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# Inception Impact Assessment: Carbon Border Adjustment Mechanism (CBAM)

## The Response of Eurometaux – The European Non-Ferrous Metals Industry

*This document gives the reactions from the non-ferrous metals sector - a very electro-intensive sector – to the European Commission's inception impact assessment (IIA) on carbon border adjustment mechanisms (CBAM). We begin by explaining non-ferrous metals electro-intensive nature and our highest exposure to carbon leakage as a result of the indirect carbon costs of the EU ETS. We then proceed to comment on; 1) the type of policy instrument, 2) methodological approach to evaluating the carbon content and carbon pricing of imported products and 3) sector scope. In commenting on the sector scope, we show how given our electro-intensive nature and price-taker market status, non-ferrous metals are one of, if not the most, exposed sector to carbon and investment leakage. Upfront we state the clear position of Eurometaux, that* ***we believe that adequate indirect costs compensation scheme, not a CBAM, is the optimal way to protect the most electro-intensive industries from carbon leakage in Phase IV of the EU ETS***[1]*. Giving the expected higher climate ambition for 2030, we fully agree that additional and improved carbon leakage provisions are essential. However, for electro-intensives we believe that alternative measures to a CBAM should be investigated and considered by the Commission in its upcoming impact assessment.*

## Summary of Eurometaux Position on CBAM

- The non-ferrous metals industry fully supports the EU Emissions Trading System (ETS). A fully functioning EU ETS is one which provides adequate protection against carbon leakage. As Europe's most electro-intensive industry, we believe that an **improved indirect costs compensation system is the optimal instrument to protect electro-intensive industries from carbon leakage**. We thus call on policymakers to prioritise an improved indirect compensation scheme for Phase IV of the EU ETS. We believe this should be the first measure before possible secondary actions, such as CBAM, are considered.
- However, **if** such a measure is to be extended to electro-intensives, the following would need to be considered:
  - **Not undermine existing carbon leakage measures:** *If* a CBAM is to be introduced and cover electro-intensive industries, it should not undermine or replace the existing carbon leakage measures, most notably; indirect costs compensation and EU ETS free allowances. These mechanisms should remain in place, be prioritised and improved. We note however that the inception impact assessment says that a CBAM would be an "alternative" to existing carbon leakage provisions. These existing carbon leakage provisions have been effective in limiting carbon leakage to a certain degree (Not fully however), and therefore rather than replacing these existing measures (which could lead to catastrophic consequences for energy-intensive industries in Europe) priority should be to improve these measures. In particular, the ETS State Aid Guidelines for indirects compensation should be improved to adequately protect the most exposed.
  - **The challenge and complexity of indirect carbon costs**: *If* the CBAM also covers the carbon content for indirect emissions in the imported product, then it must also reflect the additional indirect costs European producers face compared to other global producers, in order to ensure a level playing field on the global level (due to marginal pricing in European power markets, indirect costs are not directly correlated to indirect emissions, as explained in this paper). If it is not possible for a CBAM to reflect indirect costs (and not just indirect emissions), then this would not ensure adequate protection against the threat of carbon leakage and indirect costs compensation would have to be kept alongside the CBAM. The two can co-exist as long as they do not cover the same cost. Indeed, for the primary production of non-ferrous metals such as zinc and aluminium, indirect carbon costs can be 20 to 7 times greater than directs.

[1] Under EU State Aid Rules, to address carbon leakage of electro-intensive industries, Member States can give compensation to certain sectors for the increases in electricity prices as a result of the indirect costs of the EU ETS. These Guidelines – often referred to as 'the ETS State Aid Guidelines' are currently being reviewed. New Guidelines expected to be established later in 2020 and will set the rules throughout Phase IV up to 2030.

