

CARBON BORDER ADJUSTMENT MECHANISM

WHAT ARE THE CHALLENGES FOR COMPANIES?

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By [*Eulalie Saisset*](#) and [*Azilis Bas*](#)

Introduction

The European Union (EU) plans to reduce its greenhouse gas emissions by 55% by 2030 and to achieve carbon neutrality by 2050. On 14 July 2021, the EU presented the *FitFor55* package, a set of measures to achieve this goal. Among these proposals, **the Carbon Border Adjustment Mechanism (CBAM) targets the decarbonisation of industry** by ensuring that goods imported into Europe are subject to the carbon price charged on the European market [1]. **It seeks to avoid carbon leakage and remedy the distortion of competitiveness between European producers and those in countries implementing less ambitious climate policies.** The CBAM was adopted by the European Parliament and the EU Council in April 2023.

The CBAM applies to imported cement, fertiliser, steel and ferrous metals, aluminium, hydrogen, and electricity. A transitional phase of only reporting starts in October 2023, before the measure is fully implemented in 2026 when importers will have to purchase emission certificates corresponding to the carbon footprint of the imported goods. The pace of CBAM implementation will correlate with the phasing out free allowances from the EU Emissions Trading Scheme (EU ETS) by 2035.

This unprecedented measure appears promising **both from an environmental point of view, by contributing to climate objectives, and from an economic point of view, by mitigating the distortion of competitiveness** that weighs on European producers as the price of carbon rises. The expansion of its scope is awaited, to go beyond the coverage of a limited number of emitting raw materials. Beyond these direct impacts, which are currently limited by the small number of products covered, the CBAM might pave the way for a transformation of trade and climate governance at the global level.

The price of carbon has only really started to rise very recently

The EU ETS was set up in 2005. It is a carbon market that now covers around 45% of the emissions generated in the European Union [2]. **It operates on a cap-and-trade basis:** each year a total emissions cap is set for the covered installations. Companies must obtain emission allowances by trading them on the carbon market¹, and secure enough to match their annual emissions. Each producer can keep unused allowances for future needs or sell them to other companies.

The total cap on emission allowances decreases each year. The price of CO₂ is thus supposed to increase mechanically, to encourage companies to adopt decarbonised production technologies.

The European carbon market has been built up gradually through several implementation phases. While it originally covered only energy production and carbon-intensive industries, the aviation and more recently the maritime transport sectors have been included in its scope. The geographical scope has been extended to include Iceland, Liechtenstein, and Norway. At the same time, the system for allocating emission allowances has also evolved. In the early stages of the EU ETS, **the bulk of allowances were distributed free of charge to companies** to prevent a risk of competitiveness loss for European producers exposed to international competition. Due to this generous allocation, **the carbon price remained relatively low during the first phases of implementation.** From 2012 onwards, the definition of the total emissions cap and the allocation mechanism was largely revised to increase the share of allowances paid at auction. It has become even more restrictive under *FitFor55* to reach the -55% emissions target compared to 1990 levels.

The carbon market is only applied to high-carbon-emitting activities and thus coexists in many European countries with a carbon tax that covers individuals and small businesses.²

