October 2020

Memo: Carbon Border Adjustment Mechanism (CBAM)

The Views of The Non-Ferrous Metals Sector

This memo, drafted by Eurometaux, the European non-ferrous metals industry association, to be submitted alongside our response to the public consultation, outlines the views of the non-ferrous metals industry – representing very electro-intensive sectors that in addition are price-takers faced with globally set pricing mechanisms – on the Commission's upcoming carbon border adjustment mechanism (CBAM) proposal. The memo begins in Section 1 by providing a brief background on the non-ferrous metals sector, particularly our market characteristics, electro-intensive nature and thus, exposure to indirect carbon costs. It then, in Section 2, outlines our position that we do not wish to be included in the list of pilot sectors for a CBAM. There are three main reasons for holding this position; i) we do not see a possibility to design a WTO compatible CBAM that covers indirect carbon costs (not indirect emissions), ii) our complex value chains and iii) possibility to system can be circumvented. We thus believe that an adequate indirects compensation scheme [1] and free allocation[2], not a carbon border adjustment mechanism, are a more optimal way to protect our sector from carbon and investment leakage in Phase IV of the EU ETS. While adopting the position that we would not like to be included in the CBAM measure, we nevertheless in Section 3 share our thoughts on some of issues being discussed around the measures such as i) the four CBAM policy designs raised section 6 (6.1 – 6.4) of the consultation, ii) the importance of an effective carbon disclosure system and iii) rebates for low carbon producers. We conclude in Section 4 by sharing our thoughts on the regulatory framework that is needed to achieve climate neutrality in Europe whilst maintaining an industrial base.

Contents

[1] Guidelines on certain State aid measures in the context of the system for greenhouse gas emission allowance trading post 2021, 21.09.2020: here
[2] Carbon leakage list for Phase IV (2021-2030): here

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I. Introducing the Non-Ferrous Metals Sector - 3 key facts to consider

I. European non-ferrous metals - An electro-intensive industry more exposed to indirect than direct CO2 costs

Non-ferrous metals production is extremely electro-intensive. Indeed, electricity represents 35-45% of the cost of the primary production for many metals. Given this, our indirect carbon costs are far greater than our direct carbon costs. For example, for primary aluminium, indirect costs are 6-7 times higher than direct costs. As prices for metals are set on global exchanges, e.g. the London Metals Exchange, higher production costs to electro-intensity puts the sector at a competitive disadvantage as profit margins are shrinking vis-à-vis third country producers and investments cannot take place. Further details on the challenges and complexities to compensate for the indirect costs of the EU ETS under a CBAM are given below.

II. European non-ferrous metals - lower carbon footprint compared to international competitors

The **European non-ferrous metals have a considerably low carbon footprint that our international competitors**. Vis-à-vis our main international competitor China, mostly due to the contrasting sources of power generation (China is largely coal based power generation) the EU's footprint versus China is the following[3]:

- **Aluminium**: Europe 7 tCO2 vs. China 20 tCO2 (2,8 times more carbon intensive than European production)
- **Nickel**: Europe 9 tCO2 vs. China 70 tCO2 (8 times more carbon intensive than European production)
- **Silicon**: Europe 3.4 tCO2 vs. China 11.6 tCO2 (3,4 times more carbon intensive than European production)
- **Zinc**: Europe 2.4 tCO2 vs. China 6.1 tCO2 (2,5 times more carbon intensive than European production)

III. European non-ferrous metals – a sector already experiencing carbon leakage

According to the European Commission's definition "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 one of, <u>if not the</u>, most exposed sector to carbon leakage as a result of the indirect costs of the EU ETS that translates to higher production costs to be covered by a commodity price that is applicable worldwide.

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 is being replaced by more CO2 intensive imports, whereas investments aimed at covering the increasing global demand for aluminium are also happening in order regions of the world, rather than the EU ('investment leakage'). Demand is increasingly being met by imports, whereas EU production is declining.

In particular, it should be noted that Chinese non-ferrous metals production has grown exponentially in recent years. Today, it represents almost 60% of primary aluminium compared to 12-15% just 15 years ago. The situation is similar for other non-ferrous metals[4].

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[3] Metals for a Climate Neutral Europe, a 2050 Blueprint, VUB Institute for European Studies, pg. 14: **here**

[4] Metals for a Climate Neutral Europe, a 2050 Blueprint, VUB Institute for European Studies, pg. 13: **here**

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II. Sectoral Scope: Why we would not like to be included in the list of pilot sectors

A. Criteria for choosing pilot sectors

The Commission's public consultation (Section 8 'Coverage of sectors') notes that it still needs to be decided which sectors should be included in the measure. In the recent inception impact assessment exercise, it says that a scoping will be undertaken to ensure that the "measure applies where the risk of carbon leakage is the highest". We would like that note that originally, a CBAM was designed to protect the 'most exposed sectors' from carbon leakage due to an increased 2030 GHG emissions reduction target. However, the *raison d'etre* for a CBAM seems to have evolved and changed in recent months to focus on sectors for which it is more feasible and less administratively complex to include in the CBAM measure.

