ALIGNING DECARBONISATION WITH COMPETITIVENESS IMPERATIVES

Defining an appropriate free allocation mechanism for industry still remains a tricky equation for governments. As the EU ETS, one of the oldest emission trading systems, begins to review the rules for the post 2020 period, it is an opportune time to improve existing design features for maximum effectiveness, write Emilie Alberola, Matthieu Jalard and Lara Dahan

As climate policies continue to operate at a largely sub-global level, the cost-effectiveness of unilateral carbon pricing policies could be undermined by the phenomenon of carbon leakage.[1] Industrial sectors that produce relatively homogeneous, energy-intensive goods and are exposed to international trade may incur the majority of the costs associated with climate policies with limited opportunities to pass-through these costs to end-consumers. Therefore, specific and targeted measures aimed to prevent the risk of carbon leakage in the most exposed sectors are necessary to ensure the effectiveness of climate policies.

While empirical studies on carbon pricing policies[2] have not shown any significant evidence of carbon leakage, this can be explained by several factors. First, carbon prices have been low and comparable to implicit prices stemming from climate policies worldwide. Second, properly implemented environmental policies are likely to increase the competitiveness of a given firm by spurring innovation and enhancing productivity.

But as carbon pricing policies expand around the world, the price on carbon may increase and businesses may transfer production to jurisdictions with weaker constraints on emissions. Safeguards must be designed properly to ensure overall decarbonisation objectives In view of this, free allocations providing economic protection to the most exposed sectors must also incorporate economic incentives to reduce emissions in production and consumption. Eventually, free allocation should be reconciled with a vision for industrial sectors as a whole, by taking into account both investment and demand patterns to forge a credible decarbonisation road map.

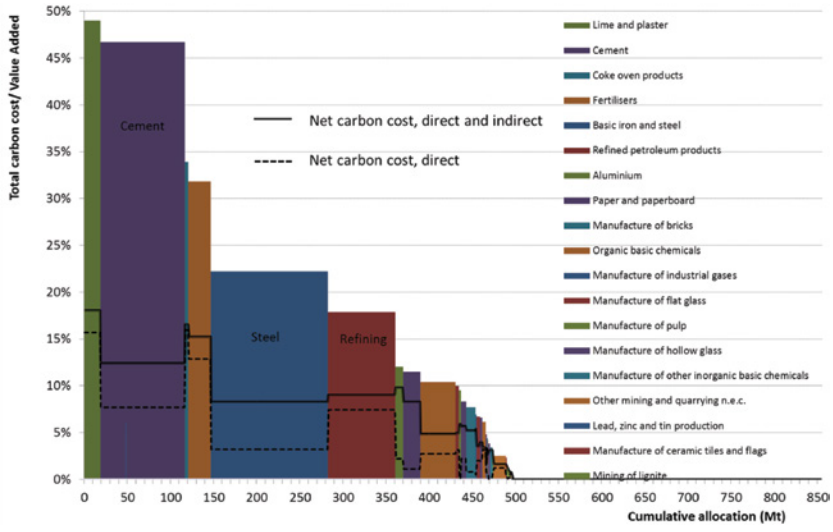
IMPROVING THE RULES

Since 2013, in accordance with harmonised EU ETS rules, free allowances have been allocated to 97% of industrial sectors on the basis of benchmarks (carbon intensity targets) and historical production levels. These have been adjusted using a carbon leakage exposure factor and a cross-sectorial correction factor to ensure allocation keeps below the free allocation cap.

In October 2014, the European Council committed to continue free allocations until 2030, even though significant evidence of carbon leakage has not been demonstrated. This raises the question as to whether or not the current free allocation mechanism can effectively and sustainably drive decarbonisation as it mitigates carbon leakage risks through to 2030. According to our analysis[3], in order for the EU ETS to be consistent with the decarbonisation roadmap for industry, three main aspects need to be addressed.

1. FLEXIBLE ALLOCATION TO ENHANCE EMISSION REDUCTION INCENTIVES

Between 2005 and 2012, free allocations earmarked for covered installations were distributed proportionally according to historical emissions levels, eliminating the economic incentive to reduce emissions. Since 2013, allocation has been proportional to sectoral benchmarks[4] and historical production levels, which is an important step toward maintaining economic incentives to reduce emissions. However, this allocation mechanism has been inflexible: volumes have been defined for a period of eight years (2013-20) and can be updated only if activity levels are reduced by more than 50% (partial cessation), and can be revised upward only in the case of increased production capacity.



