

The growing role of auctioning in the economy?

Or

Allocation theory and the practice in Europe: the Great Divide

Presentation to International Emissions Trading Association
Workshop on allocation methodologies

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Overview

- Part I: Some fundamentals
 - Auctioning in the context of allocation methodologies: some economic fundamentals
 - ‘Classic’ arguments for ‘classic’ auctioning
- Part II: Five dimensions of auctioning in the EU ETS
 - Perverse incentives to incumbents
 - New entrants
 - Legal dimensions
 - Revenues
 - Uncertainty and projections
- Part III: The consequences of current Phase II allocation plans

A plea for clarity: some economic fundamentals

- Auctioning is *one way* of putting emission allowances into the market, compared to:
 - Free allocation to incumbents
 - New Entrant Reserves (NERs)
 - Imports of emission credits into the system
- Substituting some free allocation or NERs by auctioning will affect revenue distribution but not the CO2 price
- Auctioning that is additional to free allocation or NERs will depress the carbon price and substitute for imported credits
- In markets where product prices are set by marginal production costs:
 - Free allocation tends to generate net profits
 - Substituting some free allocation by auctioning reduces the scale of sector profits and has no impact on product prices

'Classic' arguments for 'classic' auctioning

- Purest, non-discriminatory reflection of 'polluter pays principle'
- Reduces distributional distortions between companies that free allocation and accompanying rents can create
 - *May be partially addressed through allocation negotiations*
- Creates a 'level playing field' between incumbents and new entrants
 - *May be partially addressed through NERs*
- Potential of 'double dividend' gains in auctioning
 - *Auctioning may not be used primarily for general budget revenues*
- Can increase market liquidity and transparency
 - *Liquidity and market transparency already high in EU ETS and likely to increase further in Phase II*

Part II:

Five dimensions of Auctioning in the EU ETS

- Perverse incentives to incumbents
- New entrants
- Legal dimensions
- Revenues
- Uncertainty and projections

Repeated allocations to (power sector) incumbents can lead to significant distortions - degree and nature depends on allocation method

Allocation method

Auction			<input type="checkbox"/>	<input type="checkbox"/>
Capacity	X		<input type="checkbox"/>	<input type="checkbox"/>
Capacity and technology	X	X	<input type="checkbox"/>	<input type="checkbox"/>
Historic output	X		X	<input type="checkbox"/>
Historic output and technology	X	X	X	<input type="checkbox"/>
Historic emissions	X	X	X	X

Distortions increase emissions and/or price impacts

Excess carbon-intensive capacity

Inefficient fuel choice

Less energy-efficiency investment

Discourage closure of plants
 Discourage closure of inefficient plant
 Increase operation of inefficient plants
 Reduce incentives for
 Efficiency-improving investment

Distortions



New Entrant Reserves are a nightmare areas of NAPs ...

- “Current allocation rules can significantly distort competition
- ... the annual value of the allocation is comparable to the fixed investment costs for a new installation and has the same order or magnitude as expected revenues ..
- .. Across the 6-8 Nordic countries studied, allocations to
 - new CCGTs would vary from 82% to 119% of projected emissions
 - New Nat.Gas CHP would vary from 60 to 137% of projected emissions
- ... the preferred and most cost-effective solution would be that Nordic countries do not allocate free allowances to new entrants in the energy sector .. Combined with adjusted rules on allocations to existing installations and closures ...”

Source: Ahman and Holmgren, IVL, accepted for publication in *Climate Policy*

Is free allowance allocation State Aid?

