

Carbon leakage and the future of the EU ETS

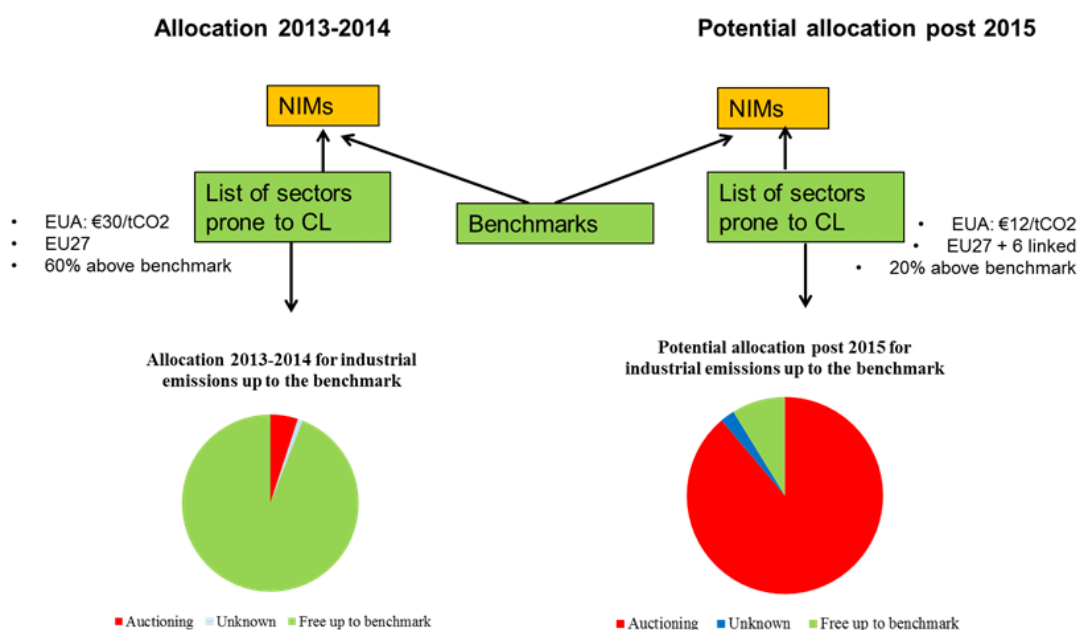
Impact of recent developments in the EU ETS on the list of sectors deemed to be exposed to carbon leakage review (Political brief and summery)

Political brief

Carbon leakage has been an important argument in the design of the Third Phase of the EU ETS. By giving free allowances to industries prone to carbon leakage, the EU ETS tried to combine a restrictive climate policy with the goal of shielding energy-intensive industry from high carbon costs that would affect their competitiveness. As we approach the Mid-Term Review of the carbon leakage list in 2014, it appears that many of the core assumptions used to define the current list of sectors receiving free allowances are outdated. The 2009 assessment assumed:

- a carbon price of € 30 by 2020, although it is now unlikely to exceed € 12;
- exposed sectors would exceed their benchmarked free allowances by 60%. Although as yet uncertain, a figure of 20% now seems more likely;
- non-EU countries were not part of the EU ETS. However, currently Croatia, Iceland, Norway and Liechtenstein participate, with planned linkages with Australia and Switzerland by 2015.

This study shows that applying more realistic assumptions regarding price, supply and trade conditions would imply a drastic reduction of the number of sectors eligible for additional free allowances. A revised assessment indicates that if the 2009 allocation had been based on more realistic assumptions, the sectors deemed at risk of carbon leakage would have fallen from the current 60% of sectors, representing 95% of industrial emissions, to a mere 33% of sectors, accounting for only 10% of emissions (see figure below). This is a conservative estimate in which other relevant factors such as cost-pass-through, cheaper abatement opportunities available (e.g. offsets) and the presence of comparable carbon pricing policies elsewhere have not been quantified.



These results can be linked to current attempts to reform the EU ETS. If such reforms fail and carbon prices remain very low, the threat of carbon leakage logically becomes much smaller. Ideally, the trade-off between carbon leakage and reform of the EU ETS should be reflected in the Mid-Term Review. Politically, this may require a new impact assessment of the current state of the ETS to be used in the Mid-Term Review.

Summary - Carbon leakage and the future of the EU ETS

The EU ETS is in crisis, as the oversupply of emission allowances has become apparent to all participants in the market. In 2012 demand for allowances fell short of supply by over 10% and the price of allowances fell to an all-time low of € 3/tCO₂ in January 2013. Analysts assume that oversupply will remain a feature of the EU ETS for most of Phase 3 of the scheme, which lasts until 2020. With prices so low, the ETS is failing to provide any incentive for implementing carbon-saving measures and greening the economy, its stated objective.

In its *Carbon Market Report* the European Commission has identified six options for structural measures to strengthen the EU ETS during Phase 3 and render it more effective. However, measures to restructure the ETS and support the price of allowances have met with severe political and societal opposition. An often forgotten element in this discussion is the impact the coming Mid-Term Review (MTR) will have at the end of 2014. The MTR will re-evaluate the basis of allocation in the ETS and decide which sectors are deemed to be exposed to a significant risk of carbon leakage and would thus receive free allowances for the years 2015-2019. The purpose of the present study is to indicate the estimated impact on the allocation of allowances if the MTR proceeds from a realistic analysis of the current state of the EU ETS.

