

Including products further down the value chain in the EU CBAM



KEY TAKEAWAYS

- If the EU's CBAM is not expanded to cover more downstream goods in some sectors, there is a risk that they will be subject to significant loss of competitiveness and resulting carbon leakage.
- But expansion brings a risk that goods not at risk of leakage will be covered; the further downstream in any value chain we go, the less the value of cumulative carbon costs relative to the total value of the good, and therefore the less risk of leakage.
- So the decision on coverage needs to be guided by objective criteria, with prevention of leakage as the primary goal. Decisions on thresholds against those criteria are no less difficult, but there is value to consistency.
- While the objective measure of leakage risk should be primary, administrative burden and complexity of compliance should also figure into coverage decisions. These tend to be higher the further down the value chain coverage is extended. This complicates the decision process, moving us away from straightforward objective criteria.
- These tensions illustrate the significant complexity of CBAM in its implementation. But inaction in the face of complexity is not an option; it is a recipe for European de-industrialization. Where solutions within CBAM are too difficult, we may need to look at options that are inconsistent with WTO rules, or that involve changes to EU climate policy.



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1. Introduction

Building on previous work conducted ahead of the adoption of the Carbon Border Adjustment Mechanism (CBAM) Regulation with Phases I (2019-2020), II (2020- 2021) and III (2021-2022) of its project “Border Carbon Adjustments in the EU”, as well as Phase IV (2023) assessing elements of the CBAM Regulation, ERCST is now extending its analysis of the evolving CBAM into a fifth phase, providing decision makers and stakeholders with a better understanding of critical issues as the CBAM proceeds from adoption to implementation.

Phase V of the ERCST project is intended to provide in-depth analysis of the implementation phase of the CBAM as it progresses to its full operationalization, and to offer a broader view of related developments at the intersection of climate and trade. The present report is the third in a series of three reports that together form the written outputs of Phase V of the “Border Carbon Adjustments in the EU” project.

The transitional phase of the CBAM is underway, but several unresolved issues persist ahead of the definitive period. One of the issues relates to the inclusion of products further down the value chain within the scope of the CBAM.

The current CBAM mostly includes imports of primary goods such as iron, steel, fertilizer, aluminium and cement, and only a few semi-finished products. Only including primary goods in the CBAM can lead to higher costs for downstream EU producers of semi-finished or finished products. The producers of semi-finished goods made mainly or partly of a good covered by CBAM will be purchasing inputs at higher prices because of the ETS applied upstream domestically as well as the CBAM applied at the border. Their foreign competitors will be purchasing cheaper inputs and may enjoy a competitive advantage.

The European Commission’s Impact Assessment accompanying the CBAM legislative proposal¹ concedes that, although the initial effect of downstream sectors may be low as long as the carbon cost facing relevant EU industries and importers is low, downstream products will be more exposed as free allocation declines and financial obligations under the CBAM increase in the future. Their modeling of different CBAM design options included options for the CBAM to include downstream sectors from the start as well as options that would be considered an extension later, as better carbon footprint data and international standards became available.

¹ European Commission, ‘Commission Staff Working Document Impact Assessment Report Accompanying the Document Proposal for a Regulation of the European Parliament and of the Council Establishing a Carbon Border Adjustment Mechanism’, SWD(2021) 643 Final (14 July 2021) <<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021SC0643>>.

In the CBAM regulation, the European Commission is mandated to release a report by the end of 2024 identifying further downstream products for CBAM coverage,² and the final decision on product inclusion will be made by 2025. The decision on which products will be covered involves a proposal from the European Commission that will be developed alongside an Impact Assessment. That proposal will take into account carbon leakage risks and the carbon intensity of downstream products.

Against this backdrop, this report examines the key considerations that should guide the selection of downstream products to be included under the CBAM, without providing an evaluation of the specific products to be covered. Section 2 provides an overview of the relevant literature and positions in the policy debate. Section 3 highlights high-level principles and considerations that should be considered when choosing to include downstream products under the CBAM, and offers a more detailed assessment of specific criteria that should guide the determination of whether to include downstream products in the scope of the CBAM, and if so which. After that, Section 4 sets out concluding remarks and connections to other EU policies.

