17th February 2021

To: Executive Vice President Valdis Dombrovskis; Executive Vice President Frans Timmermans; Executive Vice President Margrethe Vestager; Commissioner Paolo Gentiloni; Commissioner Thierry Breton; Commissioner Kadri Simson

Cc: Director-General Gerassimos Thomas, DG TAXUD; Director-General Raffaele Mauro Petriccione, DG CLIMA; Director General Sabine Weyand DG TRADE; Director-General Olivier Guersent, DG COMP; Director-General Kerstin Jorna, DG GROW; Director-General Ditte Juul Jorgensen, DG ENER; Art. 4.1 (b)

Carbon Border Adjustments Mechanisms (CBAM) not a suitable tool to protect aluminium and other non-ferrous metals from carbon leakage

Dear Executive Vice-Presidents and Commissioners,

We are writing to you to express our concerns about the aluminium industry being included in the list of pilot sectors when the European Commission proposes its carbon border adjustment mechanism (CBAM) in June 2021.

We support the principle behind your Green Deal objective for CBAM to "reduce the risk of carbon leakage… as the EU increases its climate ambition". However, having analysed the potential mechanism over the past year and the possible different design options proposed by the Commission[1], given our sector's electro-intensive production processes and high exposure to indirect carbon costs[2], we cannot see how a CBAM can be effectively designed to cover both indirect carbon costs and indirect emissions and thus, provide adequate carbon leakage for our sector.

We believe the mechanism will do more harm than good to non-ferrous metals production and thus request **that aluminium and other energy intensive non-ferrous metal sectors[3] be excluded from the list of pilot sectors included in the CBAM measure.**

We outline in more detail in the Annex and in our public consultation response[4] why we believe a CBAM cannot be an effective carbon leakage measure for non-ferrous metals. With this letter, we would also like to raise awareness of a complex and specific issue for non-ferrous metals, that is the difference between indirect emissions (i.e., emissions embedded in production) and indirect carbon costs (i.e., price effect due to the European power market). We fail to see how indirect carbon costs can be effectively covered by a CBAM, therefore making it an ineffective measure to protect our industry against carbon leakage.

The challenges of including indirect carbon costs in a CBAM

- Indirect carbon costs occur as a price effect in the European electricity market and are not an indication of emissions embedded in production. Only the latter would be targeted under a CBAM.
- The indirect carbon costs are decoupled from the actual emissions since the electricity price is set by the marginal power plant, which is usually a fossil fuel plant. Consequently, our power bills include the cost of carbon even in

[1] The design options were also discussed in an interview with Ramboll, DI and Umweltbundesamt in the context of the impact assessment

[2] Non-ferrous metals production is much more electro-intensive than other sectors considered for the CBAM pilot phase such as cement, steel and fertilisers. These sectors are more carbon intensive and thus, have far less indirect carbon costs

[3] In this letter, we are referring to lead, zinc, and tin (NACE Code 24.43), copper (NACE Code 24.44) and other non-ferrous metals (including nickel) covered in (NACE Code 24.45)

[4] Our consultation response is available by clicking **here** and European Aluminium's consultation response **here**.

countries with a large share of emission free power production[5]. For example, an aluminium smelter powered by hydro powered electricity would still face high indirect carbon costs due to the fossil fuel marginal power plant, even though the electricity they consume is carbon free.

- The indirect carbon costs differ between regions & Member States and there is not possible to set one price in EU.
- Thus, even if a CBAM would effectively include indirect emissions of imports, it will never reflect the indirect carbon costs that producers in Europe would continue to face. Compensation for these unilateral indirect carbon costs is needed to not put European producers at a major competitive disadvantage[6].

We also have serious concerns about the negative side-effects that a CBAM will have on our sectors' competitiveness vis a' vis our trading partners and between competing materials. We are concerned that i) there will be foreseeable distortions along the complex metals value chain (since a CBAM will result in higher costs for EU downstream producers and result in production moving out of the EU ii) our exports outside Europe will be negatively impacted, III) distortions will arise between commodities to the detriment of climate and iv) a CBAM will be easily circumvented (See annex).

If a CBAM is paired with removing free ETS allowances and compensation for indirect CO2-cost, it will also increase the cost basis through the entire value chain. This will severely decrease the global competitiveness of our companies.

