Policy Note - EC Public Consultation questionnaire on the EU Carbon Border Adjustment Mechanism (CBAM)

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EUROPEAN ALUMINIUM

Contents

Summary & introduction

With this paper, European Aluminium would like to contribute to the European Commission's plans to introduce an EU wide Carbon Border Adjustment Mechanism (CBAM) and provide more detail to our response to the Commission's Public Consultation Questionnaire[1].

From our assessment of the Questionnaire and the different design options outlined therein, **it is our view that a CBAM is not the most effective tool to protect the European value chain against carbon leakage and believe Aluminium should not be included among the pilot sectors for the measure.**

This is because of the following reasons:

- The electricity-intensive nature of Aluminium smelting and the higher impact of indirect CO2 costs on our production process;
- The fact that indirect costs are decoupled from indirect physical emissions (due to the power market dynamics in Europe);
- Linked to the above, the non-compliance of a CBAM on indirect emissions with WTO law, which derives from the mismatch between the import costs and the EU cost. This is because the carbon content of an aluminium product cannot correspond to the CO2 costs in power prices Aluminium producers pay across the Union;
- The complexity of our value chain and challenges to measure the CO2 content in aluminium products or aluminium components in products:
    - If a CBAM does not cover the entire value chain, upstream and downstream, from the primary product down to the final product containing the commodity, the downstream segment might have an incentive to move production out of Europe, as importing the primary material would become too expensive;

[1] See here European Commission Public Consultation on the proposal for a Directive for an EU Carbon Border Adjustment Mechanism

- Furthermore, European aluminium semi-finished products producers will face higher raw-material metal costs and aluminium would then be disadvantaged compared to competing materials due to the lack of enough capacity in Europe to cover the growing global demand for primary aluminium.

- Considering Chinese over-capacity and availability of hydro-powered smelting, a CBAM on indirects could easily be circumvented by shifting trade flows (so-called source shifting) of low carbon based production to Europe while preserving existing coal-based power production and products from other regions in the world where no CBAM is in place. This will lead to no reduction of global emissions.

Overall, **we clearly see that a CBAM for the aluminium industry, which is one of the most, if not the most exposed sectors to carbon leakage, will not be an effective measure to reduce global emissions in our sector and protect our value chain against carbon and investment leakage.**

Aluminium should thus not be included among the pilot sectors for the measure.

Further details are provided in the following sections covering respectively:

I. The objectives of the measure & design challenges for Aluminium;
II. The proposed design options by the European Commission;
III. Specific implementation issues for the Aluminium value chain;
IV. Alternative measures to support the demand and production of low carbon Aluminium products in Europe.

Finally, further information about the Aluminium value chain in Europe and our key principles for a CBAM "*fit for the Aluminium value chain*" are outlined in the Annexes.

I. CBAM Objectives & design challenges for Aluminium

Indirect emissions vs indirect emissions costs

The European Commission noted on several occasions that for the scoping exercise to select the sectors subject to a possible CBAM, this will have to "*be defined to ensure that the measure applies where the risk of carbon leakage is the highest".* We thus appreciate the Union's commitment to stop carbon and investment leakage, and its objective to address such issue with new tools like a CBAM.

However, Aluminium production and its value chain is in fact very much different to other industries which are also exposed to carbon leakage, as for instance steel. This leads to numerous complications with regards to how a CBAM could effectively be implemented.

One of the reasons behind this is that the carbon cost on the electricity price is delinked from the electricity producers' CO2 footprint (see Annex III), which creates the following design challenges:

- Indirect CO2-costs in the EU are a result of the marginal price-setting mechanisms in the power market, not an expression of the indirect emissions attributed to products;
- Indirect CO2 costs occur as a price effect in electricity markets, where pricing dynamics are national or regional;

- There are no equivalent indirect CO2 cost factors outside the EU that could be used as a basis for CBAM;
- Even if a CBAM would effectively include indirect emissions of imports, **it could never reflect the EU indirect carbon costs in a manner that is WTO compatible.** Electricity markets in many third countries (and most importantly China) are not based on marginal pricing as in the EU. Therefore, it is impossible to identify a marginal unit setting the CO2 costs passed on in electricity prices in the same way as it happens in Europe.

For this reason, we cannot see how to design a measure for aluminium which can achieve the envisaged objective to "*ensure a carbon - level playing field for producers in terms of the impact of carbon-driven costs*"[2].

