

# Carbon Border Adjustment Mechanism

## Hydro contribution to EU Commission Inception Impact Assessment

Norsk Hydro ASA (Hydro) is a global aluminium company and the largest in Europe, present in 20 EU/EEA countries, with more than 21.000 employees in Europe and 35.000 globally. Hydro operates primary aluminium smelters, and plants in recycling, rolling and extrusion. Aluminium inherent properties like light weight, high strength, formability, conductivity and durability make aluminium an attractive material, thus resulting in increased use of aluminium worldwide.

We welcome the EU climate policy and the European Green Deal (EGD) which will be the core framework for European electro-intensive industries in the years to come. Our production of recycled and low carbon aluminium will provide an important contribution to the ambitions in the EGD. Hydro are amongst the producers with the lowest carbon footprint in the industry, and we are constantly striving to improve our performance. We will continue to have an ambitious sustainability agenda and recently launched our new climate strategy by which we aim to reduce our GHG emissions by 30% by 2030 compared to our 2018 level.

### Key message

We strongly support the importance of preserving the competitiveness of European industries, which is rightly recognized in the Inception impact assessment (IIA) for a carbon border adjustment mechanism (CBAM). However, the IIA also states that CBAM should be an alternative to existing carbon leakage measures.

- For aluminium, we disagree that CBAM could be an adequate alternative carbon leakage measure. For our industry, it is of outmost importance that existing measures currently addressing the carbon leakage risk are maintained.
- Replacing free allowances and CO<sub>2</sub>-compensation with a CBAM would have severe effects on the entire European aluminium value chain and its customers.
- Our position is therefore that CBAM should not be introduced as an alternative carbon leakage measure for aluminium.
- However, if a CBAM is considered to be introduced for aluminium, it should not replace current carbon leakage measure. Rather, it should be a tool to differentiate on carbon content of products, and it is essential that it would be correctly designed to avoid negative consequences for the aluminium value chain.

In this response, we will explain 1) why a global level playing field is essential for industry and 2) why CBAM is not a carbon leakage measure for aluminium. In the Annex we describe how a CBAM needs to be designed to benefit aluminium industry positively.

## **1 A global level playing field between industrial producers is essential to maintain the competitiveness of the European industry**

Climate change is one of the greatest challenges of our time and reducing CO<sub>2</sub>-emission to limit global warming to 1,5 degrees will require substantial efforts across all sectors.

A global CO<sub>2</sub>-cost would be the best way to achieve global CO<sub>2</sub>-emission reduction whilst ensuring a global level playing field for all industries. However, this is unlikely to be achieved in the foreseeable future. We fully support the EU European Emission Trading system (EU ETS), which aluminium is part of. To reduce the risk of carbon leakage, the EU has introduced carbon leakage measures to mitigate the actual risk of industrial closure and production decrease, namely free allocation for direct emissions and possibilities for Member States to compensate for CO<sub>2</sub> costs in the power price, via State Aid policy.

Given our electro-intensive nature, aluminium is particularly exposed to risk of carbon leakage because of the indirect CO<sub>2</sub> emissions costs (i.e. the CO<sub>2</sub>-price element passed on in power prices). Even Hydro, which is mainly based on non-emitting power sourcing has a substantial exposure to EU ETS cost through the carbon price incorporated in the power price, which is delinked from the electricity generation's greenhouse gas footprint.

In addition, Hydro is also exposed to carbon leakage risk due to our direct emissions. To shield the aluminium industry a carbon exposed sector, free allocation, up to calculated benchmark levels, serves as an instrument to reduce the risk of carbon leakage.

We are of the opinion that the existing measures are the most adequate carbon leakage protection measures for aluminium production in Europe, as they shield European producers from high carbon cost exposure which other global producers do not face, and thus ensuring a better level playing field between European and other producers.

## **2 Carbon border measure is not an adequate alternative carbon leakage measure for aluminium**

The IIA specifies that CBAM is to be an alternative to existing carbon leakage measures, namely free allowances and indirect CO<sub>2</sub> costs compensation.

