

A fact check on ETS reform claims

What does ETS reform *really* mean for steel, cement and ceramics?

February 2017

A number of competing claims have surfaced during the debate over the future of the EU Emissions Trading System. We have created this briefing to explore the facts behind these statements.

What can fix the ETS now?

- The **ENVI proposal** alone is a very modest increase in ambition, and analysts suggest it will have little impact on the market or the carbon price.
- Only **re-basing the 2021 cap** at the real level of 2020 emissions, in addition to the ENVI proposal, can fix the ETS.
- **Replacement of free allocation with border adjustment measures** will end windfall profits to industry from the ETS, and unlock much needed investment in low-carbon innovation in Europe.

About Sandbag

Sandbag is a London and Brussels-based not-for-profit think tank conducting research and campaigning for environmentally effective climate policies.

Our research focus includes reforming the EU Emissions Trading System and the Effort Sharing Decision; accelerating the phase-out of old coal in Europe; deep decarbonisation of industry through technologies including Carbon Capture & Storage.

For more information, visit sandbag.org.uk or email us at info@sandbag.org.uk

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What's wrong with the ETS?

For over a decade, Europe's carbon market has been characterised by a huge oversupply of emissions permits and persistently low prices. It has therefore failed to deliver a meaningful price signal to put the EU on a sustainable path towards meeting its emission reduction commitments. In short:

- **The ETS has failed to cut emissions.** In fact, there is good evidence that it has driven an increase in emissions in some sectors.
- **The ETS has delivered billions of Euros in windfall profits to industrial companies,** especially in the steel and cement sectors.
- **The ETS currently labours under a structural surplus of allowances equivalent to more than 3 billion tonnes** of emissions, keeping the carbon price around €5, far below what is required to drive innovation.
- **The ETS has prevented local action to cut emissions,** for fear that it will merely move the emissions to somewhere else in the union. Though this fear is mostly incorrect, it is widespread. More information on the lack of a so-called 'Waterbed Effect' can be found in Sandbag's December 2016 report.¹

¹ Puncturing the Waterbed myth – Sandbag (Dec 2016) <https://sandbag.org.uk/project/puncturing-the-waterbed-myth/>

Overview of ENVI report impact on industry

The ENVI Committee, which has led on the ETS reform file, concluded that an import inclusion scheme (IIS), fully compliant with World Trade Organisation (WTO) rules, should be established. This would protect sectors with a low trade intensity and high emissions intensity, as well as cement and clinker, from the risk of production displacement to regions without equivalent carbon costs (carbon leakage). Such schemes are commonly also referred to as Border Adjustment Measures (BAM). The amendment facing the vote states that no free allocation shall be given to sectors and subsectors covered by such an import inclusion carbon mechanism. Instead of issuing free allocation of emissions allowances (EUAs) to reduce risk of carbon leakage, the amendment requires importers of non-EU products in these sectors to acquire and surrender EUAs. The amendment captures sectors with trade intensity of 10% or below in the years 2009 to 2013.

The recital text in the ENVI Report states the intention to cover low trade intensity and high emissions intensity sectors using IIS/BAM, but the amendment text only mentions a trade intensity threshold criteria. This has added confusion to the debate.

After reviewing Eurostat ComExt data on import values, export values and total sold production values, Sandbag concludes that there are 22 NACE Rev2 sectors that would fall under the trade intensity criteria. However, only two of these sectors also have significantly high emissions intensity. These are **23.51 Manufacture of cement** and **23.52 Manufacture of lime and plaster**. The emissions intensities of the other low trade intensity sectors are of an order of magnitude lower than these two sectors.

The industry bodies for these two sectors, Cembureau and the European Lime Association (EuLA) are strongly resisting any attempts to internalise the cost of their greenhouse gas (GHG) emissions. They have joined forces with other industry bodies in an attempt to present a united industrial front to lobby for continued extensive free allocation. Their opposition comes despite the cement industry's own current and previous statements in favour of border adjustment measures²³⁴.

