

A Carbon Border Adjustment Mechanism for the EU ETS

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I. Introductory remarks

In its recently closed public consultation on a possible carbon border adjustment mechanism (CBAM) for selected sectors as a key element of the EU Green Deal, the EU Commission has asked for comments on several policy options for such a mechanism. In the accompanying Inception Impact Assessment, the Commission has furthermore set out the benchmarks against which any policy proposal should be assessed:

(1) First and foremost, the CBAM should effectively address the risk of carbon leakage potentially caused by the EU Emissions Trading System (ETS). Carbon leakage is to be understood to occur when production is transferred from the EU to other countries with lower ambition for emission reduction, or when EU products are replaced by more carbon-intensive imports. Preferably, the CBAM should also deal with the indirect carbon leakage in energy-intensive industries which can result from the inclusion of the energy sector in ETS;

(2) the CBAM should ensure that the price of imports reflects more accurately their carbon content;

(3) as a consequence, the CBAM should offer an alternative to the current practice of free allocation of European Union Allowances (EUA; in the following also: allowances) in sectors with a high risk of carbon leakage; preferably, it would also make it unnecessary to allow Member States to compensate energy-intensive industries for the indirect carbon costs of energy production;

(4) the CBAM should be commensurate with the internal EU carbon price, and thereby restore the carbon price signal that EU consumers receive when they are making their consumption decisions;

(5) the CBAM should be complementary with internal carbon pricing, in particular the EU ETS;

(6) the CBAM should comply with World Trade Organization (WTO) rules and other international obligations of the EU ("legal feasibility")

(7) the design of the CBAM should take into account the need to minimize administrative burdens ("technical feasibility").

It could be added that the CBAM would ideally also offer incentives for third country producers to lower their carbon emissions, and for third countries to introduce a price on carbon emissions.

In the Inception Impact Assessment, the EU Commission has also briefly mentioned several design options for a possible CBAM, namely:

(a) a carbon tax on selected products, both imported products and domestic products;

(b) a new carbon customs duty or tax on imports (only); or

(c) the extension of the EU ETS to imports.

It is correctly pointed out in the document that the choice of a particular policy option and design would also have implications for the legal basis to enact the CBAM. This, in turn, also determines whether the measure could only be adopted in Council by unanimity, or by qualified majority voting (QMV).

It is suggested in this contribution to the debate to design the CBAM as a non-discriminatory carbon excise tax on selected products with border tax adjustment, to be closely aligned with the EU ETS. I will first briefly explain why I am not convinced by the two alternative policy options contemplated by the Commission. I will then outline the key features of a possible design option for a carbon excise tax (CET) linked to the EU ETS, and assesses it against the above benchmarks, with a particular focus on its WTO law compatibility.

II. (In)feasibility of an Extension of the ETS or customs duties

The possible extension of the EU ETS to imports or a new carbon customs duty, as contemplated in the Inception Impact Assessment, meet significant concerns with respect to their legal and technical feasibility (benchmarks [6] and [7]). An extension of the EU ETS to imported products, as well as an eventual relief of exported products from the costs of the EU ETS, would have to rely on a product-specific carbon footprint calculation. The same would likely be the case for a carbon customs duty, albeit possibly less granular. However, this would require enormous administrative resources and cause significant compliance costs for businesses. Moreover, more accurate versions would also have to rely on international administrative assistance, which third countries without an ETS or carbon tax would hardly be willing to provide. Moreover, the introduction of new carbon customs duties in excess of WTO tariff concessions of the EU would be contrary to world trade law. This option would thus require a renegotiation of those concessions, which would be a time-consuming process with dim prospects of success. An extension of the EU ETS to imports, in turn, would likely be regarded as discriminatory under WTO standards which require equal treatment of "like" imported and domestic products. Under the predominant, even though not undisputed so-called product-process doctrine, the "likeness" of domestic and imported products must be assessed regardless of manufacturing processes and production methods^[1]. An extension of the EU ETS to imported products that would potentially imply higher carbon charges on the imported products than on competing domestic products with similar characteristics and end-uses (e.g. domestic and imported steel), merely on ground of higher emissions caused by their production, would thus likely be judged as discriminatory treatment of like products. Such a mechanism would therefore have to be justifiable under the general exceptions clause of Article XX of the GATT, which is fraught with uncertainty^[2], albeit not inconceivable.