- The assumption that CBAM can be a carbon leakage measure in general must rest on the assumption that the tax will increase the price level on European products, and thus represent an opportunity for European producers to pass CO<sub>2</sub>-cost onto the product prices - an opportunity that does not exist today for aluminium. For CBAM to truly be a carbon leakage measure, the price effect should be 1-1 with the tax level. But whether such a price effect will be realized, will differ from market to market and product to product.
- Therefore, introduction of CBAM does not automatically imply increased carbon leakage protection, neither for indirect emission costs nor for direct emissions. The carbon leakage protection will depend on the degree of price effect from the CBAM, which again depends on the market and marginal importers of each product along the value chain.
- Furthermore, for a CBAM system to work, it would need to cover the whole value chain, upstream and downstream. If this would not be the case, customers buying primary aluminium might have an incentive to move downstream production out of Europe to avoid the effects of

the tax. Then the effect of CBAM would be lower primary aluminium demand in Europe and moving out of downstream production, and thus CBAM would have clear negative consequences.

## 2.1 For aluminium, a CBAM based on carbon content of imports *cannot* be a sufficient measure for carbon leakage protection for the following reasons:

- **Indirect CO2 costs** - The biggest carbon leakage risk for European electro-intensive industry is indirect CO2 costs (the CO2-price element in power prices), see figure 2. Globally, it is only the European aluminium industry that faces such indirect CO2-costs. For primary aluminium, the indirect costs are 6-7 times larger than the direct costs.
- **Electricity market price setting** - Indirect CO2-costs depend on the specific price setting mechanism in the European electricity market and do not result from the physical fuel mix nor from its carbon content. For instance, Norway has almost 100% renewable electricity production, but still has a 'price effect' of the CO2-price on electricity price by 0,67<sup>1</sup> on all the electricity that industries consume. In other words, indirect CO2-costs are not correlated with indirect CO2- emissions.
- **Indirect emissions vs indirect costs** -Therefore, setting a CBAM on *indirect emissions* will not mitigate the carbon leakage risk linked to *indirect CO2-costs* for European aluminium producers. Hence, if a CBAM should be introduced for aluminium, it is essential that CO2-compensation is kept alongside the CBAM.
- **CBAM vs CO2 compensation** - The difference between CBAM and CO2-compensation can be illustrated as follows:
  - On average, there is a high carbon footprint in aluminium imported to the EU, and a CBAM means there will be a CO2 cost levied on imports. The potential price effects from the CBAM will however be based on the marginal importer. It is not unlikely that for primary aluminium, this will be Middle East producers. This production has a carbon footprint from indirect emissions that are higher than the European emissions, see figure 3.  
If a border mechanism carbon cost is calculated based on the emission level above the European average, this will mean a CO2-cost on imports from the Middle East. This cost level and potential price effect will however be far below the carbon leakage protection in CO2-compensation, see figure 4. If CO2-compensation, given at 75% aid intensity in the illustration, is replaced with CBAM in this case, this will mean that carbon leakage protection for European aluminium industry is wiped out, see figure 5.

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<sup>1</sup> Cf annex IV of the 2012 Guidelines on certain State aid measures in the context of the greenhouse gas emission allowances trading scheme post-2012 for the CO2 emissions factors in the different geographical areas (tCO2/MWh): [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012XC0605\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012XC0605(01)&from=EN)

Figure 2: Comparison of direct and indirect CO<sub>2</sub>-costs for different industries  
Source: Ecofys (2015)