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- **A detailed impact assessment is needed to understand the specificities of sectoral value chains:** If introducing a CBAM for non-ferrous metals, policymakers should carefully assess the specificities of the non-ferrous metals value chain. Non-ferrous metals value chains are often very different, and more complex, compared to other sectors considered for a CBAM measure such as steel and cement.
- **Cover the entire value chain:** If introducing a CBAM for non-ferrous metals, policymakers will have to cover the entire non-ferrous metals value chain. More specifically, this refers to upstream and downstream, from the primary product down to the final product which contains the metal. It is clear that poorly designed schemes can be easily circumvented with the resulting impact undermining rather that increasing our industry's competitiveness throughout the value chain, as well as increasing costs across the entire supply chain. Within this context, we are aware that there will be a trade-off between administrative burden and effectiveness of the measure. A balanced compromise position will need to be found between these two trade-offs.

# CBAM: Objectives and Policy Options

## *1. Type of Policy Instrument*

The list of options mentioned in the IIA include:

i. A carbon tax on selected products – both imported and domestic products
ii. A new carbon customs duty on tax or imports
iii. Extension of the EU ETS to imports

With regards the following options listed, each comes with advantages and disadvantages which will need a detailed impact assessment before any decisions are taken. With each of these measures, policymakers will also need to consider if they are i) WTO compliant, ii) integrate a lifecycle approach and iii) how they interaction with the existing carbon leakage provisions.

### WTO compatibility

We agree with the comment in the IIA that any potential system would need to be **WTO compliant.** There remains a concern that the introduction of a CBAM would most probably trigger an avalanche of WTO complains against the EU by third countries. If the EU lost such disputes, what would follow would either be the EU introducing changes to its CBAM (which would create great business uncertainty) or WTO authorised tariffs against the EU. These details must be taken into account in the Commission's upcoming impact assessment work. Similarly, it needs to be factored in that even if the CBAM is fully WTO compliant, other major economies may still decide to implement retaliatory measures against European exports. These likely retaliatory measures should be fully assessed before implementing a CBAM.

### Integrating a life cycle approach

Non-ferrous metal value chains are very complex. As far as the carbon border adjustment mechanism will be applied to imported products it has to ensure that the carbon footprint of every product and associated cost are determined accurately.

The EU ETS benchmarks has been developed for industrial processes. In our view this approach will have limitations to be used for tradable products at the border because:

- It covers the emissions of only part of the value chain: For example, processes for production of liquid metal. It excludes upstream activities for material acquisition as well as downstream activities for processing and



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transformation of the metal such as casting, rolling, extrusion, etc down to a final product. It also excludes transport activities.

- It is based on the average performance of the 10 % most efficient installations in a sector or sub-sector, and does not reflect the actual carbon footprint of a product

This simplified approach not taking the whole value chain into account may create distortions and wrong incentives. In this context it is most accurate to use methodology that measures the carbon footprint of a product throughout its life cycle and consider the impacts of all steps needed to get the product on the market. There are accepted metrics to measure the carbon footprint of products such as the EU Product Environmental Footprint (PEF) which could be considered.

The methodology in any case need to ensure detailed requirements for calculating the carbon emissions and costs associated with a product throughout its life cycle, use of robust data, and verification of the correctness of the data.

### Interaction of the chosen policy instrument with existing carbon leakage provisions

Non-ferrous metals production is **extremely electro-intensive and is therefore more exposed to indirect than direct CO2 costs[2].** Indeed, electricity represents 35-45% of the cost of the primary production for many metals. For example, for primary aluminium, indirect costs are 6-7 times higher than direct costs. Thus, if the scope of a CBAM were to include electro-intensive sectors such as non-ferrous metals, indirect compensation would need to be maintained to mitigate indirect carbon costs. Further details on the challenges and complexities to compensate for the indirect costs of the EU ETS are given below in Annex i. Here we explain how indirect costs and indirect emissions are not directly correlated and If a CBAM is incapable of creating a level playing field with regards indirect costs (Which we see as highly doubtful given the massive difference in the design and functioning of power markets in third countries) then it will not be an effective instrument against carbon leakage for electro-intensive industries.