III. Carbon excise tax with border tax adjustment

This leaves the option of a carbon excise tax (CET). While different versions of such a tax are conceivable, the following proposal links the CET to the EU ETS, as suggested in the EU Commission's public consultation documents. If implemented, it would essentially convert the ETS carbon cost for certain production processes into a roughly equivalent tax burden on the products themselves. This would facilitate the implementation of a CBAM which effectively curbs carbon leakage, can reasonably expect to be considered compliant with WTO law, and also fulfils the other aforementioned benchmarks to a large degree. As a caveat, the concept proposed here is not a panacea for achieving the emission goals of the EU or the Paris Agreement. It merely seeks to explore how a legally and technically feasible CBAM that effectively addresses the risk of carbon leakage associated with an ETS could be designed; and it could be combined with other, additional instruments.

1. Core design features of a basic mechanism

The CET would be levied from taxpayers with certain business activities in industry sectors that are subject to the EU ETS and that have a significant risk of carbon leakage. The relevant sectors are currently listed in the Annex to the Commission Delegated Decision C(2019) 930 final. For administrative reasons, the substantive scope should be limited to the economically and ecologically most relevant products within the relevant sectors (e.g., paper, glass, steel, petroleum products, etc.). This requires some political choices, which should take into account the dual purpose of the CBAM, which is to prevent both, the shifting of carbon emissions as well as distortions of competition and an ensuing relocation of investment. The potentially relevant products can be inferred by linking the NACE Code of the high risk sectors to the corresponding CPA codes^[3].

The taxable amount of the CET would be determined per unit of taxable product. For the sake of ease of administration, the default option would be a measurement in terms of product weight. The amount of CET per unit should be dynamic; it should be re-calculated periodically, supposedly on an annual basis: In order to make the desired connection with the ETS carbon price, it should reflect average cost of acquisition of ETS allowances needed in order to produce the respective commodity under an EU-wide primary method of production (PMP) standard^[4] in the preceding year. The corresponding empirical analysis and calculations would require some administrative resources, but considerably less so than the calculation of carbon footprints, due to the much smaller number of affected products. The collection of the tax on domestic products could be aligned with standard excise taxation procedures.

To avoid double burdens with CET and the cost of ETS allowances, the payment of the CET liability should be creditable against the acquisition cost for EUAs in current or future auctions for such allowances. To this effect, certificates of CET payment could be issued, which could then possibly also be tradable. In turn, and different from the current approach, free EU ETS allowances based on the relevant best available technology (BAT) standard would no longer be issued for the production of the covered taxable products. While technically a tax on a specific product category, the product-specific CET burden would thus economically function as a prepayment on the – now unmitigated – EU ETS cost of the corresponding production emissions. To the extent that the CET burden of an individual business is higher than the acquisition cost of the allowances that it needs for the production process, because it uses a less carbon-intensive production process than the PMP standard underlying the calculation of the CET, it can effectively neutralise the corresponding part of the CET burden by selling its excess CET payment certificates to other businesses covered by the EU ETS (similar to trading the EUA themselves), or by acquiring excess allowances and subsequently trading the latter. The overall effect would be that the combination of the effective burden imposed by the CET and the remaining cost, if any, for the acquisition of EU ETS allowances would roughly correspond to the market price of allowances needed for the production of the respective commodity, based on the actual production process of the respective producer. The carbon price signal of the EU ETS would thereby be transmitted to EU consumer markets to a greater extent than under the current practice.