Often these sectors have a low trade intensity and less complex value chains and are thus, administratively easier to include in such a measure. However, focusing on these sectors, does little to address the increased exposure of the most exposed sectors such as non-ferrous metals, due to the higher 2030 GHG target. If focus has been on protecting the most exposed this would have certainly included the non-ferrous metals sector. Indeed, as aforementioned the non-ferrous metals sector, due to i) it is high energy costs as a % of production and ii) it's price taker market characteristics, is one of, if not the most exposed sector to carbon and investment leakage. Indeed, carbon leakage is a phenomenon already occurring in our sector5.

The below graph gives the criteria that could be considered in assessing if a sector should be included in a CBAM measure:

	More Suitable for CBAM	Less Suitable for CBAM	Non-Ferrous metals situation
Trade Intensity	High trade intensity (But more complex)	Low trade intensity (But easier to design)	A very trade intensive sector with price taker market characteristics (Very complex trade flows however)
Type of emissions	Predominately direct emissions	Predominately indirect emissions	On average, indirect emissions tend to be much greater than direct emissions.
Ability to pass on regulatory costs	High ability to pass on the cost	No ability to pass on the cost	As price-taker sectors, non-ferrous metals have no ability to lpass on unilateral regulatory costs
Value chain	Simple/short/linear	Complex/Import of raw materials	Very complex value chains

Non-ferrous metal producers have no ability to pass on the CO2 costs to customers. EU non-ferrous metal companies shall cover the direct and indirect emissions cost by the same revenues as global competitors, which significantly reduces

[5] Indeed, since 2007, 10 out of 35 primary aluminium smelters have closed in Europe. 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.

the profit margins and increase the production cost. For our sector, CBAM applied on products entering the EU market will thus not protect against the reduced global competitiveness. This is better achieved by the system of free allowances and indirect cost compensation.

In contrary, sectors that have the ability to pass on the CO2 cost to the product price face unfair competition at the EU market by under-priced imports or dumping. For these sectors the CBAM could ensure that the price of imports reflect the carbon content and prevent loss of EU market share.

Despite our highest exposure, we would not like to be included in the list of sectors for a CBAM. Instead, we believe that an adequate indirects compensation scheme and continuation of free allowances are the optimal way to slow-down carbon and investment leakage in the electro-intensive industry. We are open to being assessed by the Commission in its impact assessment but having carried out own internal impact assessments on what a CBAM would mean for our sector, do not believe that it is a suitable instrument to achieve its objectives (ideally preventing carbon leakage for our sector).

In brief, the non-ferrous metals are not suitable for this CBAM measure. We are highly dependent on the import of raw materials for our product, our value chains are too complex, and our indirect emissions are far greater than direct emissions. In the next section, we go into this in more detail.

B. 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[6], 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.
- Indirect CO2 costs in Europe vary between regions and Member States7, making it impossible to be set at the EU level.
- As further explained in section 2B III, 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

[6] For more information, see Annex II of the ETS Guidelines. In the Guidelines, there are X different zones with different pass through factors
[7] See Annex III of the ETS State Aid Guidelines

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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, CO_2 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 NFM 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 dynamics8.

Thus, we believe that the current indirect compensation system, which targets each Member States' level of indirect CO_2 costs, is the most adequate carbon leakage measure for indirect CO_2 cost going forward.

The impossibility to cover indirect costs in a WTO compatible manner

Besides the differences between CO_2 costs in power prices in Europe and calculating indirect emissions on imports, a second major challenge is how to design an EU level for CBAM on indirects. There are different CO_2 emission pass through rates across Member States and consequentially indirect costs vary within the European regions[9] with no one unique EU cost factor.

Due to the inherited differences between a CBAM on imports based on carbon content compared to CO_2 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 compatibility 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; and (3) they form strategic links with the rest of the energy intensives industries in downstream applications.

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[10], 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

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[8] Electricity markets elsewhere are not based on marginal pricing as in the EU, and do not have CO_2 costs passed on in electricity prices. Thus, there are no equivalent indirect CO_2 cost factors outside the EU that could be used as a basis for CBAM

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

[10] 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

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combination of chemical reactions to separate the metal from the rest of the elements. [11] 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).

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.

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. 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

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

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aluminium production is based on coal-fired electricity generation, whereas the remaining 10% is based on hydropower[12]. 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. 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 our sector the introduction of a CBAM would create more carbon leakage that exists today and thus, would not like to be included in the list of pilot sectors.

