The United Kingdom's Strategy for Carbon Border Adjustment in a Changing Global Landscape

IISD REPORT

Chris Aylett
Antony Froggatt
Chengkai Xie

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Head Office

111 Lombard Avenue, Suite 325
Winnipeg, Manitoba
Canada R3B 0T4

Tel: +1 (204) 958-7700
Website: iisd.org
𝕏: @IISD_news

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Written by Chris Aylett, Antony Froggatt, and Chengkai Xie

Photo: iStock

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Executive Summary

Background

Border carbon adjustments (BCAs), on a general level, are a way to make imported goods bear the same carbon costs as domestically produced goods.

BCAs have long been debated and contested in trade and environment policy circles, but with the European Union's (EU's) Carbon Border Adjustment Mechanism (CBAM) coming into law in 2023, its prominence has increased.

When it becomes fully operational in 2026, the EU CBAM will impose charges on the importation of upstream goods in the EU in the iron and steel, aluminum, cement, fertilizer, and hydrogen sectors, as well as on imports of electricity, requiring importers to purchase emissions allowances as if they had been produced under the EU's Emissions Trading System (ETS). The introduction of the CBAM will begin the gradual phase-out of free allocations for these sectors—exposing them, for the first time, to the full economic cost of their emissions.

The United Kingdom formally left the EU in January 2020. Under the EU–United Kingdom Trade and Cooperation Agreement (EU–United Kingdom TCA), under the principles of "non-regression," the two sides committed to maintaining similar climate change targets, including for carbon pricing. The Government of the United Kingdom introduced its own standalone ETS in 2021.

In December 2023, the British government confirmed plans to introduce its own CBAM starting in 2027; it published its most recent proposed policy design in March 2024, with a consultation ending in June. While the United Kingdom CBAM (UK CBAM) is intended to perform the same function as the EU CBAM and is similar in many respects, there are several important differences. For example, it is proposed that the British scheme will cover iron, steel, aluminum, fertilizer, hydrogen, ceramics, glass, and cement, meaning that, unlike the EU CBAM, ceramics and glass will be covered, and imported electricity will not. The UK CBAM will also enter operation a year after the EU CBAM in 2027 with no transition period.

Diplomatic Implications

Emissions trading is becoming increasingly widespread, with China introducing its own ETS in 2021; countries including Japan, Brazil, Mexico, Indonesia, and Turkey have or are in the process of setting up trading systems. Yet other forms of emissions trading, such as trading in greenhouse gas emission reductions across countries under Articles 6.2 and 6.4 of the Paris Agreement, are not favoured by all countries, as evidenced by the difficulties in reaching agreement on these articles at successive UN Framework Convention on Climate Change Conferences of the Parties.

Despite their technical sophistication, BCAs are, in some respects, a blunt tool and are expected to have collateral damage. Policy design should aim to minimize unintended consequences. However, the system is complex. It is politically and potentially administratively

difficult to ask foreign firms to fully account for and internalize the requirements. There are also trade-offs between climate ambition and technical feasibility. While the EU CBAM has been designed to be compliant with World Trade Organization rules, some still question its validity. Even when fully operational, it will likely still be vulnerable to challenge.

The Paris Agreement stipulates that each country should determine its own approach to decarbonization. Developing countries, having contributed less to climate change, protest that they are being subjected to a punitive trade measure that imposes the EU's domestic approach on them. This is a complex issue to resolve from a diplomatic perspective.

The British government has indicated that it will apply the CBAM to all countries equally, regardless of their development status—an approach shared by the EU in its CBAM. This is particularly controversial, given that many poorer countries have relatively low domestic emissions, face significant challenges in accurately measuring emissions from their industries and associated supply chains, and are less well equipped to implement emissions reduction strategies.

The British government will need to carefully consider concerns expressed by the governments and industries of exporting countries to avoid its CBAM from being seen as a form of "environmental colonialism"—or simply protectionist—and undermining the United Kingdom's role in international climate negotiations.

Implications for Industry

The United Kingdom government has justified the introduction of a CBAM as a means of giving greater confidence to investors in the United Kingdom's heavy industrial sectors. Some within the financial sector see the CBAM as an important development linked to the phase-out of free allocations under the ETS. The phase-out of free allocations is seen as necessary to accelerate decarbonization across the United Kingdom and is an incentive for other countries to decarbonize.

The government currently intends for the revenues raised by CBAM to go into general funds. It will not be hypothecated to support the energy transition in affected sectors, as had been requested by several industry stakeholders; nor will revenues raised be used to finance mitigation and adaptation in developing countries. The British government has made it clear that the aim of the policy is not to raise revenue. To quote an official from the Treasury: "Ideally the revenue raised would be zero because we would have successfully incentivized our trading partners."[1]

The United Kingdom's CBAM will not protect the economic competitiveness of British exports into markets with weaker climate policies. As free allocations are phased out, British policy-makers will need to carefully consider how to maintain the competitiveness of exports destined for markets with a lower carbon price.

Trade unions have longstanding concerns over carbon leakage and the potential loss of jobs in the affected sectors. Sectors covered by the UK CBAM will affect an estimated 660,000

[1] Comments made at stakeholder dialogue held at Chatham House on March 6, 2024.

jobs directly and indirectly. Trade unions have called for future trade deals to integrate effective mechanisms for meeting the targets of the Paris Agreement. Trade unions have also highlighted the need for CBAM commitments to be developed in conjunction with other domestic imperatives, such as the so-called "levelling-up" agenda, to distribute economic development more equally across the United Kingdom.

Implementation Challenges

Article 5 of the post-Brexit EU–United Kingdom TCA describes climate change as an "essential element" of the partnership and "any supplementing agreement." While both the United Kingdom and the EU are actively using CBAMs to tackle carbon leakage and accelerate decarbonization, the detailed implementation proposal from the British government's March 2024 consultation suggests it plans to diverge from the EU's CBAM design in several respects, including sectoral scope, timelines, and the minimum application threshold.

Perhaps most significantly, the United Kingdom's model levies charges on embodied emissions according to a mixture of criteria, including seven sector-specific CBAM rates, which are based on the ETS price. This makes the United Kingdom's model operationally less straightforward than the EU approach, which is based on the prevailing ETS price.

In dialogues with stakeholders, all sectors expressed a strong preference for the United Kingdom's CBAM to mirror the EU's monitoring and reporting system as closely as possible. Without this alignment, exporters to the United Kingdom, faced with having to comply with a different carbon reporting system, may be less inclined to sell products to the United Kingdom, potentially lowering competition and/or increasing prices.

The United Kingdom and the EU should reconsider the advantages and opportunities of linking their respective ETSs, as the EU has done with Switzerland. This would remove the need for carbon reporting in trade between the two countries and would enable a single system with which other countries can engage.

The details around Northern Ireland remain unresolved. This has been described as a "political time bomb." The EU is concerned about circumvention of its CBAM rules with the country partially within the EU ETS and has concerns over trading across the border with the Republic of Ireland.

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Abbreviations and Acronyms

BCA	Border carbon adjustment
CBAM	Carbon Border Adjustment Mechanism
CBDR	Common But Differentiated Responsibilities
DESNZ	Department for Energy Security and Net Zero
EAC	Environmental Audit Committee
ETS	Emissions Trading System
EU	European Union
GHG	greenhouse gas
LDC	least developed country
TCA	Trade and Cooperation Agreement
TUC	Trade Union Congress
UNFCCC	United Nations Framework Convention on Climate Change
WTO	World Trade Organization

1.0 Introduction

Border carbon adjustments (BCAs) have always been a contested issue in trade and environment policy circles, but with the European Union's (EU's) Carbon Border Adjustment Mechanism (CBAM) coming into law in May 2023, its prominence has increased (Markkanen et al., 2021). When it becomes fully operational, the EU CBAM will impose charges on the importation of upstream goods in the EU in the iron and steel, aluminum, cement, and fertilizer sectors (as well as on imports of electricity), requiring importers of these goods to purchase emissions allowances as if they had been produced under the EU's Emissions Trading System (ETS).

