

CARBON MARKET FORUM



Thinking ahead for Europe

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A framework for analyzing free allocation of EU ETS allowances

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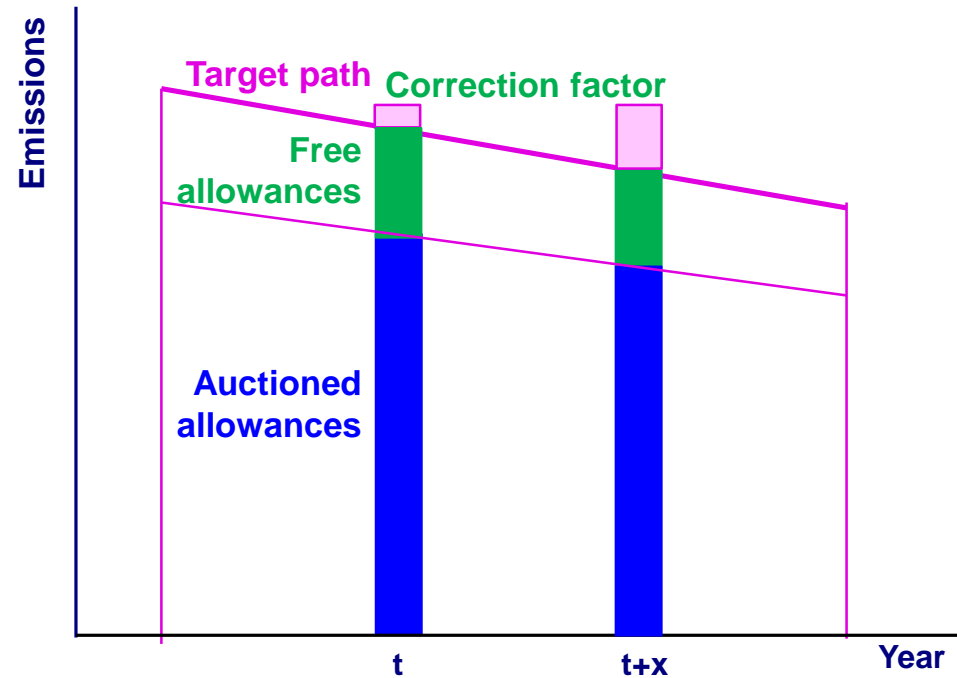
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**What schemes
for dynamic free allocation
or
output-based free allocation (OBA)
can be designed?**

The current rigid scheme for free allocation

- Volumes of free and auctioned allowances are (mainly) predetermined



free allocation = historic benchmark x historic activity level x cross-sectoral correction factor

Switching to a flexible scheme for free allocation

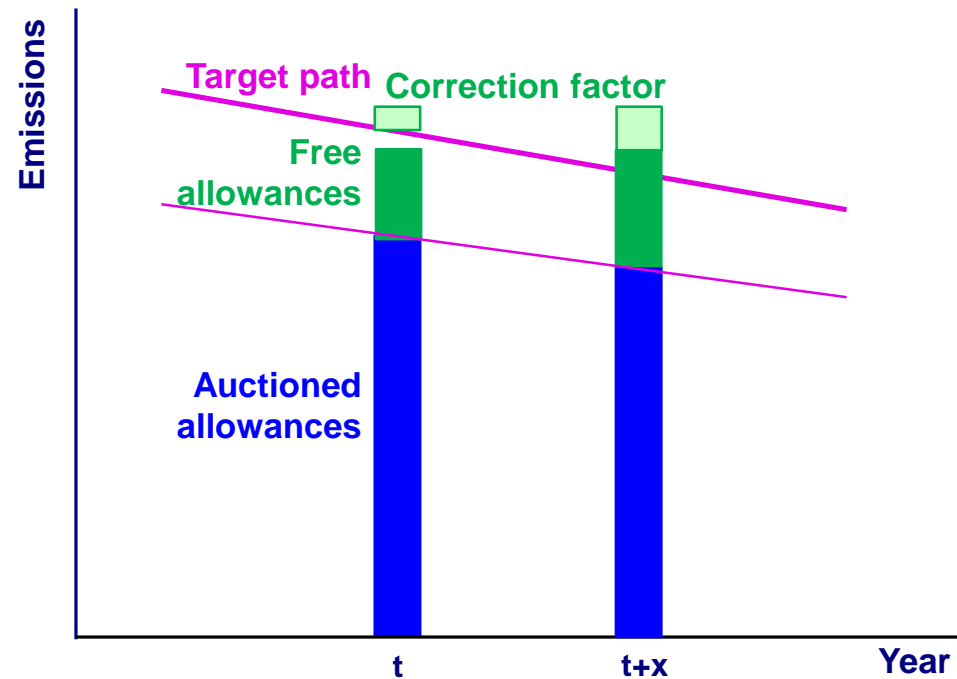
- Volumes of free allowances are ex post adjusted to activity levels