Positive impact of IIS/BAM for low trade intensity sectors not meeting the carbon leakage protection criteria

Interestingly, of the remaining 20 low trade intensity NACE sectors, only two have carbon leakage assessment values coming close to the 0.2 required, under the ENVI Report binary approach (100% or 0% benchmarked allocation), to receive free allocation post 2020. These are **20.11 Manufacture of industrial gases** at ~ 0.15 and **23.32 Manufacture of bricks, tiles and construction products, in baked clay** at ~ 0.19. The rest do not qualify for free allocations regardless of an IIS/BAM approach and, indeed, can only gain from a BAM as competing importers would be faced with equivalent carbon costs.

Sectors on the carbon leakage list are still sitting pretty - especially those exempt from any CSCF

Industries expecting to remain on the carbon leakage list are strongly supporting reduction of the auction share by up to 5 percentage points to protect them from any CSCF. What has not been publicised is that, for those on the leakage list, free allocation is set to increase at the beginning of Phase IV compared to the end of Phase III.

² <http://www.cembureau.be/newsroom/article/eu-climate-change-target-european-commission-brought-reason>

³ <http://www.cembureau.be/carbon-leakage-cmbureau-stresses-necessity-use-%E2%82%AC30tco2-2014>

⁴ <http://carbon-pulse.com/29833/>

⁵ Calculated from data shared by the Commissions for the 2015-2019 carbon leakage list, available [here](#)

Chart 1 below illustrates the increase in free allocation for the 7 NACE class sectors receiving most free allocation in 2020 (excluding cement and lime and plaster)

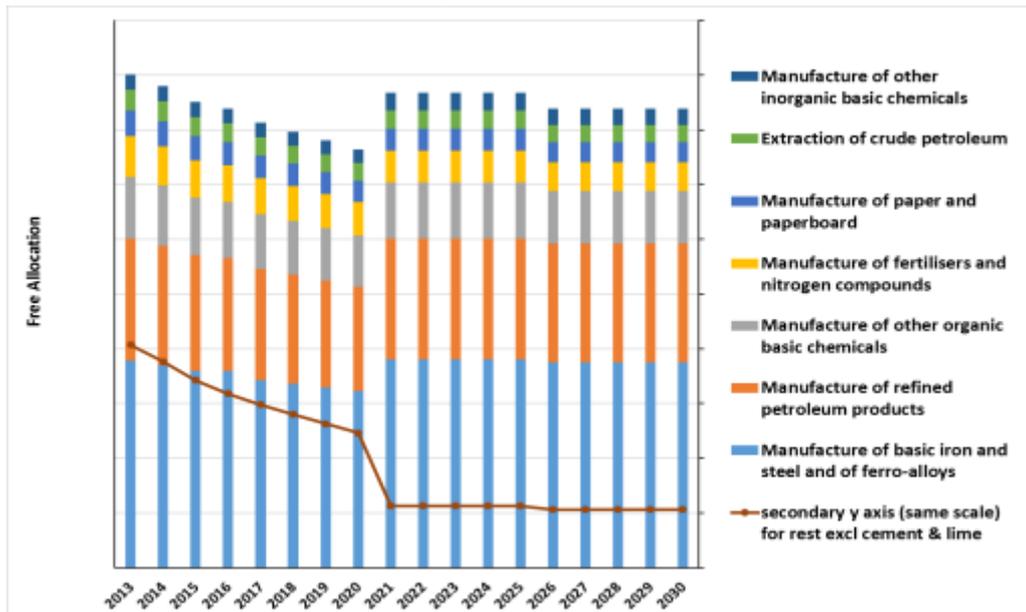


Chart 1. Phase III and modelled Phase IV free allocation to the 7 NACE sectors receiving most free allocation in 2020 (excluding cement and lime and plaster); assumes benchmark reductions of -1.5% for paper and for fertilisers, -0.3% for iron and steel and for refined petroleum and -1% for the rest; zero activity growth from current levels; binary carbon leakage protection with 100% above 0.2 threshold and 0% below; LRF 2.4% continuing from current 2020 cap; 3% of total cap set aside for indirect cost compensation (1/3 from free alloc share rest from auction share); 400 million new entrants reserve from free alloc share; 300 million contribution to innovation fund from free alloc share; 57% auction share

Lion's share sectors

The ENVI Report allows for a higher proportion of the overall cap to be allocated to fewer sectors. In the event of a cross-sectoral correction factor being required to bring the total free allocation within the maximum available, around two thirds of the free allocation will be 'untouchable'.