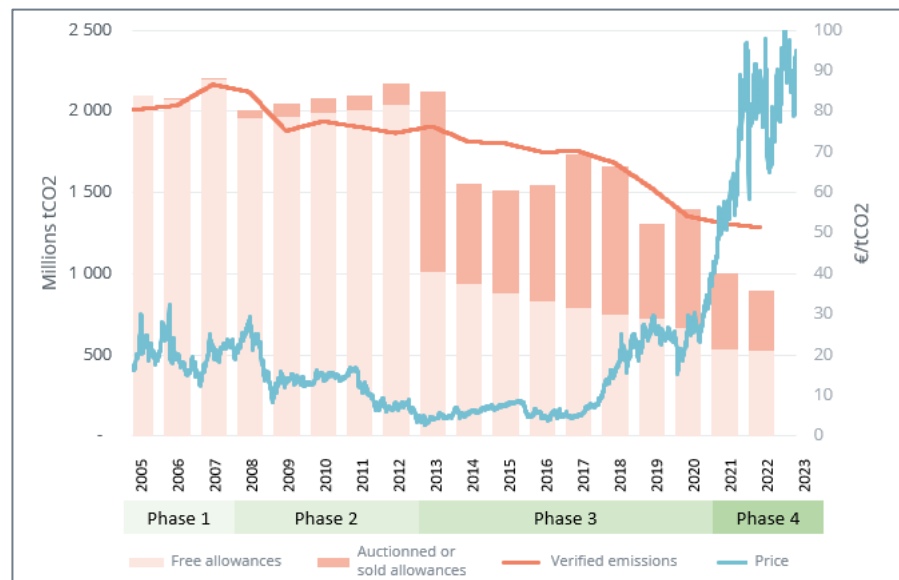


Figure 1 : Distribution of emission allowances during the first 3 phases of the EU ETS
Data: European Environment Agency & International Carbon Action Partnership

¹ The greenhouse gases covered by the carbon market are carbon dioxide (CO₂), nitrous oxide (N₂O) and perfluorocarbons (PFCs). For the latter, emissions are expressed as CO₂ eq.

² A carbon tax sets a price without controlling the quantities emitted. A carbon market sets a quantity emitted, without controlling the price resulting from the demand of market players. In Europe, Sweden is the only country to subject some of its large industrial installations to a carbon tax.

European industry faces risk of carbon leakage

The economic constraints imposed on companies by the gradual reduction of free allowances and the increase in the price of carbon pose the threat of carbon leakage if production in third countries were to replace European production³.

Carbon leakage: relocation of an activity with high greenhouse gas emissions to a country with less stringent environmental legislation. Such a move often leads to an increase in total emissions and erodes political support for measures that contribute to climate neutrality.

Furthermore, net imports of goods and services into Europe are estimated to account for between 20% [5] and one-third [6] of the continent's CO₂ emissions. **The EU has therefore decided to set up a carbon adjustment mechanism at the borders** to prevent carbon leakage and gradually replace free allowances. This should eventually lead to a full internalisation of the costs of global warming for the covered sectors. The CBAM foresees an initial levy on European imports of cement, fertilisers, steel and ferrous metals, aluminium, hydrogen, and electricity.

The mechanism must strike a balance between ambition and acceptability to ensure its effectiveness

The announcement of the introduction of a CBAM did not meet unanimous approval from European industry and the EU's trading partners. The debates preceding the European Commission's announcement highlighted the **difficult balance to be maintained in the implementation of the CBAM**. The measure impacts aspects of European climate and environmental policy (the Green Pact), trade, customs and taxation, but also budgetary and economic issues.

From the industry's point of view, the measure should primarily address the competitive distortion and limit the risks of carbon leakage. There was also some concern about the administrative burden on producers, who are responsible for measuring and reporting emissions.

From the trading partners' point of view, **the main objection raised was the compatibility of the CBAM with the free competition principles of the World Trade Organisation (WTO)**. Particularly, the non-discrimination principle of the General Agreement on Tariffs and Trade (GATT) requires identical treatment of imports and production in the territory concerned. However, there is currently no differentiation of products according to their environmental impact: two products are considered identical if they have the same inherent characteristics, regardless of their manufacturing process, and therefore their carbon footprint. Although the EU has emphasised its desire to design a mechanism compatible with WTO rules, several grey areas remain and could be challenged by other parties [7]. The EU's approach relies on Article 20 of the GATT, which contains exception clauses for environmental protection. **Regulation**

³ The literature tends to show that carbon leakage was not observed in the early phases of the EU ETS, when the price of carbon remained low ([3], [4]).



2023/956, published in the EU's Official Journal on May 16, 2023, sets out the application of the CBAM but does not dispel all doubts as to its acceptability and effectiveness.