As countries ramp up their climate ambition, some will impose costs on producers in emissions-intensive trade-exposed sectors. If they do, they will be forced to consider how to protect those sectors from leakage.[2] With no plan to address leakage, policy-makers risk political fallout from fostering deindustrialization rather than decarbonization. BCAs are one of only a few tools dedicated to this end and, as such, will be increasingly considered by policy-makers.

At a general level, BCAs are a way to make imported goods bear the same carbon costs as domestic goods. They are usually aimed at emissions-intensive trade-exposed sectors, and within those sectors, the focus is upstream on basic and semi-processed materials. Being energy-intensive, domestically produced goods will be more exposed to carbon pricing, and since they are trade-exposed, their producers will find it challenging to pass along any carbon costs to consumers since international competitors may not face similar costs.

This additional cost can lead firms to relocate to other jurisdictions, lose market share to foreign producers, or divert greenfield investment to other jurisdictions. This represents a significant political issue for governments seeking to raise ambition for climate mitigation.

Both the United Kingdom and EU have emissions trading regimes and believe that this is an efficient and effective tool for pricing carbon and, therefore, fiscally encouraging decarbonization. The United Kingdom's and the EU's leadership in emissions trading has led other countries to follow suit. China, for example, fully operationalized its ETS in 2021, becoming the world's largest ETS in terms of covered emissions. Japan, Brazil, Mexico, Türkiye, and Vietnam, among others, are in the process of setting up their own systems (Mundy & Reiter, 2024), while Indonesia established its scheme in 2023 (International Carbon Action Partnership, 2024). In 2023, according to the London Stock Exchange Group, around 12.5 billion tonnes of carbon permits were traded, pushing the value of the traded global carbon market to a record high of USD 948.75 billion (Twidale, 2024). This view is not shared by all countries. The United States, for instance, has yet to adopt federal carbon pricing and has a very different regulatory regime—although, in April 2024, the White House announced a new Climate and Trade Task Force that would focus on three areas, one of which would be how best to address carbon leakage (Podesta, 2024).

[2] Leakage in this context refers to an increase in greenhouse gas (GHG) emissions in other jurisdictions in response to climate policies in an implementing jurisdiction.

As various carbon pricing initiatives have been progressively rolled out at the national and regional levels, at the international level, negotiations on the establishment and implementation of rules governing carbon markets have been taking place within the United Nations Framework Convention on Climate Change (UNFCCC) under Article 6 of the Paris Agreement (UNFCCC, 2015). Under Article 6.2, parties are negotiating on a technical basis for emissions trading between countries, while Article 6.4 deals with establishing a top-down global platform to govern the international trade in carbon credits. While there remains strong political and corporate support for these market mechanisms, it has proved challenging to obtain international agreement on crucial details, and limited progress was made at the 28th UN Climate Change Conference (COP 28) in December 2023 (Gupte & Ghosh, 2023).

Some see BCAs as a sub-optimal, blunt tool that creates collateral damage, so there should be an objective within the policy design to minimize unintended consequences. Consideration needs to be given to several limiting factors. First, it is technically complex and politically challenging to ask foreign firms to fully account for and internalize these requirements, and there are trade-offs between climate ambition and technical feasibility. Second, the Paris Agreement allows countries to determine their own approaches to decarbonizing. Developing countries have contributed less to the problem, so they have pushed back about being forced to bear a punitive trade measure that exports the EU's domestic approach to them. They argue, with some justification, that they are having to simultaneously adapt to both climate change and the measures the wealthier developed world is taking to mitigate climate change. Some believe BCAs may violate one of the foundational principles of climate multilateralism, Common But Differentiated Responsibilities (CBDR), which holds that the requirement to reduce emissions should be a function of a country's capabilities and level of development. As a consequence, BCAs are a geopolitically complex and diplomatically sensitive endeavour.

BCAs can also be seen as a means of broadening the conversation around the potential implementation of carbon pricing, increasing an understanding for some in the private sector of the costs of carbon pollution and indicating that governments are intent on addressing it. The widening use of BCAs will raise questions about taxonomy and interoperability in different jurisdictions. While there are likely to be unintended consequences from BCAs and there is no uniformly agreed way in which it will operate, it is, at present, the most politically palatable option to tackle carbon leakage, with alternatives such as a global carbon tax on consumption or the use of mandatory product standards remaining more distant prospects.

This United Kingdom-focused report is part of a project looking at the impact of the EU CBAM and government responses to BCAs in general. The project seeks to maximize the climate mitigation potential of BCAs and lower the scope for unintended consequences—for developing countries in particular—as BCAs are implemented around the world. It achieves this by providing forums for cooperation and coordination, collating best practices, and developing core principles for this novel area of policy-making. This report will inform those efforts and enable those designing BCAs to be cognizant of the risks and opportunities. Other reports have been prepared for Brazil, Canada, Trinidad and Tobago, and Vietnam.

The report will not discuss the effectiveness of ETSs globally; instead, it will explore the political context and policy landscape of the United Kingdom's action on climate change and its relationship with the EU following its departure from the European Union. It will then look

at the United Kingdom's reaction to the introduction of the EU's CBAM and how this will affect domestic industries and its international partners. Finally, we will recommend measures that might ease the introduction of the United Kingdom's CBAM.

This report is an accumulation of desk-based research, bilateral meetings, and two stakeholder dialogues. The first stakeholder dialogue involved only British actors, including the British government and parliamentary officials, industry representatives, financiers, think tanks, environmental non-governmental organizations (NGOs), trade unions, and academics. The second included stakeholders from several countries, including Brazil, China, Germany, the Netherlands, South Korea, Kenya, and the United States.

1.1 The EU CBAM

The EU CBAM is the first of its kind to put a price on the carbon emitted during the production of carbon-intensive goods that are entering the EU and encourage cleaner industrial production outside the EU. The CBAM is designed to ensure that the carbon price paid on embedded emissions of imported goods is equivalent to that of the same goods produced domestically. This applies to all countries outside the EU, except those that are part of the EU's ETS (i.e., countries in the European Economic Area, such as Norway) or those that have their own ETS linked to that of the EU (only Switzerland at present). The EU CBAM is designed to be compatible with World Trade Organization (WTO) rules, though that can only be confirmed if the issue goes to the WTO dispute settlement.

The stated goal of the CBAM is to prevent carbon leakage, which would undermine the EU's climate objectives. At the same time, it also maintains the competitiveness of the EU industry as the EU gradually phases out the current protection against leakage—the free allocation of emission allowances under the ETS. The gradual phasing in of the CBAM over time will allow for "a careful, predictable and proportionate transition" for EU and non-EU businesses and public authorities (European Commission, 2023a).

The EU CBAM covers a limited number of goods—41 categories, mainly at the 4-digit Harmonized System level—from five sectors: iron and steel, aluminum, cement, nitrate-based fertilizers, and hydrogen. Electricity is also covered under special rules. The coverage is focused upstream in the value chain: it covers basic materials with a few downstream products, such as steel bolts and screws. Manufactured goods and agricultural products are not included.

On October 1, 2023, the EU CBAM entered its transition phase. EU importers of goods covered by CBAM must now report GHG emissions embedded in their imports; however, no financial payments will be necessary during this phase. During the first year of CBAM implementation, suppliers can choose from three reporting methods: 1) reporting based on the EU method, 2) reporting based on equivalent third-country national systems, or 3) reporting based on reference values. Then, starting on January 1, 2025, emission reporting according to the EU method set out within the implementing regulations will be the only acceptable method (European Commission, 2023c). Starting January 1, 2026, EU importers must declare embedded emissions in their goods and surrender enough CBAM certificates

priced according to the EU ETS allowance, with each certificate equival to one tonne of CO_2-equivalent (CO_2e) emissions.