WTO compatibility

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 a common EU level tariff for a CBAM on indirects: there are different CO2 emission pass through rates across Member States and consequentially indirect costs vary within the European regions[3] with no one unique EU cost factor.

Due to the inherited differences between a CBAM on imports based on carbon content compared to CO2 costs in power prices within EU, it would therefore 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 electricity 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 aluminium production, replacing it with the unrealistic output of an 'exported' market model.

Furthermore:

- WTO Art XX might allow such trade-restriction but so far it has been normally used only to ban products and to a limited degree on production processes;
- A tax on processes using coal-fired power production, might not be legitimate under Art XX;
- The possibility of source shifting will make a CBAM on indirects not an incitement for reduced CO2 emissions world-wide which is a pre-requisite for a CBAM on indirects to be compatible with WTO Article XX;
- If e.g. Chinese aluminium producers use their hydropower based production for exports to the EU (accounting for around 10% of Chinese primary aluminium production, whereas ~90% is based on coal-fired electricity) and keep their coal-fired based production and products for their local market, there will be no impact in reducing global emissions or even the opposite, given that the global demand of aluminium is in constant growth.

[2] See question 4 in the EC's Public Consultation questionnaire.

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

For all the reasons above, a CBAM on indirects will not be an incitement for reduced CO2 emissions world-wide and would be incompatible with WTO rules.

Views on the inclusion of the electricity sector into a CBAM

It is important that if the electricity sector is part of a CBAM scheme, that it is included in a way that does not affect the ETS cap and does not lead to an increase of electricity costs for aluminium producers, who are particularly sensitive to these costs (electricity amounts to around 40% of total production costs).

For example, if electricity imports will be required to buy EUAs under the current ETS cap, this would in theory affect power intensive industries in the EU. Requiring third country importers to buy EUAs would both increase the direct CO2-cost for industries due to higher EUA prices, as well as increase the power price as a result of higher CO2-costs for power producers in the EU.

Today, the volume of electricity imports is small (net import from third countries last year was 21 TWh, compared to about 2800 TWh production in EU/EEA overall) but the price effect in specific EU Member States that are interconnected with markets that are not covered by the EU ETS could still be significant. Furthermore, with new cables to third countries and higher electricity imports, the price effect on EUAs might increase and lead to a rise of electricity costs for industry.

Impact on competing materials under the CBAM and the ETS

Finally, one major concern and aspect which will require further analysis is the impact of a CBAM on competing materials falling under the ETS which would be covered (or not) by the new measure. This is the case for example of aluminium and steel in the automotive and buildings sector but also other ones like plastics and glass for packaging. If the price of aluminium products increases compared to other materials such as steel because of a CBAM, the use of aluminium as lightweight and fully recyclable metal might be jeopardized.

Moreover, our customers might end up choosing materials less impacted than aluminium but worse for the environment from a life-cycle perspective. One solution to this could for example be to apply the same level of CBAM to all imports from all sectors covered under the measure, but, in so doing, it would not be possible to differentiate between products since the energy/carbon intensity of each product is different[4].

It is thus our view that **adequate indirect costs compensation schemes and free allowances would still be the optimal way to protect our value chain from carbon leakage** in Phase IV of the EU ETS[5], given our sector's significant electro-intensity in the production process and the specific global challenges we are facing, both in terms of trade and competitiveness.

We see that **replacing free allowances and CO2-compensation with an alternative measure like the CBAM, as announced by the Commission, would have severe effects on the entire European aluminium value chain and its customers**. **The Commission should also explore complementary measures to a CBAM and strengthen the existing carbon leakage framework to support demand and low carbon aluminium production in Europe.**

[4] For example, electricity accounts for around 40% of the cost of producing primary aluminium, which is much higher than the equivalent electro-intensity for almost every other product. A single CBAM covering all products wouldn't reflect the impact that indirect costs have on aluminium producers in Europe.

[5] 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. See here our response to the European Commission's consultation on the draft ETS State Aid Guidelines (March 2020).

At the same time, given the still many unknowns on the possible design and scope of such a measure, we would like to provide our views on:

- The different design options outlined in the Commission's questionnaire;
- The complexity of our value chain and potential implementation issues, particularly with regards to the measurement of carbon intensity considering the related indirect emissions and costs in the production process and the complexity of aluminium products;
- Possible alternative measures to support the demand of low carbon aluminium production in Europe;
- A set of key principles and elements that the European Commission should carefully take into consideration if it had to introduce an effective CBAM for the aluminium value chain (see ANNEX V);

Overall, in light of the EU's recently announced higher climate ambition and intention to present a new industrial strategy next year, **we strongly invite the Commission to improve the existing framework and consider other tools to support our industry's transformation and commitment to the EU's Green Deal objectives**.