2. Review of the Literature and Policy Positions

As the EU reviews the possibility of expanding the scope of the CBAM to downstream goods, it will take into account a number of considerations for which the evidence base remains scarce. Any potential expansion to downstream sectors will present both challenges and opportunities, and stakeholders have expressed differing views on the need for and implications of such an expansion. This section therefore attempts to synthesize insights from existing research, including the European Commission’s own Impact Assessment of the original legislative proposal, independent academic research, and studies commissioned by covered sectors. Additionally, it discusses statements and position papers of affected downstream industries, such as those represented by major associations in the automotive, home appliance, and machinery sectors.

2.1. Positions of Downstream Industries

Many downstream industries in the EU have expressed significant concerns regarding the lack of coverage of more complex goods under the CBAM, citing potential negative economic impacts including a risk of production relocation outside the EU for semi-finished and finished goods. In their view, downstream producers face a dilemma: either absorb the higher costs of raw materials

² Article 30 (3) of the CBAM Regulation states that: “At least one year before the end of the transitional period, the Commission shall present a report to the European Parliament and to the Council that identifies products further down the value chain of the goods listed in Annex I that it recommends to be considered for inclusion within the scope of this Regulation. To that end, the Commission shall develop, in a timely manner, a methodology that should be based on relevance in terms of cumulated greenhouse gas emissions and risk of carbon leakage.”

due to CBAM or outsource production to non-EU countries where no such mechanism is in place. This concern is particularly pronounced for industries with tight profit margins and high exposure to global competition, such as home appliances and automotive components. Accordingly, a joint statement from major EU industry associations, including the European Automobile Manufacturers' Association (ACEA) and Home Appliances Europe (APPLiA), has emphasized that downstream sectors will face increased production costs under the CBAM, potentially making their products uncompetitive both within the EU and on international markets.³ They have argued that while the current CBAM design aims to level the playing field for basic materials, it fails to account for the ripple effect of increased input costs on downstream products. Similarly, the electrical and electronics industry, represented by the Fédération des Industries Électriques, Électroniques et de Communication (FIEEC) and the Verband der Elektro- und Digitalindustrie (ZVEI), notes that industries reliant on basic materials like steel and aluminium will see their costs rise sharply under CBAM, threatening industrial employment and competitiveness within Europe.⁴

In another joint statement by European downstream industries, APPLiA and others argue that the current CBAM design risks exacerbating carbon leakage and socio-economic harm across downstream sectors, and therefore call for a more comprehensive and fair carbon pricing system that incentivizes emission reductions along the entire value chain, both in the EU and internationally.⁵ Among the policy recommendations they have introduced into the discussion, the caution against automatic scope extensions through delegated acts, as downstream goods are more complex than raw materials, requiring a dedicated legislative proposal and impact assessment. This proposal, they argue, should be based on clear methodologies tailored to downstream goods, and be introduced before the end of the transitional period. Additionally, regular assessments of the impact of the CBAM on all economic actors, including upstream and downstream industries, importers, and exporters, are seen as essential. Ensuring compatibility with international trade commitments and the rules of the World Trade Organization (WTO) is another key demand, and finally these sectors have stated that Article 27 may prove insufficient to prevent carbon leakage throughout the value chain, as circumvention and carbon leakage are distinct phenomena requiring targeted responses.

³ ACEA, APPLiA et al., 'Joint Statement: ETS And CBAM Proposals Need to Take into Account Downstream Industries' (ACEA et al., 24 February 2022) <https://clepa.eu/wp-content/uploads/2022/02/Cbam_Joint_Position.pdf>.

⁴ FIEEC-ZVEI, 'Joint Statement on the reform of the EU Emissions Trading System and the creation of a Carbon Border Adjustment Mechanism: European downstream industries at risk' (FIEEC et al., June 2022) <https://www.zvei.org/fileadmin/user_upload/Verband/Daten_und_Fakten/Geschaeftsstellen/European_Office_Bruessel/Fit_for_55/PP_CBAM_ETS_-_FIEEC_ZVEI_-_june_2022_VF.pdf>.

⁵ APPLiA et al., 'To be fit for purpose, the Carbon Border Adjustment Mechanism should effectively reduce carbon emissions and prevent carbon leakage down the value chain. Joint statement by the European downstream industries' (APPLiA et al., 7 December 2022), <https://pneurop.eu/wp-content/uploads/221208-Joint-statement_CBAM.pdf>.