Credit against CBAM charges will be given for any explicit carbon price paid by the exporter. CBAM will be implemented concurrently with the gradual phase-out of free EU ETS allowances from 2026 to 2034, according to the following schedule: 2026: 2.5%, 2027: 5%, 2028: 10%, 2029: 22.5%, 2030: 48.5%, 2031: 61%, 2032: 73.5%, 2033: 86%, 2034: 100%. During the period when free emission allowances are still gradually being phased out under the ETS (until 2034), there will also be credits to account for the fact that EU producers did not pay the full carbon price.

2.0 The United Kingdom Context

2.1 Brexit and British Climate Policy

The United Kingdom's exit from the EU was driven by a range of public and political issues, with the notion of sovereignty—the extent to which the United Kingdom alone should determine its own laws—playing a central role. Although environmental protection, including action on climate change, was discussed within the referendum campaign, it was not part of the broader public debate and is not seen as a driver for leaving the EU. Leaving the EU has affected the development and implementation of environmental policy in the United Kingdom but has not, so far, affected the United Kingdom's overall GHG emissions reduction targets. The United Kingdom has a more ambitious 2030 target than the EU: it adopted 68% below 1990 levels by 2030, compared to 55% below for the EU. When it was in the EU, under the "effort sharing" process within the EU for allocating emissions reduction targets between member states, the United Kingdom had a target higher than the EU average (Official Journal of the European Union, 2018).

Under the terms of the EU–United Kingdom Trade and Cooperation Agreement (EU-UK TCA) (the Treaty arrangement for the United Kingdom leaving the EU) (United Kingdom, 2021), the United Kingdom and EU committed to maintaining similar climate change targets. Article 5 describes climate change as an "essential element" of the partnership established by the TCA and "any supplementing agreement." Specifically, on carbon pricing, it says under Article 392 (6) that "the Parties will cooperate on carbon pricing…(and) shall give serious consideration to linking their respective carbon pricing systems in a way that preserves the integrity of these systems and provides for the possibility to increase their effectiveness" (United Kingdom, 2021).

Several policy options were considered for United Kingdom carbon pricing, which were broadly: remaining part of the ETS (a similar status to Norway), operating an independent United Kingdom ETS linked (UK ETS) to that of the EU (as Switzerland has), or establishing a fully independent system, with this final option being what was agreed. Ultimately, the standing of the UK ETS and its relationship with the EU ETS was not determined by the pros and cons of the different options for the sector but by broader relationship issues. The future relationship between the EU and the United Kingdom will be affected by changes in governments and political mood, potentially opening the door for a closer relationship in which the United Kingdom and EU adopt a linked ETS—but this is far from guaranteed.

An overarching review of the EU–United Kingdom TCA's implementation is due in May 2026, after 5 full years of implementation. Some in the United Kingdom have seen this as an opportunity to engage in the wholesale renegotiation of relations (Moloney & Usherwood, 2023). By contrast, the EU is pointing toward a more technical exercise. Others still point to the potential for further tensions.

The review will affect energy as, by default, the energy provisions in the EU-UK TCA will cease to apply on June 30, 2026 (though they may be extended on an annual basis thereafter). Discussions on extension may include a review of gas and electricity trading arrangements. It

has also been suggested that this would be an occasion to review the EU–United Kingdom's emissions trading regimes and reconsider the potential for linkage.

2.2 The UK ETS

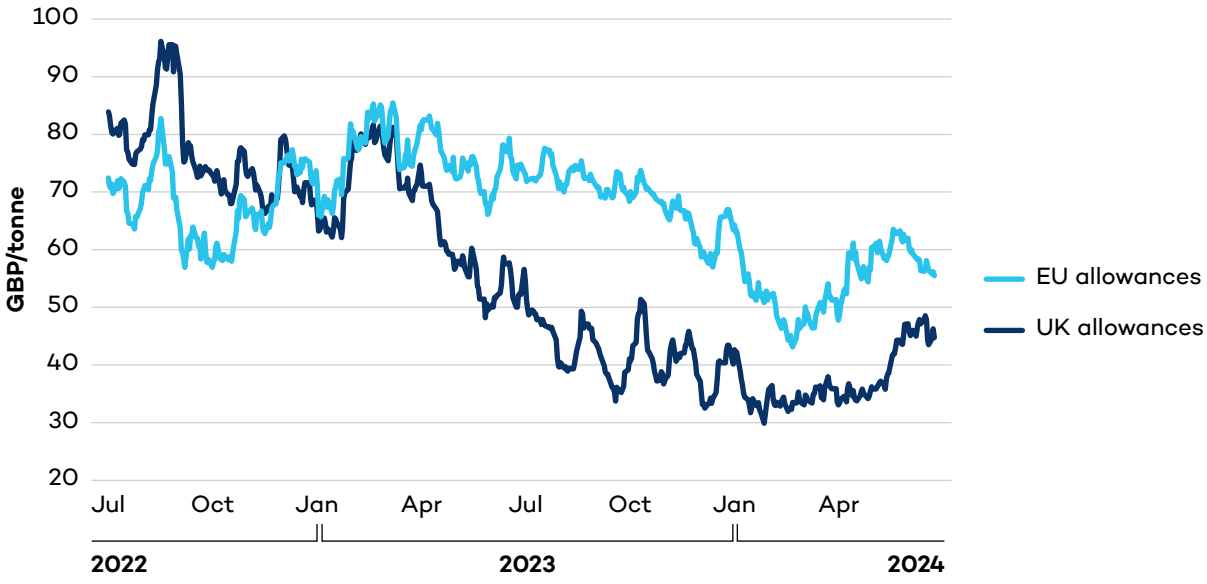
The United Kingdom established the first national carbon market in 2002, the forerunner to the EU ETS. When part of the EU, the United Kingdom was at the vanguard of both market measures and climate change action and consequently was deeply involved in the development of the EU ETS.

The UK ETS came into force as it left the EU on January 1, 2021. United Kingdom operators were still bound by compliance with the EU ETS until the end of the 2021 financial year. Consequently, the UK ETS did not start operating until May 2021.

The UK ETS operates in three specific areas—energy-intensive industries, power generation, and aviation—but is scheduled to expand in 2026 to include domestic maritime transport and, in 2028, waste incineration. Ultimately, the objective is to cover emissions from the whole economy and integrate negative emissions: a consultation on GHG removals in the UK ETS was launched in May 2024 (United Kingdom, 2024a). The British government has put guardrails in place, creating a floor price for carbon, an ETS auction reserve price, and a mechanism to intervene in the event of a high price (a cost containment mechanism).

Over the last year, the carbon prices of the United Kingdom and the EU, which had traded near parity, have begun to diverge. As Figure 1 indicates, European Union Allowance Prices reached a record high of EUR 100.34 in February 2023 (Statista, 2023). The UK ETS carbon price reached a similarly high level of GBP 97.75 in August 2022. On May 1, 2024, the United Kingdom's carbon price stood at GBP 35.60/tonne (EUR 41.6), and the European Union Allowances price was at EUR 65.72/tonne (Carbon Credits, 2024).

Figure 1. United Kingdom and EU ETS carbon pricing



Sources: ICE, 2024a, 2024b; Investing.com, 2024.

This divergence is partly because of the size of the United Kingdom market, which is smaller and therefore inherently more susceptible to price swings and changes in policy frameworks. However, it is largely due to United Kingdom policy. In July 2023, the government deployed the cost containment mechanism, announcing that it would make more allowances available than anticipated as part of an overall reduction in the emissions cap. A total of 53.5 million tonnes of extra allowances—about half a year's worth of United Kingdom emissions covered by the scheme—will be made available to industry between 2024 and 2027 (Sheppard & Millard, 2023). In addition, the announcement in September 2023 of revisions to several net-zero policies, including a delay in the planned phase-out of petrol and diesel cars, prompted a further fall in the United Kingdom carbon price, as the market questioned the credibility of United Kingdom climate policy (Lex, 2023).