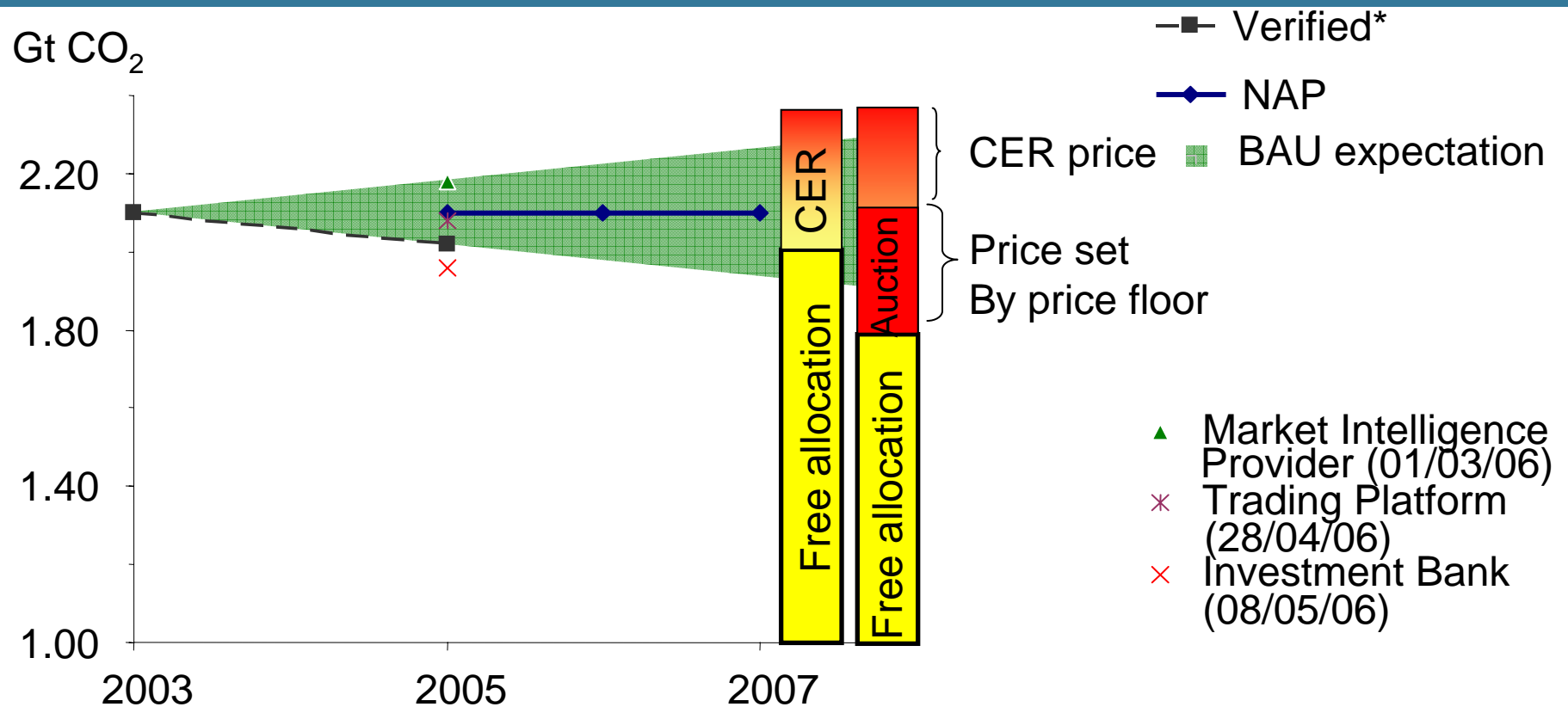
- Free allocation under NAPs involves an element of state aid: companies profit from government decisions
- Requires notification to and clearance by the Commission, otherwise may be challenged in national courts
- Some aid may be justifiable, e.g. on environmental grounds
- But extent of profits may not satisfy the proportionality principle
- Phase I experience to be considered in phase II evaluation

Costs and Revenues

- For sectors with average cost pricing (or prices fixed mainly in relation to imports):
 - 100% free allocation really doesn't change much for the industry, tax revenues used to buy credits if required for Kyoto compliance
 - Displacing some by auctioning transfers money to government, generally passed through to consumers in product prices
- For sectors with marginal cost pricing:
 - Consumers pay the cost of carbon
 - Large free allocation generates net profits to industry
 - Displacing free allocation by auctioning transfers some of these 'scarcity rents' to government
- Governments could use revenues to:
 - Compensate between (and within) the two groups, and perhaps reduce exposure of most exposed sectors (maybe problematic)
 - Pay for emission credit purchase for Kyoto compliance
 - Offset against taxation

