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The *Carbon Border Adjustment Mechanism*: a new european tax to address carbon leakage

O *Mecanismo de Ajuste de Carbono na Fronteira*: um novo imposto europeu para enfrentar o vazamento de carbono

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Abstract

In the framework of strengthening policies to address the global climate crisis, the European Union, through Regulation 2023/956, has adopted the *Carbon Border Adjustment Mechanism* (CBAM), a fiscal measure imposed on imports of carbon-intensive products originating from non-EU countries. With this instrument, the EU seeks to prevent its regulatory efforts for environmental protection from being undermined by third countries lacking adequate environmental strategies. The climate emergency, however, is a global challenge that requires the active contribution of economic actors worldwide, whose conduct — including through the use of fiscal instruments — can be steered towards greener or at least more sustainable production practices. Nevertheless, the phased implementation of the CBAM, which has not yet become fully operational, together with the broader implications it may entail beyond the strictly environmental dimension, suggest that a medium- to long-term horizon will be necessary before the mechanism can yield tangible results, not only in terms of reducing pollution but also in fostering greater balance in international trade relations.

Keywords: environmental taxation; European green deal; Cbam; Carbon Leakage; Fit for 55.

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Resumo

No contexto de fortalecimento das políticas de enfrentamento da crise climática global, a União Europeia, por meio do Regulamento 2023/956, adotou o *Carbon Border Adjustment Mechanism* (CBAM), uma medida de natureza fiscal aplicada às importações de produtos com alta intensidade de carbono provenientes de países extracomunitários. Com tal instrumento, a União Europeia busca evitar que seus esforços regulatórios voltados à proteção ambiental sejam comprometidos pela conduta de países terceiros desprovidos de estratégias ambientais adequadas. A emergência climática, contudo, configura um desafio de dimensão planetária que requer a participação ativa dos agentes econômicos em todo o mundo, cuja atuação — inclusive por meio da aplicação de tributos — pode ser orientada para práticas produtivas mais verdes ou, ao menos, mais sustentáveis. Todavia, as formas de implementação progressiva do CBAM, que ainda não entrou plenamente em vigor, bem como as implicações que o mecanismo poderá assumir para além da esfera estritamente ambiental, indicam que será necessário um horizonte de médio a longo prazo para que ele produza resultados concretos, não apenas em termos de redução da poluição, mas também de equilíbrio nas relações comerciais internacionais.

Palavras-chave: Tributação ambiental; Pacto Ecológico Europeu; Cbam; Vazamento de carbono; Fit for 55.

Introduction

Among the solutions proposed by the European Commission in 2021 to reduce greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels (the so-called Fit for 55 package), particular attention must be paid to the introduction of a carbon adjustment mechanism on imports.

To this end, on 10 May 2023, the European Parliament and the Council adopted Regulation (EU) 2023/956, which established and regulated a *Carbon Border Adjustment Mechanism* (CBAM). This instrument is expected, in the medium to long term, to contribute to the implementation of the European plan for environmental sustainability.

Through the CBAM, the European Union aims to complement the *EU Emissions Trading System* (EU ETS), introduced by Directive 2003/87/EC, with a mechanism that, first, reduces the risk that European policies designed to curb polluting emissions might be undermined by the conduct of countries operating under weak or insufficient environmental regulation (see Regulation (EU) 2023/956, recital 8).

Secondly, by introducing a new pecuniary obligation on imports—namely, the duty to pay a price for every ton of carbon emissions associated with the importation of certain carbon-intensive goods—the European Union also seeks to ensure a level playing field between EU and non-EU companies. The aim is to prevent the relocation of carbon-intensive production outside the continent in order to benefit from more lenient environmental standards. In other words, by adopting a system to contain pollution from non-EU countries, the mechanism is designed

to prevent greenhouse gases, although not generated within the European customs territory, from being released into the atmosphere elsewhere (see G. Selicato, 2022, p. 302).

Put more succinctly, it is an instrument conceived to deter companies from relocating their production to third countries, where polluting is undoubtedly cheaper due to the absence of stringent environmental obligations imposed on producers.

In this way, it is hoped that equal conditions may be established between European producers, subject to strict environmental regulation, and non-European producers, who — should they wish to maintain access to the European customs territory — will be required to bear a financial burden corresponding to their carbon footprint.