3.0 The United Kingdom's Reaction to the EU CBAM

As with other countries, the proposed introduction of the EU CBAM has impacted the United Kingdom's policy discourse. While it has not become a public issue, it has raised important questions for the most affected sectors and demanded a government response. The Environmental Audit Committee (EAC) of the United Kingdom Parliament held hearings and published a special report on carbon border taxes in June 2022, entitled *Greening Imports: A United Kingdom Carbon Border Approach*. The parliamentary review process enables stakeholders to put forward written considerations and, for a selected number, give oral evidence to the committee. The conclusions of the inquiry are presented to the government, and their response is published.

Within the inquiry framework, in its response to the report, the government stated: "We are firmly of the view that the best way to address carbon leakage would be for all countries to move together in pricing and regulating carbon emissions" (House of Commons EAC, 2022). However, as we have seen, not all countries take the same view of carbon pricing, and even those that are moving ahead are doing so at different speeds.

In broad terms, the United Kingdom government seems to be aligned with the overall strategic direction of the EU: "The government is clear that any policy or suite of policies would need to carefully balance a range of priorities for the UK, including compliance with WTO rules and our commitment to free trade alongside carefully considering the needs of developing countries" (House of Commons EAC, 2022). Furthermore, the government recognizes that a range of views and circumstances need to be considered when implementing its own scheme. "We are building an approach to carbon leakage mitigation that works for the broadest range of countries, including emerging market economies and developing economies.… the Government appreciates the importance of considering the interests of low- and middle-income country trading partners" (House of Commons EAC. 2022)

Linking the United Kingdom to the EU ETS was considered during the negotiation of the EU–United Kingdom TCA, but there was insufficient political support or opportunity for its implementation. However, the introduction of the EU CBAM alters the argument. There has also been a shift in the political "mood" between the United Kingdom and the EU in general and especially in energy, with increased cooperation in response to the energy crisis resulting from Russia's full-scale invasion of Ukraine. This set of circumstances opens up space for reconsideration: "The government is open to linking the UK ETS internationally in principle and is considering a range of options. Cooperation and dialogue on carbon pricing, including by considering linking, will continue to be important as both parties strive to deliver ambitious climate targets" (House of Commons EAC, 2022).

In March 2023, the government launched a consultation on potential policy measures to mitigate carbon leakage. Within the review, stakeholders were asked for their views on possible policies, including a CBAM for the United Kingdom, mandatory product standards, and demand-side measures to grow the market for low-carbon products, such as product labelling

and public procurement guidelines (Department for Energy Security and Net Zero [DESNZ] & HM Treasury, 2023a). Further details of this can be found in Box 1.

Box 1. A summary of responses to the United Kingdom government consultation, *Addressing Carbon Leakage Risk to Support Decarbonisation*

- The consultation ran from March 20, 2023, to June 22, 2023, and received 162 responses from industry (106), NGOs, think tanks, and academia (28).
- Most of those expressing views on CBAM design emphasized the need to align with international mechanisms, notably the EU CBAM.
- Around half of the respondents expressed support for aligning the timeline for the introduction of the UK CBAM with the introduction of the fully operational EU CBAM in 2026.
- Most respondents agreed that the UK CBAM price should track the UK ETS price.
- Most respondents agreed that default values should be used as an alternative to calculated emissions data, where necessary.
- There was almost unanimous agreement that the UK CBAM should be designed so that its scope can expand to cover other products in future.

Source: DESNZ & HM Treasury, 2023b.

3.1 The Proposed UK CBAM

In December 2023, the United Kingdom government confirmed that it would introduce an equivalent to the EU CBAM. The British scheme will cover iron, steel, aluminum, fertilizer, hydrogen, ceramics, glass, and cement. This means that, unlike the EU CBAM, ceramics and glass will be covered, and imported electricity will not. In addition, the UK CBAM will start a year after the EU CBAM in 2027, entering fully into operation with no transition period (HM Treasury, 2023).

At the time of the announcement, the government also confirmed that it would

- pursue voluntary product standards that businesses could adopt to promote their low-carbon products;
- develop a framework to measure embedded carbon in goods in support of future decarbonization policies;
- engage with the countries, businesses, and other organizations affected by the CBAM to minimize negative impacts on trade; and
- conduct a further review of the UK ETS, with stakeholders from sectors including power, aviation, and industry invited to offer their views on proposed changes.

In March 2024, the government announced a further consultation, undertaken jointly by HM Revenue & Customs and HM Treasury, to gather views on three central questions concerning the detailed design and delivery of the UK CBAM (HM Revenue & Customs & HM Treasury, 2024):

1. **What will the CBAM apply to** (including sectoral and product scope and exemptions)?
2. **How will CBAM liability be calculated** (including principles for the calculation of embodied emissions and the price payable with any adjustment for overseas carbon pricing)?
3. **How will the CBAM operate** (including administration, payment, and compliance requirements)?

The proposed design and implementation of the UK CBAM outlined in the March 2024 consultation is summarized in Box 2. It suggests that the UK CBAM will diverge from the EU CBAM in several significant ways.

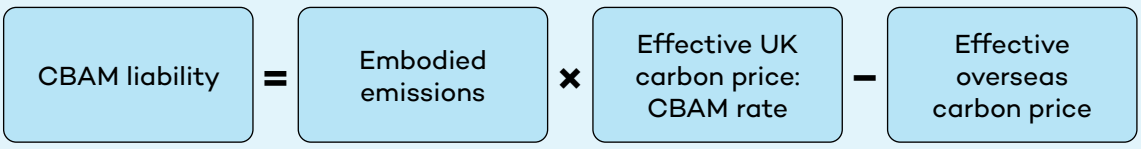
Box 2. Proposed UK CBAM design and implementation

The United Kingdom is proposing to levy a charge on the emissions embodied in relevant imports into any part of the United Kingdom that take place on or after January 1, 2027. A consultation was launched in March 2024, accompanied by a document setting out the government's intentions for the design of its CBAM in detail. The aspects discussed below may change following the consultation.

The "tax point," or the point at which CBAM liability arises, will be, where customs controls apply, the date on which the good is released into the United Kingdom domestic market or, in the absence of customs controls, the date on which the good enters the United Kingdom.

A person will not need to register or account for CBAM but will have to provide rudimentary information to show they are within the limits if the total value of their CBAM goods passing a tax point falls below a minimum registration threshold of GBP 10,000 over a rolling 12-month period. The government proposes that a liable person will be required to submit a CBAM return and pay the liability at the end of each accounting period. The government proposes that the first accounting period will run for 12 months and cover imports of CBAM goods from January 1 to December 31, 2027. From 2028, the government proposes that accounting periods become quarterly.

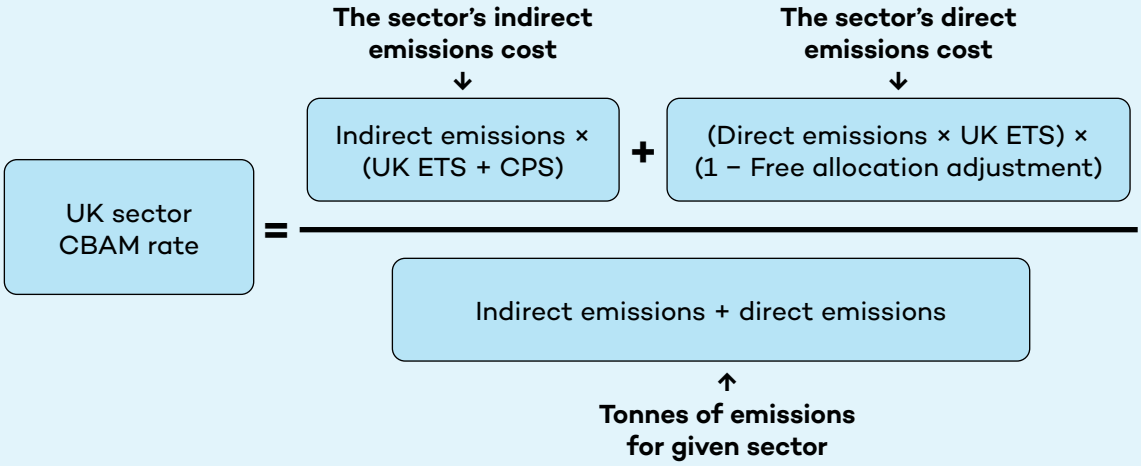
The CBAM liability will be calculated by multiplying the total emissions emitted per type of good by the relevant UK CBAM rate (see below), minus the carbon price already paid overseas. This self-assessment model will be familiar to importers with other indirect tax liabilities.