III. CBAM Design

While, as aforementioned, we do not believe CBAM to be the optimal measure for our sector, we would still like to provide some comments on the measure itself.

A. Options listed in the Consultation

While we do not believe we should be one of the sectors included in the CBAM measure, we would still like to outline some of our thoughts on the design of the system listed in section 6 of the public consultation. In brief, of the 4 options listed in section 6.1 – 6.4, option 6.1, a tax applied on imports, would seem to be the least worst option if applied for direct emissions (As aforementioned, we do not think a system can be design to cover indirect costs). We would also like to note that we do not consider option 4, a carbon tax, a CBAM, but a policy measure with a different objective and thus, it is not assessed in this context.

Options 6.1 – 6.4 of Consultation

I. **Option 6.1 – 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 a customs duty on selected carbon intensive products:**

Of the 4 options mentioned in the consultation, this would seem the most reasonable approach. It seems to be closest to mainstream definition of what a CBAM is and is clearer and simpler than the other listed alternatives.

A tax on imports based on carbon content, and with reference to the ETS EUA price could function, if it were limited to direct emissions only. However, it would not be a sufficient carbon leakage measure for indirect carbon costs, as aforementioned, there is a difference between carbon content (emissions) and the impact of carbon costs in power prices.

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

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II. Option 6.2 - 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.

We interpret this option as the importer should buy ETS allowances corresponding to their carbon footprint under the current EU ETS framework and cap.

This would effectively mean that the EU ETS cap would be reduced, as part of the emission allowances would then be used to cover emissions in other countries. This would increase European CO2-prices as there will be higher demand, and thus increase the CO2-cost risk for European producers. Overall, we would have concerns on the impact this may have on the ETS cap.

III. Option 6.3 - The obligation to purchase allowances from a specific pool outside the ETS dedicated to imports, which would mirror the ETS price.

We interpret this as the EU ETS cap for Europe will be maintained. This would mean that EU would set a given import restriction on imported carbon, and it is not clear how this "import ETS cap" should be set. More importantly, the price would "mirror" the ETS price. But depending on demand, the price could differ significantly from the ETS price. If the import ETS price is lower that the EU ETS price, the price effect the carbon cost for import would create in the EU market would not be enough to prevent carbon leakage.

IV. Option 6.4 - 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.

This option would represent a duty on both domestic as well as imported products, and would different between low and high carbon products, regardless of their origin. However, we do not see how this could offer any additional kind of carbon leakage protection from the cost stemming from the ETS.

It would represent a tax on all products, not a measure to pass on the ETS costs into product prices. Thus, EU producers would still need to pay the ETS costs not borne by foreign producers, which means that we would need to keep the carbon leakage measures in parallel. If you keep a sufficient level of free allowances and CO2 compensation at the same time as introducing the tax, this could offer some incentives for low carbon production by adding carbon costs to imports with a higher carbon content than domestic production. Overall, it could be an additional measure if free allowances and CO2 compensation are maintained, but it is not a carbon leakage measure and thus, could not replace the carbon leakage existing provisions.

The option seems to be similar to the "consumption charges" topic that is currently being discussed, with more possibility to differentiate on carbon content between producers. We elaborate on this in more detail in Section 4 'How to achieve climate neutral and maintain an industrial base'. In brief, looking ahead, if we want to achieve climate neutrality and keep energy intensive industry in the EU, governments will have to play a greater role. Looking ahead, in the medium to long term, new CO2 consumer taxes could have an important role to play and should be investigated. However, this potential CO2 consumer taxes are not a carbon leakage protection measure, but an instrument with a different objective which will contribute to achieve climate neutrality.

B. Other considerations

I. A legitimate system for disclosing the carbon content of each product

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. It is not clear whether the carbon footprint in a CBAM would be accessed at a country or installation level.

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With regards disclosure particularly for NFMs, a CBAM would require a new and harmonised system for determining and tracing carbon content in products. It would need to following:

i. **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
ii. **Metal content**: Details of the metal content in the product
iii. **Carbon content of the metal:** A system should be based on accumulated carbon emissions in each product during the life cycle, 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 based on life cycle assessment such as the ISO standard 14067 or the EU Product Environmental Footprint (PEF) which could be considered.
iv. **System of comparison**: A system to compare direct and indirect emissions across countries or installations
v. **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
vi. **Value chain traceability:** A system to trace the emissions throughout the value chain
vii. **Monitoring and verification:** A system for monitoring and verification in EU of the carbon content of imports
viii. **Verifying indirect emissions:** As noted in section 1, a CBAM on indirect emissions cannot replace measures to mitigate for indirect carbon costs. On the separate issue of verifying indirect emissions, several issues would need to be considered:
    a. Indirect emissions should be based on a documented physical link between electricity source and electricity consumption at installations. Virtual and financial mechanisms such as RECs or GoOs should not be used for disclosing carbon content of the electricity.
    b. A default for establishing a physical link to electricity consumption in the national electricity mix for each country. For installations that can prove a sourcing with specific power plants, there should be an opportunity to assess the carbon footprint of this sourcing specifically.

