14. September 2021

Introduction of a Carbon Border Adjustment Mechanism (CBAM) in the EU

Central Aspects of the EU Commission's proposal of 14/07/2021

The EU Commission proposed a Carbon Border Adjustment Mechanism (CBAM) for certain sectors in the European Green Deal in order to address the risk of carbon leakage if 'differences in levels of ambition worldwide persist' as the EU accelerates its reduction targets. Under the CBAM proposal published on 14 July 2021 by the Commission¹ (as part of a wider set of proposals for implementing the Fit for 55 Package), the same carbon price will be paid for the GHG emissions associated with certain imported goods as in the EU ETS. This briefing provides an overview of the design features of the CBAM and how it is expected to function.

The most important elements at a glance

- ► The EU Commission's main objective of the Carbon Border Adjustment Mechanism (CBAM) is to prevent the risk of carbon leakage via the regulation of the GHG emissions embedded in certain goods upon their importation into the customs territory of the Union. Furthermore, the CBAM is intended to strengthen the EU ETS and to encourage industry outside the EU and its international partners to reduce emissions.
- The CBAM seeks to replace current measures against carbon leakage: free allocation of EU allowances (EUAs) and financial compensation for indirect emission costs in electricity prices.
- ▶ The CBAM applies to direct GHG emissions associated with certain imported goods (basic materials and basic products) from the cement, electricity, fertilisers, iron and steel and aluminium sectors. Following a review, the scope may be extended to other sectors and / or to include indirect GHG emissions after 2025.
- The CBAM is proposed to start with a transitional period without financial obligations between 2023 and 2025. From 2026 on, importers are required to surrender CBAM certificates corresponding to the total embedded emissions in imported goods and will purchase these from a national competent authority. The CBAM price is based on average EUA auction prices from the previous week.
- ► It is envisaged to phase in slowly and to take over leakage protection from the current measures for the products covered. From 2026 onwards, free allocation shall decrease by 10% each year and be replaced completely by 2035. Double protection will be avoided during this transition by adjusting the number of CBAM certificates to be surrendered to reflect free allocation for certain goods.
- Imports from countries linked to the EU ETS are excluded. Further countries could be excluded in case agreements "ensure a higher degree of effectiveness and ambition to achieve decarbonisation of a sector".
- Some important design aspects will be clarified in subsequent implementing acts (e.g. on the detailed methods for reporting and calculating the surrendering obligation).

¹ https://ec.europa.eu/info/sites/default/files/carbon_border_adjustment_mechanism_0.pdf.

1 Key elements of the proposed carbon border adjustment mechanism

1.1 Objective

The objective of the Carbon Border Adjustment Mechanism (CBAM) is to prevent the risk of carbon leakage, i.e. the shifting of industrial production, investments and resulting emissions to jurisdictions with lower or no carbon prices via the regulation of the GHG emissions embedded in certain goods upon their importation into the customs territory of the Union. The CBAM is also intended to strengthen the EU ETS and to act as a policy tool to encourage the climate actions of third countries and the use of more emissions-efficient technologies by producers.

1.2 Transitional period

In order to allow businesses to adjust to the CBAM it is proposed to initially start with a transitional period without financial obligations between 2023 and 2025. During this time period, importers (referred to as authorised declarants) will be required to submit a CBAM report each quarter of a calendar year to a national competent authority. The CBAM report shall include information on the goods imported in terms of volume, embedded direct and indirect emissions and the carbon price due in a country of origin for the embedded emissions in the imported goods, which is not subject 'to an export rebate or other form of compensation on exportation.' Before the end of the transitional period, the Commission will collect the information necessary to extend the CBAM to other goods than those initially listed (refer to Table 1 in the Annex) and to develop methods to calculate embedded emissions. A report shall be presented by the EU Commission to the European Parliament and the Council before the end of the transitional period, by a legislative proposal.