The liable person may choose between two possible approaches to determine emissions embodied within imported goods to calculate the CBAM liability:

1. using default values as determined by the United Kingdom government, and
2. using data on the actual emissions embodied within CBAM goods.

The UK CBAM rate will be the tax rate set by the government that is payable on CBAM goods. The government plans to implement an individual UK CBAM rate tailored to each sector covered, with quarterly rates reflecting the fluctuating carbon price within the UK ETS. The CBAM rate is intended to be comparable to the carbon price paid by producers within the United Kingdom, once adjustments, exemptions, and compensation schemes are factored in. The proposed formula to calculate each sectoral CBAM rate is:



If the importer can show that an explicit carbon price has already been applied to the emissions embodied in the imported goods in their country of manufacture, the CBAM liability is reduced accordingly.

The government is of the view that it is only necessary to apply the UK CBAM to goods intended for sale within the United Kingdom. Consequently, its CBAM will not be applied to imported goods not intended for consumption or circulation within the United Kingdom market.

Source: HM Revenue & Customs & HM Treasury, 2024.

3.2 The Implications of the EU CBAM for the United Kingdom

The extent to which the United Kingdom economy is impacted by the introduction of the EU CBAM will be determined by the difference in carbon prices, the relative emissions intensity of United Kingdom producers, and the volume of the exports and imports of affected products.

The introduction of the EU CBAM raises the possibility of carbon revenues from United Kingdom businesses going into EU instead of United Kingdom coffers. The low level of the

United Kingdom's carbon price relative to that of the EU following the divergence seen over the course of 2023 (see Figure 1) means that when the EU CBAM begins levying charges in 2026, a portion of carbon revenues that otherwise would have gone to the United Kingdom will instead flow to the EU. It is estimated that a price differential similar to that seen in 2023 would imply that United Kingdom businesses are paying the EU more than half a billion pounds per year at the current export levels of steel, aluminum, electricity, and cement (Energy UK, 2023c).

The EU CBAM will have bureaucratic implications for United Kingdom businesses exporting to the EU, who will be expected to provide emissions data to enable their EU trading partners to meet EU CBAM requirements, even during the 2023–2026 transition phase. EU importers may be looking for early reassurance that United Kingdom suppliers can provide emissions data using the EU reporting method. With EU CBAM charges on carbon-intensive imports being applied from January 1, 2026, United Kingdom businesses are being encouraged to decarbonize quicker to ensure market competitiveness with the EU.

Table 1. Trade flows between the EU and the United Kingdom in CBAM-affected products in 2022 (GBP million in 2022)

	United Kingdom exports to the EU	United Kingdom exports outside the EU	Exports to the EU as a percentage of total United Kingdom exports	United Kingdom imports from the EU	United Kingdom imports from outside the EU
Cement	66.71	61.08	52.20%	430.88	42.42
Fertilizers	280.85	114.78	70.99%	1179.16	811.46
Iron and steel	5344.34	2930.72	64.58%	7757.00	5337.22
Aluminum	1528.41	570.03	72.84%	3258.73	1853.04
Electricity	3107.95	369.23	89.38%	2215.56	892.39
Hydrogen	2.64	0.42	86.22%	4.15	0.04
Glass and ceramics	683.6	267.23	71.90%	1897.87	866.49
Total	**GBP 11.01 billion**	**GBP 4.32 billion**	**71.82%**	**GBP 16.75 billion**	**GBP 9.81 billion**

Source: United Kingdom trade info (HM Revenue & Customs, 2023).

This is taking place against the backdrop of a changing United Kingdom-EU trading landscape. The share of British trade accounted for by the EU has fallen over the last 2 decades. Between 1999 and 2007, the EU accounted for 50%–55% of United Kingdom exports. By 2022, this figure had fallen to 42% (Ward & Webb, 2023). The falling volume of trade between the EU and the United Kingdom will have implications for the overall economic importance of CBAM between the two markets. In 2022, GBP 158 billion in goods were exported from the United Kingdom to the EU, and GBP 274 billion were traded

the other way (Ward & Webb, 2023). Table 1 breaks down EU–United Kingdom trade by CBAM sector.

Iron and steel are the most significant trade by value between the EU and the United Kingdom, with the United Kingdom being a net importer (by value from the EU, but compared to other sectors, not by a considerable margin). More recent figures suggest that the United Kingdom shipped about GBP 5.6 billion of steel, or three quarters of its total export volume of the metal, to the EU in 2022 (Ainger, 2023). The EU market is far more critical to the United Kingdom than the other way around: half of the United Kingdom's exports go to the EU, while the United Kingdom represents only 10% of the EU's total exports. A similar trade balance and the relative importance between the EU and United Kingdom is seen in the aluminum sector. In contrast, the United Kingdom exports very little cement to the EU, with the EU's exports to the United Kingdom being an order of magnitude larger (HM Revenue & Customs, 2023).

Trade in fertilizers between the EU and the United Kingdom is worth significantly less than metals, representing less than 2% of the trade flow. However, there is a strong dependence on the EU for ammonium nitrate, which, from 2018 to 2022, accounted for almost 100% of the supply, dropping only marginally to 99% in 2023. Lithuania and Poland collectively account for the vast majority, totalling 75% of imports for 2023. The United Kingdom estimated in early 2024 that it produced approximately 40% of its nitrogen fertilizer requirement, importing the remainder (Darragh, 2024).

It will be essential for policy-makers to account for the different challenges faced by the manufacturing and power sectors and differentiate their policy approaches. Of particular importance is the fact that companies in the power sector can pass carbon costs down to consumers. In contrast, manufacturers cannot do this easily because of international trade competition.

3.2.1 Electricity Trading

Since 1986, the United Kingdom and Europe have shared electricity across their borders through high-voltage cables known as electricity interconnectors, enabling electricity to flow to the market where it can command the highest price. Nine electricity interconnectors exist between the United Kingdom and continental Europe, Ireland, Northern Ireland, and Norway. Following a hiatus, the number of electricity interconnectors between the United Kingdom and EU markets is increasing, facilitating much greater power trade.

The United Kingdom is typically a net importer of electricity, exporting power to Ireland but importing from France, the Netherlands, and Belgium. Provisional data from the United Kingdom government suggest that in 2023, 33.2 TWh of power was imported and 9.4 TWh was exported (United Kingdom, 2024b). The total value of electricity imported into the United Kingdom from the EU in 2020 was GBP 653 million, which rose to GBP 2.2 billion in 2022. For the same period, British electricity exports to the EU increased from GBP 149 million in 2020 to GBP 3.2 billion in 2022 (Office for National Statistics, 2023).

There are concerns that the current design of the EU CBAM as it relates to electricity could adversely impact cross-border trade. It is difficult to attribute a precise value for the carbon content of a unit of traded electricity and ascertain whether a carbon price has been paid. This is due to the physical characteristics of electricity and the fact that it is most often traded anonymously through power exchanges (Energy UK, 2023b). Therefore, the approach taken in the EU CBAM Regulation is to use a weighted average of fossil fuel-generated electricity in the country or regional grids (European Commission, 2023a). Despite the fact that, overall, the United Kingdom's power sector has a lower carbon intensity than many member states and is following a similar decarbonization pathway as the EU, the EU CBAM levies a carbon charge for its electricity exports based on the emissions intensity of all exporters' fossil fuel-based energy sources, including gas-fired power generation in the case of the United Kingdom. Therefore, if selling power to the EU, even British producers of zero- or low-carbon power, like offshore wind and nuclear, would be required to pay the carbon levy (AFRY, 2024).