Imported products would be subject to a CET border tax adjustment upon importation, at the same rate of tax per unit that would be due for a unit of the like domestic product. This would also apply to imported taxable products that have been physically built into other, finished products (e.g., the steel component of an imported car). The import CET duty could be proportionally lowered, up to an amount that is equivalent to the cost for EUA needed for production under the relevant previous-year EU-BAT-benchmark, if the importer can demonstrate that the production process was less carbon-intensive than the EU PMP standard underlying the calculation of the regular CET charge and border tax adjustment. While this approach would imply some additional administrative costs, it would reward non-EU producers who strive for more carbon-friendly production processes and thus offer an incentive to invest in such processes also outside the EU. Moreover, this would contribute to a more accurate reflection of the carbon content in the price of imports (benchmark [2]).

For reasons of administrative feasibility, a *de minimis* threshold could be applied to the levy of border CET on finished imported products. While the tax would be charged per relevant unit of measurement for the CET (e.g., the weight of the built-in steel), the threshold could be set as a percentage of the potential tax liability in relation to the overall import value of the finished good.

Mirroring the treatment of imports, and in order to effectively prevent carbon leakage, exports of taxable commodities outside the EU should, in principle, benefit from a CET exemption. However, certain modifications would be needed, because as stated above, the CET also serves as a *de facto* prepayment for the acquisition cost of EUAs up to the cost that would be incurred for a method of production that meets the PMP emission standard. Hence, on the one hand, a CET exemption for exported taxable products should give rise to a *deemed* CET payment certificate, which can be redeemed in EU Allowances auctions, in order to effectively remove also the corresponding direct ETS carbon price for exported products. On the other hand, the creation of a subsidy effect in case of domestic producers with better than PMP carbon efficiency must be avoided. They would be over-compensated if they not only benefitted from a CET exemption upon exportation, but if they also received a redeemable or tradable certificate stating a *deemed* CET payment certificate over the complete equivalent of the CET exemption, because they only need a lesser amount to

cover their actual acquisition cost for ETS allowances. Hence, the deemed payment certificate for exports should be capped at the actual ETS carbon cost of production. In order to facilitate administration, the deemed payment stated on the certificate could by default be the mere equivalent of the average acquisition cost for allowances as it would be incurred for producing the amount of exported material under the BAT benchmark. A certificate over a higher amount up to the full equivalent of the CET exemption could only be claimed upon proof that the average cost of ETS allowances for the actual production process of the exported good was higher than under the BAT benchmark[5].

To the extent that the relevant commodities are physically built into exported finished products (e.g., steel into a car), a partial refund corresponding to the imputed CET burden on the built-in taxable material should, in principle, be granted. For the same reasons as explained above, this refund should however be limited to the actual EUA acquisition cost for the respective production process. This cap could be administered no different from the CET exemption cap for direct exports of taxable products, i.e. relying on a default cap based on the BAT benchmark.

Admittedly, the proposed CBAM would still not fully level the playing field for imported and domestic products, because the carbon cost for the former would be capped at the cost for allowances needed under the EU PMP standard that is the basis for the calculation of the CET burden, even if the respective foreign production process had a worse carbon performance. In a similar vein, competitive disadvantages would remain for certain exporters of taxable products, who rely on particularly carbon-intensive production processes and therefore need more EUAs than they can buy with the CET credit, since no border adjustment will be available for the actual cost of acquiring allowances. Nevertheless, even in the aforementioned cases of imports and exports, the risk of carbon leakage would at least be significantly reduced. Moreover, the proposed mechanism would ensure that the CET liability for imported products would never surpass the CET liability for like domestic products, and that the export exemption or rebate would never go beyond the effective burden imposed by the levy of the CET.

