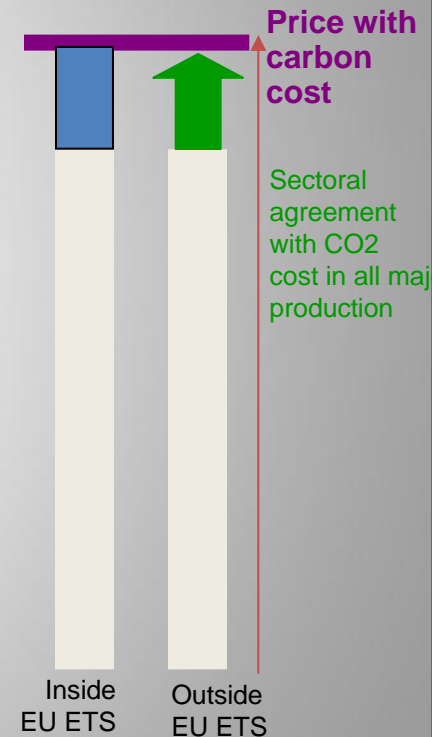
*Levelise at
non-carbon costs*
**Conditional
allocation/ revenue
recycling**



*Support consistent
differential*
**Border
adjustments**



*Globalise
carbon costs*
**Full-cost sectoral
Agreements**

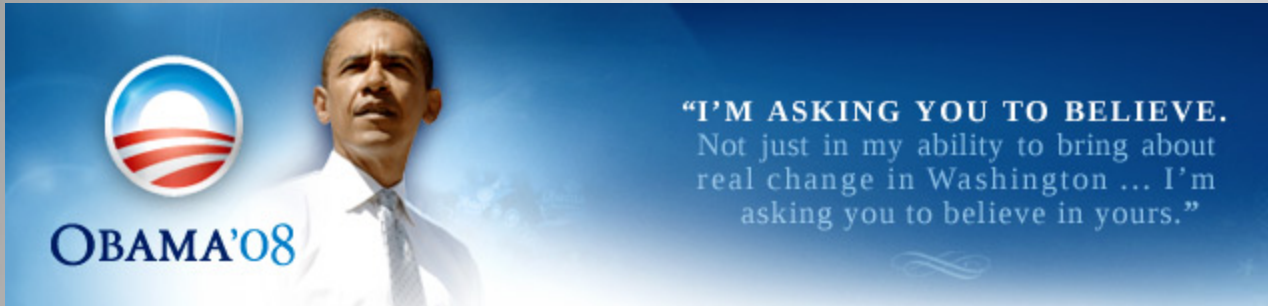


Source: Michael Grubb/Carbon Strategies

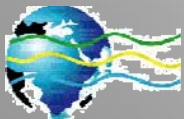


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The big new player - One US future



- market-based cap-and-trade to reduce 80% by 2050, back to 1990 levels by 2020, with immediate annual reduction targets
- 100% auction
- some revenue used for clean energy development, energy efficiency and transition costs
- 25% renewables by 2025: support to clean coal, CCS, reforestation, new technologies
- Global Energy Forum of the largest Greenhouse gas emitters

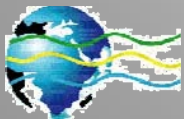


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... And another



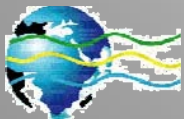
- cap and trade scheme covering 90% of the economy
- targets for 2012, 2020 (return to 1990), 2030, 2050 (60% below 1990)
- permits eventually (2050?) auctioned with some proceeds going to research (including CCS and nuclear) and deployment support
- early allocation of permits to help transition and endow the Climate Change Credit Corporation, which will reward early action
- a commission to decide the balance of freely allocated and auctioned
- banking and borrowing allowed
- unlimited initial offsets from domestic and international sources
- integrating the US market with others, in pursuit of lower-cost reductions
- a strategic carbon reserve as a source of permits during hard economic times
- lead UN negotiations, and incentivise rapid participation by India/China
- same environmental standards applied to those countries as to US



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The Dry Run - Lieberman-Warner

- emissions reductions of about 2% pa from 2012 – 19% by 2020, 71% by 2050 for covered sectors
 - up to 15% domestic offsets, with emphasis on farming and forestry
 - up to 5% international project-based credits, another 10% international forest protection credits
 - strong market oversight to prevent manipulation
 - Carbon Market Efficiency Board reporting to Congress, able to apply cost-relief measures
 - Climate Change Technology Board to distribute revenues
 - banking and borrowing allowed
 - automatic extra supply released (borrowed from future) at predetermined price level
 - fixed reward for early action
 - much transitional relief
 - all major emitters to reduce – otherwise importers
- Must acquire allowances
- states can take measures if not less stringent



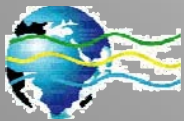
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A Dry Run – and then how long?