Marginal cutbacks compared to uncertain projections creates unavoidable volatility

- Minimum price auctions could bring stability



Coordinated auction with price floor can set floor to allowance price

- Facilitates low carbon investment
- Reduces emissions and thus allowance price

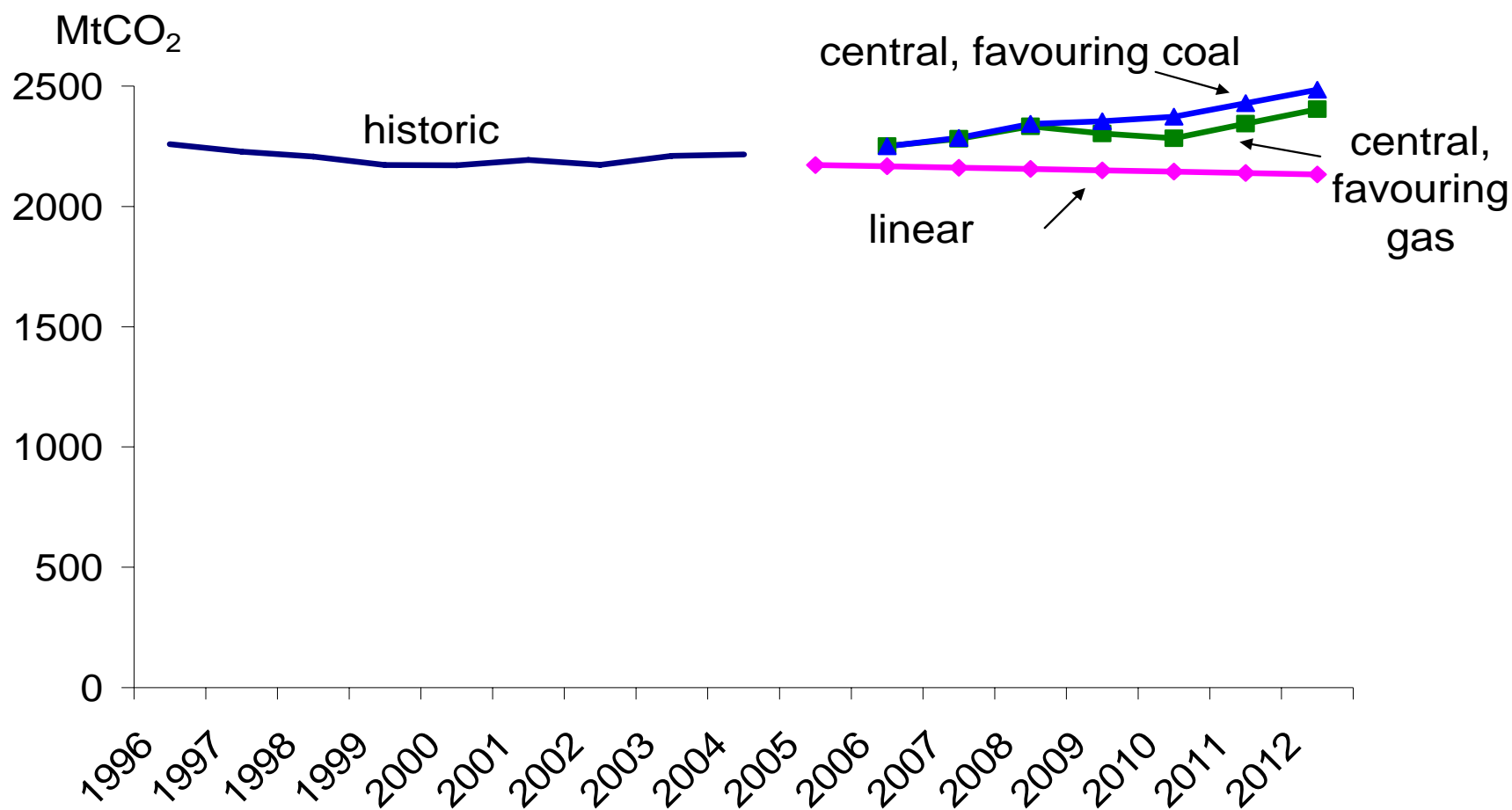
Part III: The consequences of present Phase II allocation plans