Scope of Application of the CBAM

The *Carbon Border Adjustment Mechanism* is based on the obligation for economic operators importing carbon-intensive products into the European Union to purchase certificates, or environmental allowances. In this way, CBAM introduces, in a manner similar to the EU Emissions Trading System (EU ETS), a financial measure designed to discourage the importation of goods whose production generates pollution.

Regulation (EU) 2023/956, which established CBAM, specifically applies to imports from countries outside the European Economic Area (EEA) and Switzerland of goods produced by carbon-intensive industries and of electricity. Subject to certain exclusions, the purchase of certificates is required for imports of goods falling within specific categories. The annexes to Regulation (EU) 2023/956 identify the products whose production releases greenhouse gases into the atmosphere and which, for this reason, are subject to the new regime.

It should be noted that the mechanism, currently in a transitional phase, will be implemented gradually. Initially, it will cover only a limited number of goods, such as iron and steel, cement, fertilizers, aluminium, and electricity. This does not exclude the possibility that, once the initial phase has been completed, the regime may be extended to other goods at risk of carbon leakage. In particular, Article 30 of Regulation (EU) 2023/956 provides that, at the end of the transitional period, CBAM may also be extended to goods undergoing complex downstream manufacturing processes involving polluting raw materials (e.g., steel parts, plastics), as well as to finished or semi-finished goods incorporating materials already subject to the mechanism (e.g., cars, machinery, electronic devices, and toys).

From an operational perspective, the Regulation provides for two distinct phases of implementation. A first experimental phase (from 1 October 2023 to 31 December 2025), during which CBAM will not yet apply to imported products; instead, information will be collected on the quantities of carbon-intensive goods entering the EU, including the assessment of embedded emissions. During this phase, the administrative activities for the authorization of operators subject to CBAM will also take place. A second phase of implementation, scheduled to begin on 1 January 2026, will allow the mechanism to become fully operational. CBAM will coexist with the EU ETS until 31 December 2033, after which it will progressively replace the system of free allowances under the EU ETS for the sectors concerned (see Regulation (EU)

2023/956, recital 12). This is because CBAM is closely linked to the system of emission allowances and is intended to reinforce its long-term effects, preventing the environmental benefits of the EU ETS from being neutralized by the non-compliant conduct of economic operators located outside the EU.

The operation of CBAM, however, may be subject to derogations. Indeed, exemptions from administrative obligations are foreseen for those countries that conclude agreements with the European Union to apply EU energy regulations within their own borders, or that adopt environmental measures equivalent to those of the Union, thereby contributing to the achievement of global climate neutrality by 2050 (see Regulation (EU) 2023/956, recital 56).

Administrative Obligations Imposed by CBAM

Specifically, Regulation (EU) 2023/956 provides that, once a certain quantitative threshold has been exceeded, certain carbon-intensive goods produced outside the European Union may be imported into EU territory only by an expressly authorised entity (the so-called CBAM declarant), upon submission of an administrative application to the competent authority of the Member State concerned (see Regulation (EU) 2023/956, Article 5). Authorisation to import such polluting products is granted by the competent administrative authority only if specific criteria are met and appropriate guarantees are provided. In particular, the status of CBAM declarant may not be granted to entities that have previously committed tax or customs violations, or serious offences related to the exercise of economic activity.

Accordingly, the customs authorities of EU Member States allow the importation of goods subject to environmental control only when carried out by an authorised CBAM declarant.

Certificates are issued in electronic form and must be purchased by the declarant prior to importing goods covered by the regime into the EU. Each "*electronic certificate corresponds to one tonne of CO_2 emissions embedded in the goods*" (Regulation (EU) 2023/956, Article 3). The purchase of such certificates takes place through the competent national authority, at a price corresponding to what would have been paid if the goods had been produced within the EU. More precisely, the Regulation stipulates that the amount due on the importation of polluting products shall equal the average of the closing prices of EU ETS allowances on the auction platform, in accordance with the procedures set out in Regulation (EU) No 1031/2010, calculated on a weekly basis (see Regulation (EU) 2023/956, Article 21).

