



## RESEARCH BRIEF

# Going Beyond Default Intensities in an EU Carbon Border Adjustment Mechanism

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*As part of its Green Deal, the European Union is currently preparing a Carbon Border Adjustment Mechanism (CBAM) that will extend carbon pricing to imports with a view to mitigating carbon leakage concerns. To reduce complexity, the CBAM will likely rely on default values to determine the carbon intensity of imports, potentially distorting the incentives for emissions abatement. We outline a CBAM design with a voluntary individual adjustment mechanism (IAM) that allows producers to demonstrate that their actual carbon intensity lies below the default value, and discuss economic and legal advantages as well as practical considerations.*

### Overview

As part of its Green Deal, the European Union (EU) is preparing a Carbon Border Adjustment Mechanism (CBAM) to address concerns about carbon leakage—uneven climate policies causing production, investment, and emissions to relocate outside the EU. All CBAM design options that are currently under consideration apply a carbon price to products imported from outside the EU. The European Commission has estimated that a CBAM could raise annual fiscal revenue of €5-14 billion for the EU. However, implementing a CBAM raises complex technical and administrative challenges. One of the more difficult steps involves determining the carbon intensity of imports, where lack of data as well as

procedural and methodological obstacles will likely prompt reliance on default values—for instance, the average carbon intensity of domestic producers in a sector.

In this paper, we propose a CBAM design with a voluntary “individual adjustment mechanism” (IAM) that allows non-EU producers to demonstrate that their actual carbon intensity lies below the default value. A CBAM based solely on default intensities runs counter to the economic logic of carbon pricing by distorting the incentives for emissions abatement. We suggest that the use of an IAM offers a superior policy option compared with such a “one size fits all” policy design. Specifically, an IAM captures additional economic benefits of carbon pricing—notably by rewarding the decarbonization efforts of producers outside the EU—and improves the legal prospects of a CBAM. Past

case law suggests that it can help a CBAM comply with the free trade rules of the World Trade Organization (WTO). Moreover, the voluntary nature of the IAM also sidesteps obstacles under general international law that would arise from making the disclosure of individual carbon intensities mandatory within the CBAM. Finally, implementing an IAM as part of the CBAM is practically feasible, drawing on the existing procedures for monitoring, reporting and verification of emissions under the EU Emissions Trading System (EU ETS).

### *Economic Considerations*

A CBAM design based solely on a default intensity runs counter to the economic logic of carbon pricing, which is based on polluters being charged according to their actual carbon intensities. There are two economic drawbacks. First, relatively clean producers get overcharged compared with high-carbon rivals. Second, it provides no incentives for abatement; the only way for a foreign producer to reduce its carbon costs is to reduce its sales to the EU. This means that key benefits of carbon pricing are lost, in a way that favours high-carbon companies. Use of an IAM as part of the CBAM design gives companies exporting to the EU the option to demonstrate that their actual carbon intensity lies below the default value (see Fig. 1). Relatively clean producers are then no longer disadvantaged, and efficient abatement incentives are at least partially restored. A CBAM design with an IAM can be adjusted to take into account possible continuing free allocation for EU producers as well as the increasing use of carbon pricing outside the EU (see Box 1). We suggest that concerns about contractual “resource shuffling” under an IAM for industrial sectors may be significantly less pronounced than for California’s border adjustment on electricity imports.

### *Legal Considerations*

An IAM improves the prospects that a CBAM will be found in alignment with WTO rules on non-discrimination. It helps ensure greater symmetry in the treatment of domestic and foreign goods by giving

foreign producers the option to follow the same process of emissions monitoring, verification and reporting (MRV) that domestic producers follow under the EU ETS. Because it strengthens the environmental effectiveness of the CBAM by providing a stronger incentive for foreign producers to reduce their carbon intensity, the IAM also increases the likelihood that the measure can be justified through recourse to the general exceptions set out in the GATT. Past case law, including a GATT panel decision affirming the design of a border tax adjustment imposed by the United States, supports this assessment (see Box 2). In another case, the WTO Appellate Body determined that use of a statutory or default baseline for foreign gasoline importers was discriminatory as long as domestic refiners were assessed against individual baselines, a practice that should be extended to importers. Finally, by obviating the need for the EU to collect emissions data from foreign entities, the voluntary nature of the IAM lowers the risk of the CBAM being considered a violation of the sovereignty of affected trade partners under general international law.

In the *United States – Superfund* case, a GATT panel affirmed a border tax adjustment imposed by the United States under the Superfund Amendments and Reauthorization Act of 1986 (SARA) on certain imported substances produced from feedstock chemicals subject to a domestic excise tax. Importers were required to furnish the information necessary to determine the amount of feedstock chemicals, but if they failed to do so, the United States was authorized to apply a default – or baseline – rate equal to the predominant method of production in the United States. According to the panel, this reliance on a default rate in combination with individual determination was sufficient to demonstrate equivalence between the domestic excise tax and the border measure applied to imports.

### *Practical Considerations*

An IAM can be rendered operational by including a general provision in the legislative text establishing the CBAM, with technical details left to delegated acts adopted by the European Commission. Importers seeking to avail themselves of the IAM would have to furnish information documenting the actual emissions associated with production of the imported goods. Ideally, the modalities of this process will follow those

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applied to comparable domestic products and avoid imposing an excessive burden on foreign producers. Under the EU ETS, the relevant modalities form part of an annual compliance cycle based on an approved monitoring plan, guidance documents setting out detailed emission measurement and calculation methodologies for different activities, and independent verification of reported emissions by an accredited third party. Importers choosing to exercise the IAM could thus be required to furnish a monitoring plan for each installation producing the imported goods, and include an emissions certificate with each product shipment that applies the same calculation methods as their EU counterparts. Likewise, importers could be required to obtain independent verification by an

accredited verifier as a means of ensuring the integrity of reported data. To limit the burden on importers, verification could be allowed by entities accredited in the country from which imported products originate.

Payment obligation under CBAM with IAM =

$$q_{ijk} \times \Delta t_{ijk} \times \max\{0, \min\{z_{ijk}, Z_i\} - f_i \times y_i\}$$

For product  $i$  supplied by producer  $j$  in country  $k$  outside the EU with an actual carbon intensity of  $z_{ijk}$ , to which the EU (absent the IAM) applies a default carbon intensity of  $Z_i$ ; free allocation for product  $i$  in the EU is  $f_i \in (0, 1)$ , average carbon intensity in the EU is  $y_i$ , and  $\Delta t_{ijk}$  is the shortfall in country  $k$ 's carbon price relative to the EU carbon price. Using illustrative parameter values, we estimate that an IAM could reduce by 10-50% the compliance obligation of a relatively efficient non-EU blast furnace steel producer, depending on the extent of continuing EU free allocation.

## References

Michael A. Mehling and Robert A. Ritz (2020), "Going Beyond Default Intensities in an EU Carbon Border Adjustment Mechanism." MIT CEEPR Working Paper 2020-019, October 2020.

## About the Authors



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