Despite the ENVI Committee having made provisions to increase free allocation to Industrial activities – counter to the auctioning principle of the ETS – industry bodies are lobbying for yet more free allocation.

Chart 2 below shows the share of the 2015 emissions, 2020 free allocation and 2021 free allocation allocated to the sectors not facing a CSCF (same assumptions for 2021 free allocation).

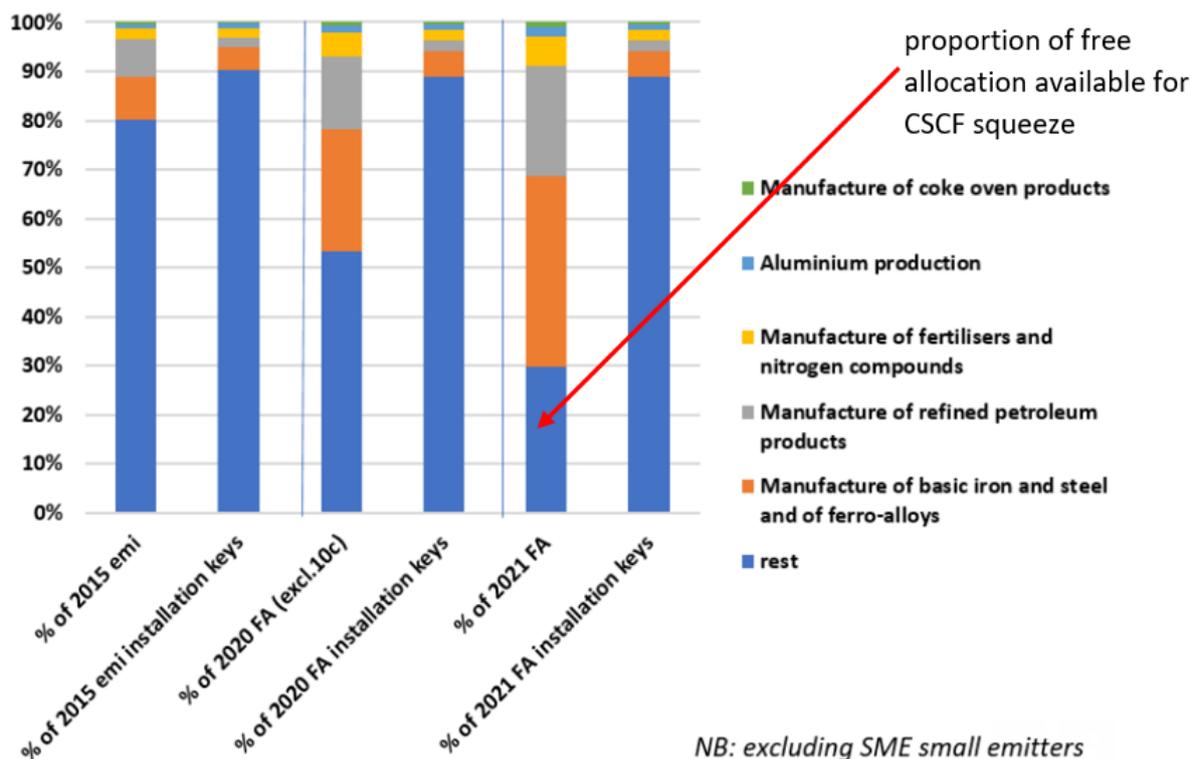


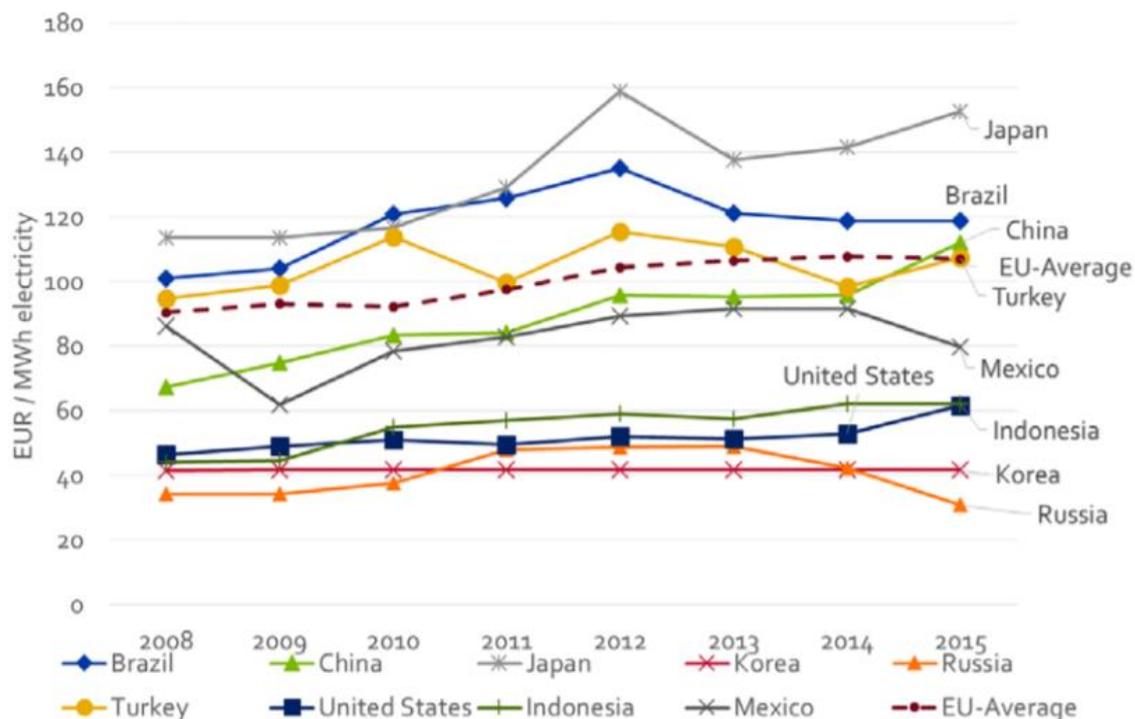
Chart 2. Comparison of spread of emissions and free allocations values across sectors and spread of numbers of installations across sectors for 2015, 2020 and 2021

Indirect cost & benchmarks protection

Unsatisfied with the increased allocation and additional protection, some voices from industry are calling for higher indirect cost compensation (cost passed through to them via carbon cost reflected in electricity prices). They are also resisting the only remaining steady reduction on their free allocation, the flat rate benchmark reductions⁶. ENVI already weakened reductions from the Commission’s proposal of at least 0.5% (reduction per year from 2008 to the middle of each half of the next phase) to a minimum of 0.25%, but industry bodies are calling for there to be **no** flat rate annual reductions. A 0.25% reduction implies that the decarbonisation trajectory for these sectors will take the best part of 400 years.

Benchmark reductions are supposed to reflect emissions intensity improvements since the beginning of Phase II as we progress through over 20 years of abatement action by 2030. Instead, industry bodies want the benchmarks to be set again based on today’s data and to then be kept at those levels with no further expectations of improvements. This would remove the increasing price signal which is necessary to trigger incremental improvements followed by step change innovations.

⁶ Installations receive free allocations benchmarked to the top 10% best performing installations in their sector. The benchmarks were established based on 2007-8 data.



Source: Brazilian Ministry of Mining and Energy, Chinese Price Monitoring Centre, NDRC, Indonesian State Electricity Company, Russian Federal State Statistics Service; EIA data for Turkey, S Korea, Japan, USA and Mexico.

According to a report from the European Commission on energy prices and costs in Europe, “from 2008 to 2015, EU electricity prices increased by 17 %, but price rises were significantly higher in China (66 %), Indonesia (41 %), Japan (34 %) and the USA (32 %). The analysis incorporates the effect of exchange rates, which is significant in some cases (e.g. the yuan’s appreciation explains the increase for China; prices rose only marginally in the national currency)”⁷. Table 1 shows the development of the ratios of EU prices to those of its trading partners.