Analysis to understand allocations and uncertainties in relation to EU ETS Phase II

- Almost comprehensive data on Submitted or Proposed Phase II NAPs (as of 20 Sept 06) utilised
 - Modest extrapolation eg. for Malta, Cyprus, missing Polish allocations
- Central energy price assumptions taken from DTI Energy Projections
 - Four cases, two “BaU” price projections + two variants
- Analysis of emission implications using:
 - ICF International electricity sector model (plant-by-plant representation of all 25 Member States)
 - DTI-“Europeanised” / Cambridge Econometrics modeling of non-electricity sectors (for BaU case)
 - Assumes that dispatch and investment are price-sensitive
- Sensitivity analysis also conducted on economic growth rates (+/- 0.75% about base case c.2%/yr).

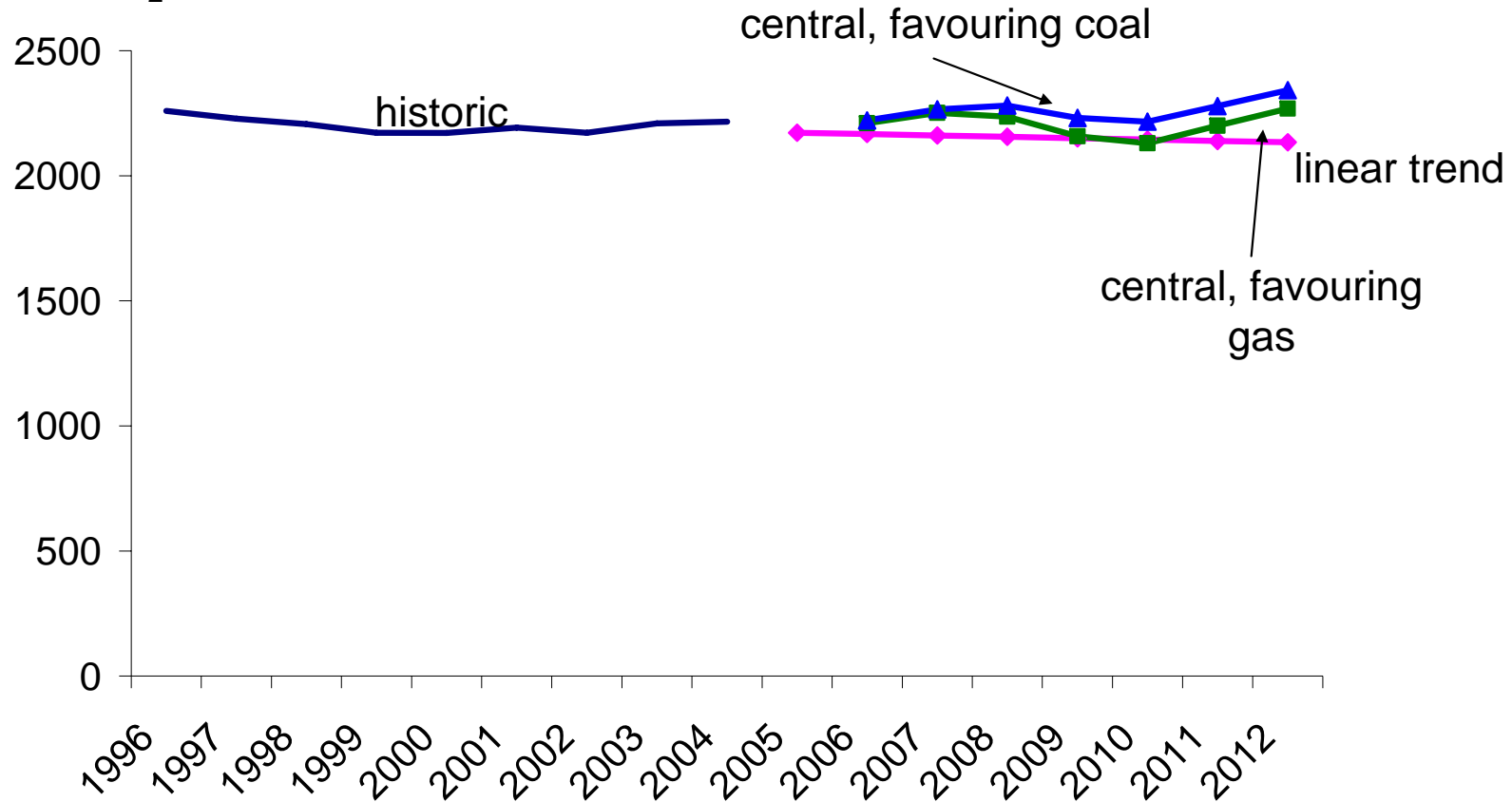
EU25 total allocation, close to actual 2005 emissions, is above 10-yr trend extrapolation but below projection (power sector 'BaU' emissions projected to start rising)