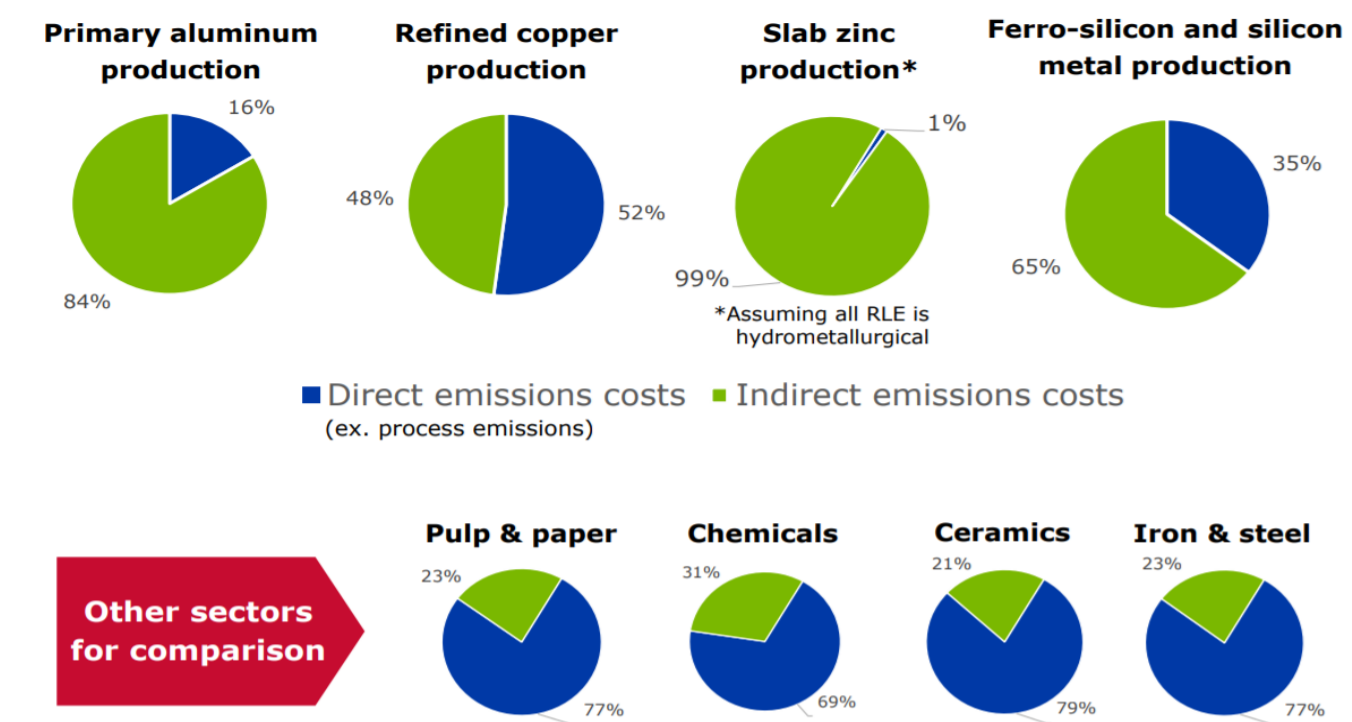
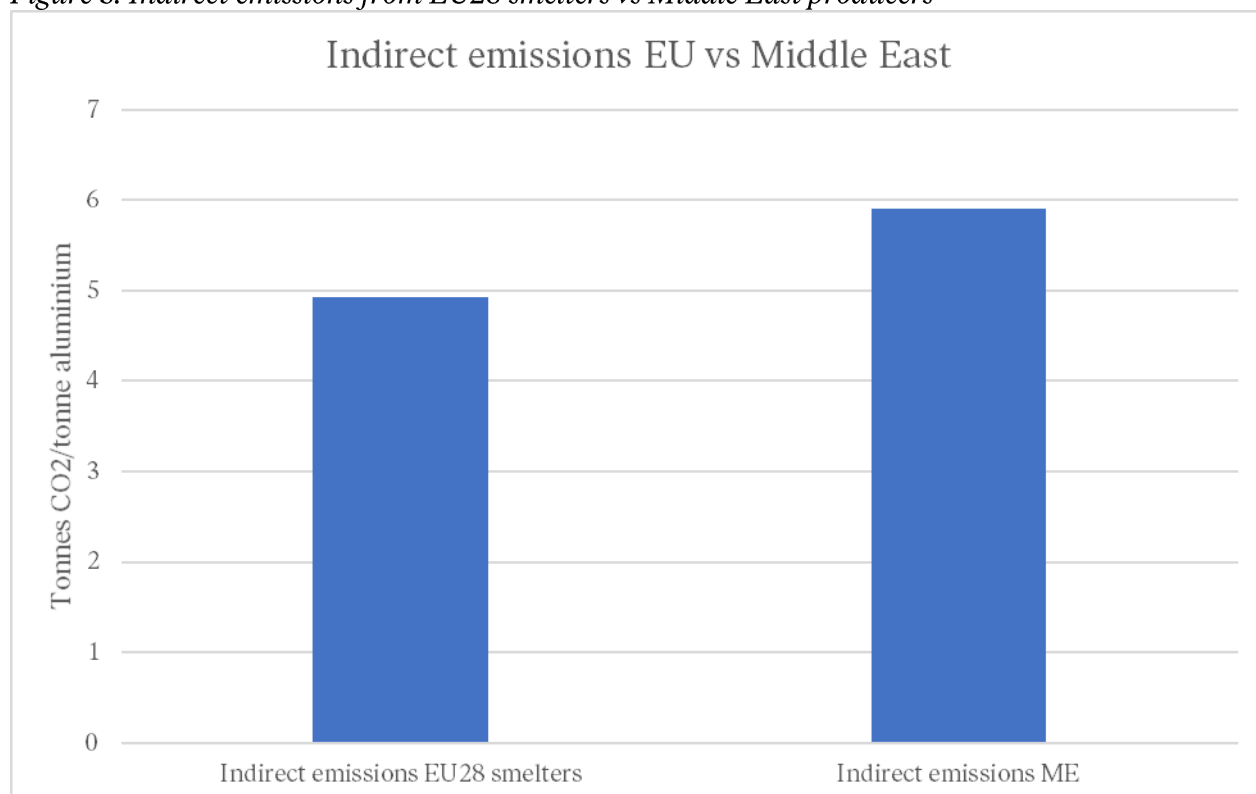