- Inauspicious times: when will the L-W Bill now get on the floor? What will it show when it does?
- A Bill to Congress 100 days after Jan 09 swearing in?
- To Congress May 09, marked up Fall 09
- To Committees, who meet in conference Spring 2010 earliest
- Legislation passed 2010; executive action “within 180 days”; could take till 2012 to implement
- Lawsuits aimed at preventing implementation – if granted, add 2 more years
- Use of Clean Air Act, Endangered Species Act, Executive Agreement for international elements – all bear traps



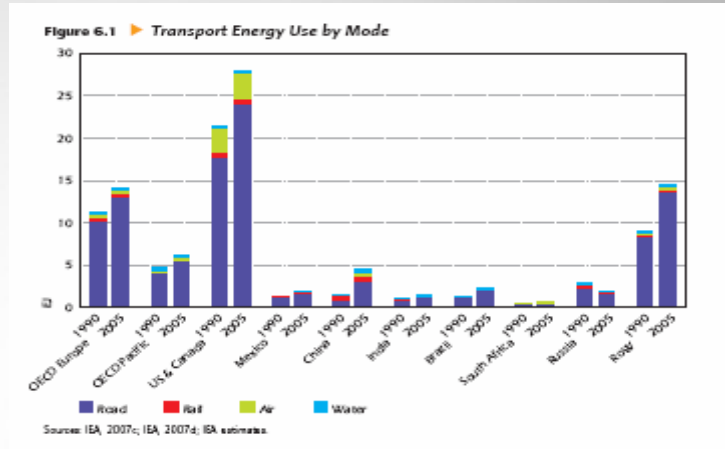
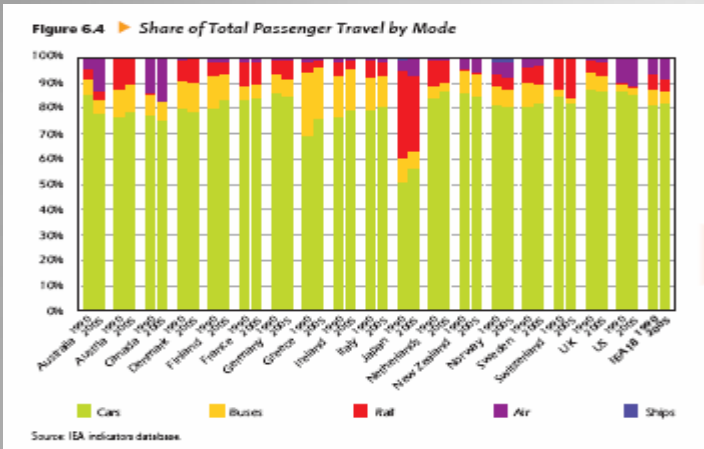
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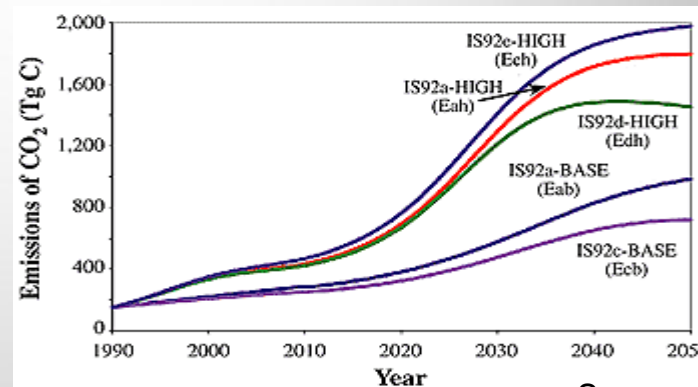
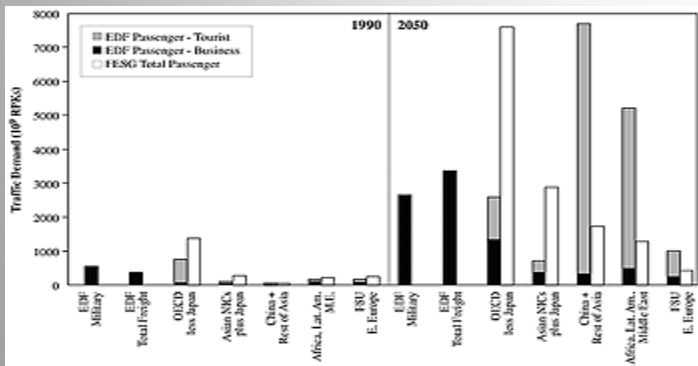
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Why pick on aviation?

Still a very small proportion – even of the transport sector



But the growth is enormous and largely out of reach of present systems



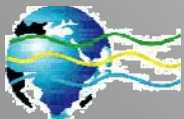
Source: IPCC & Env Defense



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EU Proposals – alone for how long?

- Leadership compromised: quarter of the benefit of EU Kyoto actions eliminated by EU-related aviation growth – effect likely to worsen
- Little evidence of ICAO or UNFCCC-derived measures to counter
- Resolution 35-5 of the ICAO Assembly endorses trading – Sept 07 demand for bilateral agreements not endorsed by EU – alone?
- A test case for the problems of sectoral approaches? Impact on linking?
- Emissions price effect was assumed to be low - needs urgent re-examination within post-2012 EU-ETS at currently modelled allowance prices
- Watch the outcome on tussles with the European Parliament (cap, auctioning, multiplier, offsets access, earmarking, start date
- Watch the response to Garnaut... And then the new US President



So what are we supposed to do?

- Fleet renewal with more efficient aircraft
- Technical fixes to airframe and surfaces
- Biofuel admixtures
- Optimise timetables and routes
- Define the cost-curve over time for each of these and other emissions-reducing actions
- Buy emissions reductions on the market accordingly
- Pass through costs and accept some extra reduction in demand increase