free allocation = recent benchmark x recent activity level

- This requires compensating actions for maintaining the emissions cap that is defined by the target path
- We identify three options for these compensating actions

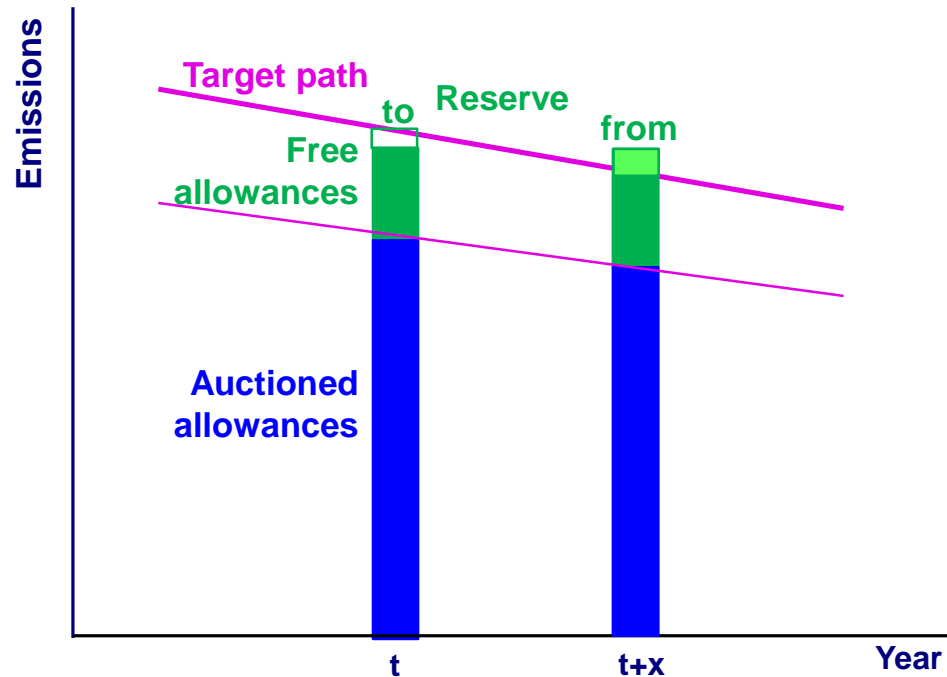
Option 1: Adjusting deviations from targeted free allowances without a reserve

- Volume of auctioned allowances is predetermined
- Free allowances fluctuate around their cap