Table 1: EU electricity prices for industry compared with other countries’

Year	USA	Japan	Brazil	China	Turkey	Russia
2012	2.2	0.4	0.8	1.1	0.9	2.1
2013	1.9	0.4	0.9	1.1	1.0	2.2
2014	1.3	0.4	0.8	1.1	1.1	2.6
2015	1.7	0.5	n.a.	1.0	1.0	3.5

Source: EIA, Platts, Brazilian Ministry of Mining and Energy, Chinese Price Monitoring Centre, Russian Federal State Statistics Service e.g. EU prices were 2.2 times those of the USA and have fallen to 1.7 times.

⁷ Report from the European Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, *Energy Prices and Costs in Europe*, 2016, page 10 http://ec.europa.eu/energy/sites/ener/files/documents/com_2016_769.en_.pdf

What does the ETS reform mean for the Cement Sector?

The cement sector has been one of the biggest beneficiaries of the ETS, with flawed free allocation rules delivering €5 billion in unearned windfall profits to the sector. Astonishingly, Sandbag's research found that perverse incentives in the ETS have **increased** emissions in the cement sector; the need for reform to encourage low-carbon innovation is now obvious and urgent.

The cement sector possesses a cumulative surplus of 450 million allowances (worth over €2 billion even at today's heavily depressed carbon price).

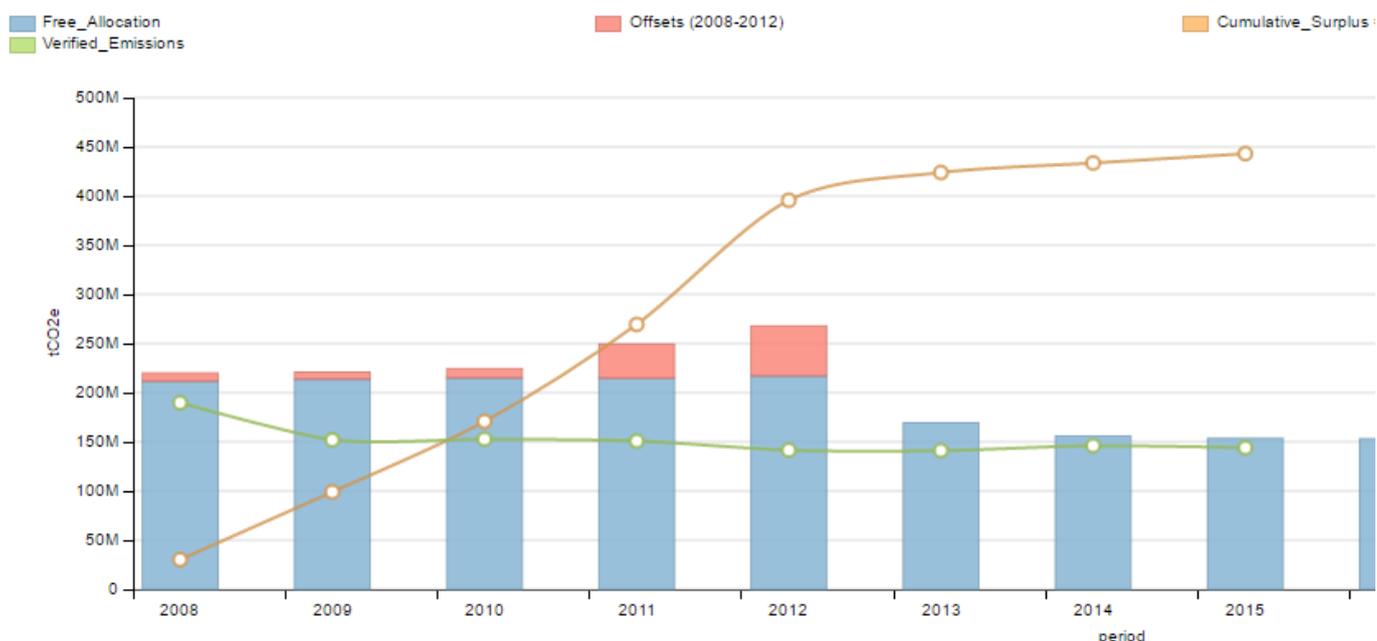


Chart 3. Graph showing cement sector emissions (green line) and free allocation given to the sector (blue bars). From Sandbag's ETS dashboard.

Would BAM and removal of free allocation would drive low-carbon investment?