A regulatory framework & policy tools for electro-intensive industries to achieve climate neutrality

Given our electro-intensive nature and price taker status, non-ferrous metals are the most exposed sector to carbon leakage. We welcome the Commission's aspiration to design a CBAM capable of effectively addressing carbon leakage and the initial assessment of aluminium as a first potential candidate for the measure given its significant exposure to international competition, its growing demand and Europe's import dependence from third countries. However, we hope that the impact assessment will conclude that despite having the highest carbon leakage exposure, a CBAM on aluminium and other non-ferrous metals will be an unsuitable measure to protect our industry from carbon leakage.

We recommend that a continuation of the current carbon leakage measures, alongside the introduction of new regulatory and policy tools[7], offer the best framework for our sector to get to climate neutrality.

Looking ahead, the metals sector's products will be required in significantly higher volumes for the EU Green Deal's key technologies, such as batteries, electric vehicles, wind turbines, solar panels and green buildings. European metals production is already up to eight times less carbon intensive than metals produced in China, and our high levels of electrification mean we are a frontrunner in Europe's industrial transformation towards climate-neutrality[8]. With the right policies in place, the metals industry can be an essential partner in realising the European Green Deal.

We trust that our comments and concerns will be given due consideration and hope to discuss them further in a meeting with you. We remain open to answering any questions you may have and look forward to continuing the good, open dialogue which we have already established with your colleagues.

Sincerely,

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[5] For more on marginal pricing see EC Impact assessment SWD on EU Electricity Markets reform (30.11.2016) and EC Impact assessment Report on 2012 State Aid Guidelines on indirect costs 22.05.2012

[6] Given our electro-intensive nature, the indirect costs of the EU ETS have a major impact on production costs of non-ferrous metals. For example, for primary aluminium production, if the EU ETS carbon price is €30 a tonne, indirect costs alone will represent 19% of production costs. This is too high a regulatory burden to bear. Similar figures can be seen for the primary production of other nonferrous metals such as copper, nickel, silicon, and zinc.

[7] Policy tools such as a supportive framework for long term-power purchase agreements (PPAs) and incentive for industrial facilities to participate in energy balance markets should be considered.

[8] A 2019 study by IES concluded that the non-ferrous metals industry's carbon footprint would be reduced by 81% in a decarbonised power system vs. 1990 levels

Art.4.1 (b)

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Annex

Why a CBAM cannot be efficiently designed to cover non-ferrous metals: Indirect costs, value chains and circumvention

I. The issue of Indirect Carbon Costs vs. indirect emissions

Designing a CBAM is much easier for sectors that have more direct than indirect carbon costs. On the latter, it is important to distinguish between indirect emissions and indirect carbon costs. European producers are exposed to indirect carbon costs but operate in a market where prices are set on a global level and this should be the focus of the carbon leakage protection measures for our sector. Having looked at the issue in detail, given the different CO2 emission pass through rates across Member States[9], we do not see how a system can be designed that covers indirect carbon costs that is WTO compatible.

Indirect carbon costs, which refer to the CO2 costs in electricity use (Not to be confused with indirect emissions as such) need to be assessed differently from costs related to direct emissions. Indirect carbon costs are not directly correlated with indirect emissions in Europe. Thus, there are fundamental difficulties in introducing a CBAM to address the risk of carbon leakage due to indirect CO2 costs:

- Indirect CO2 costs occur as a price effect in the electricity market and are not an indication of emissions in production. The power price is set by the marginal power plant which is usually coal- or gas fired, so the power price includes the cost of CO2 even in countries with a large share of emission free power production. Even if a CBAM would effectively include indirect emissions of imports, it will never reflect the EU indirect carbon costs. Hence, since a CBAM-levy on imports based on carbon content always will differ from the CO2-costs passed-though in power prices in different regions of Europe, a CBAM on indirects will not be compatible with WTO rules especially Article III while concurrently providing the required level of carbon leakage protection.
- Indirect CO2 costs in Europe vary between regions and Member State[10], making it impossible to be set at the EU level.
- The possibility of source shifting will make a CBAM on indirects not an incitement for reduced CO2 emissions world-wide which is a requirement for a CBAM to be compatible with WTO Article XX. If e.g. Chinese aluminium producers use their hydropower based production for exports to EU and keep their coal-fired based production and products for their local market, there will be no or even negative effects on the global emissions.
- All the more, CO2 implicit costs outside Europe would require “imposing” the marginal price setting mechanism found in EU markets globally, which would -in fact- outright compromise the aspired compatibility of the measure with WTO rules on a “environment-related” duty as it tries to include factors of production as a market access tool: more specifically, given that e.g. in China no real power market (at least no marginal power market) is currently in operation, applying said methodology would (a) be impossible, given the lack of solid and transparent evidence, and (b) it would justifiably be challenged, since it would eliminate the nominal (or even actual) indirect carbon footprint of non-ferrous metals production, replacing it with the unrealistic output of an ‘exported’ market model. As we show in Annex iii, no other region outside of Europe faces indirect carbon costs, given the European electricity market dynamics11.