II. Rebates – exports out of the EU

One underlying problem with all of the options mentioned in sections 6.1 to 6.4 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 include from a CBAM.

III. A World Trade Organisation (WTO) compliant system and considerations of potential Third Party retaliation

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. The details must be taken into account in the Commission's upcoming impact assessment work.

IV. Regions with quasi-carbon pricing

While no regions of the world, have as ambitious a climate policy, nor as strong a carbon price on industry, as Europe, some regions do have some carbon pricing schemes, with others currently being planned. Thus, another issue which pertains to several of the options is that the level of the CBAM must be corrected for the domestic (and potentially fluctuating) CO2 price. If for example, we take the situation in Canada (Carbon pricing done at the provincial, not national level), any CO2 that exporters pay in their home countries/regions would have to be deducted from the CBAM, which adds additional levels of Link with the ETS

V. Link with the EU ETS

Many questions remain with regards how a CBAM would work with the ETS. Three comments we would have on this aspect are:

i. **ETS cap:** It should be constructed in a way that does not reduce the ETS cap, which would increase the CO2 cost risk for European industry;
ii. **ETS benchmarks should not be the reference**: The ETS benchmark for direct emissions in Europe will not reflect the full CO2 costs if a CSCF is introduced and due to the rules of dynamic allocation of free allowances. Thus, ETS benchmarks should not be used to determine the basis for CBAM;
iii. **Limitations of ETS benchmarks for covering the whole value chain:** The EU ETS benchmarks has been developed for industrial processes and have limitations to be used for tradable products at the border because they cover the emissions of only part of the value chain, for example, processes for production of liquid metal excluding upstream activities for material acquisition as well as downstream activities for processing and transformation of the metal such as casting, rolling, extrusion, etc down to a final product.

Elsewhere, section 2 of the public consultation asks about the role CBAM can play to achieve the EU objective of climate neutrality by 2050 and contribute to global climate efforts. Having investigated this issue in detail. We believe a wide variety of measures, beyond the existing carbon leakage measures, are needed. In the next section, we outline the regulatory framework with can facilitate the transition to climate neutrality while maintaining an industrial base.

VI. Distortions between sectors subject to CBAM and sectors not subject to CBAM

Another 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.

To illustrate this, we give the example of aluminium which competes with steel in the automotive and building sectors but also with other sectors like plastics and glass for packing. The situation is similar for other non-ferrous metals who are compete against other sectors. To take the case of aluminum, if hypothetically, the price of aluminium products increases compared to other metals such as steel because of a CBAM, the use of aluminium and a light weight and fully recyclable metal might be jeopardized. The result could be that customers end up choosing materials that are less impacted than aluminium but worse for the environment from a life-cycle perspective.

This will obviously lead to distortions between sectors that produce products that can substitute each other and customers might end up choosing materials that are less impacted than aluminium but worse for the environment from a life-cycle perspective.

VII. If electricity sector is included in CBAM, what would be the impact on Europe's electricity intensive sectors

As previously mentioned, a key feature of a properly designed CBAM is that it would allow sectors to pass on its CO2 costs to its customers, by both domestic and imported production in equal measure.

As the power price in all European power markets is set by the marginal power producer, usually a coal- or gas fired power plant, and as this sector is subject to very little competition from non-ETS countries, the electricity sector already passes on its CO2 costs to its customers. A CBAM paid by the very small volume of power imported into EU from non-ETS countries will in many regions probably not impact power prices as these imports are rarely the marginal source of

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power and thus rarely sets the power price. The situation and impact might be different in some EU border regions with imports however.