The European Chemical Industry Council (Cefic), in a position paper, has highlighted how the partial application of CBAM to the chemicals sector could distort competition between EU and non-EU producers, potentially putting European upstream chemical production, and eventually entire value chains, at risk of carbon leakage.⁶ Citing the example of ammonia, which was included in the CBAM proposal, Cefic argued that the broader ammonia value chain is being overlooked, affecting downstream production costs for numerous chemicals such as polyamide, polyurethanes, and amines, none of which are covered by the CBAM or free allocation of emissions allowances. This selective approach, it argued, risks weakening the competitiveness of EU producers and incentivizing imports of downstream products not subject to the CBAM.

2.2. Academic and Independent Research

Independent or academic research on the impacts of the CBAM on downstream sectors remains scarce. Research by ERCST on the aluminium value chain has suggested that if only primary aluminium is covered by the CBAM, it will result in significant cost increases for downstream producers.⁷ For example, in the aluminium industry, the CBAM could raise the cost of semi-finished products such as rolled aluminium by 10-13% of the product's sale price. The effect on downstream industries is particularly acute when the value added in the processing of these goods is low, as is the case with many aluminium products. For instance, aluminium window frame producers could see their costs increase by 13% under CBAM design proposals. This cost increase would incentivize downstream producers to relocate outside of Europe or import finished products rather than semi-finished materials, shifting the incidence of carbon leakage downstream. The problem could be exacerbated by the ability of foreign producers to adapt their production processes in order to avoid or reduce the impact of the CBAM, potentially resulting in circumvention.

In a recent study, Sandbag also discussed the potential impact of the CBAM on downstream industries and value chains. It likewise affirmed that, as the CBAM imposes carbon costs on both EU producers and importers, the prices of basic materials like steel and aluminium will rise.⁸ Sandbag expects this increase to ripple down the value chain, affecting intermediary EU manufacturers who use these materials in their production processes. These manufacturers may face reduced profit margins, particularly when competing with foreign producers who do not bear

⁶ Cefic, 'The Carbon Border Adjustment Mechanism (CBAM) proposal needs upgrading for chemicals' (Cefic, January 2022) <<https://cefic.org/app/uploads/2022/01/Cefic-position-on-CBAM-The-Carbon-Border-Adjustment-Mechanism-CBAM-proposal-needs-upgrading-for-chemicals.pdf>>.

⁷ Alexandra Maratou & Andrei Marcu, 'The Aluminium Value Chain and Implications for CBAM Design' (European Roundtable on Climate Change and Sustainable Transition, June 2021) <<https://ercst.org/wp-content/uploads/2021/08/The-aluminium-value-chain-and-implications-for-CBAM-design.pdf>>.

⁸ Adrien Assous and others, 'A Scrap Game: Impacts of the EU Carbon Border Adjustment Mechanism' (Sandbag 2024) <<https://sandbag.be/wp-content/uploads/Sandbag-CBAM-Scrap-Game-2024.pdf>>.

similar carbon costs. The study emphasizes that foreign manufacturers, especially those in regions like China, could gain a competitive advantage by maintaining lower costs for basic materials and being unhindered in selling downstream goods to the EU, since these are not covered by the CBAM. Citing two examples, offshore wind energy and car manufacturing, Sandbag finds that certain components, such as wind turbine foundations (“monopiles” and “transition pieces”), will see material price increases, whereas in the case of complex finished goods such as cars, the cost increases due to more expensive raw material inputs are likely to remain below 1% of the product value.

2.3. European Commission Impact Assessment

The European Commission’s impact assessment of the CBAM legislative proposal highlighted potential downstream economic impacts and broader value chain effects.⁹ Introduction of the CBAM was expected to result in higher input prices for downstream industries, particularly those that rely heavily on imported basic materials such as iron, steel, and chemicals. As these sectors face increased production costs due to CBAM-induced price rises, the downstream impact would vary by sector. While industries like construction and electrical goods may experience positive output growth due to a shift toward energy efficiency and electrification, other sectors such as chemicals, transport equipment, and non-ferrous metals were expected to suffer due to higher costs of inputs.

The results from the JRC-GEM-E3 model used to ascertain the economic impacts of the CBAM indicated that the overall risk of carbon leakage downstream would be quite low. However, these conclusions are dependent on the data and assumptions the underlie the model. The impact assessment also highlighted that the risk of carbon leakage downstream can vary based on the complexity of the transformation process and the carbon content of the basic material relative to overall value generation. Initially, with lower carbon prices, the risk of carbon leakage may be insignificant, but as carbon prices rise, more complex downstream products may face greater exposure to carbon leakage. The impact assessment also highlighted that recent research, with a more detailed breakdown of over 4,000 commodity groups, confirms that a significant share of EU exports and downstream products could be at risk of carbon leakage. The analysis, which accounts for carbon prices at €30/tonne and €75/tonne, shows that between 5% and 15% of all manufacturing value added in the EU could be associated with commodity groups at risk of carbon leakage.