The system of free allocation is set to be changed for Phase 4 and this inevitably creates uncertainty prior to the rules of the new phase being adopted. The cement sector has invested little during the ETS compared to years prior to the scheme, because the prospect of diminishing free allocation creates uncertainty around the future value of investments. By contrast, once the rules of a BAM have been established it provides long term visibility to investors without incentives being altered over time, as happens with free allocation.

How can we measure CO₂ performance of non-EU producers?

While legal and technical aspects of a BAM would need to be developed before June 2019, the issue of measurement, monitoring, reporting and verification from non-EU exporting countries has already been discussed at length within the industry. Practical solutions to these concerns have been found. During this period (2007-12), Cembureau also commissioned several reports on BAM from The Boston Consulting Group which indicated that BAM would be workable and beneficial for the industry under certain conditions.

BAM compatibility with WTO rules

Amendment 84 clearly states that the inclusion of importers (i.e. border adjustment measures) must be WTO compatible before being implemented. A WTO-incompatible system could therefore not be implemented under the provisions of Amendment 84.

What is the impact of applying BAM to a few ETS sectors in relation to the downstream market?

Existing free allocation rules already treat some sectors unfairly due to the inability to protect sectors according to their actual leakage risk. BAM would have a minimal impact on the ability of the cement sector to compete with other products because for many applications of cement there are no significant competing products: such as for foundations, ports, tunnels, airports. Furthermore, the choice between steel or concrete is, in the first place, made on aspects very different from cost, notably: architectural choices, engineering requirements, speed of construction (steel faster than concrete), fire safety (concrete better than steel) and other criteria which take priority over cost.

How would BAM impact on cement export markets?

There is no suggestion in the legislation that exports would not be covered by a BAM. Most border adjustment systems (e.g. for taxation of tobacco, alcohol) work on both an import and export basis. This means that additional compliance costs levied on production in one administrative region are refundable or adjustable when those products are exported outside of that region, in order to accommodate differences in the cost of compliance.

What does ETS reform mean for the Steel sector?

Steel has long made huge profits from excess free allocation (see Sandbag's report [Slaying the Dragon: Vanquish the Surplus and Rescue the ETS](#), from 2014). In the last few years, the sector's windfall profits have been overtaken by the cement sector, but cumulative free allocation to the steel sector since 2008 still exceeds cumulative emissions by 481 million allowances. (worth approximately €2 billion even at today's heavily depressed carbon price). However, it should be noted that the steel sector transfers some waste gases to third party power generators together with an equivalent quantity of allowances thus reducing their surplus.

How does the ETS affect steel's electricity costs?

Electricity costs are only ~6% of steel production costs⁸ and many Member State governments compensate companies for any rise in bills caused by the EU ETS and from other green levies (for example, the UK Compensation for Indirect Costs).⁹ Costs to the steel sector from the ETS have previously been grossly exaggerated.¹⁰ The raft of steel plant closures over 2015/16 were due to the dumping of Chinese steel onto the EU rather than ETS costs, directly or indirectly. In reality, the increase in electricity costs due to the ETS is extremely small.

Member States and the Commission could help reduce industrial emissions and support the EU steel industry through financial help for green technologies such as clean energy combined with electric arc furnaces, or Carbon Capture and Storage (CCS). We welcome the increased size of the ETS Innovation Fund, and encourage the Commission to focus it on commercialising emission reduction technologies. However, the size of the Innovation Fund is a direct function of the price of EUAs, and as such, could become much more meaningful in supporting high cost projects, in a situation of a properly functioning carbon market (i.e. one tuned to real emission levels).

How does the carbon price affect the EU steel sector?

The steel sector in the EU Emissions Trading Scheme (ETS) is protected from the carbon price through rules to protect against 'carbon leakage'. The ETS to date has only offered a carrot, albeit a weak one, but no stick.

The aforementioned surplus allowances represent a cash subsidy from EU taxpayers to the European steel sector of billion at today's prices. The EU carbon market has in fact supported the European steel sector through the difficult economic period of the international financial crash.

What has happened to steel globally?