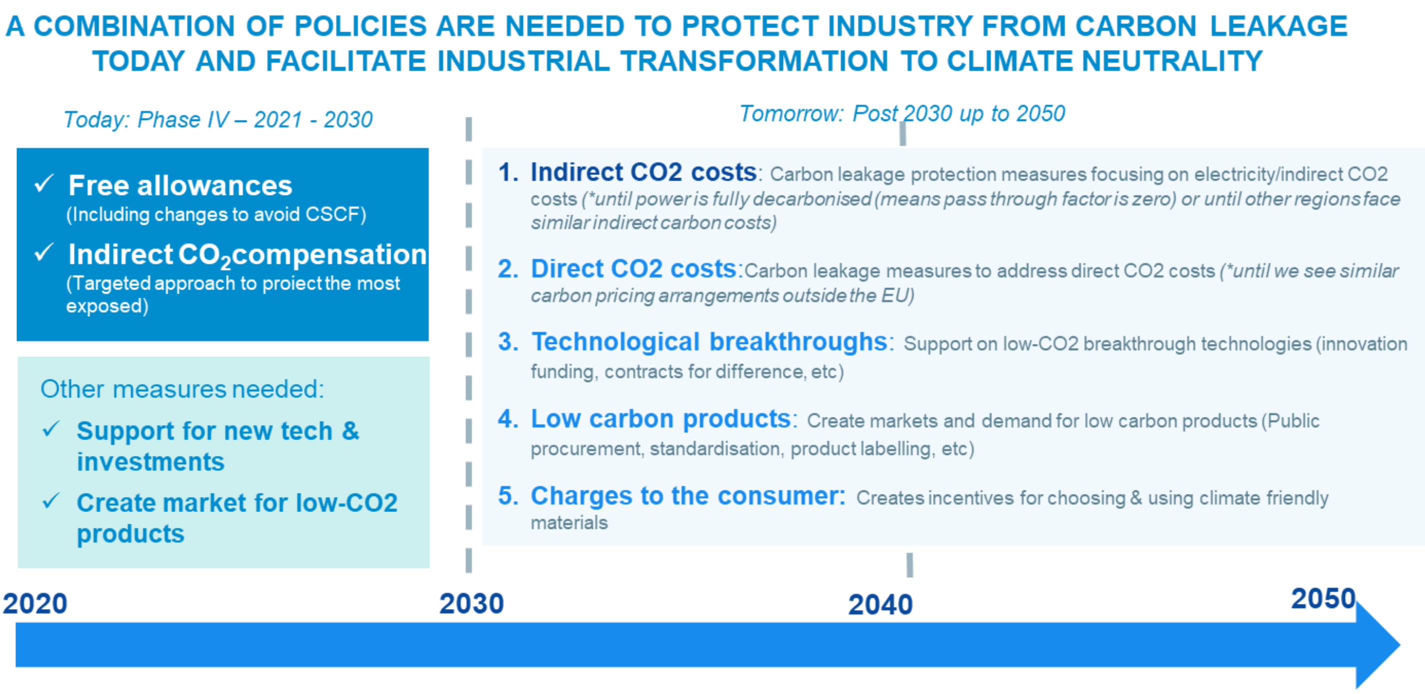
If, electricity imports would need to buy EUAs under the current ETS cap, it could in theory affect power intensive industries in EU. Requiring third country importers to buy EUAs would both increase the direct CO2-cost for industries that due to higher EUA prices, as well as increase the power price as a result of higher CO2-costs for power producers in the EU. In the short run, the small volume of current electricity imports (net import from third countries last year was 21 TWh, compared to about 2800 TWh production in EU/EEA overall) indicates that the effect would not be substantial with the exception of some border regions. With new cables to third countries and higher electricity imports the price effect on EUAs might increase. 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 the EU EUA market.

Elsewhere, with regards border regions, it would increase the price of electricity imports into countries covered by the ETS much more dramatically. These additional costs may need to be covered by indirect cost compensation, to reflect the pass-through of carbon costs from neighbouring countries. In this case, it would be important to note that these costs would not be created by the ETS itself, but rather by the CBAM.

IV. Achieving Climate Neutrality: A combination of policies need to protect industry from carbon leakage and facilitate the transition

Thus far, free allocation and indirect cost compensation measures have been directly aimed at mitigating carbon leakage risk for industry. Looking ahead to mid-century, a combination of policy measures is needed to prevent carbon leakage of industry whilst facilitating their transition.

Most notably these measures are:



Recently, as a member of the High-Level Group of Energy Intensive Industries, Eurometaux contributed to the industry transformation **Masterplan**. This document gives an outline of the framework conditions that are needed for the transition across the energy intensive industry. More recently, we published a report 'Metals for a Climate Neutral Europe: a 2050 **Blueprint**' which outlines what specific framework conditions the non-ferrous sectors needs in its transition.

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Annex

i. Applying a CBAM to cover Indirect Emission Costs: The Complexities

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). 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 0.6713. In practice, this means that every time the carbon price increases by €1/tCO2, the power price will increase by €0.67/MWh.

ii. Trade flows

Europe is nowadays heavily reliant on non-ferrous metals imports to meet the demand requirements.

When it comes to the upstream part of the value chain, European producers have a large import dependency of base metals ores. Indeed, the European Commission calculated a range of 60-82% import reliance of aluminium, copper, nickel and zinc. For silicon and ferro-alloys, imports represent more than 70% of total consumption.