Any increase in administrative costs resulting from the additional reporting in electricity trading, however minor at the transaction level, could have disproportionately negative impacts at the aggregate level. It could ultimately feed through into higher prices to EU consumers, for example. Furthermore, given the critical importance of interconnectors in grid balancing and, ultimately, decarbonization, additional "friction" of this nature could contribute to slowing down the transition.

3.2.2 Hydrogen

Hydrogen is expected to play a significant role in decarbonization, especially in "hard-to-abate" sectors, but currently its role is negligible. Hydrogen can be used as feedstock, a fuel, an energy carrier, or a storage solution across different applications in a wide range of sectors (Quarton et al., 2020). Critical to the issue of hydrogen trading will be its "colour," meaning its means of production—be it "blue," "brown," or "green"[3]—and the level of direct and indirect emissions associated with it. Currently, imports and exports of "green" hydrogen to and from the EU are very low. To transition to a decarbonized hydrogen market in the EU, the European Commission aims to reach 10 Mt of hydrogen produced from electricity generated from renewable sources in the EU by 2030, along with an additional 10 Mt of imports: 6 Mt directly as hydrogen and 4 Mt in the form of ammonia and other derivatives, including e-methanol, e-kerosene, and e-diesel, up from virtually nothing today (European Commission, 2023a).

The United Kingdom set out its hydrogen strategy in 2021, increasing the goal to account for 10 GW of renewable hydrogen production by 2030 and aiming for at least half of this production to be done using electrolytic ("green") hydrogen (HM Government, 2021). The United Kingdom–Germany hydrogen partnership agreed on in September 2023 will see both countries accelerating the role of low-carbon hydrogen from renewable sources in both

[3] The most common form of hydrogen production today is steam methane reforming (grey hydrogen). Low-carbon hydrogen can be produced from electrolysis powered by surplus renewable energy (green hydrogen), electrolysis powered by nuclear energy (pink hydrogen), or applying carbon capture and storage to the steam methane reforming method (blue hydrogen) (National Grid, 2024).

countries' energy mixes and trading. While there might be a potential growing market in hydrogen trading, EU regulatory requirements, incentives, and mandates will shape renewable hydrogen sources being imported in the coming years to a greater extent than any CBAM.

Fertilizers and Chemicals

The United Kingdom's chemical industry considers itself one of the sectors most exposed to carbon leakage and believes that this, along with higher energy prices, is already eroding the business case for investment in the United Kingdom.[4] Carbon leakage is not necessarily due to the closure of existing sites. It also occurs when multinational companies decide to open new sites in places other than the United Kingdom. It is a significant challenge for manufacturers that the United Kingdom has the highest electricity prices among major industrial nations. For example, the United Kingdom is producing less fertilizers because of high gas and carbon costs.

The EU CBAM is not being applied to the chemical sector as a whole, just specific parts of it, such as nitrogen fertilizers. This is because the CBAM targets the sectors deemed most at risk of carbon leakage, but also potentially due to the complexity of the chemical industry's value chain and the potential impact across all sectors of the economy (KPMG, 2023).

The phase-out of free allocations under the EU and UK ETSs accompanies the introduction of both CBAMs. However, this only protects manufacturers selling into their domestic market, and as it currently stands, there is no support or protection for selling to export markets. The United Kingdom's chemical industry has suggested that the carbon price be refunded on products exported to countries with no carbon price (Chemical Industries Association, 2023). Furthermore, the industry has requested that the economic burden of additional measuring and reporting be considered and not added to the overall cost of doing business in the United Kingdom.

The introduction of a CBAM will only address one element of the sector's decarbonization process. Wider support, such as for the introduction of carbon capture and storage or the integration of hydrogen in processes, will be needed if the United Kingdom is to maintain a competitive chemical sector.

Box 3. The EU CBAM's impact on Northern Ireland

United Kingdom government's consultation documents have made no reference to specific design issues affecting Northern Ireland due to the potential interaction with the EU CBAM. The question of how the EU CBAM will apply to Northern Ireland under the Windsor Framework raises uncertainty.

The Windsor Framework requires Northern Ireland to align with several items of EU single-market legislation governing the trade in goods. Given the British government's intention to implement its CBAM design in Northern Ireland as part of the United Kingdom, the EU CBAM in Northern Ireland has been described as a "political ticking

[4] Comments made at stakeholder dialogue held at Chatham House on February 7, 2024

time bomb." The EU is concerned about CBAM circumvention through Northern Ireland and wants EU CBAM requirements to apply there.

There is a mechanism in Article 13(4) of the framework to add new EU acts to the list of applicable laws. The former United Kingdom Minister of State for Energy Security and Net Zero, Graham Stuart, MP, confirmed the government's understanding that the European Commission would propose the EU CBAM Regulation be added to the Windsor Framework, which requires a joint EU–United Kingdom decision in the Withdrawal Agreement Joint Committee (Dillon et al., 2024). Furthermore, the United Kingdom government confirmed in January 2024 that any proposed addition of the EU CBAM Regulation to the Windsor Framework would be subject to an Applicability Motion (United Kingdom, 2024c). Challenges remain for the new devolved government in Northern Ireland, which has returned after a 2-year hiatus.

If Northern Ireland firms are subject to EU CBAM charges and requirements, authorities will be required to apply EU CBAM requirements on behalf of the EU. There is an economic question of how the EU CBAM will harm Northern Ireland's competitiveness because it is so integrated with the Republic. Ninety-six percent of Northern Ireland's GBP 348 million in EU-bound CBAM-regulated product exports go to the Republic of Ireland. Around a quarter of the jobs in Northern Ireland's CBAM-regulated industries are linked to EU exports—92% of which are related to exports to the Republic of Ireland (Zhao & Zhang, 2023). If the United Kingdom declines to include the EU CBAM in the Windsor Framework, the EU can adopt appropriate remedial measures such as retaliation.

Linking the UK ETS and EU ETS and mirroring sectoral coverage might alleviate CBAM charges and requirements on Northern Ireland's firms and prevent the circumvention of CBAM (Zhao & Zhang, 2023).

3.3.3 Glass and Ceramics

A further difference between the EU CBAM and the proposed UK CBAM is that the United Kingdom's system will apply to glass and ceramics. Ceramics covers a very diverse set of products and, therefore, many codes under the Harmonized System of codes for traded products, which may have been one of the reasons for its exclusion from the EU CBAM. The British ceramics industry, centred on Stoke-on-Trent, has been able to command the attention of politicians in recent years due to its location at the heart of the "Red Wall"—a group of electoral constituencies, which had for generations been reliably a Labour constituency but has become an increasingly contested electoral battleground and proved to be decisive in the landslide Conservative victory at the 2019 general election.

Jo Gideon, the Conservative MP for Stoke-on-Trent Central, who has campaigned for the ceramics industry and chairs the All-Party Parliamentary Group on Ceramics, has expressed hope that the UK CBAM will be introduced quickly, fearing that the United Kingdom market will be flooded with high-carbon goods after the EU CBAM is implemented in 2026 (Harvey, 2024).

3.3.4 Jobs and Employment

The Trade Union Congress (TUC) estimates that up to 660,000 jobs in the United Kingdom's manufacturing sector and supply chains depend on the industries most exposed to carbon leakage. The industries with the most jobs at stake are iron and steel (26,000–34,000 direct jobs), glass and ceramics (25,000–41,000 direct jobs), and chemicals (20,000–63,000 jobs) (TUC, 2021). In 2021, more than 32,000 people in the United Kingdom were directly employed in producing CBAM-regulated exports to countries covered by EU CBAM. This represents 21% of the total number employed in industries making these products, the overwhelming majority in iron, steel, and aluminum manufacturing (Zhang, 2024).[5] The analysis of employment vulnerability by region suggests that workers in Wales, Yorkshire and The Humber, Northeast, West Midlands, East Midlands, and Scotland are disproportionately vulnerable to the EU CBAM, indicating the potential to further exacerbate the United Kingdom's already high level of regional inequality, which is among the highest in Organisation for Economic Co-operation and Development countries (Westwood & Kenny, 2024).

