

Carbon Border Adjustment Mechanisms (CBAM) Report

Liam Cooper

Introduction

Carbon Border Adjustment Mechanisms (CBAMs) are currently being implemented in the European Union (EU). This is the first time a policy of this magnitude has been implemented, aiming to reduce carbon leakage and overall reduce carbon emissions with the EU trading partners. The CBAM just started its transitional phase this October, and it will stay in this phase until 2025. During this transition, EU-based importers are required to report the carbon emissions embedded within their imported products. Starting in 2026, importers will have to purchase CBAM certificates that will act as a carbon tax; at first, these certificates will apply to imports of electricity, aluminum, iron and steel, cement, fertilizers, and hydrogen. From 2026 to 2034, more sectors will be included and allowances will be reduced. Further, the UK has confirmed its implementation of a similar CBAM starting in 2027. This paper aims to educate the CCL community on what a CBAM is, its purpose, its effectiveness, and its impacts on other nations.

What Is A CBAM?

CBAMs can be complex. First we must identify the problem at hand: when countries/territories impose carbon taxes (CBAMs) on carbon emissions, it raises the manufacturing costs of products. This incentivizes manufacturers to bring their business to cheaper, dirtier countries. It's important to understand the concept of carbon leakage, which is essential to understand CBAMs. Carbon leakage is when companies will move their manufacturing to cheaper, dirtier countries to avoid paying carbon taxes/pricing. CBAMs ensure that imported products also face the same kind of carbon pricing.

CBAMs act as a carbon border tax on embedded greenhouse gas emissions of carbon-intensive products imported into the EU (or any given territory), with the main intent being to equalize the price of carbon between that territory products and imports, by ensuring importers face similar conditions to that territory's manufacturers, and that the EU's climate objectives are not undermined by carbon leakage. In simple terms: CBAMs are a carbon border tax on carbon-intensive imports; this works to equalize the price of carbon between domestically-produced, clean products, and foreign, dirtier ones. Their central purpose is to prevent carbon leakage.

From an American perspective, CBAMs could be very beneficial. The U.S. has relatively strong climate and carbon policy efforts, and we import about 75% of goods from less carbon-efficient countries (Rorke & Bertelsen 2020). A CBAM would allow US industries to leverage their

carbon advantage and outcompete foreign production. In short, an American CBAM would help level the playing field, while ensuring other nations' greenhouse gas emissions are reduced – a win-win situation for Americans.

How will the CBAM fit into CCL's current advocacy, such as a carbon fee and dividend? The three policies (fee, dividend, and CBAM) work together very nicely. Both encourage reduced emissions in their production phases, with the carbon fee and dividend working domestically and the CBAM working internationally. But arguably most importantly, the policies work together because without a carbon fee, the CBAM might not comply with the World Trade Organization (WTO) rules; to ensure fairness, the WTO requires nations/territories to account for domestic carbon emissions if implementing a CBAM. For more information on how a CBAM would fit with a carbon fee and dividend, visit this [video](#).

CBAM Effects

While the EU CBAM's true effects and outcomes are unknown due to its very recent implementation, thorough research has been done on the topic, producing mixed reviews. Economists and researchers have used various research methods and have found some interesting results. Below are some surface-level positive impacts that have been associated with CBAMs:

- Any nation/territory that implements a CBAM may experience a slight increase in GDP. Studies have used statistical models that indicate a slight GDP increase due to the CBAM (Sun, et al. 2023).
- A CBAM can encourage investment in energy-efficient technologies, cleaner energy sources, and technologies that reduce carbon emissions from production (Benson, et al. 2023).
- A CBAM can inspire other jurisdictions to apply further standards on carbon intensity to both domestic and foreign products.

While these positive impacts, along with others, have been researched, there are many concerns over CBAMs and their potential negative effects. Below we will be discussing some of the worries associated with CBAMs, and why their design and implementation is more complex than originally thought.