⁹ European Commission, ‘Commission Staff Working Document Impact Assessment Report Accompanying the Document Proposal for a Regulation of the European Parliament and of the Council Establishing a Carbon Border Adjustment Mechanism’, SWD(2021) 643 Final (14 July 2021) <<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021SC0643>>.

A further finding of the legislative impact assessment was that extending CBAM to downstream sectors appeared to mitigate some of the negative output effects. For instance, the analysis showed that under a more comprehensive CBAM covering indirect emissions and downstream goods, the output decline in chemicals and non-ferrous metals would be smaller compared to scenarios where only direct emissions are targeted. However, sectors like crops, which rely on imported fertilisers, would face higher costs, leading to greater production inefficiencies.

Overall, thus, the impact assessment acknowledged a risk of short-term negative economic impacts on certain downstream sectors. To address these concerns, the assessment mentioned the possibility of extending the CBAM to cover a broader range of products and emissions, including those embedded in downstream goods, to help alleviate some of the competitive disadvantages faced by EU producers in global markets. However, the implementation of such measures would require careful consideration of the diverse value chains involved and the potential for increased costs across all stages of production.

3. What Considerations Should Guide a Decision on Downstream Extension?

3.1. General Considerations

Any potential downstream expansion of the CBAM should be guided by clear and objective principles, with the primary goal of the CBAM remaining at the forefront: preventing carbon leakage, as established in Article 1(1) of the CBAM Regulation. But we would go even further, and argue that this objective also entails that EU does not deindustrialize as a solution to decarbonization, because that would, given relative carbon intensities of production in the EU and its trade partners, by definition result in significant emissions leakage. Carbon leakage is not a self-standing phenomenon, but simply the outcome of competitive pressures due to, in this case for the EU, carbon prices from the EU ETS. Carbon price is not the only challenge facing EU industry in remaining competitive. There are many other factors, but every one counts, and at current prices, carbon has become a material element in the equation.

This provision states that the CBAM is being established “to prevent the risk of carbon leakage, thereby reducing global carbon emissions and supporting the goals of the Paris Agreement, also by creating incentives for the reduction of emissions by operators in third countries.” Therefore, the downstream extension of the CBAM should be carefully calibrated to cover all products that are at risk of carbon leakage.

Principle 1: Prevention of Carbon Leakage Should Drive Extension

Based on the foregoing starting point, a central criterion for extending the CBAM to downstream goods should be the risk of carbon leakage. Leakage refers to the displacement of carbon-intensive activities from regions with stringent climate policies, such as the EU, to regions with weaker or no carbon regulation.¹⁰ This can happen if products are manufactured in non-EU countries with lower production costs due to an absence of carbon pricing, and then imported back into the EU, undermining the effectiveness of the EU's climate policies. The goal of the CBAM, therefore, is not to protect the competitiveness of downstream producers for its own sake, but to ensure that emissions reductions within the EU are not offset by increases elsewhere.

Principle 2: Objective Metrics and Leakage Risk Formula

Decisions on expanding the CBAM should rely on objective and transparent metrics to determine the leakage risk associated with a product. A logical approach would be to align the CBAM's methodology with the existing leakage risk criteria applied under the EU ETS to determine whether certain industries should receive free emission allowances to safeguard them against leakage. This formula considers two main factors: the trade intensity of the product (how much it is traded with non-EU countries) and the carbon intensity of the product (how much carbon is embedded in its production). The European Commission should calibrate the criteria for a downstream expansion of the CBAM to stop coverage at the same level of leakage risk that triggers special treatment under the Article 10(6) of the EU ETS Directive 2003/87/EC. This would ensure consistency in applying carbon leakage protections across both systems.

Principle 3: Comprehensive Assessment of Leakage Risk

When assessing the leakage risk for downstream products, it is crucial to take a comprehensive approach that accounts for the cumulative impacts of carbon costs across the value chain. For instance, if a downstream product incorporates both steel and aluminium, both materials should be considered in the assessment of the product's overall leakage risk. A holistic perspective is necessary to capture the full extent of the carbon costs passed through the value chain and avoid fragmentation in the evaluation process.