1.3 How the mechanism works

The fundamental element of the proposed CBAM is that importers of certain goods will be required to surrender a number of CBAM certificates corresponding to their total embedded emissions taking into account a potential carbon price paid abroad and free allocation in the EU. A simplified overview of how the CBAM is expected to function is illustrated below in Figure 1 identifying the primary roles of the key actors.

The competent authority of each Member State will be responsible for setting up a registry to record the surrender of CBAM certificates by an authorised declarant based upon their CBAM declaration submitted by the 31st of May each year, for the calendar year preceding the declaration. The CBAM declaration shall include the following information:

- 'The total quantity of each type of good imported during the calendar year preceding the declaration, expressed in megawatt hours for electricity and in tonnes for other goods.'
- 'The total embedded emissions, expressed in tonnes of CO₂e emissions per megawatthour of electricity or for other goods per tonne of CO₂e emissions per tonne of each types of goods.'
- 'The total number of CBAM certificates corresponding to the total embedded emissions, to be surrendered, after the reduction due on the account of the carbon price paid in a country or origin and the adjustment necessary of the extent to which EU ETS allowances are allocated free of charge.'





Note:Arrows marked in blue will become relevant only from 2026 onwards.Source:Own illustration based on CBAM proposal by the Commission from 14th July 2021.

The competent authority shall sell CBAM certificates to authorised declarants. However, given that any CBAM certificates that were purchased during the year before the previous calendar year will be cancelled by 30th June of the following year, an authorised declarant can request before the 30th of June each year, for the competent authority to re-purchase the excess of CBAM certificates remaining on the account of that declarant but only up to one third of the total CBAM certificates purchased by the declarant during the previous calendar year. Furthermore, the repurchase price for each CBAM certificate shall be the price paid by the authorised declarant for that certificate at the time of purchase. Any CBAM certificates that were purchased during the year before the previous calendar year that remain on the accounts in the national registry of the authorised declarants will then be cancelled by the competent authority by the 30th of June of each year.

The price of CBAM certificates will be determined by the EU Commission, based upon the average price of the closing prices of EU ETS allowances on the common auction platform for each calendar week. The Commission will also provide oversight as a central administrator co-ordinating all of the national registries compiled by the competent authorities.

The customs authorities will only allow the importation of the goods if the declarant is authorised by the competent authority. They will also carry out controls on the product code (CN-code), quantity and the country of origin of the imported goods.

1.4 Scope

The CBAM shall apply to certain direct GHG emissions for products defined under the CN classification for the electricity, cement, iron and steel, fertilizers and aluminium sectors that are listed in Table 1 in the Annex. It covers CO_2 emissions as well as N_2O from the production of certain chemicals and PFC emissions from the production of aluminium. Initially, after the transition period has expired from 2026, the currently proposed scope will apply. In order to

expand the scope, a further legislative proposal from the COM is necessary in addition to the report (refer to 1.2).

Countries covered by or linked to EU ETS are excluded from the application of CBAM. Agreements with third countries could be considered as an alternative to CBAM 'in case they ensure a higher degree of effectiveness and ambition to achieve decarbonisation of a sector'².

1.5 Formula for calculating the CBAM certificates to be surrendered

The surrendering requirement is calculated as follows:

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Surrendering requirement = Embedded emissions – reduction for carbon price paid abroad – reduction for free allocation within the EU.
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The three elements are described below.

1.5.1 Calculation of embedded emissions for imports from third countries

Embedded emissions in goods other than electricity shall be determined based on the actual emissions distinguishing between 'simple goods' and 'complex goods'

• Simple goods

For calculating the installation specific value of the specified embedded emissions of a simple good, the following equation is to be applied:

Specified embedded emissions of the good (in terms of CO₂e per tonne) = Attributed emissions of the good / Activity level of the good

The attributed emissions refer to the part of the installation's direct emissions during the reporting period that are caused by the production process (within the system boundaries that will be defined in subsequent implementing acts pursuant to Article 7.6). The activity level refers to the amount of goods produced during the reporting period in that installation.