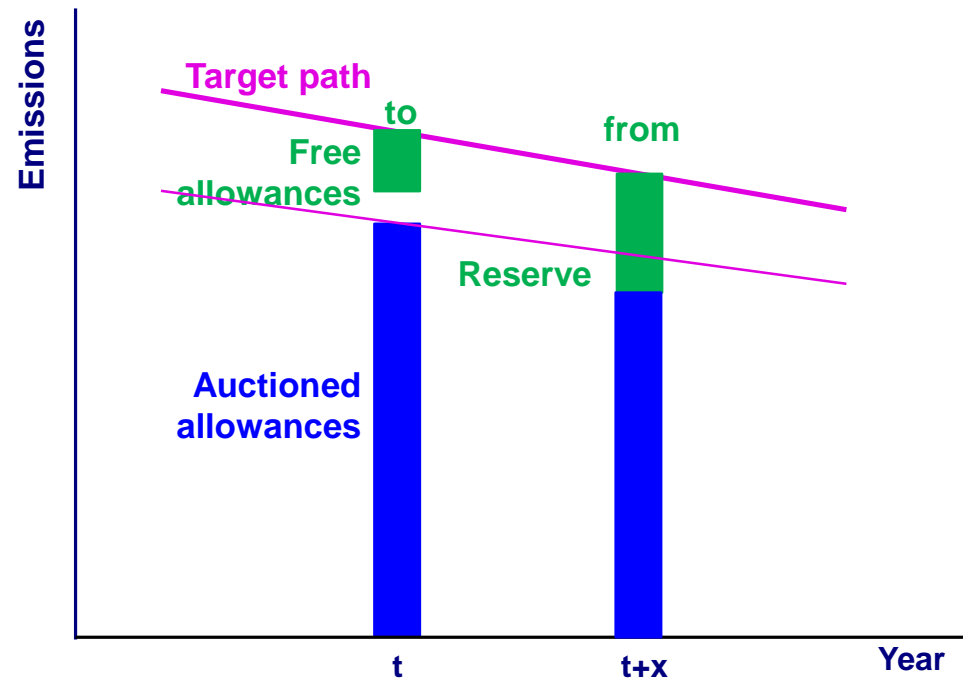
Option 2: Adjusting deviations from targeted free allowances with a reserve

- Volume of auctioned allowances is predetermined
- Free allowances fluctuate around their cap



Option 3: Adjusting deviations from targeted free allowances with the auctioning volume and a reserve