The IIA notes that a CBAM would be an 'alternative' to this existing carbon leakage measures. At this stage, it is important to highlight the major concern of non-ferrous metals producers that such measures would come as a replacement to the current carbon leakage measures. Such measures, while not yet fully adequate, nevertheless play an integral role in limiting the distortion between EU and non-EU producers. Given this, we **believe it is fundamental that any border adjustment mechanism, does not reduce or replace the current carbon leakage protection mechanisms,** in particular the indirect costs compensation, at least until it has been proven that the CBAM can offer a better level of protection.

## *2. Methodological Approach to evaluating the carbon content and carbon pricing of imported products*

The IIA notes that "under the EU ETS, a system of harmonised EU benchmarks has been developed for industrial processes". It adds that if a sector is covered by the EU ETS, a CBAM could be based on similar methodological considerations as for the EU ETS, i.e. benchmark values, unless the exporter certifies a lower carbon content and/or a higher cost of origin. It adds that the Commission will also look at alternative approaches, e.g. defining carbon content of products, considering their interaction with existing and future climate policies.

[2] This is very different to other sectors such as steel or cement who are being assessed for this measure. These sectors are very carbon intensive and thus, are more exposed to carbon leakage based on the direct costs of the EU ETS. Non-ferrous metal producers are more electro-intensive and thus, more exposed to carbon leakage as a result of the indirect costs of the EU ETS. This also leads to numerous complications with regards how CBAM could effectively be implemented on imports of non-ferrous metals products.



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We agree that we need a legitimate system for disclosing the carbon content of each product. At present, there is no common system for disclosing the carbon content of imported products. Such a system would also have to prevent third-country exporters from bypassing or gaming it. To take one example from primary aluminium production; 90% of Chinese primary aluminium production is based on coal-fired electricity generation, whereas the remaining 10% is based on hydropower[3]. Therefore, without a robust disclosure system, a Chinese exporter could simply declare that its aluminium was produced using hydropower (even if this isn't true), in order to bypass the CBAM. Third countries would be incentivized to re-route all their 'cleaner' production to Europe (displacing European production), while continuing to cover demand across the rest of the world using carbon-intensive production. This would actually lead to an increase in global emissions, i.e. carbon leakage.

We also do not know either where carbon footprint in CBAM would be assessed at a Member State or installation level. This will need to be fully clarified to policymakers.

With regards non-ferrous metals, a CBAM system would need the following:

i. Details of where the primary metal of the product is producers in order to assess accurately the carbon footprint in primary production
ii. Details on the metal content in the product
iii. A system to compare direct and indirect emissions across countries or installations

### Scope of CBAM: A CBAM should focus on emissions in both the primary production process and across the value chain

One area where the IIA does not give details is how much of the value chain the measures should cover. We believe that if introduced for electro-intensive industries, a CBAM should cover the entire value chain, upstream and downstream, from primary product down to the final product containing the commodity.

For many non-ferrous metals producers, the electrolysis process is where there are large differences the CO2 emissions pattern, due to differences in indirect emissions (a result of the CO2 content of the electricity consumed). Other parts of the value chain have much less variation in emissions.

However, it is important to consider that a CBAM system would only work effectively if the system encompassed products from the primary production down to final product containing the commodity. If this is not the case, our customers would have an incentive to move production out of Europe. In addition, going down through the value chain, customers of our customers could source components directly from abroad, hence importing them "CBAM free" and threatening the survival of upstream producers in the EU and EEA, while also leading to a very large increase in global emissions (i.e. carbon leakage).

To give an example, if only primary aluminium were covered by a CBAM, road wheel producers would move production out of Europe or they would become uncompetitive and European original equipment manufacturers (OEMs) would source finished aluminium road wheels from abroad (which would be CBAM free, regardless of whether aluminium with a high carbon footprint has been used for their production).

## *3. Sectoral Scope*

The inception impact notes that it still needs to be decided which sectors should be included in the measure. It says that a scoping will be undertaken to ensure that the "measure applies where the risk of carbon leakage is the highest". In the following section, we outline how the non-ferrous metals sector is one of, if not the, most exposed sector to carbon leakage. Despite this, as already stated, we believe that an improved and adequate indirects compensation scheme is the optimal way to protect electro-intensive industry from carbon leakage.