Additionally, leakage risk does not operate in isolation within sectors but can cut across different sectors and product categories. Substitution effects across value chains are a critical risk in downstream industries. Therefore, the methodology for assessing leakage should ensure that cross-

¹⁰ Recital 9 of the Preamble to the CBAM Regulation (EU) 2023/956 states that: "Carbon leakage occurs if, for reasons of costs related to climate policies, businesses in certain industry sectors or subsectors transfer production to other countries or imports from those countries replace equivalent products that are less intensive in terms of greenhouse gas emissions."

sectoral impacts are accounted for, preventing gaps in coverage that could create incentives for value chain shifts outside the EU due to rising carbon costs.

Principle 4: Consideration of Future Trends and Projections

While leakage risk assessments have generally relied on historical data, such as production volumes, emissions intensities, and trade intensities, given the rapid pace of international market developments and evolving geopolitical realities it may be necessary to consider future trends and projections in making decisions on downstream coverage. Markets for certain goods are evolving rapidly, particularly with the transition toward low-carbon technologies and industrial decarbonization. For instance, the aluminium sector is seeing increased investment in low-carbon technologies, which could change the leakage risk profile over time. However, prospective concerns should not override the importance of maintaining a consistent, principle-based approach that uses clear and reliable data.

3.2. Additional considerations

There is undeniable value in using an objective metric of leakage risk to determine how far down the value chain the coverage of the CBAM should be extended. But while risk of leakage is clearly the most important criterion in making that determination, it may not be sufficient in and of itself. Other considerations might include the degree of complexity and administrative burden introduced by increasing coverage, methodological challenges, and competition across sectors.

3.2.1. Complexity and administrative burden

The further down the value chain coverage is extended, the more complex and costly it becomes to administer the regime, and to comply with it. While risk of leakage should clearly be the primary determinant, complexity and administrative burden might also be considerations in any decisions about scope of coverage.

These were factors in the choice of sectors covered in the CBAM regulation, which explicitly laid out three decision criteria:

1. Whether the sector is a large aggregate emitter of GHGs;
2. Whether the sector is significantly exposed to carbon leakage; and
3. *“The need to balance broad product coverage in terms of greenhouse gas emissions, while limiting complexity and administrative burden.”¹¹ (emphasis added)*

¹¹ Recital 31 of the Preamble to the CBAM Regulation (EU) 2023/956.

Administrative burden is the difficulty for regulators of implementing the regime. It can be increased by adding a CN code to the coverage that entails many additional covered products. For example, the decision to cover CN 7326 (other articles of iron and steel forged or stamped, but not further worked), added fifteen product categories at the eight-digit level to the CBAM's coverage, each comprising many distinct goods. Had organic chemicals (plastics) been included in the CBAM coverage, it would have covered up to 26 product categories at the 4-digit level, which include 140 more downstream categories at the 6-digit level, and thousands of individual products. That increased coverage implicates more relevant installations, more importers and transactions, more calculations of default values, more methodologies to create and keep current. All of this burden must ultimately be judged against the degree to which coverage actually prevents significant leakage.

The Commission's impact assessment of the proposal for a CBAM regulation highlights the burden and complexity inherent in greater downstream coverage. It outright rejected a policy of Carbon Added Tax paid at every stage of production, arguing that it would raise substantial administrative burden and compliance costs at current levels of information; it would have involved monitoring and verifying the carbon intensity and material composition of production at many different stages in the value chain.¹² And it singled out Option 5, which included broad downstream coverage, noting that it "increases the compliance costs compared to similar designs only targeting basic materials (and basic material products)."

Compliance complexity is a challenge for authorized declarants and the producers that feed them product information. It can be increased by extending coverage downstream, because those products then become complex goods that must calculate their emissions intensity including data from input goods, or precursors. The further downstream coverage is extended, the further upstream declarants must go in soliciting and providing information on the carbon intensity of input goods.

Even with existing coverage, there has apparently been an unexpected degree of challenge for authorized declarants and producers in obtaining GHG intensity data from upstream suppliers; in some cases, suppliers have reportedly refused to provide that information, whether out of concern for the confidentiality of data or because they simply do not have existing systems of accounting that would allow that data to be easily provided. Other things being equal, importers of goods that are further downstream face this challenge to a greater degree.