Figure 3. Indirect emissions from EU28 smelters vs Middle East producers<sup>2</sup>



<sup>2</sup> Assumptions for calculations: CO<sub>2</sub>-price 25 EUR/tonne CO<sub>2</sub>. Theoretical emission factor 0,6. Data for emissions based on CRU.

Figure 4. CO2-compensation at 75% aid intensity and CBAM-effect

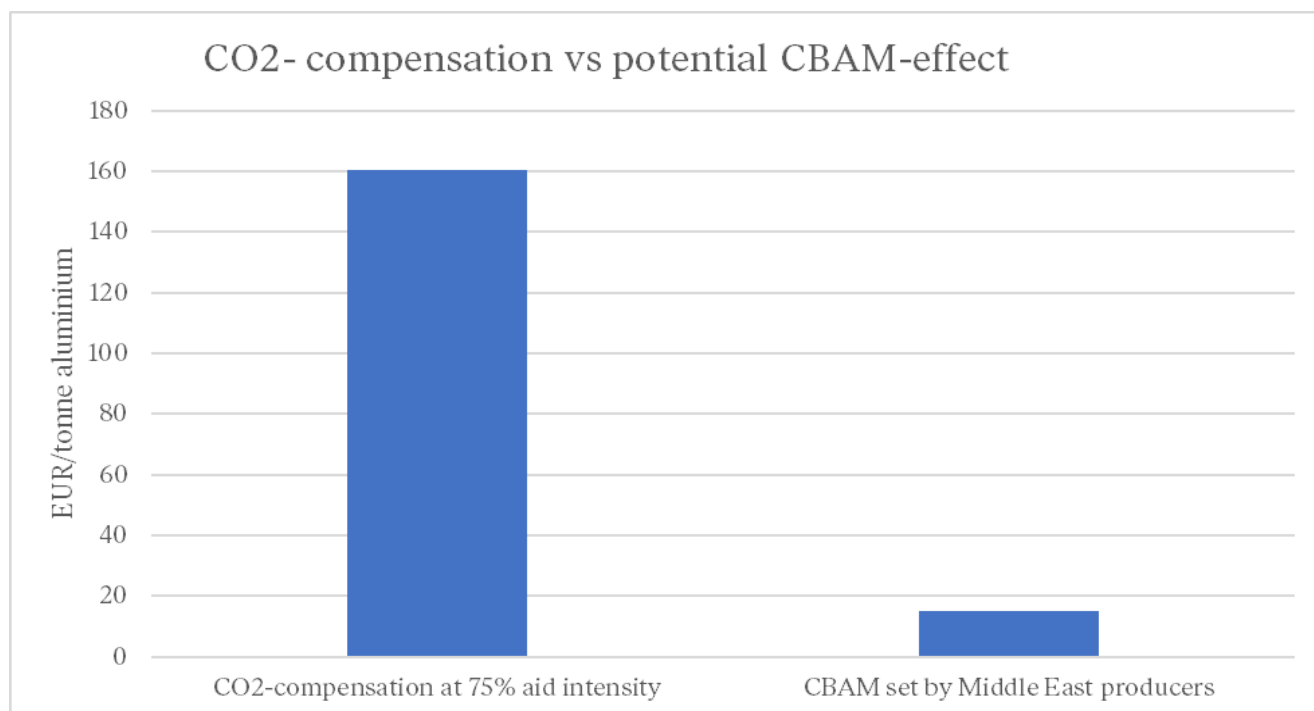
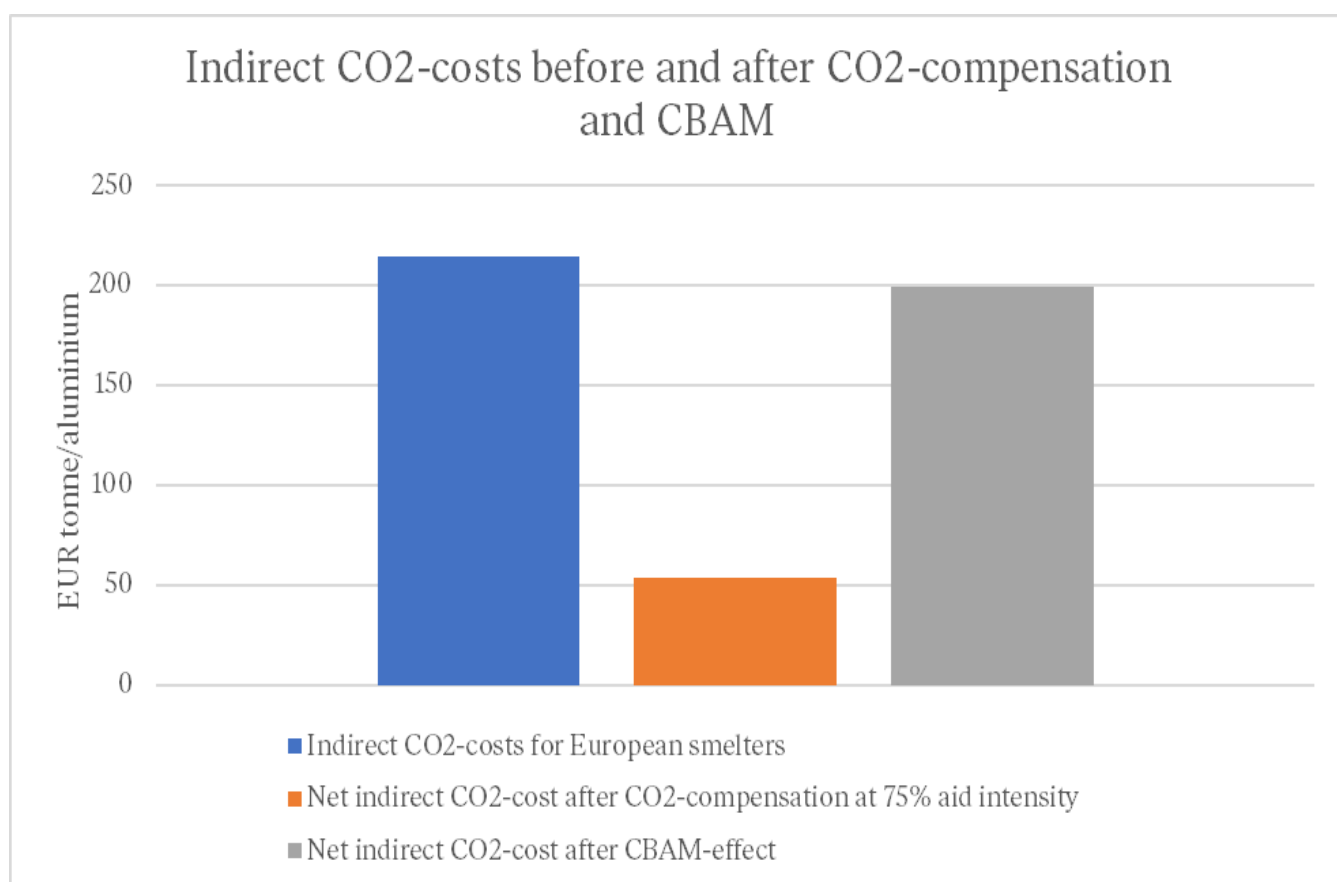