II. The proposed design options in the EC questionnaire

In the Commission's Public Consultation document, several design options are proposed and open for stakeholder comment. In short, **all options fail to provide an adequate solution to address the mismatch between indirect emissions and costs**, thus making existing ETS indirect costs compensation under EU State Aid Rules the optimal way to protect our sector against Carbon leakage.

OPTION 1: ***"A tax applied on imports at the EU border on a selection of products whose production is in sectors that are at risk of carbon leakage. This could be a border tax or customs duty on selected carbon intensive products"***

This option might be feasible if only covering the direct emissions of the products concerned. However, it should be designed in a way to not reduce the ETS cap and thus increase the CO2-cost risk for European industry. It is also yet unclear how to accurately determine the carbon content of the imported products as well as the related indirect costs and indirect emissions.

Under such form, such tax or customs duty would only apply to imported products and could differentiate between low and high carbon products regardless of origin. However, EU producers will still have to pay the ETS-costs not borne by foreign producers.

Overall, if introduced as a border tax or customs duty, whether it will function as a carbon leakage measure will depend not only on the design but also whether there will actually be realized a price effect in the market that is sufficient to provide carbon leakage protection. This needs to be analysed further.

Furthermore, the following aspects should also be considered:

- Using the default ETS-benchmarks would mean that all imports are taxed as if they had emissions at the level of the ETS-benchmark. The actual CO2-costs for European producers are above the ETS-benchmark, so that would not ensure a level playing field. Furthermore, this option would not ensure differentiation based on the carbon footprint of the imported product, and therefore not be WTO-compatible.

- Global standards would not differentiate between producers. Benchmarks for direct emissions should be on company/installation level to be comparable to Europe, not on country level. To date, there is no system for tracing carbon content of products and there is a concrete risk of alteration of trade flows.

- Finally, ETS benchmarks for direct emissions in Europe will not reflect the full CO2-cost if a Cross Sectoral Reduction Factor (CSRF) is introduced, and due to the rules of dynamic allocation of free allowances. **Thus, ETS benchmarks cannot be used to determine the basis for a CBAM.**

OPTION 2: ***"An extension of the EU Emissions Trading System to imports, which could require the purchasing of emission allowances under the EU Emissions Trading System by either foreign producers or importers"***

From a legal and administrative point of view, such option could probably be the easiest to implement as it would rely on the existing ETS Reporting system and would only require qualified majority voting in Council. However, even here there are challenges:

- The chances of having it challenged under WTO rules and the risk of legal challenges under international law are higher. It would be treated differently from a tax under WTO rules under the Subsidies and Countervailing Measures (SCM) Agreement, and incurs particular risk if applied to exports, as this would be more likely to face challenge as a prohibited subsidy[6];

- If the ETS allowances are taken from the existing allowance supply – with potentially significant impacts on price dynamics in the market whose price may mirror a rolling average price or the day-ahead closing price of allowances in the actual ETS - this could lead to a reduction of the ETS CAP and increase the CO2 cost risk for industry.

OPTION 3: ***"The obligation to purchase allowances from a specific pool outside the ETS dedicated to imports, which would mirror the ETS price"***

As for option 2, this solution could be feasible from a legal and administrative point of view. Economically, this would be the same as a tax. If the price should "mirror" the ETS price it would be equal to having the ETS price imposed at the border in option 1. However:

- There is the Issue of "*synchronisation of carbon prices*" (e.g. a potential difference between the carbon market price at the day of the import and the fixed carbon price for the calculation of the levy);

- It could work on direct emissions, but the emissions coverage would thus be minimal for our sector (see sections in ANNEX), bringing very little environmental benefit and potentially just increase costs for producers of semi-manufactured aluminium products;

- The issue of indirect emissions and costs is not solved.