• Complex goods

For calculating the installation specific value of the specified embedded emissions of a complex good, the follow equation is to be applied:

Specified embedded emissions of goods (in terms of CO₂e per tonne) = (Attributed emissions of the good + embedded emissions of the input materials (precursors) consumed in the production process) / Activity level of the good

In addition to the previous calculation, a complex good also takes into consideration the embedded emissions of input materials consumed in the production process. Only materials listed as relevant to the system boundaries (that will be defined in subsequent implementing acts pursuant to Article 7.6) of the production process are to be considered.

Default values will be used to determine embedded emissions in goods other than electricity when actual emissions cannot be adequately determined. It is outlined in Annex III point 4.1 of the draft regulation that these values 'shall be set at the average emission intensity of each exporting country and for each of the goods listed in Annex I other than electricity, increased by a mark-up, the latter to be determined in the implementing acts of this Regulation.' If reliable data for the exporting country cannot be applied for a type of goods, the default values shall be instead based on 'the average emission intensity of the 10 per cent worst performing EU installations for that type of goods.

² <u>https://ec.europa.eu/info/sites/default/files/carbon border adjustment mechanism 0.pdf</u>, page 3.

Embedded emissions in imported electricity shall be determined based on 'specific default values for a third country, group of third countries or region within a third country, or if those values are not available, EU default values for similar electricity production in the EU'. The authorised declarant may also choose to determine the embedded emissions based on the actual emissions under particular circumstances.

1.5.2 Crediting of CO₂ prices paid abroad

The proposed regulation on the CBAM includes a provision to credit CO₂ prices paid abroad by the authorised declarant. Indeed, the number of CBAM certificates that are required to be surrendered by the authorised declarant may be reduced if there is sufficient evidence that the declared emissions are already subject to a carbon price in the country of origin of the good and that the associated carbon cost has been paid in the country of origin and cannot be subject to an export rebate or other form of compensation linked to the fact that the good is exported. The EU Commission is empowered to adopt implementing acts on the crediting of prices paid abroad including reporting requirements and further details such as the conversion rate of foreign currency to Euro.

1.5.3 Accounting for free allocation

The CBAM certificates to be surrendered shall be adjusted to reflect the extent to which installations within the EU producing the regulated products receive free allocation. The calculation methodology is not yet included in the proposal, the EU Commission shall be empowered to adopt implementing acts laying down the methodology.

The CBAM will progressively be phased in while free allowances in the sectors covered by the CBAM are phased out. This process is set to take place over ten years until 2035, with free allocation being reduced by ten percentage points each year (refer to "<u>EU ETS: Cap and MSR</u>").

1.5.4 Outlook on the inclusion of indirect emissions

At the beginning, the CBAM is set to cover only direct embedded emissions. Indirect emissions stemming from electricity, heating and cooling, which is consumed during the production process of goods are not included. This may change with the planned report that will be presented to the European Parliament and Council before the end of the transitional period.

That raises the question of the future of the electricity price compensation, which is currently implemented in 13 Member States and in Norway. The guidelines for these State aid measures (2020/C 317/04) do not reflect the CBAM proposal so far. They are foreseen to be checked after the revision of the EU ETS directive and the introduction of the CBAM (refer to Annex 9 of the impact assessment accompanying the proposal for the revision of the EU ETS directive).

2 Next steps and key issues for the political process

The European Parliament and the Member States will discuss the EU Commission's proposal in the context of the ordinary legislative procedure with a view to adopt a final text of the Regulation. The negotiations on the CBAM are formally separate, but politically closely interlinked with the negotiation of the ETS Directive going on at the same time. Because of the complex questions to be addressed, the legislative process may take up to 2-3 years. In the meantime, it can be expected that the EU will engage actively with other countries on the CBAM initiative and explore options for intensifying cooperation and collaboration.