Effectiveness at Reducing Carbon Leakage

It is imperative to analyze CBAMs' effectiveness at reducing carbon leakage, which, after all, is what it is intended to do. Surprisingly, its effectiveness has shown mixed reviews in research models. Statistical models are varied, and unfortunately it seems we won't know the true effectiveness of CBAMs at reducing carbon leakage until the EU CBAM is out of its transitional phase. As of right now, research suggests that CBAMs are effective at reducing carbon leakage, but only modestly, and not to the extent researchers previously thought. Studies have found very

mixed results, with some finding the CBAM reduces carbon leakage by 0.8% with others arguing it would reduce carbon leakage by upwards of 15% (Clora, et al. 2023).

Moreover, another main concern is that countries with CBAMs in effect may end trade altogether with developing nations. If a carbon price already exists in the exporting country, the importer can claim reductions. This incentivizes the EU (or potentially any other territory with a CBAM) to only trade with countries with low-carbon intensity manufacturing; developing countries tend to make higher carbon-intensity products.

Low Income/Developing Regions

With CBAMs acting somewhat as a carbon tariff, economists are worried how this might affect developing nations. Developing nations may not have the means to decarbonize their technology and/or have abundant trade relations outside the EU and other first-world regions. One of the main concerns surrounding developing regions is that CBAMs would increase the cost of exported products on EU shelves, making them less competitive. In simpler terms, if a low-income country exports their products to the EU, the carbon tariff will increase their production cost, making their prices on the shelves increase, therefore making them less competitive. Below are some other effects on developing nations:

- Most statistical models found that developing countries experienced a slight decrease in GDP and significant job loss due to the EU CBAM (Sun, et al. 2023).
- Maybe surprisingly, in more than one statistical model, administrative costs involved with the CBAM in developing nations proved to be a significant financial burden (Clora, et al. 2023).

Further, CBAMs may potentially lead to increased greenhouse gas emissions domestically in developing regions. Decreased GDP and reduced exports may hinder green energy and decarbonization efforts, prolonging their attainment.

This idea is expanded on here: “Regarding Africa, CBAMs can increase the cost of exports and undermine competitiveness, thus posing a considerable risk to the continent’s growth. A decline in Africa’s trade further runs the risk of hindering the diffusion and transfer of decarbonising technology, allowing for the continuation of carbon-intensive production... This will only cause additional setbacks in Africa’s ability to effectively adapt and mitigate the risks that arise from climate change” (Baker, et al. 2022). If developing nations experience job loss, decreased GDP, and overall reduced exports as a result of CBAMs, they may not have the funds to diffuse and transfer decarbonising technology, not only causing setbacks in the respective developing nation, but also reduce CBAMs effectiveness at mitigating climate change.

Policy Solution & Other Recommendations

With concern heightening over developing countries' impacts, researchers have put forth various policy solutions and other recommendations for these nations to deal with the consequences of the EU CBAM. Here are some of the highlighted solutions:

- If an Equitable Decarbonization Fund (EDF) was funded by CBAM revenues, it could help transition developing countries toward low-carbon economies. The tax revenues, mostly from developing countries, would be largely returned to developing countries and could be used to boost green transitions (Xiaobei, et al. 2022).
- The CBAM requires a third-party carbon audit, which can be costly. To mitigate these administrative costs, developing nations can implement domestic carbon reporting systems led by federal government agencies. For example: In South Africa, the Department of Forestry, Fisheries, and the Environment (DFFE) could help South African firms by aligning with the CBAM requirements. South Africa already has a Greenhouse Gas Emissions Reporting System in place, which can be adapted to align with the CBAM and assist both firms and the government in reducing compliance costs (Maimele 2023).
- One specific concern is that the EU CBAM doesn't address export-related carbon leakage. Currently, the CBAM only covers imports; this means that European goods exported to global markets are potentially vulnerable to carbon leakage. The most convincing policy solution (and the one with no negative effects in the researchers' model) is to encourage technological advancements to reduce emissions. To help exporters specifically, one approach could be to support innovation by targeting the carbon emissions of their production. For example, a predetermined financial contribution could be divided among the top 10% of the cleanest exporters in a particular industry to encourage them to adopt more eco-friendly practices (Jakob & Mehling 2023).
- Although not policy solutions, developing nations can implement campaigns so consumers are aware of carbon emissions; carbon footprint labels and other campaigns/initiatives like this can help create consumer awareness and help phase out investments in fossil fuel-intensive production techniques. They can also start initiating conversations and negotiations with the WTO to reflect the lack of fairness and equity portrayed by the current multilateral system. Maybe the WTO can change some laws and allow easier green technology implementation in these regions (Baker, et al. 2022).