OPTION 4: ***"Carbon tax (e.g. excise or VAT type) at consumption level on a selection of products whose production is in sectors that are at risk of carbon leakage. Under this option, the tax would apply to EU production, as well as to imports"***

[6] See here ERCST paper Border Carbon Adjustments in the EU – Issues and options

It is our understanding that under such form, the CBAM would be a new tax applied upon production, import and each transaction until final consumption, with a deduction at each level of the supply chain for the tax paid upstream. It could apply to a selection of (carbon intensive) products whose production is in sectors that are at risk of carbon leakage.

From our assessment, we believe the overall result would be:

- Aluminium products will become more expensive to the final consumer while not providing adequate carbon leakage protection for the higher electricity costs;
- ETS indirect costs compensation and free allocation would still be needed, given that the carbon tax would be applied in the same way to both domestic production and imports, and would therefore offer no protection to domestic producers for the additional direct and indirect costs caused by the EU ETS.

Finally, from the Commission's questionnaire it is unclear if under such option the covered sectors would still be under the ETS.

III. Implementation issues for Aluminium

Risks for the value chain

For aluminium, a CBAM 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 further carbon an investment leakage in our sector in Europe.

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).

Furthermore, European aluminium semi-finished products producers will face higher raw-material metal costs and aluminium would then be disadvantaged compared to competing materials due to the lack of enough capacity in Europe to cover the growing global demand for primary aluminium.

Circumvention

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, the problem is that while low carbon aluminium production exists also outside Europe**, these producers do not face the same costs as in Europe.**

For example, considering Chinese subsidized overcapacity and their aluminium production from hydro powered energy sources (which constitutes around 10% of Chinese primary aluminium production, whereas around 90% of Chinese production is based on coal-fired electricity), the overall result of a CBAM would be to have a shift in trade flows of low-carbon products only to Europe and/or exporters claiming their power source is renewable, thus resulting in **source shifting**.

The remaining high carbon products would still be sold elsewhere, where no equivalent carbon border measures exist. Therefore, 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.

Furthermore, avoidance of the tariff could also be done via **trans-shipment strategies** or **slight changes to the product.**

Calculation of the carbon content of imported products

The Commission's questionnaire provides several options and methodologies for the calculation of the carbon content of the imported product and the definition of the tax/levy/customs duty.

As mentioned above, using the ETS-benchmarks to calculate this would mean that all imports are taxed as if they had emissions at the level of the ETS-benchmark. There would be no actual distinction among products according to actual carbon content, let alone adjustments to address source shifting and other issues. Even if used, Benchmarks for direct emissions should be on company/installation level to be comparable to Europe, not on country level.

Global standards would not differentiate between producers.

The PEF methodology could be used for calculating emissions, but it includes a lot of other variables in addition to CO2 emissions. A full LCA-tool would be needed to calculate the carbon content. The PEF as of today does not solve the problem that you need to develop a methodology for carbon content.

One solution that should be further investigated is the possibility to base the level of tax on the energy-mix of the producing country. This would prevent Chinese producers from moving their production for the EU to hydro-power based regions while nevertheless creating huge emissions with their coal-fired based production in other regions. However, even such option would raise problems in terms of WTO compliance and practical implementation, as it would not be capable of differentiating between products.

Considering the shortcomings of the different methods outlined in the questionnaire and the fact that there is no common methodology for disclosing the carbon content of imported products, **a new and legitimate system for measuring and providing information on the carbon content of each product would be needed.**

It should include all of the following elements:

- **Source of primary metal:** Details of where primary metal of the product is produced in order to access accurately the carbon footprint in primary production;
- **Metal content**: Details of the metal content in the product;
- **Carbon content of the metal:** Although a system should be based on accumulated emissions in each product, a full life cycle assessment analysis is not needed for determining carbon content. A system could be built on the same principles for assessing CO2 emissions as the PEF methodology. However, PEF Is not specific enough and has shortcomings in assessing company data for emissions and can therefore not be applied directly;
- **System of comparison**: A system to compare direct and indirect emissions across countries or installations.
- **Specific verified data at installation level:** A system to evaluate emissions in production for each installation. Emission assessment should be as specific as possible to differentiate between different producers and not be based on generic data;

- **Value chain traceability:** A system to trace the emissions throughout the value chain;
- **Monitoring and verification:** A system for monitoring and verification in EU of the carbon content of imports.

IV. Alternative measures to a CBAM

Question 6.6 in the questionnaire asks stakeholders' views on other types of policy instruments to a CBAM which could effectively protect exposed sectors from carbon leakage.