3 http://www.world-aluminium.org/statistics/primary-aluminium-smelting-power-consumption/



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# Higher Ambition Scenario for 2030: Need for Reciprocal Carbon Leakage Measures

## Carbon Leakage Exposure of the Non-Ferrous Metals Sector

In the section 'problem the initiative aims to tackle' it notes that "carbon leakage occurs when production is transferred from the EU to other countries with lower ambition for emission reduction, or when EU products are replaced by more carbon intensive imports". Given how electrified our processes are and that our sector's products are traded on global commodity exchanges such as the London Metal Exchange (LME) and/or other global pricing mechanisms, it is clear that the non-ferrous metals sector is the most exposed sector to carbon leakage as a result of the indirect costs of the EU ETS.

It should be noted that more than any other energy intensive sectors, carbon and investment leakage is a phenomenon which has already occurred in the non-ferrous metals sector. Indeed, since 2008, the EU has lost 36% of its primary aluminium smelting capacity (due to plant closures and curtailments). In these cases, European production being replaced by more CO2 intensive imports with investments being redirected to non-EU areas. Demand is being met by increased imports with EU production declining. For this reason, we disagree with the sentence that "the risk of carbon leakage has been effectively addressed" stated in the IIA.

## Need for reciprocal carbon leakage measures

The IIA notes "the starting point for this exercise will be the new baseline scenario of the European Green Deal and its higher ambition for 2030". We agree that if policymakers do choose to raise the 2030 targets, this needs to be accompanied by reciprocal carbon leakage measures to protect best performing installations from undue carbon costs. We believe that an adequate indirect costs compensation scheme - and not a mooted carbon border adjustment mechanism - is the optimal way to protect the most electro-intensive industries from carbon leakage.

In addition, the Commission should consider additional carbon leakage measures for electro-intensive industries. We believe the upcoming impact assessment should analyse not just CBAM but also consider additional carbon leakage measures which would be better suited for electro-intensive industries.



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# Annex

## I. Applying a CBAM to cover Indirect Emission Costs: The Complexities of applying the measure to scope 2 emissions

It is unclear how a CBAM could be applied to sectors characterised by high levels of electrification (i.e. non-ferrous metals producers). While it may be possible to estimate the scope 1 (direct) emissions that are directly attributable to an imported product with a reasonable degree of accuracy, it is unclear how the scope 2 (indirect) footprint could be estimated. In undertaking such an assessment, policymakers would need to take into consideration the carbon content of the electricity consumed but also the carbon cost as indirect costs and indirect emissions are not directly correlated.

Indeed, when seeking to address the indirect carbon costs challenge, it is essential to fully take into account the complexities of electricity market dynamics and that compensation needs to be based on the CO2 *cost* which European producers face, not the physical CO2 emission. Indeed, indirect CO2 costs depend on the specific price setting mechanism in the European power market (And not a result of the physical fuel mix).

Thus, in order to effectively guard against the threat of carbon leakage, indirect carbon costs are far more important than indirect carbon emissions attributable to the imported product. This is because as aforementioned, indirect costs and indirect emissions are not directly correlated due to marginal pricing in European power markets. Electricity prices are set by a marginal unit, which tends to be a thermal power plant which faces significant carbon costs. Therefore, all electricity prices in Europe (With the exception of Iceland) contain an implicit carbon costs (As set by the marginal unit), regardless of the actual carbon footprint of the consumed electricity.

To give an example, while Norway and the Nordic electricity market, has an almost 100% renewable based electricity, due to European electricity market dynamics (the so called 'marginal price setting mechanism'), Nordic aluminium, silicon, copper, zinc and nickel producers still face a price effect of CO2 on electricity of 0.67. In practice, this means that every time the carbon price increases by €1/tCO2, the power price will increase by €0.67/MWh.