Furthermore, on the administrative side, the authorised economic operator must submit an annual declaration reporting the import operations carried out during the preceding year, specifying the quantity of imported goods and the total CO_2 emissions associated with them, and must surrender to the competent national authorities the corresponding number of certificates (Regulation (EU) 2023/956, Article 6). In substance, the greater the volume of carbon-intensive products imported into the EU, the higher the number of certificates the importer will be required to purchase and subsequently return to the competent administrative authorities. Compliance obligations are also established in relation to registration, authorisation, and annual reporting of embedded emissions to the supervisory authorities.

Failure to comply with either the formal or substantive obligations set forth in the Regulation will result in the imposition of administrative sanctions by the individual Member States, which are responsible for defining the applicable enforcement framework.

Brief Reflections on the Legal Nature of CBAM

As already noted, CBAM is currently in a transitional phase and has not yet been fully implemented. For this reason, it does not seem possible, at present, to provide a precise analysis either of the legal nature of the mechanism or of its functional effectiveness. Moreover, since the European framework is still evolving — with the European Parliament having endorsed certain amendments to Regulation (EU) 2023/956 in September 2025 (not yet approved by the Council) — any assessment will only be possible in the coming years.

Nonetheless, according to a doctrinal definition, which the present author endorses, "*CBAM should be understood as a multifunctional instrument, designed to mitigate climate change, neutralise competitive advantages for polluting actors, strengthen climate leadership, and generate resources for public finance*" (Del Federico, 2023, p. 427).

Indeed, this "multifunctional" character — aimed at protecting the environment, preventing the relocation of European businesses outside EU territory, and at the same time providing resources to finance public expenditure — emerges clearly from the current provisions of Regulation (EU) 2023/956.

From an environmental perspective, CBAM may generate positive effects not only in terms of limiting emissions, but also — an outcome particularly to be hoped for — by encouraging third countries to adopt climate policies comparable in stringency to those of the European Union.

From a functional standpoint, CBAM also presents analogies with the EU ETS, and this comparison is useful in clarifying the fiscal nature of the pecuniary obligation at stake. Unlike the EU ETS, however, importers under CBAM are not allocated a number of free allowances, cannot sell surplus certificates beyond the value of imported goods, nor can they acquire them on the market from other private operators. Moreover, the quantity of certificates to be purchased and surrendered to the public authority depends exclusively on the volume of imported products.

Another distinction with the EU ETS lies in the determination of the obligation itself. Under the EU ETS, the cost is never predetermined, as it depends on free-market negotiations (supply and demand). By contrast, CBAM sets out a legally defined obligation: the amount due is calculated as the average of the closing prices of EU ETS allowances on the auction platform for each calendar week, as prescribed in Article 21 of Regulation (EU) 2023/956, and is published periodically by the European Commission.

On the basis of these considerations, since the financial burden cannot in any way be avoided by an economic operator wishing to import polluting goods into the EU, the obligation imposed by CBAM appears to take on the characteristics of a tax. More specifically, it resembles a form of carbon tax, though one levied solely on imports.

Within the broader taxonomy of taxes, this obligation could be classified as a form of environmental taxation strictly speaking, insofar as it is grounded in the "*polluter pays*" principle. There is a little doubt that the CBAM obligation arises from conduct that has a negative impact on the environment, that its taxable event is linked to the environmental damage caused by emissions, and that its financial burden must, as such, fall upon the actor responsible for pollution.

The crucial question, then, is whether the environmental objective of CBAM prevails over its fiscal dimension, namely the raising of revenue to finance public expenditure.

On the basis of Regulation (EU) 2023/956, it seems reasonable to affirm that the environmental purpose is predominant. The fiscal dimension, while secondary, is nonetheless significant, alongside the commercial function of discouraging the relocation of polluting industries to third countries. This predominance of the environmental objective is further confirmed by the broader context in which CBAM was introduced, namely within a series of legal and fiscal measures outlined in the European Green Deal and subsequently in the Fit for 55 package.

That said, despite the primacy of its environmental rationale, the additional functional dimensions of CBAM nonetheless justify its classification as a "multifunctional" legal instrument.