Underlying both administrative burden and compliance complexity challenges are gaps in existing data. The creation and maintenance of new methodologies and defaults depends on the ability to

¹² European Commission, 'Commission Staff Working Document Impact Assessment Report Accompanying the Document Proposal for a Regulation of the European Parliament and of the Council Establishing a Carbon Border Adjustment Mechanism', SWD(2021) 643 Final (14 July 2021), p. 79 <<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021SC0643>>

estimate GHG intensity, and at the levels of disaggregation found further down the value chain, those data simply do not always currently exist.

It is important to separate inherent difficulties from transition pains. The lack of data available from suppliers may belong in the latter category; as more and more demands—not just from CBAM—for GHG data of production come into force, major producers may have no choice but to establish accounting regimes to accommodate those demands. In the same vein, it is to be expected that over time the issues of confidentiality of data will be resolved such that firms will be more willing to share data that could be sensitive. But the inherent basic complexity entailed by a greater number of suppliers upstream of covered products, and a greater number of products to be covered by the regime, is not going to change over time.

It is also important to note that the conventional criterion for leakage risk already tends to exclude goods that are so far downstream as to present challenges in terms of administrative burden or compliance flexibility. As noted above, the further down the value chain a good progresses, the less carbon costs tend to be worth relative to the gross value added of the product. This is because most emissions tend to take place at the basic refining or processing stage of production, and the most value added tends to come during later stages. By the time basic steel and aluminium are bound up in an automobile, while they represent significant emissions, the carbon costs involved represent only a tiny fraction of the vehicle price, meaning leakage is not a significant risk.

Also, the further down the value chain, the more differentiated the product becomes, and so the less price matters compared to other factors like branding. That is, while one tonne of steel is perfectly substitutable for a like tonne of steel from another source, a Peugeot 5008 is not perfectly substitutable for a Mazda CX-5; they are different products. So, again, the presence of a carbon price in the Peugeot is not likely to be determinative in pushing buyers to the Mazda.

3.2.2. Methodological challenges

A special case of administrative burden is presented by sectors for which the methodology has not yet been developed to estimate GHG intensity at the product level. At the time of the CBAM Regulation, this was the case for both organic chemicals and refinery products. Installations in these sectors produce many different products in a single facility, and the ETS benchmarks apply at the facility level. There is no agreed method for allocating emissions among the various products produced at a given facility.

This challenge was the justification for not including organic chemicals and refinery products in the CBAM,¹³ even though they were both identified as fitting the first two criteria: significant GHG emissions, and significant risk of carbon leakage.

¹³ Recitals 34 and 35 of the Preamble to the CBAM Regulation (EU) 2023/956.

3.2.3. Competition across sectors

Another consideration that might be used to decide on CBAM coverage is the extent to which a good is in direct competition with another good that is or is not covered by CBAM. Ideally, goods that are in direct competition would either both be covered, or both not be covered, since otherwise the CBAM would distort the conditions of competition between them.

While not determinative, this was one of the considerations that compelled the EU to include aluminium in the CBAM coverage.¹⁴ Aluminium competes directly with steel in some final uses, and steel was a clear candidate for coverage.

4. Takeaways and Recommendations

A basic takeaway is the increasing complexity of the CBAM and its operationalization, once we start looking at concrete aspects. There are not always easy choices and solutions - that is, there is sometimes a need to act, but acting within the CBAM leads to very complex and potentially expensive solutions, or is potentially impractical as the information needed may be inaccessible. That simply cannot be an answer, and the outcome of “doing nothing” would be loss of the EU’s industrial base.

When in doubt we need to turn back to the overarching objective: the primary goal of the CBAM is the avoidance of carbon leakage as a result of competitive pressures due to carbon prices, and ensuring that EU industry is not disadvantaged by the burden of combating climate change with a high carbon price, which enterprises in other countries do not carry.

In these objectives, we are looking to the CBAM to address these issues, with changes in the coverage and, if needed, the architecture. However, another conclusion may be that there is a clear and present danger, which is visibly not hypothetical in the EU anymore, and that solutions may rest in the use of other means, WTO notwithstanding, or even changes to EU climate change policy.