The height of the rectangle soutline the estimated carbon cost of sectors in 2030 assuming a €30/tCO2e carbon price, and the width outline the estimated allocation following the proposal by the European Commission in July 2015. The black line outlines the net carbon cost (direct indirect), mitigated by the free allcoation, and the dotted line the direct net carbon cost.
Source : I4CE - Institue for Climate Economics, based on data from EC, EU TL, 2015

This lack of flexibility has given rise to perverse incentives, such as gaming of the rules to maintain activity levels above the 50% threshold that eventually led to increased emissions in the cement sector. Large surpluses in the face of an economic downturn have led to windfall profits and a muting of the carbon price signal. Implementing more flexible allocation measures, based on recent production data, would provide an adequate incentive to reduce emissions per unit of output, rather than reduced domestic production, and would be a more effective way to combat carbon leakage.

2. TARGETED FREE ALLOCATION TO ENSURE PREDICTABLE LONG-TERM PROTECTION

Provisions for Phase IV (2021-30) propose allocating 100% of benchmark-based allocation volumes to sectors that represent more than 93% of industrial emissions, most of which are not significantly at risk of leakage. Given the dwindling free allocation cap, these provisions are likely to entail an ex-post correction which could reduce allocations by 15% to all sectors by 2030, regardless of their exposure. This would imply high carbon costs for some highly exposed sectors while moderately exposed sectors would continue to enjoy large allocation volumes. In consequence, targeted allocation aimed at the sectors most exposed to carbon leakages is of utmost importance for predictable and effective protection in the long run. Defining a more targeted list of sectors using differentiated allocation rates, depending on emission and trade intensity, could be a possible solution as illustrated by the California ETS. According to our modelling results, based on reasonable economic growth assumptions, this method would allow allocation volumes to be maintained under the free allocation cap over Phase IV without any ex-post uniform correction.

Another solution would be the introduction of additional criteria that could determine the free allocation volume for exposed sectors. Such criteria could be product homogeneity (which would be a good proxy for the ability to pass through carbon cost) and process-based emissions intensity (which would better capture the potential carbon costs in the long run).

3. PROMOTING INNOVATION WHILE STEERING THE MARKET FOR LOW-CARBON MATERIALS

Public financial support for low-carbon innovation, for instance through the EU's Innovation Fund, is justified, given the high spillover of low-carbon technologies. Additionally, steering demand for low-carbon materials also requires attention. Those producers exposed to leakage and receiving free allocation are not supposed to pass-through carbon costs, meaning that the market for products with a smaller carbon footprint may fail to emerge. Implementing a consumption charge based on the quantity of materials used and the ETS price could help to maintain incentives along the value chain to consume materials more efficiently. Other mechanisms may also be warranted to drive the uptake of green steel and cement in the manufacturing and building sectors, for example, labels certifying that the materials used in the end-products are low-carbon. Going forward, systems of norms could become a lever for building closer relationship between producers and intermediate consumers. This would in turn help low-carbon producers to differentiate their products, further mitigating the risk of carbon leakage.

In order to forge a positive roadmap for the decarbonisation of industrial sectors, consistent with competitiveness imperatives, there is room to improve free allocation rules in Europe leading to 2030. A policy mix such as that described above would be likely more appropriate to drive the decarbonisation of industrial sectors, and to improve their "low-carbon" competitiveness.

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(1) The carbon cost differential between two regions is likely to lead to a delocalisation of production towards jurisdictions which are bound by weaker environmental constraints. Such carbon leakage would reduce the environmental benefits of the carbon pricing policy and would have negative impacts upon the economy. (2) Arlinghaus, J., (2015), Impacts of Carbon Prices on Indicators of Competitiveness: A Review of Empirical Findings, OECD Environment Working Papers (3) Jalard, M. and Alberola, E., 2015, Free allocation in the European Emissions Trading System (EU ETS): Identifying efficient mechanisms through to 2030. Climate Report N.51, I4CE – Institute for Climate Economics. (4) Defined as the average carbon efficiency of the 10% best performers in a sector