

Auctioning under a single EU-wide cap or national caps: design options

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Auctions for CO₂ allowances

- Objectives of auction design
- Frequency
- Format
- Gaming opportunities
- Liquidity in secondary markets
- **Institutional requirements**
- **Reserve price**
- **Harmonisation, joint auction, EU wide cap**

Objectives of auction design

- Simplicity and transparency
- No discrimination of bidders with less information
- Avoid cash flow difficulties and risks for emitters
- Market clearing price that reflects value of allowances

Frequency of auction



Advantages of higher frequency

- Small value / auction -> reduces risk of participation
- Emitters can buy at time to match requirements
- Emitters have to post smaller collateral
- Smaller risk of pre-emption (volume not big enough)

Advantages of lower frequency

- Allows more sophisticated auction format
- Lower frequency at fixed format might reduce costs

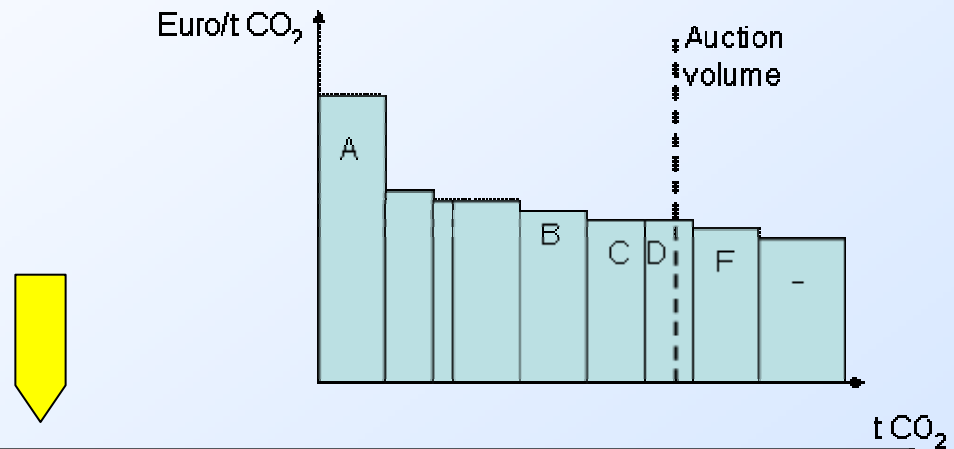
Auction format – multiple rounds

Sealed bid

Ascending, descending clock etc.