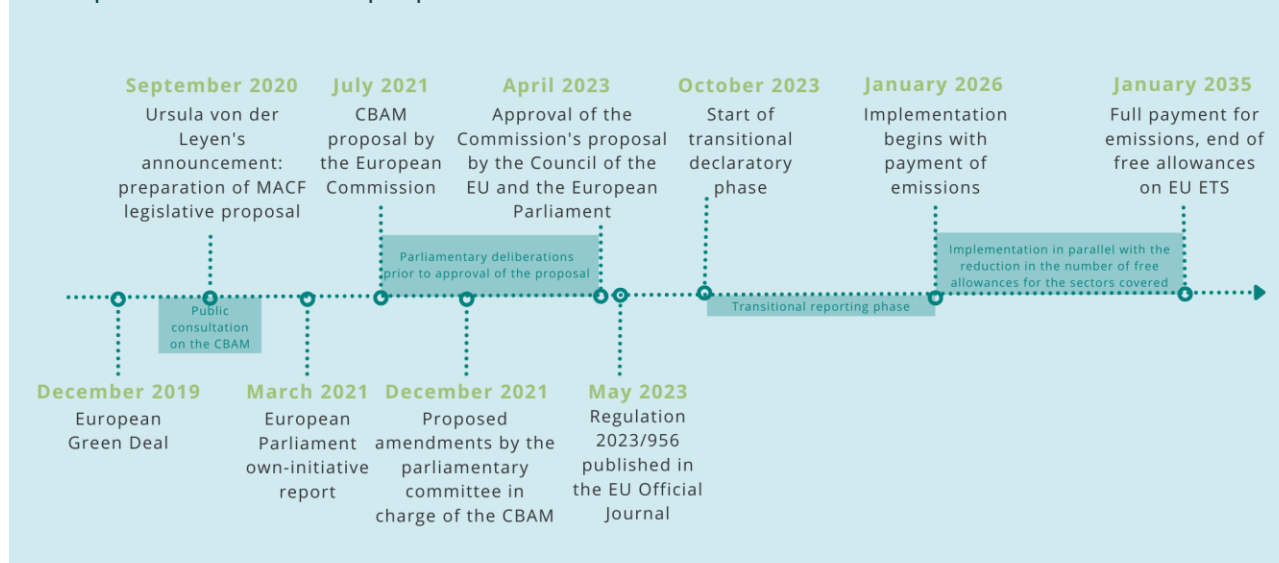
2 The EU proposes an incremental approach

The CBAM will gradually replace free emission allowances

At present, the CBAM is planned to come into force in a phased manner. During a transitional period (2023-2025), importers will have to comply with the emissions reporting requirements, but will not yet have to buy emission certificates. From January 2026 onwards, the measure will become permanent and they will have to pay the price of allowances to import goods into Europe, with the revenue generated going into the EU's budget. Replaced by the CBAM, free allowances in the carbon market will be phased out between 2026 and 2035. **Until then, the measure will only apply, in the sectors covered, to the proportion of emissions that do not benefit from free allowances.**

Timetable for the implementation of the CBAM.

The publication of the EU Regulation in the EU's Official Journal is the culmination of a long period of deliberation after the EU Council and European Parliament approved the European Commission's proposal of 2021.



Importers to pay for emissions rights in a parallel carbon market

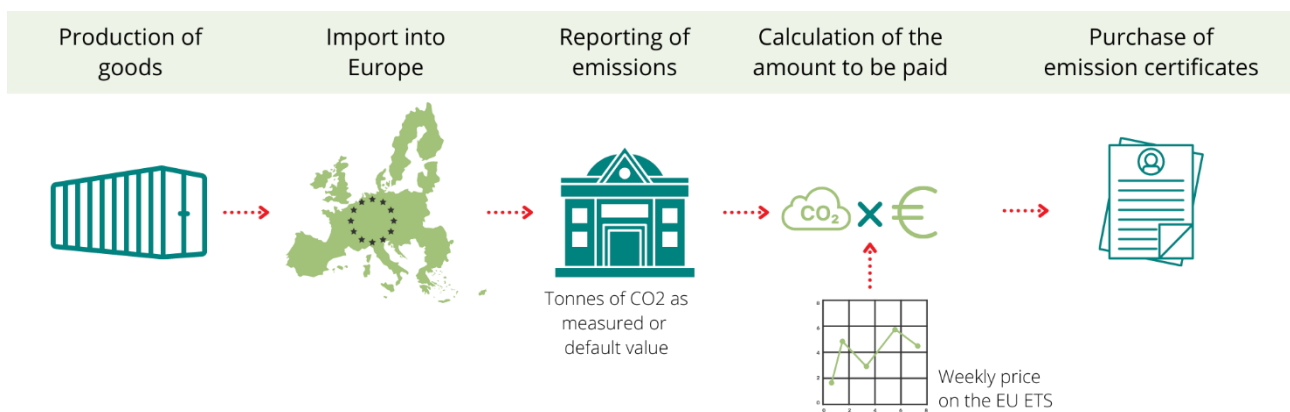
More concretely, **the CBAM has been designed as a "parallel carbon market"**: importers will have to pay for emission rights by buying allowances in a separate pool of the EU ETS. The weekly price will be the same as the price on the EU ETS at the time of import (adjusted for free allowances distributed by sector). The number of allowances to be purchased will have to cover the total emissions declared in the goods concerned. This system therefore ensures that a ton of carbon is charged at the same price whether the product is imported. Legally speaking, the