Figure 5. Effect on indirect CO2-costs of CO2-compensation and potential CBAM-effect

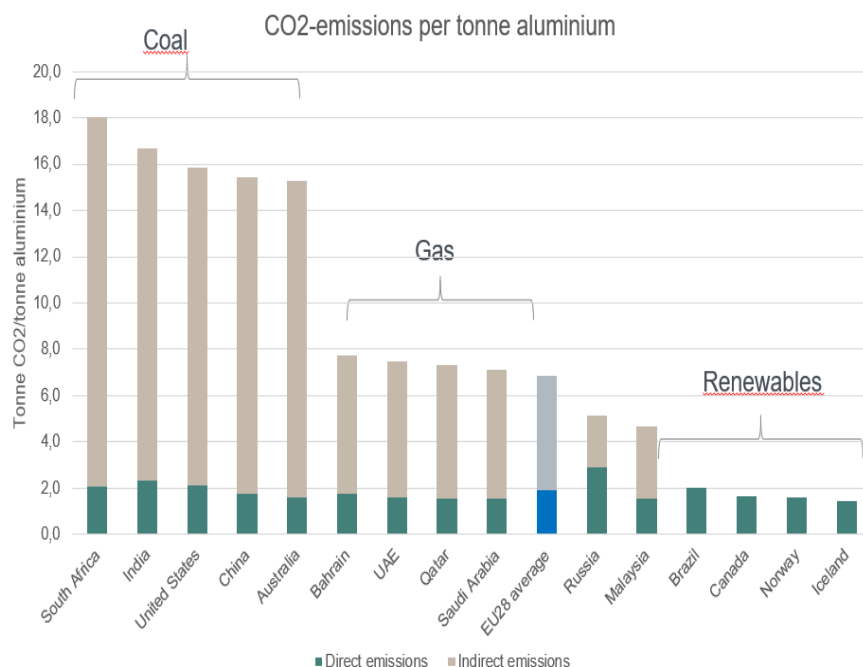


# Annex – design of a CBAM for aluminium

## 1 If a CBAM is introduced, it should be designed to create a competitive advantage for low-carbon producers

While addressing a level playing field of CO<sub>2</sub>-costs, ETS and carbon leakage measures do not give any competitive advantage to low-carbon producers and do not impose any CO<sub>2</sub>-price for imported products. EU industries have relatively low carbon footprint compared to international competitors due to the low-carbon electricity production in Europe versus other countries, especially China with its high degree of coal fired power production, see figure 1. There is, however, no competitive advantage versus other regions with higher CO<sub>2</sub>-emissions in production. Today EU's imported volumes of industrial products have a higher carbon footprint and at the same time most of the imported goods are produced in countries or regions with either no CO<sub>2</sub>-costs or a very low carbon cost compared to Europe.