[9] For more information, see Annex II of the ETS Guidelines. In the Guidelines, there are X different zones with different pass through factors
[10] See Annex III of the ETS State Aid Guidelines
[11] Electricity markets elsewhere are not based on marginal pricing as in the EU, and do not have CO2 costs passed on in electricity prices. Thus, there are no equivalent indirect CO2 cost factors outside the EU that could be used as a basis for CBAM

Thus, we believe that the current indirect compensation system, which targets each Member States' level of indirect CO2 costs, is the most adequate carbon leakage measure for indirect CO2 cost going forward.

The impossibility to cover indirect costs in a WTO compatible manner

Besides the differences between CO2 costs in power prices in Europe and calculating indirect emissions on imports, a second major challenge is how to design an EU level CBAM on indirects. There are different CO2 emission pass through rates across Member States and consequentially indirect costs vary within the European regions[12] with no one unique EU cost factor.

Due to the inherit differences between a CBAM on imports based on carbon content compared to CO2 costs in power prices within EU it would be impossible to set a CBAM, either in the form of a trade tariff or tax, at EU level since it would never reflect the actual cost faced by European producers. This leads to incompatibility with WTO Article III (principle of National Treatment). Consequently, importers will challenge an import tax not to be WTO compliant.

Also, implicit costs outside Europe would require "imposing" the marginal price setting mechanism found in EU markets globally, which would make the measure not compatible with the WTO "environment-related" duty under (Article XX). From a practical point of view, given that no marginal power market is currently identifiable in many non-European markets, applying said methodology (e.g. to China) would be impossible, given the lack of solid and transparent evidence, and it would justifiably be challenged, since it would eliminate the nominal (or even actual) indirect carbon footprint of non-ferrous metals production, replacing it with the unrealistic output of an 'exported' market model.

II. Complex Value Chains

Designing a CBAM is much easier for sectors that have simple rather than complex value chains. For non-ferrous metals production, the value chain is very complex as it (1) involves many production steps; (2) metals material flows are highly intertwined; (3) they form strategic links with the rest of the energy intensives industries in downstream applications and (4) due to the widespread recycling of metals.

Non-ferrous metals production is usually described as a process of mining, refining, smelting, transformation and recycling. Given our high import reliance on essential raw materials[13], metals ores cross multiple borders before reaching smelters in Europe. Then, the refining, roasting and smelting of the ore requires a very complicated and energy intensive combination of chemical reactions to separate the metal from the rest of the elements. [14] At this stage, by-products of these processes include sulphuric acid, lead, precious metals, cadmium, indium, germanium, silica fume and even other base metals like copper, nickel or cobalt as most metal ores carry, next to the primary metals, various other metals in smaller concentrations.

The metal is generally cast as ingots or produced as a blister or cathode and follows a downstream treatment which includes rolling mills, extruders and casters. On a life cycle basis secondary production using recovered or recycled non-ferrous metals from waste streams as raw material consumes much less electricity. Thanks to the endless recyclability of metals, in several cases the unwrought metal is a mix of ore and recycled content. On the other hand, such mix of materials adds another layer of complexity to the carbon traceability task.

But not only do the non-ferrous metals individual value chains connect at the extraction phase, most metals are alloyed with other non-ferrous metals, iron and silicon. Alloys bring about specific properties such as enhanced corrosion resistance, weldability or formability to other metals in downstream applications (e.g. stainless steel).

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[12] For more information, see Annex II of the revised ETS Guidelines for phase IV (2021-2030).

[13] Concerns have been raised that a CBAM could potentially threaten to security of supply of essential raw materials given potential reactions from third countries to a CBAM measure

[14] For a complete overview of the NFM complex production processes, see Metals in a Climate Neutral Europe pages 41-46, here.

Need to cover the full value chain

If a CBAM were to be introduced, it would need to be applied at all stages of the production value chain, from upstream to downstream production. Applying CBAM only upstream, would lead to higher costs for downstream producers, incentivizing moving production out of Europe. This would have clear negative effects for European industry while also leading to carbon leakage.