The EU also has an important negative trade balance of unwrought metals. Non-ferrous metals imports into the EU heavily outweigh exports and have steadily increased in the past nearly two decades from 9.9 Mt in 2000 to 12.5 Mt in 2017. It should be noted that in most cases, this part of the value chain is the most electro-intensive and hence provide the largest added value in the production chain (around 80% in the case of copper production or 70% for aluminium).

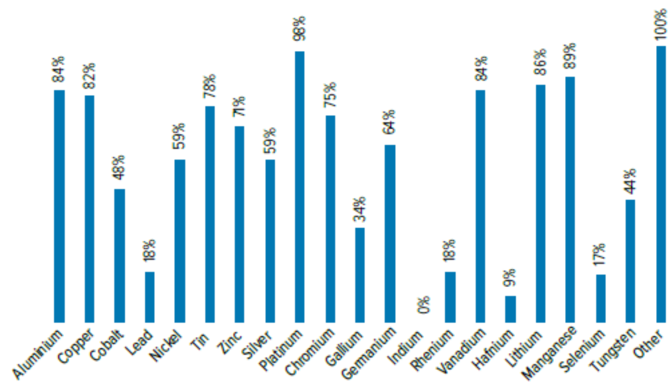
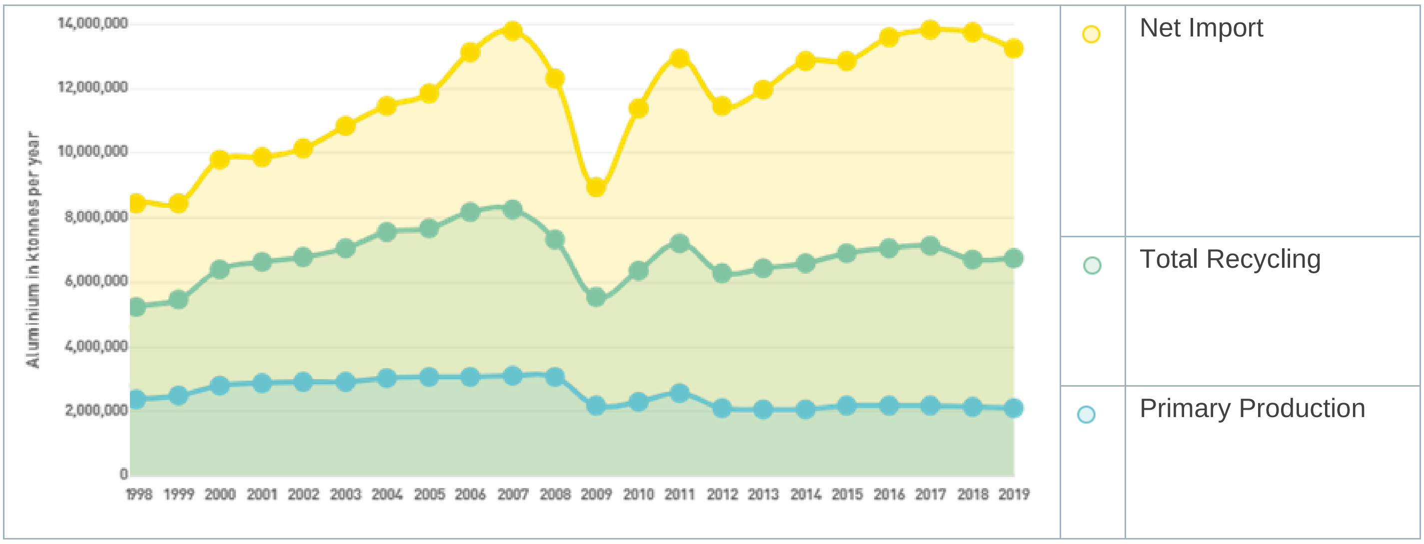


Figure 6: EU Non-Ferrous Metal Ores Import Reliance[13] Source: European Commission, 2018

In the case of aluminium, EU28 import approximately 50% of their primary aluminium. In recent years, Chinese exports of aluminium to EU28 countries have considerably risen, reaching more than 1 M tonnes today. These exports are focused on specific segments of the aluminium value chain, notably on semis and finished products like extruded products and structures or aluminium sheets and foil products.