- Total volume of emissions is capped

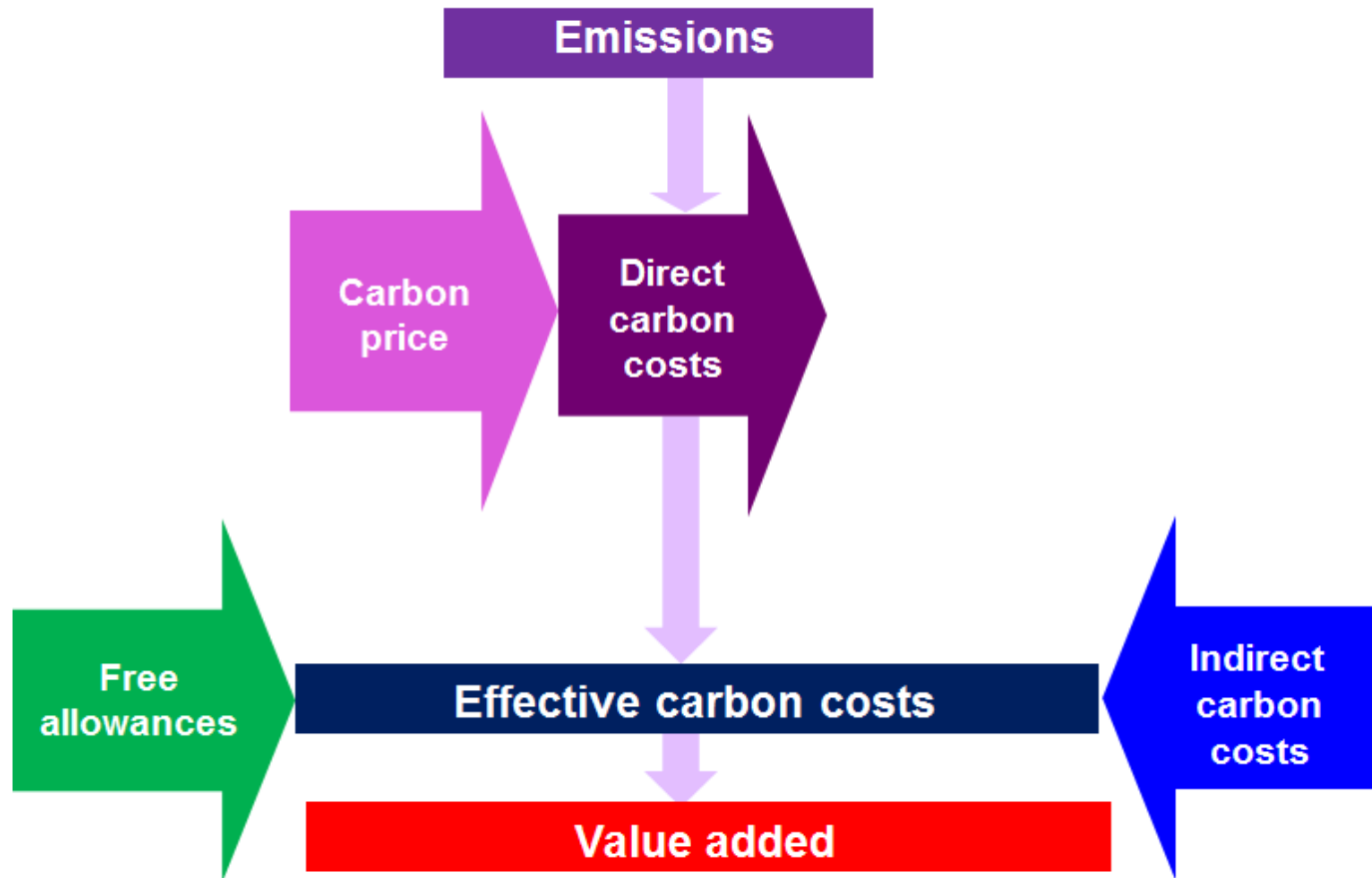


Will these different options for schemes of free allocations have different impacts on the carbon market?

- Probably not, since the scarcity (stringency) of allowances remains unchanged
- But this needs to be discussed further
- More relevant than the choice of the allocation scheme is the choice of the parameters for a particular scheme

The potential impact of schemes for free allocations on sectors or installations

Impacts on sectors or installations



Simulating schemes for free allocations

- Carbon price
 - e.g. 20 €/ton CO₂e
- Share of free allowances
 - e.g. 70 %
- Share of cost pass-through
 - e.g. 10 %
- The effective emission costs reduce the value added and net operating surplus

Schemes for free allocations		Basic Metals
Carbon price	[€/ton CO ₂ e]	20
Share of free allococ. in emiss.	[%]	70
Share of cost path-through	[%]	10
Value of verified emissions	[Mill. €]	2.553
Value of free allocations	[Mill. €]	1.787
Cost pass-through	[Mill. €]	255
Effective emission costs	[Mill. €]	511
Change of value of Output		0,1%
Change of Value Added		0,7%
Change of Operating Surplus (net)		9,4%

A key parameter is the share of free allocations in verified emissions

- This is the outcome of any benchmark procedure
- The current benchmark procedure could be made more targeted by explicitly considering for sectors
 - Exposure to international trade
 - Emissions from processes
 - Indirect emission costs via electricity

Some preliminary conclusions about designing schemes for free allocations

Evaluating the impact of schemes for free allocations

- For installations finally the effective carbon costs are relevant that have an impact on the operating surplus
- The effective carbon costs are the result of
 - Carbon price
 - Share of free allowances in verified emissions
 - Pass-through coefficient
- The relation of effective carbon costs to operating surplus triggers changes in operating and investment decisions

Potential guidelines for designing schemes for free allocations

- Protection against carbon leakage ultimately means protecting installations against adverse impacts on their operating surplus
- This requires actions that are relevant both for the carbon market and for sectors and installations