Key topics for the political process:

- Phase out of free allocation for CBAM sectors: The CBAM is envisaged to replace free allocation for the products covered from 2026 onwards, however there will be a lengthy period where the two forms of carbon leakage protection will continue to exist side by side with one another (until 2035). Whereas some might question the phasing out of free allocation is too slow, others might be worried about risking the competitiveness of European energy intensive industry on foreign markets.
- Inclusion of indirect emissions: Based upon a review of data collected during the transition phase a decision will be taken on how indirect emissions embedded in certain goods can be determined and included in an extended scope of the CBAM from 2026 onwards. What will need to be considered in the development of such a methodology? The CBAM seeks to also replace compensation for indirect carbon cost how will this be reflected in the state aid guidelines?
- ► **Trade policy and WTO compatibility:** How will foreign trading partners react to EU's CBAM initiative? Has the EU Commission made sufficient effort to ensure that the CBAM does not violate WTO principles? How is the legal process in case of disputes e.g. on whether information on embedded emissions is deemed sufficient or whether (higher) default values will be used? How are carbon prices in the exporting jurisdiction credited for?
- Protection of EU exports: The Commission proposal provides no rebates to EU companies exporting to third countries. Will this result in a competitive disadvantage when free allocation is phased out? Can financial support for decarbonisation of European industries mitigate this risk? Will there be other ways to level the playing field for exports?
- Limits of carbon leakage protection: May the CBAM alter trade flows without reducing emissions? The introduction of the CBAM may provide an incentive for non-EU producers to re-route lower-carbon products to the EU and carbon-intensive products to alternative markets. Such a 'resource-shuffling' would not necessarily lead to a decline of global emissions. The CBAM could also have impacts further down the value chain, which need to be further analysed.
- Accounting for carbon prices paid abroad: The carbon price paid abroad shall reduce the number of CBAM certificates to be surrendered. CBAM certificate prices are based on fluctuating EUA prices. Which CBAM certificate price will the reduction in surrendering requirements be compared to? How will compensation/rebates in third countries be accounted for and what happens if the carbon price is higher than in the EU?
- ▶ **Dealing with policies beyond carbon pricing:** Only carbon pricing policies are recognised in the current proposal with the prices paid deducted from the CBAM. This could be seen as the EU forcing carbon pricing on third countries which would be in conflict with the bottom up nature of the Paris Agreement. Foreign countries might therefore complain that the EU does not consider implicit carbon prices.
- Agreements with third countries: The explanatory memorandum accompanying the CBAM proposal notes that 'agreements with third countries could be considered as an alternative to the application of CBAM in case they ensure a higher degree of effectiveness and ambition to achieve decarbonisation of a sector.' Could such agreements facilitate more global climate cooperation so that CBAMs are no longer necessary? How exactly could such agreements be implemented in practice, how would they relate to the "most favoured nations" principle in WTO and how would other countries, not subject to such agreements, react to this approach?
- CBAM simply a fiscal instrument? The fact that the EU Commission plans to assign most revenues from the CBAM to the Union budget (although this is only a proposal at this point) may lead to a negative reaction by EU trade partners who may regard the CBAM as simply a fiscal measure to enable the EU to pay off its debt. Trade partners might demand the use of revenues from CBAM for projects in their countries instead.

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Annex

Table 1 provides an overview of sectors and products that will initially be covered by the CBAM according to Annex 1 of the EU Commission's proposal.