Thus far, free allocation and indirect cost compensation measures have been directly aimed at mitigating carbon leakage risk for industry. The new ETS Guidelines and announced supportive measures in the EU industrial strategy represent an opportunity to further investigate potential tools to protect the aluminium industry's competitiveness, given that a CBAM may not be the adequate tool for all sectors which face carbon leakage in Europe.

Looking ahead to mid-century and in view of a higher carbon cost stemming from the EU's announced increase of climate ambition, a combination of policy measures will be thus needed to facilitate the green transition for European industries[7].

Both with and without CBAM, it is crucial to build a coherent industrial policy framework that facilitates CO2-emission reductions in industry in general through support of technology development and investments in low-carbon production, so that the carbon footprint of products consumed should be reduced to a minimum.

More specifically, such framework should be based on the following elements and policy recommendations:

- The current carbon leakage measures must be maintained and improved;
- The Commission must present a clear strategy to ensure the availability of climate neutral electricity at globally competitive prices, including support schemes to facilitate corporate investments in renewable technologies and a policy framework for long-term power purchase agreements (PPAs). Incentives for industrial facilities participating in energy balancing markets and demand response schemes should also be considered;
- The new energy system integration and hydrogen strategies also represent an opportunity to further decarbonise the power-system and spur public and private investments to decarbonise our value chain. Natural gas should by supported and play a crucial role to improve energy system efficiency by providing flexibility to the system and stable supply;
- In the upcoming revision of the ETS system, the European Commission should assess the possibility to exempt from EU-ETS carbon costs new recycling installations (and this incentivizing investment in new capacity) until an affordable gas carbon-free solution is available;
- Aluminium scrap metal must also remain in Europe for European recycling activities. A tariff in the form of an export tax should be considered;
- The Commission should as well support our industry to achieve a 100% recycling rate for all products containing aluminium. Aluminium recycling process requires only 5 percent of the energy needed to produce the primary metal, thereby avoiding high CO2 emissions by replacing carbon intensive aluminium imports[8].

[7] See here European Aluminium Response to 2030 Targets Plan

[8] For policy recommendations, see here our Aluminium Circular Aluminium Action Plan, May 2020

However, the re-melting processes depends a lot on natural gas. Natural Gas must thus remain a transition fuel until affordable carbon-neutral solutions are available in the necessary volumes. One promising alternative is for example Bio-Methane. The Commission should consider measures to boost investments and grow its market availability in Europe. These could include for example a Europe-wide administration system for renewable gas to support cross border trade;

- Support for technological breakthroughs (innovation funding, contracts for difference);
- Measures to boost the demand of low carbon products (public procurement, standardisation product labelling);
- Electricity markets exclusively for de-carbonised electricity[9].

These and other complementary measures should be further investigated, developed and assessed in close consultation with concerned stakeholders and industry.

We look very much forward to contribute to such process, particularly in view of the announced update of the EU Industrial Strategy to be released next year and revision of the EU Energy and Climate and State Aid Framework[10].

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[9] See here study by UCL "UK Industrial Electricity Prices: Competitiveness in a low carbon world", February 2018

[10] See here European Commission Work Programme 2021 "A Union of vitality in a world of fragility"

ANNEX I: The Aluminium value chain in Europe

Europe's aluminium production is already one of the least carbon-intensive in the world. Furthermore, the European aluminium industry's carbon footprint will continue to decline as the European electricity mix decarbonises. Given that the production process for primary aluminium is already fully electrified (in line with the Commission's 2050 long-term strategy), the decarbonisation of the power sector alone will lead to a 58% decrease of the carbon footprint of Europe's primary aluminium production by 2050 (compared to 2014 levels)[11].

Aluminium's unique properties and uses in energy-efficient products for buildings, packaging and mobility (amongst others) also make it an essential material in the transition towards carbon neutrality. It is a key element for the production of the technologies that will lead Europe towards carbon neutrality, such as RES units and electricity/data transmission grids. Recycling aluminium is another important way of saving CO2 emissions and energy.

Preserving our primary and semi-manufacturing production as well as further developing our recycling activities will be absolutely necessary in order to meet the growing demand for aluminium products, while reducing our dependency on imports. The EU28 still imports approximately 50 percent of its aluminium ingot requirements[12]. Norway and Iceland, as part of the European Economic Area (EEA), are the largest exporters of primary aluminium to the EU. Other major exporters of primary products to European countries are Russia, the United Arab Emirates and Mozambique, while semi-fabricated and finished products are imported from several countries based on primary metal from China and others with high CO2 footprint (the carbon footprint of producing primary aluminium in China is, on average, three times more carbon intensive than producing the same aluminium in Europe. Overall, domestic demand of aluminium is fulfilled through both primary and recycled production[13].