Since 2009, the global steel price has been in a volatile decline, with an all-time low in March 2016.¹¹ Massive overcapacity in China as domestic demand falls saw exports to the EU rise 49% year-on-year over the first five months of 2015.¹² The European Commission is investigating allegations that Chinese plants are selling steel to the EU at below cost price, making fair competition impossible.

⁸ CarbonBrief (April 2016) <http://www.carbonbrief.org/factcheck-the-steel-crisis-and-uk-electricity-prices>

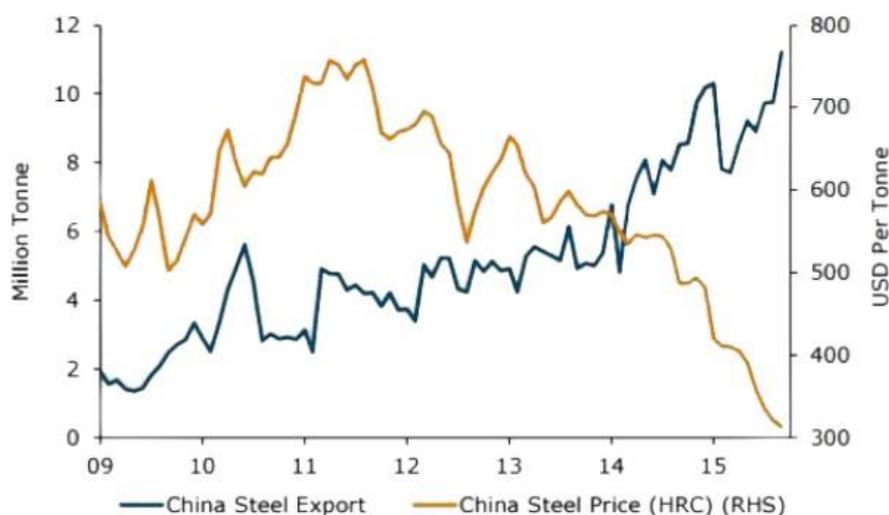
⁹ Compensation for indirect costs of energy and climate change policies – The Department for Business, Energy and Industrial Strategy (Dec 2016) <https://www.gov.uk/government/publications/eu-emissions-trading-system-compensation-for-indirect-costs-in-2013-to-2014-and-2014-to-2015-guidance>

¹⁰ Carbon costs for the steel sector are not as high as feared – Sandbag (Dec 2015) <https://sandbag.org.uk/2015/12/21/carbon-costs-for-the-steel-sector-are-not-as-high-as-feared/>

¹¹ Steel - Trading Economics <http://www.tradingeconomics.com/commodity/steel>

¹² Has Chinese steel demand peaked? (Barrons, Oct 2015) <http://www.barrons.com/articles/has-chinese-steel-demand-peaked-1444900636>

China Steel Exports and Steel Price



Source: Bloomberg, ANZ Research

However, in recent months, steel exports from China have dropped.¹³

What is to be done?

The EU must look to permanently decarbonise industry. The technology is now available in the form of process change and Carbon Capture and Storage (CCS), and circular economy Carbon Capture and Utilisation (CCU) options which can lead to radical emissions reductions. CCS hubs which offer industry the ability to continue operating without polluting, such as the proposed Teesside Collective in the UK or Rotterdam in the Netherlands, would encourage international (green) investment whilst crucially not falling foul of state aid rules. Radical process changes in steelmaking are possible, such as Tata Steel's [Hlsarna project](#) in Holland which cuts emissions and makes CCS far easier and can create an EU steel industry that will thrive in a low carbon world.

What does the ETS reform mean for the Ceramics sector?

In its January note to policy makers expressing alarm at the introduction of IIS/BAM for protection against carbon leakage risk, Cerame-Unie highlighted, *"The EU ceramic industry represents over 200 000 direct jobs and a production value of 28bn EUR (2016). The ETS discussions are of primary importance to the ceramic industry, since the scheme encompasses a large proportion of our industry (75% of industry's value, including the following sectors: wall and floor tiles, bricks and roof tiles, clay pipes, sanitaryware, refractories and expanded clay). In EU ETS phase 3, the scheme covers more than 1,200 ceramic installations, representing around 10% of the total number of ETS installations, but less than 1% of the total ETS industrial emissions. The reformed architecture of post-2020 ETS will have a significant impact on the future of our industry in Europe."*

However, only one ceramics NACE class sector, **23.32 Manufacture of bricks, tiles and construction products, in baked clay**, comes even close to losing free allocation due to the IIS/BAM provision. Most do not meet the criteria to be included for carbon leakage protection or, like the ceramics NACE classes making sanitary fixtures or expanded clays, have higher trade intensity values.