The factors on which sectors are considered to be exposed to carbon leakage were set out in the revised ETS Directive. This Directive presented two criteria to be used to assess whether a sector is exposed to carbon leakage:

(i) additional carbon costs, and (ii) trade intensity. Thus, sectors with qualified high additional carbon costs and/or exposure to the world market through international trade would continue to receive free allocation of allowances up to community-wide established efficiency benchmarks.

Which sectors would be eligible for free allocation was determined through comitology in 2009 by quantifying these criteria for all sectors of the manufacturing and mining industries. By the end of 2009 it became apparent that 60% of the sectors, representing 95% of emissions, were deemed to be exposed to a significant risk of carbon leakage according to these two criteria. This served as the basis for allocation in the years 2013 and 2014.

The present study argues that many of the assumptions underlying the quantitative analysis in 2009 are now obsolete and thus can no longer be used to determine which sectors are deemed to be exposed to carbon leakage. Three of these assumptions were selected for further scrutiny in this study:

1. Impact of the price. The 2009 quantitative analysis undertaken as part of the comitology process forecast that EU ETS prices would stabilize at € 30/tCO₂. Clearly, the current low prices show that this assumption no longer holds. After reviewing various price forecasts, we take the approach that prices in 2020 will be € 12/tCO₂ at most.

2. In 2009 the EC assumed that even for sectors deemed to be exposed to carbon leakage, 60% of emissions would be above the benchmarks and therefore would still be auctioned. While it is not yet possible to determine the exact level of auctioning, it has become clear that this figure of 60% is very unlikely and we therefore adopt a more realistic figure of 20%.
3. In 2009 the analysis assumed that the ETS would be limited to the EU 27 only, with the trade intensity criterion determined on the basis of ‘trade with non-EU countries’. However, the EU ETS has been steadily integrated with installations in other countries (e.g. Croatia, Norway, Liechtenstein and Iceland) and linkages with emissions trading schemes in Switzerland (2014) and Australia (2015) are planned. This implies that the EU 27 can no longer be regarded as the appropriate entity for assessing the relevance of carbon leakage. Carbon leakage to countries included in or linked to the EU ETS is by definition impossible and such countries should be excluded when quantifying the trade intensity criterion.

We quantify the impact of these assumptions using the same data used in the 2009 comitology process. The results show that the number of sectors receiving free allowances on the grounds of carbon leakage would have been reduced to only 1/3. In terms of emissions the impact is even more drastic: only 10% of industrial emissions would still have been eligible for free allowances up to the benchmark. Nearly all the carbon-intensive sectors in the EU ETS - notably refineries, cement production, iron and steel and paper production - would be faced with a regime in which part of the emissions up to the benchmark were auctioned (see Table 1). It is therefore to be expected that an updated MTR with more realistic assumptions regarding price, benchmarks and geographical coverage of the ETS should conclude that a much smaller share of allowances should be given away for free under the argument of ‘carbon leakage’.

Table 1: Top industrial sectors, their present allocation and impact of revised assumptions on future allocation

#	Industrial sector	% ^	Current situation	Revised assumptions
1	Manufacture of refined petroleum	25%	Free	Part-auctioning
2	Manufacture of cement	25%	Free	Part-auctioning
3	Manufacture of basic iron and steel	14%	Free	Part-auctioning
4	Manufacture of paper and paperboard	6%	Free	Part-auctioning
5	Manufacture of lime	4%	Free	Part-auctioning
6	Extraction of crude petroleum and nat. gas	2%	Free	Free

Note: ^ refers to percentage of verified emissions in the EU ETS of industrial installations (excluding public power plants) .

This analysis does not come as a surprise. Clearly, distortive competitive price disadvantages ensuing from the EU ETS will by definition be smaller if the EUA price is low and the ETS system is integrated with or linked to more countries. The quantitative analysis undertaken here reflects these circumstances, with carbon leakage posing far less of an issue until such time as the ETS is capable of providing a strong price signal to curb emissions. Other arguments as to why carbon leakage may be less of an issue after 2015 relate to recent evidence of cost-pass-through, lower carbon cost price differentials with major trading partners and the

widescale use of CDM. However, these have not been quantified in the present study, although they could arguably be taken into account in the upcoming MTR.

These results can be linked with current attempts to reform the EU ETS. If such reforms fail and carbon prices remain very low, the threat of carbon leakage logically becomes much smaller. Ideally, the trade-off between carbon leakage and reform of the EU ETS should be reflected in the quantitative analysis of the Mid-Term Review. The current Impact Assessment that guided the determination of the carbon leakage list in 2009 has been rendered obsolete. Politically, it may be useful to accompany the upcoming review of the carbon leakage list with a new Impact Assessment in which options for structural reform of the EU ETS are also addressed.

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or download the full report on our website www.cedelft.eu.