Preliminary and provisional indications regarding the allocation of CBAM revenues also confirm this theoretical perspective. According to the preparatory works, in a first phase lasting until 2027, EU Member States will retain 25% of the revenue collected, to cover administrative and management costs. The remaining 75% is to be allocated to the EU budget, primarily to address debt incurred through expenditure measures adopted to respond to the COVID-19 pandemic and to relaunch the European economy through expansionary programmes. This latter destination, in particular, reveals that beyond the environmental function, CBAM also serves a fiscal purpose, namely the financing of public expenditure.

Concluding Remarks and Future Prospects

Any assessment of the functional effectiveness of CBAM does not yet appear feasible. In fact, a comprehensive evaluation of the system will only be possible once the regulatory framework has been fully implemented and subsequently clarified by the competent national administrative authorities.

The gradual implementation of the mechanism suggests that a medium-to-long period will be required before it can deliver tangible results, both in terms of reducing emissions and in influencing economic operators to adopt more environmentally sustainable production practices.

But will changing the behaviour of non-EU operators and raising awareness among countries less attentive to the climate crisis suffice to render CBAM an effective instrument for the reduction of CO_2 emissions?

On this point, some argue for a negative answer. Indeed, when reasoning in terms of the global system and the implications arising from international trade, it may be accepted that, even assuming greater efficiency in the production of certain carbon-intensive goods, this would not necessarily translate into an absolute reduction in global CO_2 emissions.

In fact, goods must be transported over long distances to reach their destination, thereby generating additional emissions beyond those produced in the course of manufacturing. For this reason, it would be desirable, alongside fiscal measures such as CBAM, to envisage a regulatory framework that more effectively addresses global production methods, replacing fossil energy sources in manufacturing cycles entirely with renewables. Only in this way would CO_2 emissions likely not merely be marginally contained, but drastically reduced (Garbarino, 2023, p. 14).

In the author's view, however, this cannot be the appropriate criterion for assessing the efficiency of a legal instrument that is not intended to resolve global pollution in itself, but rather to act as a deterrent to environmentally harmful conduct and, above all, as an incentive towards more sustainable production models. Consequently, while acknowledging that legal mechanisms such as the EU ETS or CBAM are useful only in countering polluting behavior — and cannot, in themselves, solve the broader problems of global warming and climate change — their effectiveness may nonetheless be recognised insofar as they induce third countries to strengthen their environmental regulation, even if only to avoid subjecting their industries to EU-imposed levies. In that sense, the primary environmental purpose envisaged by the European Union could be deemed fulfilled.

Finally, one further aspect deserves attention. As has been observed on several occasions, CBAM is designed not to disrupt the balance of specific carbon-intensive markets, seeking instead to prevent the relocation of certain industries to non-EU territories. Yet, the mechanism could still impact the balance of these markets.

Indeed, distortive effects on global competition may arise, as importers subject to CBAM will bear an additional fiscal burden compared to ordinary customs duties. The risk, therefore, is that business strategies may shift towards non-European operators, redirecting production to countries that impose no economic or fiscal conditions on polluting imports—or impose them only to a more tolerable extent. For this reason, as part of the literature has observed (Del Federico, 2023, p. 438), the non-EU countries most affected by the new levy (e.g., Russia, Ukraine, China, and Turkey) will likely challenge the full implementation of CBAM before the World Trade Organization (WTO), denouncing it as a tariff that disproportionately penalises their exports in violation of the principle of non-discrimination of foreign products.

The same concerns may affect European operators, who could face higher costs for supplies from outside the EU, with inevitable repercussions along the supply chain and for end consumers—all in a global context already burdened by uncontrolled increases in energy prices. Alternatively, European companies might also face retaliatory fiscal measures on their exports from non-EU countries seeking to neutralise the economic effects of CBAM on their domestic industries.

At the same time, however, European operators may also choose to turn to lower-impact goods or, in any case, to third countries that have entered into agreements with the EU on green

energy and environmental matters, thereby qualifying for exemptions from the levy (Ficari, 2024, p. 443).

Therefore, in evaluating the effectiveness of CBAM, consideration must be given not only to its environmental benefits, but also to its prospective impact on international trade relations, in light of its repeatedly emphasised multifunctional nature.

The ending of this story, one hopes a positive one, has yet to be written.

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