CBAM is not a customs duty or an import tax - which would have made the adoption process all the more complex [8].

If the importer is not able to report the emissions of the transported production and in the absence of specific data, a default value will be applied. This will be based on the average emission intensity of the worst-performing 10% of EU installations for this type of goods to encourage producers to measure their emissions. In addition, if importers can prove that a carbon price has been paid in the country of origin of the imported products, the allowance price would be reduced accordingly.

The administrative process will therefore ultimately be at the crossroads of the European carbon market and the application of product content regulations by customs authorities.



The European Commission chooses to start with the highest-emitting raw materials

The CBAM will apply to imported products and emissions included in the following scope⁴:

Sectors	Segment of the value chain	Scopes of emissions
<ul style="list-style-type: none"> • Cement • Aluminium • Steel and ferrous metals • Fertilisers • Electricity • Hydrogen 	<ul style="list-style-type: none"> • Raw products • Semi-finished products in some cases (including cast iron, steel and aluminium plates and bars, ammonia) 	<ul style="list-style-type: none"> • Scope 1 (emissions from industrial processes) • Scope 2 only for cement and fertilisers, still under study for other sectors (emissions from energy production)

For practical reasons, the CBAM proposed by the European Commission does not cover all sectors of the EU ETS, nor even all products in the value chain of the sectors covered. **It focuses on raw products, upstream in the value chain, and some semi-finished products in the sectors most at risk of carbon leakage for which the implementation of a CBAM is administratively feasible [1].** Especially, manufactured products down the value chain are not included and could become at risk of carbon leakage.

⁴ The full list of products and gases covered is available in Annex I of the proposal [1].

However, the EU's objective is clearly to extend this coverage to a wider range of products, in terms of targeted sectors, indirect emissions (scope 2), transport emissions and downstream products in value chains.

The expected effects on the covered sectors are still uncertain: European companies could see their production increase because they would be better protected by the CBAM, but their exports fall because of the gradual disappearance of free quotas. **The EU has therefore made numerous compromises to ensure that the measure works as ambitiously as possible while being compatible with WTO rules** in order to reduce the risk of legal challenges [9].

3 Industry must comply with CBAM

EU could transform international climate cooperation

Initial analyses of the potential impact of the CBAM on Europe's trading partners suggest that they would be only moderately affected. Especially, global exports may only decrease by a few per cent in the most at-risk sectors [10]. **The main effect would be to shift the burden of emission reductions to the least contributing countries to the climate transition.** However, some non-EU countries have been highly critical of the measure since the publication of the proposal, expressing concerns about the measure's WTO compatibility and threatening the EU with trade retaliation. Others, such as the US, Canada, and Japan, are also considering introducing similar border adjustment mechanisms.

By seeking to implement the CBAM, Europe is attempting to reconcile free trade with environmental policies. Furthermore, the exemption of imported goods subject to carbon pricing in their country of production could provide leverage serve as a lever in international negotiations to encourage the implementation of more proactive climate policies⁵. Becoming the first climate exception to trade treaties, the CBAM raises a fundamental question: **how will environmental issues shape global trade policy and governance in the future?**

In any case, the EU has an interest in maintaining dialogue with other countries. As climate change is not a zero-sum game, cooperation will lead to better results as support for mitigation policies gains momentum at the international level. In August 2022, 68 carbon pricing schemes were operating in the world, covering 70% of the world's GDP [11]. China launched its carbon market in 2021 (covering electricity generation for now) and Canada wishes to introduce a federal trading scheme (with several provinces already implementing their own). **These developments have reignited the debate on the creation of a climate club, in which large emitters would agree on a common minimum price for carbon.** Such a scheme would have many benefits, including protecting the export competitiveness of European producers⁶, reducing the risk of carbon leakage, launching concrete policies for the decarbonisation of the economy in countries that have announced a goal of carbon neutrality in the coming decades, and generating revenues to finance the energy transition of developing countries.