Furthermore, over the past five years, Chinese exports of aluminium products to the EU have more than doubled, particularly in the case of semi-fabricated products (flat rolled products, including foil, and extruded products). The carbon footprint of these imports is much higher than the equivalent European production (*90% of Chinese primary aluminium production is based on energy from coal-fired power plants[14]*).

ANNEX II: Existing carbon leakage measures

Carbon intensity of primary aluminium production in Europe has decreased by more than half since 1990, via the decarbonisation of the electricity grid, improvements in energy efficiency, reduction of PFC emissions and anode consumption from the electrolytic process. [15] However, carbon leakage is already happening in our sector because the carbon cost on the electricity price is delinked from the electricity producers CO2 footprint: despite a growing global demand for our metal, Europe has lost more than 30% of its primary production capacity since 2008, and this production is being replaced by imports from other regions in the world. Aluminium competes with other materials in its key markets but, given its high electro-intensity, it faces different regulatory and cost challenges compared for example to steel.

[11] See European Aluminium Vision 2050 report here
[12] See European Aluminium Digital Activity Report 2018 – 2019, Market Overview here
[13] See European Aluminium Vision 2050 report here , p. 16: According to our scenario analysis, with supportive policies by 2050, recycled and primary are expected to have almost equal shares of total European demand
[14] See: http://www.world-aluminium.org/statistics/primary-aluminium-smelting-power-consumption/
[15] See European Aluminium Vision 2050 report here

To date, there are only 11 operating smelters remaining in the EU 27[16], meaning that approximately half of our demand for primary material relies on imports from third countries. Of these imports, 30% come from 10 smelters in EFTA countries, Norway and Iceland, regulated under the EU emissions trading scheme (ETS). The idling of smelting capacity in the EU and the lack of investment in new capacity is explained to a great extent by the fact that Europe has higher electricity prices compared to its main competitors[17] (Russia, UAE and China), whereas electricity accounts for roughly 40% of primary aluminium production costs. Higher electricity prices in Europe are attributable to regulatory costs -mainly as a result of the EU's climate-related policies- as is the case with power producers passing costs of buying emission allowances under the EU ETS (indirect carbon costs). No aluminium companies outside Europe face similar carbon costs, whereas various other regulatory costs are also exclusively European. Given that aluminium prices are set in global markets, European producers are not able to pass these extra costs on to consumers without losing significant market share. Furthermore, some players in the global aluminium industry are also heavily subsidised[18].

To this end, the Commission adopted in 2012 the Guidelines on certain State aid measures in the context of the greenhouse gas emission allowance trading scheme post-2012 ("2012 ETS Guidelines") for the purpose of addressing the risk of carbon leakage. The guidelines allow Member States to compensate electro-intensive undertakings in sectors exposed to international trade, for the increase in electricity prices resulting from the EU ETS costs passed on by power producers, so called "indirect costs".

A new set of Guidelines were adopted last September, and the reformed provisions will be applicable by Member States starting from Phase IV of the ETS (2021 – 2030). A series of important changes were introduced, starting from allowing up to 75% of stable indirect costs compensation for the entirety of phase IV and more realistic parameters for quantifying the amount of aid, to the he possibility of targeted support for undertakings in the most exposed sectors, like aluminium, to limit their exposure to indirect ETS costs as a function of their gross value added ("GVA").

Furthermore, global competitiveness of our sector will also depend on the outcome of the revision of the Guidelines on State Aid for Environmental Protection and Energy (EEAG), which will address incremental regulatory costs related to EU energy and climate policies under the upcoming European Green Deal initiative.

Therefore, in the short term, the Commission should focus on the implementation of the existing carbon leakage instruments or other exiting instruments which might be better placed to protect the global competitiveness of Europe's most electro-intensive sectors.

ANNEX III: Border adjustment vs carbon leakage measures

Aluminium production and the value chain is very much different to other industries, as for instance steel. This leads to numerous complications with regard to how a CBAM could effectively be implemented on imports of aluminium products. One example of a major challenge will be how to measure carbon intensity, considering aluminium's unique electro-intensive in the smelting process and the related indirect emissions.