Consequently, the TUC sees that a well-designed CBAM could encourage shorter supply chains with more domestic content and encourage domestic investment, including in the energy sector. There is a clear need for the CBAM legislation to be developed in conjunction with existing domestic priorities, such as the "levelling-up agenda." As with other stakeholders, the TUC views any potential CBAM as only part of the necessary policy measures, with additional efforts needed to ensure that future trade deals include, among other things, an "effective enforcement mechanism" (TUC, 2023).

3.3.5 Investment

According to a recent survey, 72% of senior executives in the United Kingdom finance sector expect the EU CBAM to impact their organization's finance function significantly (EY, 2023). The financial service sector signalled that the complicated and varied processes of registering as a CBAM declarant across countries are particularly challenging for non-EU-headquartered companies.

The United Kingdom government believes that introducing a CBAM will give "UK businesses the confidence that when they invest in decarbonization it will result in a true net reduction in global emissions" (House of Commons EAC, 2023). The same confidence needs to be fostered within the financial sector. Some in the finance sector welcome the introduction of the CBAM as it is being introduced to enable the phase-out of the free-allocation system, which, according to HSBC, is "holding back faster decarbonization" (Rydge, 2023). Others in the EU see the introduction of the CBAM as necessary to enable further carbon market reform while avoiding or reducing carbon leakage; they see it as providing "an incentive for other countries to price their emissions" (Hawker, 2023). When the EU first introduced its ETS, it was not fiscally impactful due to its low carbon price

[5] While still indicative of the magnitude of impacts on employment in the United Kingdom, this figure should be discounted somewhat, as the study it is from includes four countries that will not be imposing CBAM border charges (Iceland, Liechtenstein, Norway, and Switzerland).

and limited scope. However, it did impact the financial sector, as it took climate change considerations out of environmental, social, and governance departments and made them an issue to be managed across organizations.

As discussed, 2023 saw increasing divergence between the United Kingdom and EU carbon prices, with the United Kingdom price significantly lower than that of the EU. Representatives from the finance industry—like other sectors—saw little chance of this price differential impacting long-term investment decisions. Investments based on 5- to 10-year price projections will be unaffected since, as the United Kingdom approaches 2030 and the number of allocations is reduced, the carbon price forecast is expected to increase, reducing the price differentials. Because of this anticipated convergence between United Kingdom and EU carbon prices over time, observed through estimated price trajectories, industry players are unlikely to take financial or investment action based on the current lower price of the UK ETS.

4.0 Risks

The United Kingdom faces a number of risks as it embarks on its CBAM, which we divide into two categories: the practical risks of implementing and operating the CBAM and the broader risks to its international reputation.

4.1 Implementation and Operation Risks

The United Kingdom government does not envisage a transition period for its CBAM, unlike in the EU. The rationale is presumably to ensure that the UK CBAM is operating alongside the EU CBAM as soon as is practical and that the United Kingdom will be able to draw lessons from the EU's experience with its transition period. The lack of a transition comes with risks, however. The EU's experience has shown that emissions reporting can run into problems with insufficient clarity about information requirements. Information from exporting countries has often arrived late, which is particularly challenging for companies not headquartered in the EU. Another series of reporting problems is expected as of July 1, 2024, when it will become a requirement under the EU CBAM to report actual levels of embodied emissions rather than default levels (electricity is excluded from this). A transition period for the UK CBAM would ease similar teething problems. In the absence of this, stakeholders have proposed a "sandpit"-style testing environment.[6]

In terms of economic risks, the United Kingdom government has calculated that the sectors proposed within the CBAM will only make up around 1% of the gross added value of the national economy, and only around 3% of overall imports will be affected. The government estimates that the effects on prices for individuals and households will be negligible (HM Revenue & Customs & HM Treasury, 2024). Many stakeholders, from the chemical industry to the trade unions, have proposed that CBAM revenues be used to support the energy transition and other decarbonization objectives. However, revenue raised under the UK CBAM will not be hypothecated; it will go into the Consolidated Fund in the Treasury (general revenue). This constitutes a missed opportunity to accelerate the urgently needed decarbonization of British industry. In the case of the EU CBAM, the European Parliament has proposed that 75% of the revenues raised go into the EU's general coffers and 25% go to member states (European Parliament, 2021), in what would be a rare example of the EU generating its own revenue, which mostly comes from member states.

The EU has been careful in developing its CBAM in accordance with WTO rules (European Commission, 2023b). Industry, such as the steel sector, has undertaken legal analysis that concludes that the ETS and CBAM are WTO consistent (AEGIS Europe, 2023). Despite this, several countries, including India, (Yermolenko, 2024) and stakeholders, such as the TUC in the United Kingdom (TUC, 2023), have continued doubts about the compatibility of CBAMs with WTO rules. A principle under the WTO is that countries should not discriminate between similar products from different trading partners and between their

[6] In the case of the UK CBAM, this would presumably be an online platform where those who will need to submit reports could make test submissions and get feedback, in advance of the introduction of reporting requirements in 2027.

products and those imported. Some suggest that WTO rules could be violated if products are treated differently based on their embedded carbon. This being the case, there will be continued legal scrutiny.

In implementing CBAMs, both the United Kingdom and the EU run the risk of deterring foreign businesses from exporting to their markets. This may ultimately lead to higher prices for consumers. Despite being a large market by any standard, many major exporters are not heavily dependent on exporting CBAM-affected products to the EU. For example, in 2020–2022, the EU was the destination for only around 10% of Brazilian exports covered by the CBAM (mainly iron and steel), equating to around 0.6% of the country's total exports (Centre for Studies in Integration and Development, 2024). In such cases, individual companies may simply opt to export to other countries and regions, especially if regulatory requirements are too onerous. This is especially likely in the case of small and medium enterprises that have less internal capacity and experience in accounting for their own embedded emissions and those of their supply chains.

Finally, one of the clearest differences between the UK and EU CBAMs is that the former is set to come into effect in 2027, 1 year after the EU CBAM becomes fully operational. This time lag has raised fears among some stakeholders about the United Kingdom receiving a flood of high-carbon goods redirected from the EU. However, other stakeholders are less convinced that a relatively small charge in a single year will be enough to significantly change trade patterns.

4.2 International Reputational Risks

In proposing BCAs, the EU and the United Kingdom have been at pains to emphasize that the goal is not to raise revenue or impact international trade but to accelerate decarbonization and tackle carbon leakage, which risks undermining the fundamental principle of reducing global emissions. Despite this, a wide range of trading partners have expressed skepticism about the stated rationale and strong opposition to the policy. One stakeholder dialogue participant working in the field of international development remarked that the EU CBAM has caused "developing countries to ask how they can avoid paying for European industrial policy." The CBAM is seen in some quarters, notably China, as old-fashioned protectionism painted green or as a response to China's dominance in strategically important supply chains (Hancock & Pfeifer, 2024). Resentment may also be felt by the governments of other countries, even close allies, as they come under pressure from businesses for guidance and assistance with a raft of complex new processes. This suggests that those implementing BCAs must account for the risk of alienating international partners and the attritional impacts on soft power, which might diminish their influence on the world stage.

In stakeholder dialogues, participants from Brazil and China said that their governments have opposed BCAs on the grounds that they are in conflict with the Paris Agreement's CBDR principle. They argue that rich countries such as EU member states and the United Kingdom are in significantly different situations than developing countries: having largely built their infrastructure and made substantial progress on decarbonizing their economies, they are now experiencing flat or falling energy demand and modest population growth. Consequently,

it is easier for them to reduce their GHGs, which is reflected in their nationally determined contributions recorded under the UNFCCC.