¹³ Steel exports plunge amid new tariffs – Wall Street Journal (Dec 2016) <https://www.wsj.com/articles/chinas-steel-exports-plunge-amid-new-tariffs-1481180615>

Sandbag estimates¹⁴ that there were around 500 ETS installations manufacturing bricks tiles and construction products in 2015. Of these, at least 268 (a conservative estimate) could opt out under the Small or Medium Enterprise (SME) small emitters provision. With similar activity levels post 2020 and with the current carbon price of €5/t, the remaining installations would be likely to each face an average carbon cost of around €90,000¹⁵. This is not an unmanageable amount in the greater scheme of things considering that the total production value for this sub-sector was more than €5,500,000,000 in 2015¹⁶, of which, according to Cerame-Unie above, approximately 75% would fall under the EU ETS.

Given the relatively low emissions intensity of the bricks tiles and construction products NACE class, the IIS/BAM provision should be no cause for alarm. This sector is just at the threshold of qualifying for carbon leakage protection. If its post 2019 quantitative and qualitative assessments do not leave it on the carbon leakage list, as for other low trade intensity sectors not reaching the carbon leakage assessment threshold, a IIS/BAM would provide better protection than no IIS/BAM.

Placing the EU ETS in a global context for 2021-2030

The EU ETS is in danger of being overtaken by newer, functional carbon pricing projects internationally. Industry is now increasingly subject to carbon pricing regulation outside of Europe. By 2020, carbon pricing schemes will exist in China, across much of North America (including California and New York), in Mexico, South Korea and Kazakhstan. There are fewer and fewer places where industry is not being incentivised to cut its emissions in order to prevent catastrophic climate change. China's ETS is due to be twice as large as the EU ETS.

This raises concerns regarding the appropriateness of setting carbon leakage rules up to 2030. Over the next 10 years, Free Allocation for European industry will attract greater scrutiny as industry may no longer have a 'carbon leakage' concern to base its rationale on and Free Allocation may be viewed as a protectionist measure. In a post-Paris Agreement world of increasing carbon markets, BAM might just be the way forward in avoiding environmental trade diversion. This would be an appropriate step forward due to the fact that, unlike Free Allocation, BAMs put a price on carbon, and in that sense is more of an environmental measure than a trade concern (as are carbon leakage measures).

However, all this comes down to the ever more urgent need to have a realistic ETS, aligned with real emission levels. The objective of securing European competitiveness can only be achieved in a world on a decarbonisation trajectory. Sandbag urges policy-makers to be mindful of the need to fix the EU's carbon market, enabling it to drive this process most cost-efficiently. The alternative is not a world without carbon markets, but one in which the EU ETS is failing to drive European industry to be the frontrunners in this transition. There can be no doubt that without realigning the scheme to reflect real emission levels, the EU ETS will not be in a position to drive this process. Last but not least, it is unrealistic to expect that in 2045 we would still be using 2010 emission forecasts in setting our scheme. But why wait until then when we can choose to adjust the scheme in 2017.

¹⁴ Here we are not helped by the Commission's reluctance to share an up-to-date complete mapping of installations to NACE sectors. Our analysis work applies the mapping shared in March 2014 during the preparation of the 2015to2019 carbon list, available on the Commission website, together with additional mappings for additional significantly emitting installations via in-house desk based research. We have also attempted to identify Small or Medium Enterprise (SME) small emitters. Under the ENVI Report provisions, these could opt out of the EU ETS all together.

¹⁵ (2015 emissions x carbon price) / nمبر of installations

¹⁶ Fig from Eurostat DS-056120 - Sold production, exports and imports, extracted 20170208

About this briefing

We are grateful to the European Climate Foundation for helping to fund this work. Full information on Sandbag and our funding is available on our website (www.sandbag.org.uk).

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