[13] Please see 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

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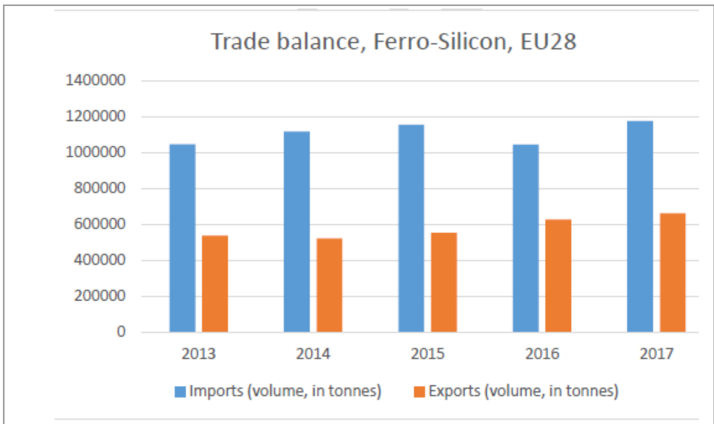
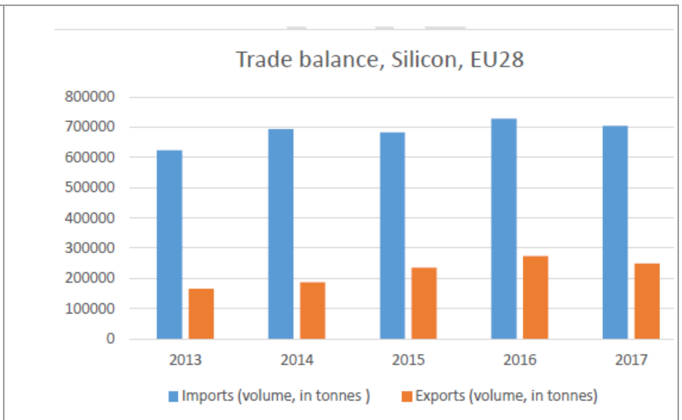
Copper follows a similar pattern. Europe's net imports of refined copper amount to approximately 470kt Considering finished products, China emerges as the largest global exporter of embedded copper, with net exports amounting to approx. 2.8 M tonnes of contained copper in finished products. While Europe shows a negative trade balance of 200 kt.

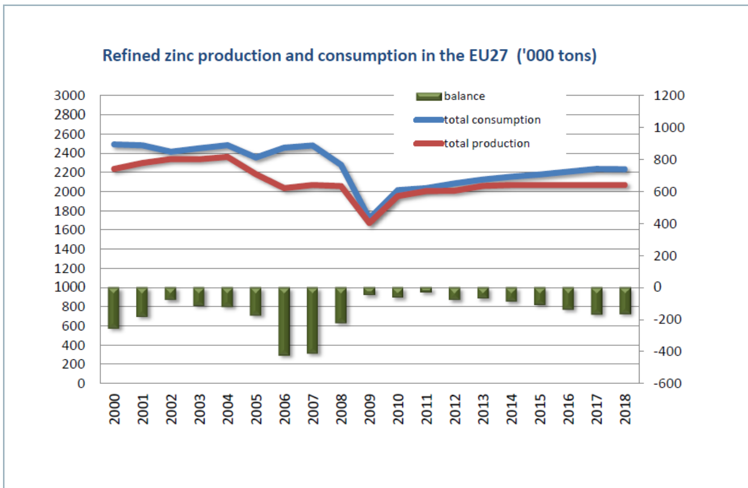
	Net Imports				
Region	Concentrate	Metal	Semis	Finished	Sum
China	3000 kt	3850 kt	50 kt	-2800 kt	4150 kt
Europe (EU28)	850 kt	300 kt	-300 kt	200 kt	950 kt
Japan	1150 kt	-350 kt	-100 kt	50 kt	700 kt
Latin America	-3350 kt	-3400 kt	200 kt	250 kt	-6300 kt
North America	-500 kt	350 kt	0 kt	1150 kt	1000 kt
Rest of the World	-1100 kt	-750 kt	150 kt	1200 kt	-500 kt

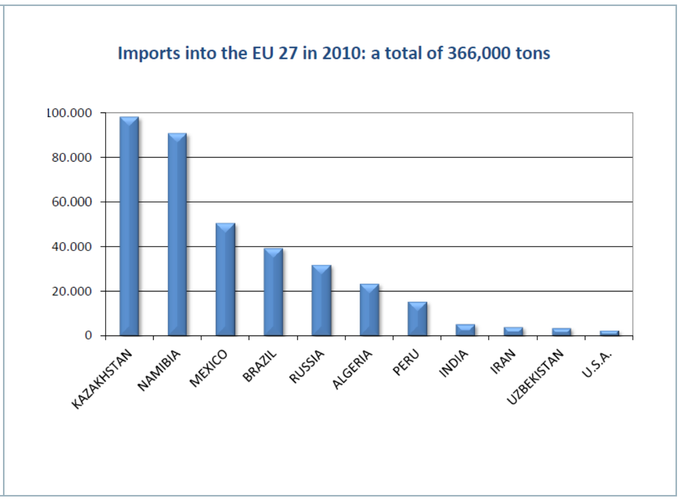
The European ferro-alloys and silicon industry is able to meet around one third of the European demand. The relative importance of imports versus exports is depicted in the graphs here after. As imports - often at unfair conditions - by far outweigh exports as well as domestic supply, the price pressure exerted by third countries' importers has generated the closure of a number of Europe-based plants over the past years. The remaining European producers have safeguarded a rather limited share of the market.