Historic trend vs. projected CO2 emissions with 0€/t CO2



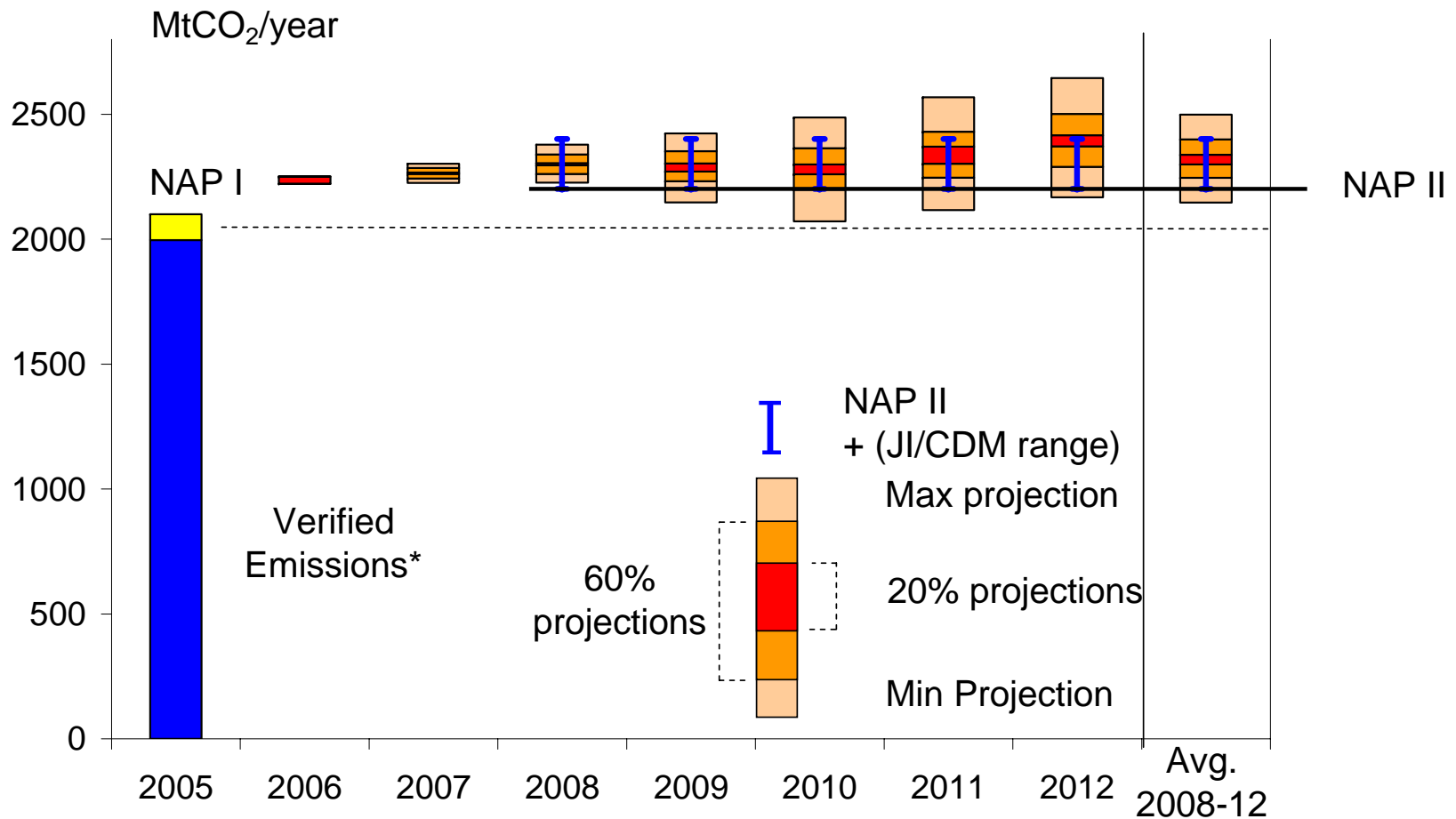
Even our base case scenarios with 20€/t CO₂ are above linear trends – confirming that we make conservative assumptions about possible emission reductions