For many non-ferrous metals producers, the electrolysis process is where there are large differences the CO2 emissions pattern, due to difference in indirect emissions (A result on 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.

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).

III. A CBAM will neglect metals Exports

One underlying problem is how to handle the exports out of the EU. The EU's specific carbon costs will have to be reimbursed somehow in order to make exports competitive. Most likely this will be regarded as an export subsidy by either the WTO or our international competitors. It seems feasible that this will fulfil the definition of dumping as products will be sold cheaper abroad than domestically. Compensation mechanisms to compensate for higher domestic costs will be considered as subsidies. Throughout this, we need to factor into account that outside of the EU and EEA, the perspective is different and CBAM will not be regarded as a climate instrument but as a trade defence instrument. Exporters should be able to avail of a rebate for the increased CO2 costs in Europe. It should be noted that the amount of the rebate might exceed the equivalent CBAM charge.

European metals production is amongst the least carbon-intensive in the world. For example, the average carbon footprint of producing aluminium in Europe is 50% lower than the global average, and three times lower than the carbon footprint of Chinese aluminium production. For other non-ferrous metals, the European footprint can be up to eight times lower than the equivalent Chinese footprint. Therefore, by compromising the competitiveness of European exports, the EU would be limiting European producers' ability to cover global demand using their low-carbon production. This global demand would instead be covered by production from other regions of the world, with a much higher carbon footprint. This would lead to a further increase in global emissions, completely compromising the CBAM's justification as an environmental measure. In order to have the greatest possible impact on preventing climate change, we must focus on doing completely the opposite, i.e. boosting the competitiveness of low-carbon European exports in order to ensure that they can cover the greatest possible share of global demand. This would displace carbon-intensive production in other regions of the world, leading to a large decrease in global emissions.

Also, should the CBAM take the shape of an excise duty under the form of a consumption charge to be applied at the final stages of the value chain, thereby allowing for the continuation of the existing carbon leakage measures, such design option would still provide no incentives for both EU and non-EU producers to reduce their climate footprint. It will just lead to further competition distortions between materials. To avoid so, a full life-cycle assessment methodology covering all aspects of aluminium's use and recyclability, which today does not exist, would be needed.

IV. Likely circumvention & Source shifting

A CBAM reflecting the carbon content of imports as a carbon leakage measure, assumes that the carbon content of imported products has the same or higher carbon footprint as European production. However, for non-ferrous metals, we foresee that it will be possible to circumvent the CBAM by changing trade flows so that the most-low carbon products are exported to Europe, while the remaining high carbon products are sold elsewhere, where no equivalent carbon border measures exists. The overall result would be that the price effect of CBAM would not be enough to be a carbon leakage measure and the introduction of a CBAM would in reality, exacerbate already documented carbon (and investment) leakage contributing to an increase in overall global emissions.

We would 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[15]. Therefore, without a robust disclosure system, a Chinese exporter could simply declare that its aluminium was produced using hydropower (even if this is not the case), in order to bypass the CBAM[16]. 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. As noted, this would actually lead to an increase in global emissions.

Source shifting/Source shuffling

Elsewhere, it should be noted that a robust disclosure system will not help the issue of re-routing of trade flows. A country like China would still have the possibility to sell its low carbon metals (10% of its volumes) to Europe and the rest of the metal elsewhere. This is a term we refer to as 'source-shifting' or 'source shuffling'. In brief, it means sending the carbon "clean" product to the EU and keeping the carbon 'dirty' product at home or sending it to third countries with lower standards. Thus, measuring the product that arrives at the EU border is not sufficient to deal with carbon leakage, there must be a way to somehow link it to the carbon footprint of all the production of the exporting producer or the carbon footprint at the country of origin. A CBAM thus needs to not only limit the carbon of the carbon footprint but also limit the carbon. The EU ETS acts as a costing and limitation system and a CBAM should be the same. Source shifting allows the circumvention of the limitation part.

✓ In conclusion, we anticipate that for aluminium and other non-ferrous metals, the introduction of a CBAM would create more carbon leakage that exists today and thus should not be included in the list of pilot sectors.

[15] http://www.world-aluminium.org/statistics/primary-aluminium-smelting-power-consumption/

[16] Given the global nature of the market, it would be imperative to also safeguard the accurate and transparent reflection of the carbon footprint of the (residual) metal, namely the volumes marketed within e.g. the Chinese market (to downstream producers), in order to minimize the risk of circumvention.