⁵ The Commission's current proposal would only consider explicit pricing of greenhouse gas emissions, overriding the Paris Agreement's principle that parties are free to choose the instruments to be used to achieve the targets set.

⁶ Once covered by the CBAM, the highly intensive sectors would be deprived of free allowances, which could weaken their activity on non-European markets [12].



By acting now, companies will limit the burden of the CBAM

Reactions provoked by the debates on carbon adjustment at the international level show that **carbon taxation mechanisms are likely to become established over time**. While the scope of the CBAM is currently limited to six carbon-intensive sectors, the European Commission is considering a gradual expansion of the mechanism to be considered at the end of the transition period. The Parliamentary Committee on the Environment, Public Health and Food Safety proposed broadening the scope of application to cover other sectors from the outset (organic chemicals, hydrogen and polymers) as well as indirect emissions (scope 2) and even imported products upstream of the value chains ([13], [14]). While not all the amendments proposed by the Committee were included in the final regulation, they do demonstrate an ambition to extend the CBAM.

It is also to be noted that if all **these expansions were adopted, they could affect the competitiveness of downstream sectors that use carbon-intensive products as inputs and will therefore have to anticipate a carbon price premium**. This would lead to a shift in carbon leakage down the value chain, particularly in manufacturing sectors where it is more difficult to pass on costs to final consumers [15]. For example, the steel and aluminium needed to build a car would be taxed on imports into the EU, whereas a car would not. It would then become more competitive - at least in the short term - to move production units out of Europe and import cars directly without carbon pricing.

It is therefore crucial for all the activities of the industry initially covered or potentially covered in the future to prepare for the major change represented by carbon adjustment at borders.

Currently, there is a broad political consensus in the EU on CBAM's key principles. However, it remains a complex mechanism and will affect producers, importers, and end-users differently.

Both inside and outside the EU, it is up to companies to assess their level of exposure and to take the lead through a few key steps:

- **Calculating carbon footprint from imports.** There are several methodologies and tools that need to be selected according to the activity under consideration. The default value determined on the basis of the least efficient installations will be penalising in many cases.
- **Assessing the footprint of suppliers and the impact of CBAM.** For producers downstream of value chains, it is essential that carbon costs are integrated into purchasing decisions. Actively seeking less carbon-intensive inputs will help to understand and reduce the costs associated with carbon adjustment.
- **Improve process efficiency.** Investing in more energy-efficient industrial processes or replacing high-carbon materials with low-carbon materials, will reduce the overall carbon footprint of a product, and therefore the impact of the tax. Investment choices will depend, among other things, on the cost of carbon, which is on the rise. The new regulatory environment will change the competitive dynamics of value chains: being ahead of the curve could prove to be a serious strategic advantage.



Conclusion

In July 2021, the European Commission presented a proposal for a carbon adjustment mechanism that aims to support Europe's climate change mitigation ambitions while preserving the competitiveness of European producers. This proposal resulted in a regulation published in the EU's Official Journal on May 16, 2023. The CBAM was even more expected as the price of carbon rose, particularly since 2021. **The measure taxes the carbon content of products imported into Europe and thus imposes European environmental standards on foreign companies exporting to the continent.**

To facilitate dialogue with third countries and to allow producers to anticipate this new legislative environment, the CBAM is phased in from October 2023. **It will initially apply to a limited number of high-emission products (cement, fertiliser, steel and ferrous metals, aluminium, hydrogen, and electricity) based on the direct emissions carried forward, part of indirect emissions (for cement and fertilisers), and the difference between the price of carbon on the European market and the price that would be paid in the country of origin.** Carbon costs passed down the chain of production should have an impact on companies not initially included in the CBAM scope.

This new administrative burden for producers must be considered without any delay. **This includes detailed carbon accounting of the entire supply chain**, with Europe's trading partners also being encouraged by the CBAM to implement similar measures.

The CBAM is a key element of European climate and economic policy, both in terms of achieving its carbon neutrality targets and in convincing third countries to do the same. As such, it will contribute to the debate on how to find the best compromise between global trade governance and climate policies.



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