Sector	CN Code	Description	Gas covered
Cement	2523 10 00	Cement clinkers	CO ₂
	2523 21 00	White Portland cement, whether or not artificially coloured	CO ₂
	2523 29 00	Other Portland cement	CO ₂
	2523 90 00	Other hydraulic cements	CO ₂
Electricity	2716 00 00	Electrical energy	CO ₂
Fertilisers	2808 00 00	Nitric acid; sulphonitric acids	CO _{2,} N ₂ O
	2814	Ammonia, anhydrous or in aqueous solution	CO ₂
	2834 21 00	Nitrates of potassium	CO ₂ , N ₂ O
	3102	Mineral or chemical fertilisers, nitrogenous	CO ₂ , N ₂ O
	3105	Mineral or chemical fertilisers containing two or three of the fertilising elements nitrogen, phosphorus and potassium; other fertilisers; goods of this chapter in tablets or similar forms or in packages of a gross weight not exceeding 10 kg - Except: 3105 60 00 – Mineral or chemical fertilisers containing the two fertilising elements phosphorus and potassium	CO _{2,} N ₂ O
Iron and steel	72	Iron and steel Except: 7202 – Ferro-alloys 7204 – Ferrous waste and scrap; remelting scrap ingots and steel	CO ₂
	7301	Sheet piling of iron or steel, whether or not drilled, punched or made from assembled elements; welded angles, shapes and sections, of iron or steel	CO ₂
	7302	Railway or tramway track construction material of iron or steel, the following: rails, check-rails and rack rails, switch blades, crossing frogs, point rods and other crossing pieces, sleepers (cross-ties), fish- plates, chairs, chair wedges, sole plates (base plates), rail clips, bedplates, ties and other material specialised for jointing or fixing rails	CO ₂
	7303 00	Tubes, pipes and hollow profiles, of cast iron	CO ₂
	7304	Tubes, pipes and hollow profiles, seamless, of iron (other than cast iron) or steel	CO ₂

Table 1:Overview of the sectors and products initially covered by the CBAM

Sector	CN Code	Description	Gas covered
	7305	Other tubes and pipes (for example, welded, riveted or similarly closed), having circular cross-sections, the external diameter of which exceeds 406,4 mm, of iron or steel	CO ₂
	7306	Other tubes, pipes and hollow profiles (for example, open seam or welded, riveted or similarly closed), of iron or steel	CO ₂
	7307	Tube or pipe fittings (for example, couplings, elbows, sleeves), of iron or steel	CO ₂
	7308	Structures (excluding prefabricated buildings of heading 9406) and parts of structures (for example, bridges and bridge- sections, lockgates, towers, lattice masts, roofs, roofing frameworks, doors and windows and their frames and thresholds for doors, shutters, balustrades, pillars and columns), of iron or steel; plates, rods, angles, shapes, sections, tubes and the like, prepared for use in structures, of iron or steel	CO2
	7309	Reservoirs, tanks, vats and similar containers for any material (other than compressed or liquefied gas), of iron or steel, of a capacity exceeding 300 I, whether or not lined or heat- insulated, but not fitted with mechanical or thermal equipment	CO2
	7310	Tanks, casks, drums, cans, boxes and similar containers, for any material (other than compressed or liquefied gas), of iron or steel, of a capacity not exceeding 300 I, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment	CO ₂
	7311	Containers for compressed or liquefied gas, of iron or steel	CO ₂
Aluminium	7601	Unwrought aluminium	CO ₂ , PFCs
	7603	Aluminium powders and flakes	CO ₂ , PFCs
	7604	Aluminium bars, rods and profiles	CO ₂ , PFCs
	7605	Aluminium wire	CO ₂ , PFCs
	7606	Aluminium plates, sheets and strip, of a thickness exceeding 0,2 mm	CO _{2,} PFCs
	7607	Aluminium foil (whether or not printed or backed with paper, paper-board, plastics or similar backing materials) of a thickness (excluding any backing) not exceeding 0,2 mm	CO _{2,} PFCs
	7608	Aluminium tubes and pipes	CO ₂ , PFCs
	7609 00 00	Aluminium tube or pipe fittings (for example, couplings, elbows, sleeves)	CO _{2,} PFCs

Source:

CBAM proposal by the Commission from 14^{th} July 2021.