[16] See European Aluminium Digital Activity Report 2019 – 2020, Section II: Market Overview here
[17] See CEPS Study, commissioned by DG ENERGY, here "*Composition and drivers of energy prices and costs in energy intensive industries*", 14 January 2019
[18] See OECD report "*Measuring distortions in international markets: the aluminium value chain*", January 2019: China affects international prices through subsidised dumping. It produces 57% of worldwide primary aluminium, compared to 10% 15 years ago. According to OECD, 85% of the $70bn support to aluminium companies worldwide went to just 5 Chinese firms.

This means that the greater part of its carbon footprint consists of **indirect emissions**, unlike to steel and cement production, and **therefore depends on the carbon content of the electricity consumed during the production process.**

Several proposals for a CBAM focus on levelling out the carbon costs faced by European producers with those of foreign producers. This would in theory mean that as a default, all imported products would face the same climate-related costs as products produced in Europe.

There are also proposals which foresee that producers in third countries would be able to apply for a company-specific assessment based on their actual emissions. This would mean that foreign producers with lower emissions than EU producers would pay less tax, but foreign producers with higher emissions than the EU average would not pay more than the default tax based on average EU costs. In order for a CBAM to have a clear climate rationale, **it must ensure that a product with a higher carbon footprint is taxed higher than a similar product with a lower carbon footprint**.

The challenge is how to measure the carbon footprint of aluminium and how to price it considering:

- The absence of a global carbon market;
- Its electro-intensive nature;
- The issue of indirect emissions and indirect ETS costs;
- The issue of which price to be used for calculating a possible tax levy as long as the prices of EU allowances are volatile.

However, even if a CBAM includes taxing indirect emissions in imported products, this would not protect European electro-intensive industry from carbon and investment leakage caused by the indirect CO2-costs, given the marginal pricing system used in European power markets:

European producers' exposure to indirect EU ETS costs is determined by the carbon cost that is inherent in the marginal electricity price (regardless of the carbon content of the electricity that is actually consumed). Therefore, the only way to create a genuine level playing field (thereby ensuring WTO compliance) would be for the CBAM to also focus on ***indirect costs****, rather than being limited to measuring* ***indirect emissions***[19]*.*

In other words, there is no direct link between the carbon content of the electricity consumed and the indirect costs passed on by power providers, which aluminium producers would producers face even when consuming completely decarbonised electricity (e.g. via a renewable PPA). Electricity prices are set by the marginal unit, which is often a natural gas or coal/lignite plant that faces carbon costs, and therefore all European electricity prices contain an inherent carbon cost, which is not directly correlated to the carbon footprint of the electricity in question.

As a consequence, a CBAM setting an additional duty on an imported aluminium product based only on its environmental footprint (encompassing both direct and indirect emissions) would theoretically either:

- incentivise third country producers to reduce their footprint to avoid paying the additional duty;
- or (more likely) cause a shift of trade flows so that low-carbon material is imported into the EU and the high-carbon material will remain traded outside the EU, thus failing to achieve the EU's international commitment

[19] 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

to push for the reduction of overall global emissions (in fact this would more likely lead to an increase in global emissions).

It would however **not be an effective tool for the short-term to ensure a level playing field with regards to production costs for European producers against the rest of the world**. Therefore, indirect cost compensation would have to be maintained alongside such a scheme in order to prevent carbon leakage.

ANNEX V: Key principles for a CBAM fit for the aluminium value chain

EU policymakers are increasingly looking into how to design a CBAM to step up the EU's climate ambitions vis-à-vis other global players. Bearing in mind the challenges and complexities above, we believe that should it cover Aluminium, **the following conditions will have to be met and carefully considered in any future impact assessment work** in order to preserve and grow our value chain in Europe:

- A CBAM should **not replace nor undermine existing carbon leakage measures such as ETS free allowances and indirect cost compensation**. **ETS indirect costs compensation schemes should remain in place and not be diluted: only** the **European** aluminium industry faces CO2 costs passed through electricity prices. For primary aluminium producers indirect EU ETS costs are 6 to 7 times larger than the direct costs. Due to the marginal price setting mechanism in the European power market, even a strongly decarbonised electricity supply will still bear indirect CO2-costs. For this reason, setting a CBAM on indirect emissions alone will not mitigate the carbon leakage risk due to indirect CO2 costs. **Hence it is essential that indirect costs compensation is kept alongside the CBAM**. The two can co-exist as long as they do not cover the same cost.
- **A CBAM should put a price based on the actual carbon footprint of imported products and reflect the carbon costs:** A CBAM should firstly have a clear climate rationale. A product with high carbon footprint should be taxed higher than a similar product with low carbon footprint**.** At the same time, in case the CBAM also covers indirect emissions, then it is crucial to ensure that the relevant calculations take into account the marginal pricing system used in European power markets in order to ensure a level playing field in terms of indirect costs.
- **A CBAM must not replace, diminish or impair an effective trade policy, existing duties or affect trade defence measures like Antidumping and Anti-subsidy tariffs as well as Safeguards;**
- **A CBAM would have to cover the entire value chain, upstream and downstream, from the primary product down to the final product containing the commodity**. If this is not the case, the downstream segment might have an incentive to move production out of Europe, as importing the primary material would become too expensive. In addition, going down the value chain and depending on the specificities of each market, businesses may decide to delocalise in order to source components directly from abroad accessing them "CBAM-free". This would threaten the survival of upstream producers in Europe. As an example: if only primary aluminium were covered by the CBAM, road wheel producers would move production out of Europe in order to avoid becoming uncompetitive and European automotive OEMs would source finished aluminium road wheels from abroad – CBAM-free.
- As explained above, due to marginal pricing, European electricity prices are impacted by the EU ETS cost, regardless of the CO2 footprint of the electricity in question. For this reason, **all well-designed and functioning tools designed to address industry CO2 emissions and carbon leakage, such as ETS free**

allowances and indirect compensation must remain in place. There should be no trade-offs and complementarity must be ensured. Related to this, the CBAM **should not apply to countries that have joined the EU ETS system or that have similarly stringent tax systems on emissions**;

- **A CBAM should focus on emissions across the whole life-cycle of products:** For example, the electrolysis process is where there are large differences in 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, though alumina production is also heavily reliant on carbon-intensive heat-production outside of Europe. Thus, the first focus of a CBAM should be on the carbon footprint of the primary metal, to then be used as a basis for further carbon footprint assessments along the value chain. For instance, if a downstream product is produced in Turkey with primary metal from South Africa, the carbon footprint of the downstream product should be based on both the South African footprint (with regard to the primary metal) and the Turkish one (with regard to processing in Turkey).
- A **legitimate and robust monitoring, reporting and verification (MRV) system** for collecting and disclosing the direct and indirect emissions of the affected products will be needed, including the aluminium content in each product. A robust MRV system is absolutely necessary in order to ensure that third-country exporters are not able to circumvent (or otherwise 'game') the CBAM. For example, 90% of Chinese primary aluminium production is based on coal-fired electricity generation, whereas the remaining 10% is based on hydropower[20]. 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.
- **The CBAM system needs to be WTO Compliant:** Aluminium is already highly politically exposed due to US Section 232 tariffs and the subsequent retaliatory actions. The introduction of a CBAM could trigger an avalanche of WTO complaints against the EU by third countries. If the EU lost the disputes, what could follow would either be the EU introducing changes to its CBAM system, which would create uncertainty for business; or WTO-authorized tariffs issued against the EU;
- The **EU should be prepared for retaliation from other economies and assess its implications on EU companies' market access in third countries**.
- Policymakers should **carefully assess the specificities of the aluminium value chain compared to the other envisaged sectors**. **If not carefully thought through and prudently implemented, there are concrete risks of increasing costs across the entire supply chain and thus eventually undermining (rather than protecting) our industry's competitiveness in a world market.** It will thus be paramount to first clearly **assess the impact of a CBAM at each stage of the aluminium value chain.**
- Any proposed mechanism should not undermine the existing framework, should avoid creating additional burden, and should **foresee tools to effectively avoid its circumvention.**

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

- Financial revenues from the system should be used primarily to encourage research and innovation in carbon-reducing technologies and investments for the decarbonisation of the European industry.

To conclude, all the elements above must be taken into account in ongoing impact assessment work, which should also include a sensitivity analysis of CO2 prices based on the impact of the CBAM and evolution of the carbon price. If ignored there would be severe negative implications for our industry, including re-location of parts of our value chain or even further reduction of primary production in Europe. The EU's priority should firstly be to maintain and improve indirect ETS costs compensation schemes and trade defence instruments to protect and preserve our value chain in Europe.