Many countries affected by the EU and UK CBAMs are in very different positions, developmentally, economically, and in terms of decarbonization. Having to meet the financial and administrative requirements of a CBAM will economically disadvantage the countries concerned. A proposal by the European Parliament to use revenues from the EU CBAM to finance the decarbonization of manufacturing in least developed countries (LDCs) was dropped under opposition from member states (Pleeck & Mitchell, 2023). A subtler issue lies in the fact that a developing country may effectively "pay twice" if it meets its nationally determined contributions through cutting emissions in sectors not related to the CBAM but is then charged by the EU CBAM for its exports from a higher emitting sector, despite meeting international decarbonization pledges.[7]

All of these examples risk feeding the widespread perception of injustice that has hobbled international climate negotiations in recent years, particularly where climate finance is concerned. A statement by the BASIC group of Brazil, South Africa, India, and China during COP 27 characterized BCAs as an "unfair shifting of responsibilities from developed to developing countries" that risked "aggravate[ing] the trust deficit amongst Parties" (BASIC Group, 2022). An expert participant in a stakeholder dialogue predicted that the rollout of BCAs in different jurisdictions was likely to prove highly divisive, fuel conflicts around trade and investment, and ultimately inhibit climate action.

This has given rise to discussions over whether CBAM should apply in the same way to all countries. The rationale for uniform application is that differentiating between countries based on their level of development would constitute a violation of the WTO's Most Favoured Nation obligation and would be vulnerable to challenge by those not receiving preferential treatment. Despite this, many have made the case for an approach that recognizes the circumstances of trading partners. A report from the European Parliament suggested that "Least Developed Countries and Small Island Developing States should be given special treatment to account for their specificities and the potential negative impacts of the CBAM on their development" (European Parliament, 2021).

Others point out that the EU and the United Kingdom do not import a significant volume of materials affected by CBAM from LDCs and low- and lower-middle-income countries, and therefore, exempting them would not make a material difference to the effectiveness of the CBAM policy in general (Sasmal et al., 2023). The United Kingdom government notes that imports from LDCs make up less than 0.05% of the total CBAM imports (HM Revenue & Customs & HM Treasury, 2024). However, some have urged caution and warned that any exemptions must be time-limited and subject to strict criteria. The division of countries into "developed" and "developing" when the UNFCCC was founded in 1994 continues to exempt countries that have gone on to become rich and/or major emitters, such as Saudi Arabia and China.

[7] Thanks to L. Alan Winters of the University of Sussex for this insight.

5.0 Conclusions

5.1 CBAM Alone Is Not Enough

There is broad consensus among stakeholders that a UK CBAM is needed. Many believe it was inevitable once the EU began to implement its CBAM. The introduction of the EU CBAM increased the political salience of the issue, alerted British industry to the risks they face as free allocations under the ETS are phased out, and underscored for British policy-makers the need to coordinate and/or align with the EU to mitigate potentially negative impacts for the United Kingdom. These impacts could include the rerouting of carbon-intensive products seeking to avoid the EU CBAM and the diversion of "carbon revenue" paid by British exporters from the United Kingdom to the EU.

However, the CBAM's limitations need to be recognized. On its own, it will not be able to address the entire scope of carbon leakage, never mind the broader aims of decarbonizing industry and boosting competitiveness. Therefore, careful consideration needs to be given to the following:

- **Maintaining the competitiveness of exports from companies subject to increasing domestic carbon prices.** This should aim both to maintain the existing markets in which British industry competes and make the United Kingdom a viable location for multinational companies to invest.
- **The broader package of decarbonization measures for heavy industry.** This should include a realistic assessment of the deployment prospects of carbon capture, utilization, and storage and the production and use of hydrogen. These technologies need to be tested at scale to rule them in or out on economic and/or carbon mitigation grounds.
- **Ensuring the alignment and coherence of industrial policies, carbon pricing, planning reform, and electricity market reform.**

5.2 Interactions Between the EU and UK CBAMs

The United Kingdom would be best served by introducing a CBAM that is essentially identical to the EU CBAM in terms of its monitoring, evaluation, and reporting requirements. Introducing a system that is merely similar will bring little advantage and risks discouraging international exporters. At a stakeholder dialogue, a representative of a major international business consulting firm characterized the uncoordinated emergence of different carbon regimes as the "biggest risk" for its companies.

A major difference between the United Kingdom and EU CBAM lies in the fact that the UK CBAM is a tax liability, whereas the EU CBAM is a regulation with imposed regulatory charges in the form of CBAM certificates. The UK CBAM liability will be calculated through a self-assessment tax model similar to that in operation for other indirect taxes in the United Kingdom, whereas the EU CBAM requires importers to purchase CBAM certificates, each representing 1 tonne of CO_2 emissions under the EU ETS.

Exporting countries are already indicating that the additional administrative burden associated with CBAM may put off companies from affected sectors from selling into European markets. The UK and EU CBAMs having different bureaucratic requirements would exacerbate this problem. Given that, in most instances, the United Kingdom is a smaller market, it will likely lose more importers than the EU, reducing competition and driving domestic prices upward.

The United Kingdom has proposed initial sectoral coverage for its CBAM that does not match that of the EU CBAM. The United Kingdom government is proposing that its CBAM will cover glass and ceramics, which are not included in the EU CBAM. The reverse is true for electricity. While electricity exports from the United Kingdom to the EU—even those generated by renewables—will face a CBAM upon entering the EU, electricity exports from the EU to the United Kingdom will not (Energy UK, 2023a).

The United Kingdom is proposing not to have a transition period for its CBAM, unlike the EU. While this decision can be justified, it increases the risk of problems around its introduction. The experience from the EU to date is that a transition period is of enormous value, as it highlights information needs and reporting requirements to suppliers and their supply chains and helps national registration authorities understand the complexities in advance of charges being levied. The United Kingdom will be able to draw valuable lessons from the EU's experience in implementing its CBAM, but this will not be an adequate substitute for a United Kingdom-specific transition period, given the highlighted differences between the two CBAMs. For example, the United Kingdom will apply its CBAM to the glass and ceramics sector without any EU experience to learn from and without a transition period. Given that BCAs are a novel and complex tool that demands a high level of bureaucratic compliance from a wide range of external actors, the introduction of the UK CBAM is unlikely to proceed without issue.

Putting the political challenges involved to one side, linking the EU and UK ETSs would likely exempt the United Kingdom from the EU's CBAM and vice versa. However, the United Kingdom would still need to apply a CBAM on imports from other countries. Proposing the introduction of a linked system now with entry into force to coincide with the full implementation of the EU CBAM would reduce the need for separate EU and UK CBAM monitoring and charging between them. Harmonizing bureaucratic requirements could increase economic attractiveness and unlock the political pragmatism needed to enable the introduction of a linked system.

5.3 Implications Beyond Europe

Proposals for CBAMs for the United Kingdom and the EU have sparked strong responses from trading partners around the world. Diplomatic relationships will continue to be affected and may come under strain as implementation gets underway. Central to this is the question of how the new tools treat countries at different levels of economic development. Many stakeholders advocate for exempting LDCs from CBAMs entirely, arguing that under the Paris Agreement's CBDR principle, their industries cannot (and should not) be expected to match the level of decarbonization of those in the wealthier and more industrially developed

United Kingdom and EU. Furthermore, given the relatively low level of exports from these sectors into European markets, they will not materially contribute to carbon leakage.

The United Kingdom should draw lessons from the experience of the EU, not only with the operational and technical considerations but also in terms of the impact on its international standing. The most important aspect of this is combating the perception that it intends to have developing countries pay for its domestic decarbonization. Returning the revenue to developing countries for use in industrial decarbonization would be the most effective way of doing this, but it is not being considered. However, the United Kingdom government has indicated that it is exploring how it can use its deep experience in pricing carbon to assist other countries in setting up their own domestic carbon markets, thereby ensuring more carbon revenue remains in the country.

Coralie Laurencin, a senior director at S&P Global, observed in October 2023 that "Europe's hope that its trade partners would introduce carbon markets in response to the CBAM has not yet materialized" (Gupte & Lalor, 2023). However, the extent to which the EU CBAM is driving action among governments and businesses around the world is becoming increasingly clear. This is limited not just to advancing plans for jurisdiction-wide carbon markets but also accelerating the decarbonization of sectors and building a greater understanding of the carbon content of products (Phelan et al., 2023).

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