The ongoing discussion around the downstream expansion of the CBAM presents both opportunities and challenges. The analysis in this report highlights central considerations that can help guide a downstream expansion of the CBAM. One of the key takeaways from the review of stakeholder positions and relevant literature is that, whereas the current CBAM design predominantly targets primary goods, extending the mechanism to downstream sectors may be necessary to effectively prevent carbon leakage. This may be particularly important for sectors such as aluminium, steel (many downstream sectors are steel intensive and are exposed to global competition, e.g. wind applications), and chemicals (should chemicals be added to coverage),

¹⁴ Recital 36 of the Preamble to the CBAM Regulation (EU) 2023/956.

where value chains can be complex, and where important downstream goods contain high shares of CBAM-covered raw material inputs.

If such downstream goods are not included in the scope of the CBAM, there is a risk that production or entire value chains will shift outside the EU to avoid carbon costs, leading to leakage and undermining EU climate objectives. However, any expansion of the scope of the CBAM needs to occur with precision and care, ensuring that only products genuinely facing a carbon leakage risk are included. The risk of leakage tends to diminish further down the value chain, as value-added processes reduce the relative significance of carbon costs in the final price of goods. As a result, expanding coverage too far downstream may result in unnecessary administrative complexity without significant benefits in terms of emissions reductions.

Accordingly, such expansion should be guided by objective metrics that ensure consistency and fairness across sectors. This report has proposed a number of high-level principles that can inform the decision on a downstream expansion of the CBAM. Using a leakage risk formula similar to the one applied under the EU ETS to determine which products are at risk of leakage would provide an established framework to guide this process. Additionally, a comprehensive perspective on value chain impacts is critical. For example, assessing carbon costs across sectors and product categories is necessary to avoid unintended consequences, such as value chain substitution or market distortions. This is also required to account for the cumulative carbon costs passed down the chain and ensure that carbon leakage risks are accurately captured. Finally, future trends and projections should inform any decision to expand the CBAM downstream. As the global market evolves and low-carbon technologies are adopted across industries, the leakage risk profiles of certain products may change. All this also justifies a comprehensive impact assessment prior to any downstream expansions of the CBAM Scope. Regular assessments of the impact of the CBAM on all economic actors, including upstream and downstream industries, will likewise be critical.

As a general rule, it will be best to stick with the principles enunciated above in deciding whether to expand CBAM coverage downstream, adding other considerations only when they become compelling. Objective criteria for coverage give greater predictability and fairness to the regime. As attractive as it might be, however, to rely solely on such objective criteria for determining the extent of downstream expansion, other less easily quantifiable factors may also be important. There is, for example, a good case for considering administrative burden and compliance complexity as factors determining whether to expand CBAM downstream in a given sector. While prevention of leakage will clearly be the primary consideration, there may be points at which the amount of potential leakage prevention is not worth the additional costs. This will likely not be a common situation, however. In most cases, going far enough down the value chain to trigger significant costs also results in a significant reduction of leakage risk.

The case for considering methodological challenges in allocating emissions to specific goods as a criterion for coverage is less compelling. Given time this should be a surmountable challenge, even if any final protocol for allocation will necessarily be imperfect. Similarly, the need for similar coverage of competing goods in different sectors may not be as important a criterion, since the further down any value chain we go the less likely it is that there will be direct competition across sectors.

Still, there can be cases where a high administrative burden and compliance complexity might suggest excluding downstream goods from CBAM coverage, yet these goods still face significant risk of carbon leakage. The organic chemicals value chain, for example, has a relatively high complexity almost immediately past the point of basic chemicals, but is also highly energy-intensive and trade-exposed. In such cases, the EU may need to resort to alternative measures to prevent carbon leakage.

So far, EU policy decisions have been shaped by a desire to ensure alignment with current WTO rules, including the case law of the WTO Appellate Body. Alternative solutions to carbon leakage may raise concerns under these rules. It bears noting, however, that the sense of urgency, and indeed political prioritization, of effectively addressing climate change is having consequences for the prioritization of WTO trade disciplines. For instance, traditional interpretations of differentiation between ‘like’ products under the WTO may already be evolving, as the way a product is produced – including the carbon intensity of production – acquires greater consideration.

In a world in which asymmetries of climate actions resulting from the nationally determined architecture of the Paris Agreement directly and indirectly create competitive pressures which, in some cases, will result in carbon leakage, the EU should therefore explore all possible options, including downstream expansion of the CBAM. If this is found to be too complex or too expensive, the “do nothing” alternative is not an acceptable way forward as it will impact value chains in the EU. Alternative solutions should be explored and deployed. This may involve measures that may challenged current WTO interpretations or even possibly the re-examination of current approaches to addressing climate change by the EU.

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