Historic trend vs. projected CO₂ emissions with 20€/t CO₂
MtCO₂



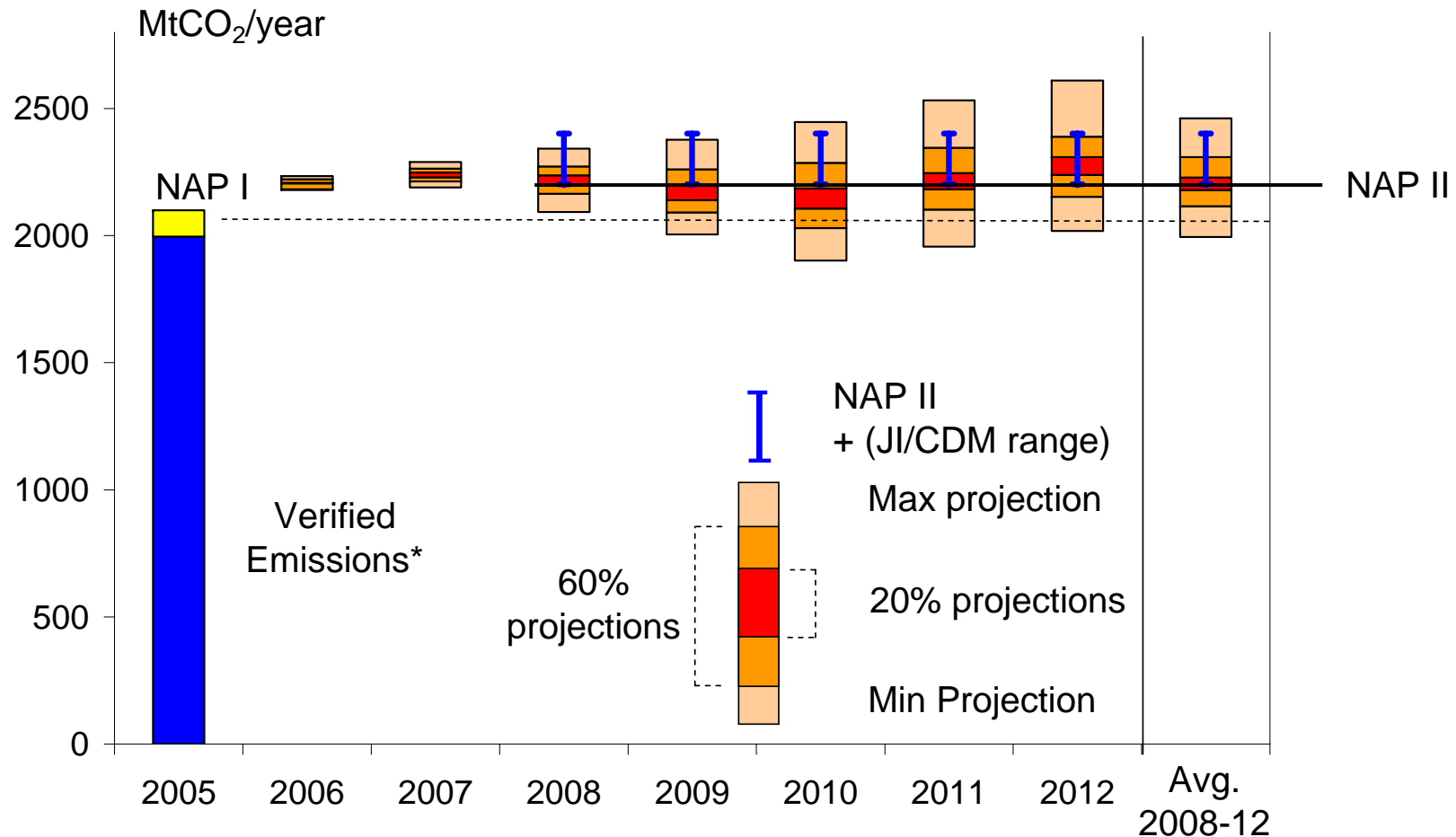
C. 20% chance of cap exceeding 'business as usual' even with no JI/CDM, over 50% chance if central projected JI/CDM are committed transfers into EU ETS