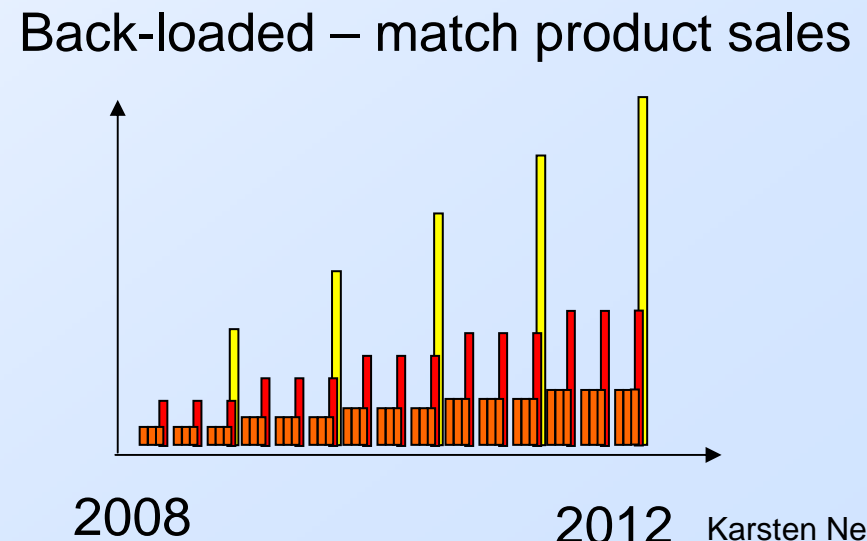
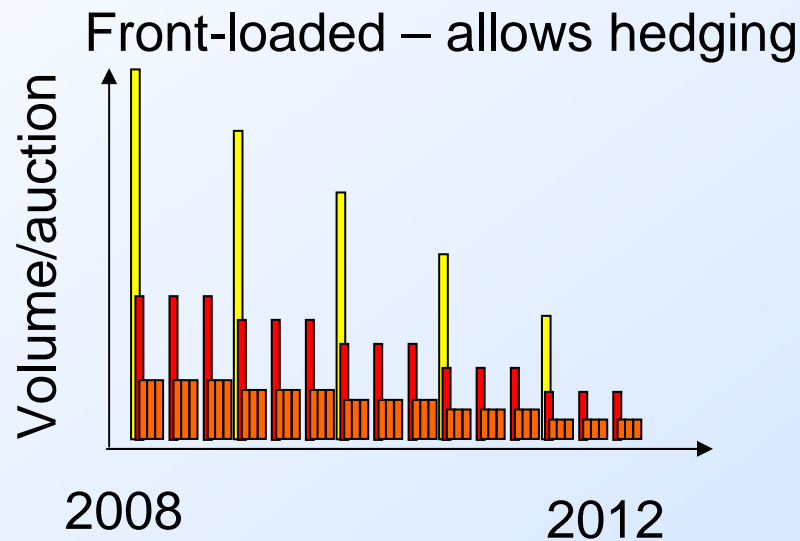
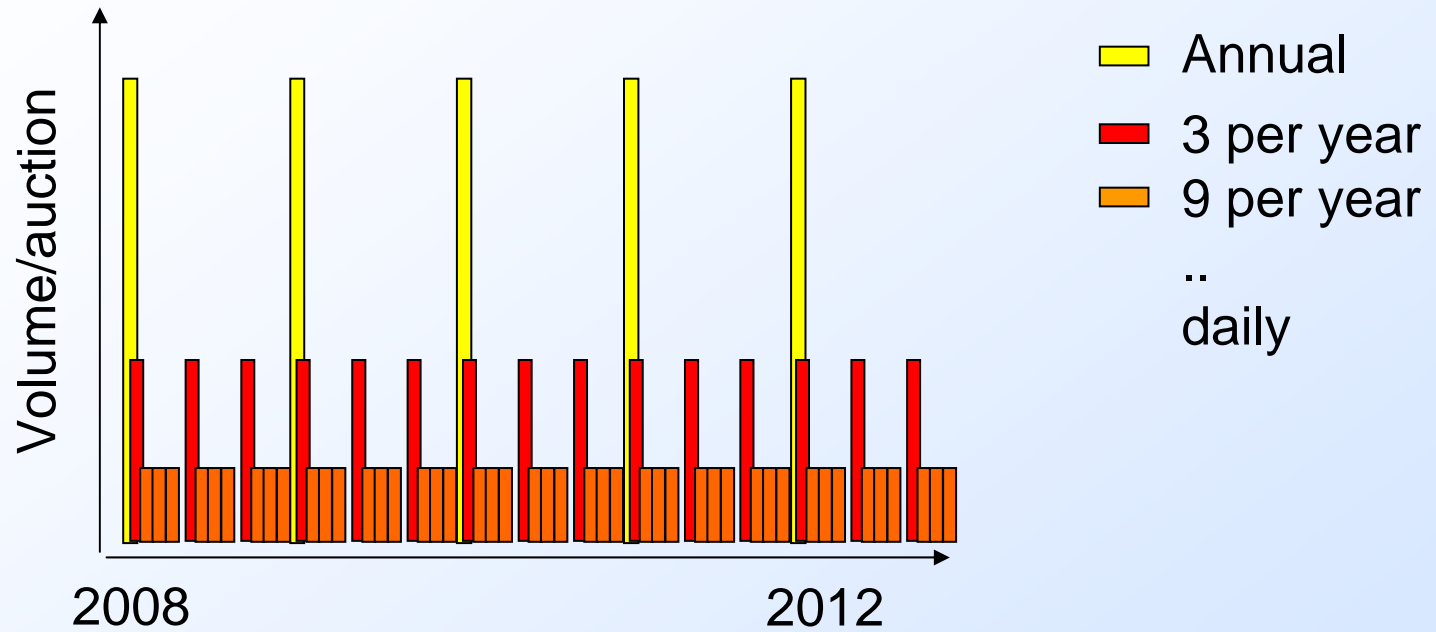
- Reveal information during auction, reduces risk
- But most information already in secondary market

