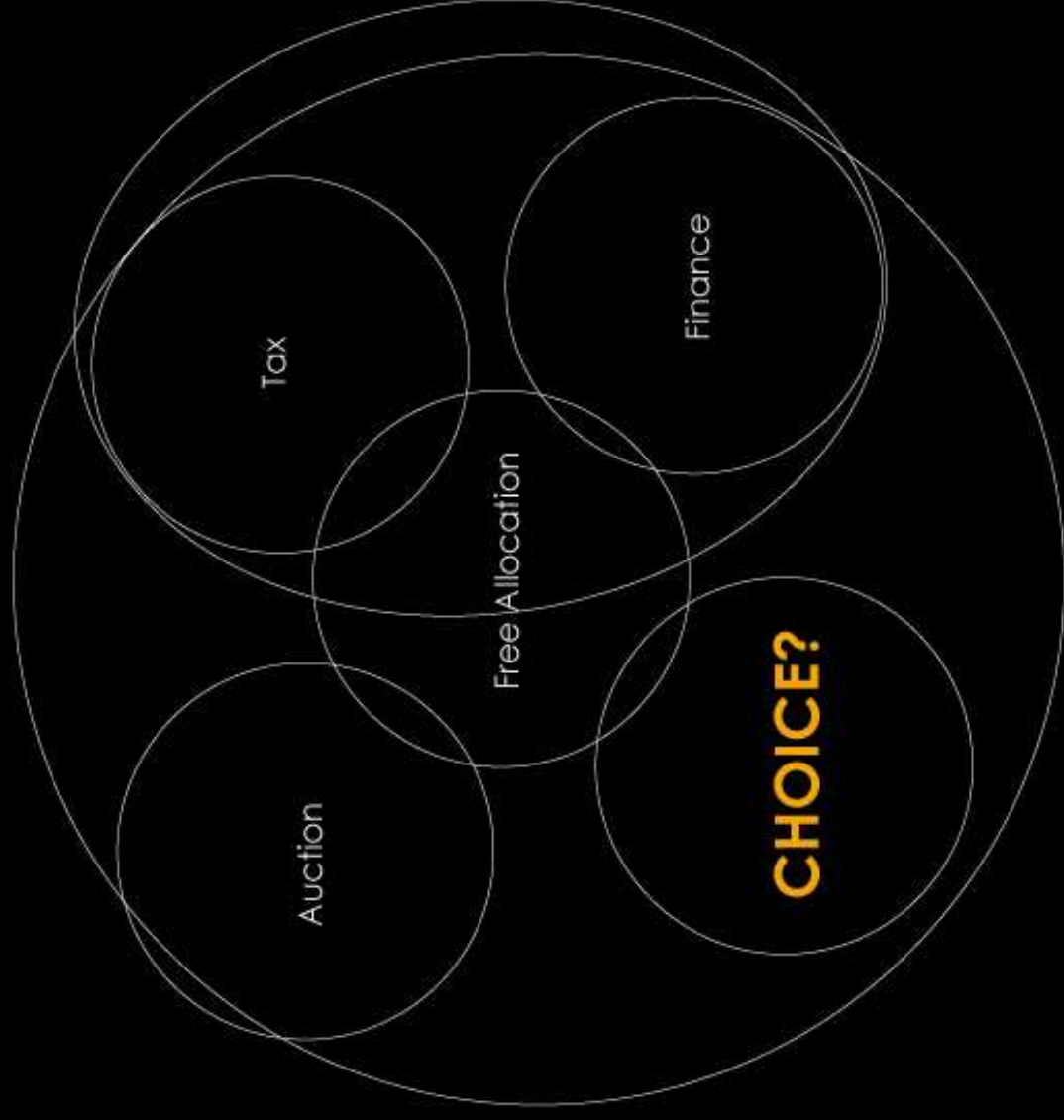


*"How can we correct market distortion
and combat price volatility in EU ETS?"*

Carbon Finance in the Policy MIX



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Structure

- Overview of EU ETS Phase I
- Problems and underlying factors
- Instrument choice and solution
- Conclusion

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The EU ETS, in which all 27 member states of the European Union participate, commenced operation on 1 January 2005.

In the first phase (2005-2007), the EU ETS includes some 12,000 installations, representing approximately 45% of EU CO₂ emissions. In the first year, 362 million tonnes of CO₂ were traded on the market for a sum of €7.2 billion.

National Allocation Plans (NAPs)

- **Each participating country has a National Allocation Plan (NAP) specifying caps on greenhouse gases emissions for individual power plants and other large point sources. Each facility gets a maximum amount of emission "allowances" during 2005-2007.**
- **The result of political lobbying**
- **NAPs in Phase I estimated only 1% below BAU**

Allocation Method

- **Free Allocation (grandfathering)**
- **Auction (5% in Phase I, 10% in Phase II)**
- **Free allocation is the main culprit of market distortion and price volatility.**

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Problem 1: Price Volatility

The price of allowances increased more or less steadily to its peak level in April 2006 of €30 per tonne CO₂, but came crashing down in May 2006 to under €10/ton. Now less than €1/ton.

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Problem 1: Price Volatility



Source: www.co2-handel.de

Problem 1: Price Volatility

Main culprit:







- **Generous allocation**
 - Allocations exceeded emissions by 100MtCO₂(Hepburn et al., 2006)
 - Only 1% below BAU (Grubb et al.2006)
- **Free Permit**

Problem 1: Price Volatility

Will price volatility be eliminated in EU ETS Phase II?
Probably not.

- On the one hand, the emission cap will become much more stringent.
- All greenhouse gases will be included.
- More sectors will be included.