Projected CO₂ emissions versus Cap for BAU scenario(0€/t CO₂)



Chance of NAPs supporting carbon price of €20/tCO₂,
 is less than 1 in 3 (& negligible if JI/CDM committed)
 - *auctioning volumes too trivial to stabilise the market*

Projected emissions vs. Cap, when the power sector is exposed to 20€/t CO₂ price



A weak EU ETS may have perverse impacts on JI/CDM, and put Kyoto under strain

- To comply with Kyoto, governments need to 'fill the gap' between total domestic emissions and Kyoto target through purchase of Kyoto credits
- Weaker allocations to EU ETS sectors increase cost to public sector in three ways:
 - Substitution - more allowances in EU ETS mean governments have to make up the difference
 - Weak EU ETS price reduces abatement, increasing the overall volume of external credits required for European compliance
 - The bigger demand for Kyoto credits may drive up JI/CDM price
- Without auction revenues to fund such purchase, this may place considerable strain on Treasury / public willingness to 'foot the bill' (especially whilst voters also pay power bills that enable some companies to make big profits)

Conclusions: the Great Divide

- There is a huge gap between the recommendations of economic analysis and the practical application to Phase II NAPs
- If current NAPs are approved, the results for the market would be:
 - A weak and highly unstable Phase II EU ETS market, dependent strongly upon the progress of post-2012 negotiations (to give value to banked allowances)
 - Little value to firms of Kyoto credits
- Consequences for international systems:
 - JI and CDM become almost exclusively public-sector funded mechanisms, funded by taxpayers not auctions
 - Pressure on Treasuries for funding Kyoto compliance may be very large

For further information

- Allocation and Competitiveness in the EU ETS
 - Collection of seven analytic studies published as special issue of *Climate Policy* journal, downloadable from www.electricity-policy.org.uk
 - Carbon Trust report for business and government, available from www.carbontrust.co.uk
- Recent analysis of Phase II National Allocation Plans
 - Summary paper by Neuhoff, Ferrario, Schleicher and Grubb.
 - Available from *Climate Strategies* website, goes live Tuesday 26th September, www.climate-strategies.org