Summary and Conclusion

While there are many upsides and positive outcomes from CBAM's implementation, continued research is needed to fully understand their complexities. Their effectiveness at reducing carbon leakage has proven mixed reviews, and its effect on developing regions must be coupled with further policy solutions.

CCL urges its community members to read our further material on CBAMs. Linked below are several useful resources:

[Carbon Border Adjustment Mechanisms: What are they, and why do they matter?](#)

[Understanding Carbon Border Adjustment Mechanisms and the PROVE IT Act](#)

[CBAM Handout](#)

[CBAM Explainer](#)

References

Baker, Paul, et al. “Designing an African Response to Carbon Border Adjustment Mechanisms .” *African Economic Conference 2022: Supporting Climate Smart Development in Africa*, 11 Nov. 2022,
www.tradeeconomics.com/media/Designing-an-African-response-to-Carbon-Border-Adjustment-Mechanisms.pdf.

Benson, Emily, et al. “Analyzing the European Union’s Carbon Border Adjustment Mechanism.” *CSIS*, 17 Feb. 2023,
www.csis.org/analysis/analyzing-european-unions-carbon-border-adjustment-mechanism.

Clora, Fransesco, et al. “Alternative Carbon Border Adjustment Mechanisms in the European Union and International Responses: Aggregate and within-Coalition Results.” *Energy Policy*, Elsevier, 31 Jan. 2023,
www.sciencedirect.com/science/article/pii/S0301421523000393?ref=cra_js_challenge&fr=RR-1.

Jakob, Michael, and Michael Mehling. “Comparing Policy Options to Address Export-Related Carbon Leakage.” *Ecologic Institute*, 20 June 2023,
www.germanwatch.org/sites/default/files/germanwatch_ecologic_cbam_export_leakage_2023.pdf.

Jakob, Michael. *Why Carbon Leakage Matters and What Can Be Done against It: One Earth*, One Earth, 21 May 2021, [www.cell.com/one-earth/fulltext/S2590-3322\(21\)00229-3](http://www.cell.com/one-earth/fulltext/S2590-3322(21)00229-3).

Maimele, Seutame. “Responding to the European Union’s Carbon Border Adjustment Mechanism (CBAM): South Africa’s Vulnerability and Responses.” *Trade & Industrial Policy Strategies*, July 2023.

Perdana, Sigit, and Marc Vielle. “Making the EU Carbon Border Adjustment Mechanism Acceptable and Climate Friendly for Least Developed Countries.” *Energy Policy*, Elsevier, 19 Sept. 2022, www.sciencedirect.com/science/article/pii/S0301421522004645.

Rorke, Catrina, and Greg Bertelsen. "America's Carbon Advantage - Climate Leadership Council." *Climate Leadership Council*, Sept. 2020, clcouncil.org/reports/americas-carbon-advantage.pdf.

Sun, Xinlu, et al. "The Carbon Border Adjustment Mechanism Is Inefficient in Addressing Carbon Leakage and Results in Unfair Welfare Losses." *Fundamental Research*, Elsevier, 30 Mar. 2023, www.sciencedirect.com/science/article/pii/S2667325823000791.

Xiaobei, Hi, et al. "The Global Impact of a Carbon Border Adjustment Mechanism." *Task Force on Climate, Development and the International Monetary Fund*, Mar. 2022, www.bu.edu/gdp/files/2022/03/TF-WP-001-FIN.pdf.