Zinc shows the same trend as its demand surplus is being met by imports from non-EU countries of approximately 200kt. These imports come from countries with more carbon-intensive production processes like Kazakhstan, Namibia or Mexico. For more information on the non-ferrous metals flows.





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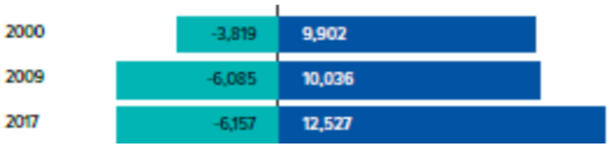
Imports per commodity

Europe is nowadays heavily reliant on non-ferrous metals imports to meet the demand requirements.

When it comes to the upstream part of the value chain, European producers have a large import dependency of base metals ores. Indeed, the European Commission[14] calculated a range of 60-82% import reliance of aluminium, copper, nickel and zinc. For silicon and ferro-alloys, imports represent more than 70% of total consumption.

The EU also has an important negative trade balance of unwrought metals. Non-ferrous metals imports into the EU heavily outweigh exports and have steadily increased in the past nearly two decades from 9.9 Mt in 2000 to 12.5 Mt in 2017.[15] It should be noted that in most cases, this part of the value chain is the most electro-intensive and hence provide the largest added value in the production chain (around 80%[16] in the case of copper production or 70%[17] for aluminium).

Base Non-Ferrous Metals trade balance (Mt, Europe)



- **Aluminium:** In the case of aluminium, EU28 import approximately 50% of their primary aluminium. In recent years, Chinese exports of aluminium to EU28 countries have considerably risen, reaching more than 1 M tonnes today. These exports are focused on specific segments of the aluminium value chain, notably on semis and finished products like extruded products and structures or aluminium sheets and foil products.
- **Copper:** Copper follows a similar pattern. Europe's net imports of refined copper amount to approximately 470kt[18]. Considering finished products, China emerges as the largest global exporter of embedded copper, with net exports amounting to approx. 2.8 M tonnes of contained copper in finished products. While Europe shows a negative trade balance of 200 kt.[19]
- **Silicon & ferro-alloys:** The European ferro-alloys and silicon industry is able to meet around one third of the European demand. As imports by far outweigh exports as well as domestic supply, the price pressure exerted by third countries' importers has generated the closure of a number of Europe-based plants over the past years. The remaining European producers have safeguarded a rather limited share of the market.
- **Zinc**: Zinc shows the same trend as its demand surplus is being met by imports from non-EU countries of approximately 200kt[20]. These imports come from countries with more carbon-intensive production processes like Kazakhstan, Namibia or Mexico[21]. For more information on the non-ferrous metals flows, see Annex **ii.**

Hence, given the increasing trend of coal-reliant imports in the lower stream of the value chain, if a CBAM were to be introduced to the non-ferrous metals, it would need to cover also semi and finished products to adequately address the risk of carbon leakage. However, there is a trade-off between effectiveness and technical feasibility. Tracing the embedded carbon emissions is much complex further down the value chain.

[14] European Commission 2018
[15] VUB-IES 2019, Metals in a Climate Neutral Europe. Accessible **here**.
[16] Aurubis guiding value, subject to minor changes in the treatment and refining charges.
[17] European Aluminium Market overview. Accessible **here**.
[18] Copper stocks and flows in the EU28. Accessible **here**.
[19] Visualizing global trade flows of copper: An examination of copper contained in international trade flows in 2014. Accessible **here**.
[20] Brook Hunt - WoodMackenzie
[21] Source: Business and Trade Statistics Ltd.

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iii. Different electricity market designs: Why regions outside Europe do not face indirect carbon costs

The below graph shows how, given the different market designs no regions outside of Europe facing indirect carbon costs

Regions with smelters	Million tonnes (2017)	Carbon regulation	Electricity price impact	Compensation indirect	Net CO2 Cost
Canada	2.9	Yes	No	N.A.	0
CIS	4.0	No	No	N.A.	0
Middle East	5.5	No	No	N.A	0
China	31	Yes	Uncertain	Uncertain, likely highly protect	0
Europe	4.4	Yes	Yes	Partial, degressive & unpredictable	Substantial

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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