Figure 1: CO<sub>2</sub>-footprint in primary aluminium, Hydro and European average vs global average



- Small differences in direct emissions
- Global production has considerably larger CO<sub>2</sub>-emissions from indirect than European industry
- None outside Europe face any costs related to carbon content in power prices



## 2 How should a CBAM be designed to fit aluminium

As explained in the previous paragraph, we are of the opinion that a carbon border measure is not an adequate carbon leakage mitigation measure for aluminium. If a CBAM should be introduced, it cannot replace current carbon leakage measures. It could be an additional tool to create a competitive advantage for low-carbon producers. In addition, if such a measure is to be introduced and be effective for aluminium, it needs to be carefully designed to avoid unintended effects with negative implications for industrial competitiveness. If not appropriately designed, such a measure could undermine rather than support the European aluminium industry.

**A model for an adequate carbon border tax adjustment-system for the aluminium sector should include the following criteria:**

- **A CBAM system should be designed to create a competitive advantage for low-carbon products and producers**

The purpose of a CBAM should be to add CO<sub>2</sub>-costs to high carbon imported products. This could create a competitive advantage for European producers with lower carbon footprint and give incentives to other producers to reduce their footprint to access the European market.

Adding CO<sub>2</sub>-costs to imports does not automatically constitute a carbon leakage protection for European industry, and CBAM should therefore not be considered a carbon leakage measure.

- **Current carbon leakage measures need to be preserved**

Both free allowances and indirect CO<sub>2</sub>-compensation must be continued alongside a CBAM-system. There is no certainty that a tax imposed on products will result in carbon leakage protection – that will depend on to what extent the tax allows European producers to pass on the CO<sub>2</sub>-costs into product prices. In addition:

- 1) EU Free allowances: If products in CBAM should be taxed for emissions above ETS-benchmark level, we would still nevertheless need free allowances to achieve a level playing field globally. Taking away free allocation up to the benchmark would lead to an additional carbon exposure for European industries that the importer will not face.
- 2) Indirect CO<sub>2</sub>-costs for European industry are not correlated with indirect CO<sub>2</sub>- *emissions*. Therefore, **setting a CBAM on indirect emissions will not mitigate the carbon leakage risk linked to indirect CO<sub>2</sub>-costs**. Hence, it is essential that CO<sub>2</sub>-compensation is kept alongside a CBAM. As a CBAM does not imply carbon leakage protection for aluminium, keeping existing CO<sub>2</sub>-compensation would not create double compensation.

- **A CBAM system needs to cover both direct and indirect emissions**

What differentiates carbon footprint of aluminium production globally is the indirect emissions (linked to the electricity consumption) in primary aluminium production. Hence, a system focusing only on direct emissions would not have the intended effect.

- **A CBAM system needs to cover the whole value chain, upstream and downstream**

A CBAM system would work effectively if the system encompassed products from primary metal down to the final product. If this is not the case, customers buying aluminium might have an incentive to move downstream production out of Europe to avoid the effects of the tax.

- **A CBAM system should focus on including emissions of the primary production**

The electrolysis process is where there are large differences in CO<sub>2</sub>-emissions in aluminium production globally, due to differences in indirect emissions. Other parts of the value chain have much less variation in emissions. The main focus should therefore be to include the carbon footprint of the primary metal embedded in all aluminium products throughout the downstream value chain.

### **System requirements necessary to facilitate CBAM:**

- **We need a legitimate system for disclosing carbon content of each product**

Today, there is no common system for disclosing the carbon content of imported products. A CBAM would therefore require a system able to disclose:

1. the carbon footprint of the primary metal of the product based on the production location
2. what is the actual metal content in the product

-The system needs to be certified, based on an international transparent and traceable monitoring, verification and reporting scheme to compare direct and indirect emissions across countries or installations

-The system should not create an administrative burden for industries

- **The system needs to be WTO-compliant**

Aluminium is already highly politically exposed due to US Section 232 tariffs and the subsequent retaliatory actions. Introduction of CBAM could trigger WTO complaints against the EU by third countries and also some retaliatory trade measures.

**All these criteria need to be fulfilled for a CBAM system to have a global climate effect and protect competitiveness of European industry.**