Problem 1: Price Volatility

| Member State | 1st period cap | 2005 verified emissions | Proposed cap 2008-2012 | Cap allowed 2008-2012 |
|--|----------------|-------------------------|------------------------|-----------------------|
|  Belgium | 62.08 | 55.58 † | 63.33 | 58.5 |
|  Czech Republic | 97.6 | 82.5 | 101.9 | 86.8 |
|  France | 156.5 | 131.3 | 132.8 | 132.8 |
|  Germany | 499 | 474 | 482 | 453.1 |
|  Greece | 74.4 | 71.3 | 75.5 | 69.1 |
|  Ireland | 22.3 | 22.4 | 22.6 | 21.15 |
|  Latvia | 4.6 | 2.9 | 7.7 | 3.3 |
|  Lithuania | 12.3 | 6.6 | 16.6 | 8.8 |
|  Luxembourg | 3.4 | 2.6 | 3.95 | 2.7 |
|  Malta | 2.9 | 1.98 | 2.96 | 2.1 |
|  Netherlands | 95.3 | 80.35 †† | 90.4 | 85.8 |
|  Poland | 239.1 | 203.1 | 284.6 | 208.5 |
|  Slovakia | 30.5 | 25.2 | 41.3 | 30.9 |
|  Slovenia | 8.8 | 8.7 | 8.3 | 8.3 |
|  Spain | 174.4 | 182.9 | 152.7 | 152.3 |
|  Sweden | 22.9 | 19.3 | 25.2 | 22.8 |
|  United Kingdom | 245.3 | 242.4 ††† | 246.2 | 246.2 |

Source: Wikipedia

Problem 1: Price Volatility

- **On the other hand, free permits may still dampen the price responsiveness of corporations.**
 - Goldman Sachs predicts the price will remain at €15 while New Energy Finance provides a range from €20-30(McCabe, 2007).
- **Only 10% of auctioned permits: unable to build price floor**
 - Hepburn et al.(2006) argues such proportion can make an effective contribution to price stability
- **Credits from CDM and JI will cause uncertainty**

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Problem 2: Market Distortion

The scheme has long been accused of providing lump-sum subsidy to carbon-intensive corporations, setting high entry barriers for new entrants, and undermining investment incentive in low carbon technology (Stern,2006).

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Problem 2: Market Distortion

Main culprit:

- **Free permit**
 - Exacerbate the existing distortion in oligopoly energy market
 - Transfer the economic rent from the poor to the rich (Stern, 2006).

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Problem 2: Market Distortion

Will market distortion be eliminated in EU ETS Phase II?

No.

- **The majority of permits will still be allocated free.**
- **Not politically feasible to remove subsidy.**

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Solution 1: Auction

- **Offers a potential price cushion mechanism, though can't build an unbreakable price floor (Hepburn et al., 2006).**
- **Increases the predictability of carbon price and improve credibility of climate policy.**
- **Reduces the distortion associated with free allocation.**
- **Recycle revenue to reduce distortionary tax.**



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Solution 1: Auction

- **The proportion of auction permits needs to increase significantly.**
- **EU-wide auction is required to avoid auction competition.**
- **The method of auction should be agreed upon (Stern, 2006).**
 - **Discriminatory or uniform price?**
 - **Non-competitive bids for smaller bidders.**



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Solution 2: Tax

- Tax is a “double dividend” instrument, the revenue of which can be used to reduce other distortionary tax such as income tax (Pearce, 1991).
- Corrective tax is economically efficient (Bohm, 1997).
- A price floor can be established by implementing tax when a pre-determined allowance price is broke (White, 2006).



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Solution 2: Tax

- **May cause tax-interaction effect, driving up energy price and reducing real wages (Parry, 1994).**
- **Combining tax with EU ETS may cause double regulation (Sijm, 2003).**
- **A strict tax will make the whole EU ETS redundant, so the major target of tax must be other market distortions than carbon externalities (Sorrel and Sijm, 2005)**

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Solution 3: Financial Instrument

- **Building a “collar” option can establish a price floor, though gains are also limited.**
- **Companies can insure each other by using swaps.**
- **Using derivatives or bonds to manage regulatory risk.**

Solution 3: Financial Instrument

- The conditions (eg. competitiveness, liquidity) required for a well-functioning carbon financial market has not been met yet (Helm, 2005).
- Financial market will create new uncertainty.
 - Complex financial instruments are not easily adopted.
 - Speculators such as hedge funds may bet aggressively on the price collapse.



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The core of EU climate policy, EU ETS is designed to induce industry to evolve into low carbon technologies. High price volatility and market distortion undermine this aim in two aspects: first, they delay investment in low carbon technologies; second, they impose great hurdles for new entrants with strong incentive to invest in renewable technologies. *The issue is particularly urgent now since we appear to be entering a 'tipping point', on account of a large proportion of the present generating fleet approaching retirement. Decisions taken over the next few years may well affect the generation portfolio for the next 30 to 40 years (White, 2006).*



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- **The price volatility and market distortion, which are pervasive in EU ETS Phase I, is unlikely to be eliminated in Phase II.**
- **Multiple instruments should be used to solve multiple problems. A combination of auction, tax and financial instruments may be favorable in future trading phase.**
- **Policies should be carefully designed to adapt to the existing policy mix and avoid problems such as “double regulation”.**

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- **However, in a political world driven by rent-seeking behavior, the political feasibility may be the most important concern for implementing climate policies.**
- **Whether the EU target “unlimited auction after 2012” can be achieved is of vital importance to EU ETS.**

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