Auction format – calculation of clearing price



	Uniform price auction	Discriminatory price auction
Bid shedding	Risk with <ul style="list-style-type: none"> • Big player • No active traders 	No
Value of market intelligence	Non	High, benefits active players
Discrimination	Non	Against uninformed

How to distribute allowances across auctions?



Gaming opportunities

- Bid shedding
 - Unlikely good strategy with many participants
- Short squeezing
 - Buy allowances to create scarcity & resell
 - Only profitable if buying unobserved
 - Not viable with high frequency auction (One auction too small, but extra demand revealed)
- Price manipulation
 - Change spot price with unprofitable positions
 - Benefit in derivatives, other markets (electricity ...)
 - Also in bilateral market – ensure EU wide monitoring of CO₂ markets!!!

Do auctions reduce liquidity in secondary markets?

- Passive strategy no longer viable
 - Increase overall market participation and hedging
- Concerns from early experience US SO₂ auctions
 - Illiquid market
 - Long lead times for auctions
 - Auction also used to resell on behalf of market
 - > Not really relevant
- Experience of T-Bill auctions
 - Trading volume increased when bonds reissued*

* Work with Vanessa Smith and Andreas Pick, see auction strawman paper

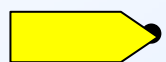
Institutional set-up

Objectives:

- Bid and IT management for quick turnaround
- Back office capacity to clear many bids

Candidates:

- New governmental body
 - Track record of new IT systems
- Build on treasury bond auction experience
 - Not used to large number of bidders



- Commission to institution with existing operations
 - CO₂ trading like ECX, EEX, Nordpool
 - Power exchanges like APX, UKPX, EEX, Nordpool
 - Financial market places