Thus, a CBAM based on the indirect emissions attributable to an imported product would not be capable of effectively guarding against carbon leakage, which is the result of indirect costs rather than indirect emissions. If a CBAM is incapable of creating a level playing field with regards indirect costs (Which we see as highly doubtful given the massive difference in the design and functioning of power markets in third countries) then it will not be an effective instrument against carbon leakage for electro-intensive industries.

## II. Higher carbon footprint of International Competitors

Given the electro-intensive nature of non-ferrous metals production, what differentiates the carbon footprint in non-ferrous production globally is the indirect emissions (carbon content in the electricity consumed).

### European production being replaced by more CO2 intensive Chinese production

In particular, EU non-ferrous metals production is being replaced with increased Chinese production, which, due to its largely coal based electricity mix, carries a much higher CO2 footprint[4]. To take the example of aluminium production, Chinese production has multiplied tenfold in 20 years and currently represents almost 60% of global production. A similar

[4] For more information, please see of the 'Metals for a Climate Neutral Europe' report page 26 'Box 2: China's market dominance': https://www.ies.be/files/Metals_for_a_Climate_Neutral_Europe_0.pdf



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situation can be viewed for other non-ferrous metal sectors. For example, Silicon production in China has exponentially increased in the last years. Today China is providing twice the world demand and has huge overcapacities.

It is very important to factor in that the carbon footprint for European producers is much lower than our international competitors, especially China. This is due, energy efficiency improvements in recent years and the EU's less carbon intensive electricity mix vis-à-vis our international competitors. To give some concrete figures;

- ✓ In aluminium, the European primary production has among the lowest carbon footprints in the world, amounting to about 7 tCO2/tAl, which is about one third of the respective Chinese footprint and less than half of the global average [5]
- ✓ In Nickel, one tonnes of nickel in Europe is roughly 9 tonnes of CO2. In China, it is 70tonnes of CO2. This is 7.6 times more CO2 intensive[6]
- ✓ In Silicon, one tonne of silicon made in Europe is 3.4 tonnes of CO2. In China, it is 11.6 tonnes. Chinese production is 3.4 times more CO2 intensive[7]

## III. Non-Ferrous Metals – A Price Taker Sector competing against subsidised Chinese production

Elsewhere, it should be noted that the entire NFM industry is a price taker sector. Our sector is characterised by high price elasticity, global price setting; homogeneous product and low transportation cost. This means that we have no ability to pass through carbon costs to our customers and thus, are price-takers.

Price-taker are sectors whose products are demonstrably incapable of passing on regulatory costs such as indirect EU ETS costs. These sector's products are traded on global commodity exchanges such as the London Metal Exchange (LME) and/or other global pricing mechanisms. As a result of our sector's price-taker characteristics and globally traded commodity price, any additional load (i.e. ETS costs) cannot be passed on and makes us uncompetitive vis-a-vis non EU+EEA producers.

There is strong evidence for major state-aid interventions and support in metals production outside of the EU, in particular in China. As an example, a recent OECD report concluded that 85% of subsidies in the aluminium sector went to 5 Chinese companies8. Such actions have resulted in excess capacities in China for aluminium, silicon and several other metals - at the same time as European production has stalled (e.g. over 30% of Europe's primary aluminium production capacity has been idled since 2008).

## ABOUT EUROMETAUX

Eurometaux is the decisive voice of non-ferrous metals producers and recyclers in Europe. With an annual turnover of €120bn, our members represent an essential industry for European society that businesses in almost every sector depend on. Together, we are leading Europe towards a more circular future through the endlessly recyclable potential of metals.

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5 European Aluminium (2018) 'Environmental Profile Report 2018': https://www.european-aluminium.eu/resource-hub/environmental-profile-report-2018/

6 The Nickel Institute

7 2016 AlloyConsult study on CO2 emissions in silicon and manganese ferroalloys for EuroAlliages

8 Please see OECD report 2019, No. 218 for more details.