Reserve price in auction

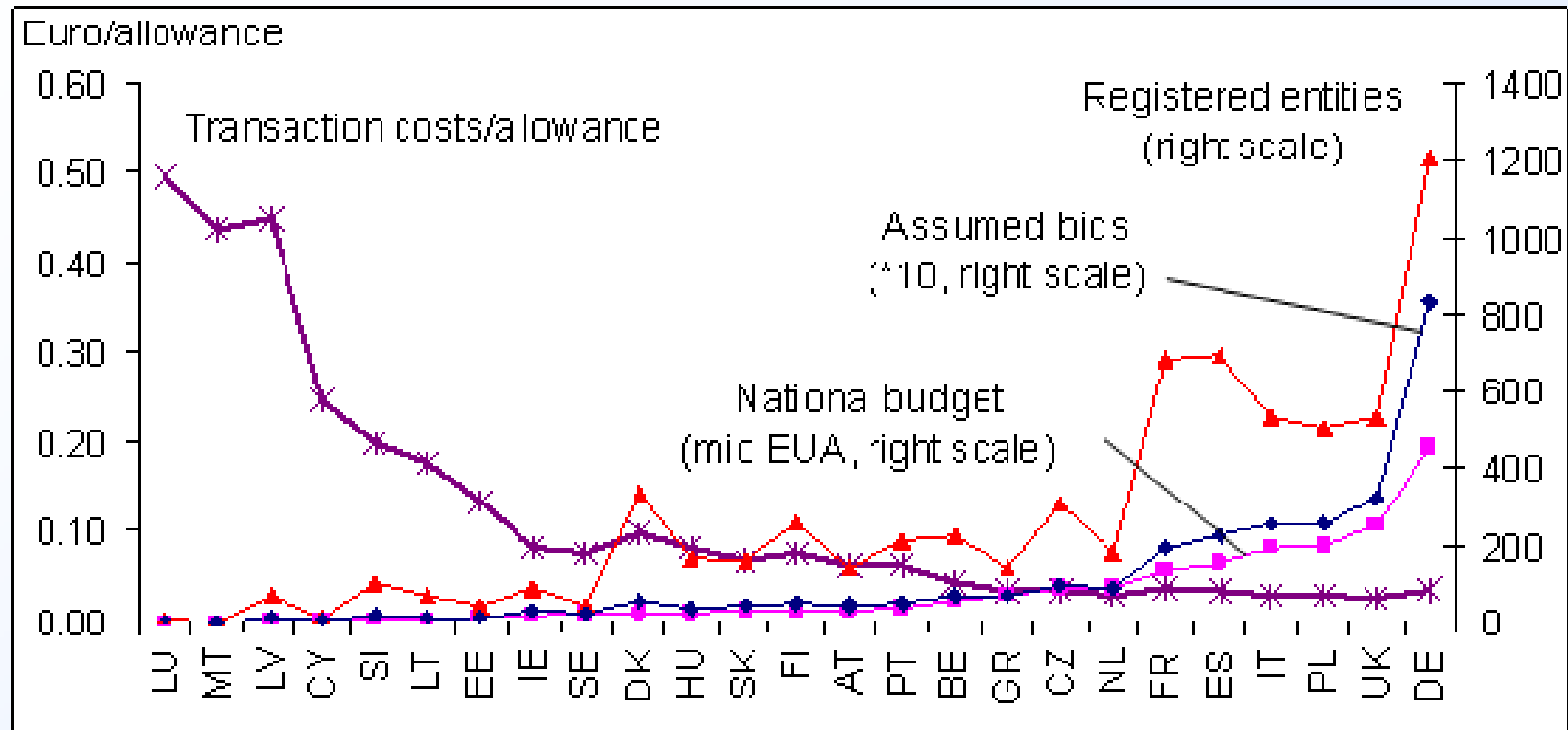
- (I) To 'protect' auction from unforeseen events
 - Perhaps 90% of previous day's market price
 - Announcing reserve price increases transparency
 - Keeping it secret prevents coordination at this price

- (II) To increase robustness of Carbon signal
 - Has to be announced ahead of time

Harmonised and joint auctions

<i>Indicative results (+ positive and - negative)</i>	Independent auctions	Harmonised design	Commissioning same institution	Joint auction	Auctions under EU cap
Number of auction places in EU	25	25	1-few	1	1
Subsidiarity principle	+		+		
Risk of failed implementation	-		-	-	-
Transaction costs seller	-	-			

Estimated costs for auctioning allowances (seller)

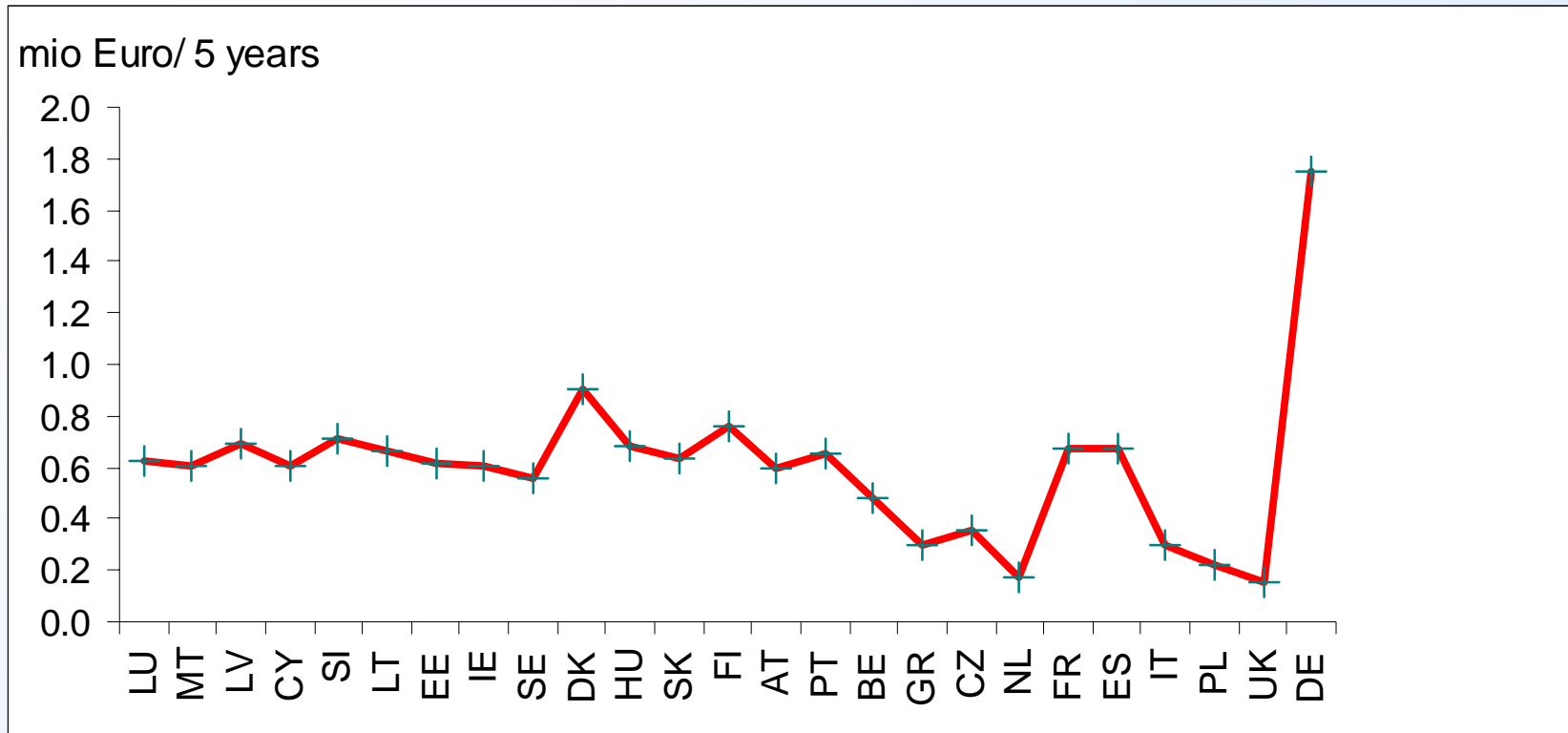


Estimation for 10% auctioning, e.g. phase II

Cost/allowance lower with higher shares post 2012

Euro	Initial IT	Cost/auction	Cost/registration	Cost/bid
Costs (Euro)	500.000	25.000	100	150

Estimated savings from joining auctions (seller)



For details please see auction paper on www.electricitypolicy.org.uk/tsec/2

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Participants perspective	Only one registration required			+	+	+
	Frequent auction available			+	+	+
	Simplicity of ETS scheme		+	+	+	+
Coordination	Attention/demand fatigue if auctions coincide	-	-			
	Governments pre-empting to maximise revenue	-	-			
	Lock in to 'random' national designs	-				
Predictability	Reserve price can support price floor			+	+	+

Conclusion

- Simple auction design wins participants
 - Sealed bid, uniform, frequent
 - Commission to institution with existing operations
 - Distribution across auctions – uniform?
- Harmonisation of auctions – simple but effective
 - Simplicity, facilitates participation, avoids lock in
 - Consider jointly commissioning to one institution

www.electricitypolicy.org.uk/TSEC/2

www.climate-strategies.org