Finally, to the extent that certain taxable materials were directly used in the production of other taxable products (e.g., pulp in the paper production, assuming that both pulp and paper were subject to CET given their individual exposure to carbon leakage), the CBAM should ideally cover both tax burdens. With respect to exports of the refined product, this should be technically and legally feasible, by granting partially a refund – for the imputed CET burden on the raw material – and partially a CET exemption – for the exported downstream product with the higher processing grade, within the limits discussed above. For imported products, however, this might be more difficult to defend where the raw material is fully absorbed by the more advanced product. In those cases, it could be questioned whether a border CET adjustment also for the raw material would still qualify as a tax on the imported product, equivalent to the tax borne by like domestic products[6].

2. WTO assessment

a) CBAM and national treatment

Pursuant to GATT Art. II:2 (a) and III:2, a charge “equivalent” to an internal tax on like domestic products may be imposed on imported products. The levy on imported products may also be lower than the internal tax. Like products within the meaning of GATT Art. III:2, first sentence, are, quintessentially, homogeneous goods with respect to their material composition and perfectly substitutable regarding their end uses. This provision would therefore primarily apply to the CBAM for imported goods that would be directly subject to the CET as domestic products (e.g., steel, coal, aluminum, paper, etc.) and only to a lesser extent to the CBAM for composite finished products, which due to their sophistication often do not have a domestically produced direct equivalent which displays the same product characteristics. As regards raw materials that are directly covered by the CET, the border CET adjustment upon importation as described above would always result in a charge that is equal to the charge on the like domestic product. The border CET adjustment might even be lower, if a reduction for production processes better than EU-PMP technology were granted. The same applies to finished products with an identical amount of built-in components that are subject to CET and therefore also to the CBAM. Occasionally, an imported finished product will be highly similar to a domestic one despite a different composition with respect to raw materials that are covered by the CET, and they will thus be classified as “like” products for the purposes of GATT Art. II:2 (a) and III:2. If as a consequence, the imported product attracted an import CET liability that were higher than the CET liability for the like domestic product, this would nevertheless still be acceptable, because GATT Art. II:2 (a) only requires “equivalent”, not identical tax burdens. A differentiation of the tax burden based on the composition of the relevant product should therefore be acceptable, as can be inferred from Panel Report on *US – Superfund*s[7].

Arguably, the aforementioned conclusions are not called into doubt by the fact that domestic producers benefit from an ETS allowances credit equivalent to the amount of CET that they paid. There are not many WTO decisions on such compensating schemes; the most relevant is probably the Panel Report on *Brazil – Taxation*[8]. Here, the panel argued that the operation of the relevant tax on domestic products must be assessed “holistically” and with respect to actual rather than nominal tax burdens[9]. However, the compensation scheme for ETS allowances proposed above would arguably not lead to an actual (full or partial) reversal of the CET burden on domestic products. Instead, at least on average (based on the PMP benchmark), it permits a neutralization of the additional cost for ETS allowances incurred by domestic producers. But the latter would fall outside the scope of the GATT Art. III:2 test, because no equivalent charge, i.e. the need to acquire and surrender ETS allowances, would be imposed on imported products. Only if one were to reject an assessment based on average effects[10], one might come to different conclusions with respect to domestic producers using better than average technology, because they would tend not to need all the certificates that they could acquire using their CET credit, and could refinance part of the CET burden by selling their excess certificates or allowances, as indeed intended by the concept. Even under this premise, the charge would still be equivalent to the one upon importation of like products if one were to reject the product-process doctrine, because importers would also be entitled to a reduction in the effective tax burden if they can prove a production process that is less carbon intensive than the EU PMP. As a last resort, a justification under GATT Art. XX could be brought forward, albeit it is uncertain whether such an argument would succeed.

Finally, according to GATT Art. III:2, second sentence, internal taxes and charges must not be applied so as to afford protection to domestic production. In the context of the above proposal for a CET, imported finished products made from components that are subject to border CET adjustments could in some instances bear significantly higher tax burdens than domestic products which use less of such components and which are competing with the imported product. However, first, it would probably not often be the case that such unequal tax burdens for individual imported products amounts to a generally detrimental treatment of products from another WTO member state, rather than disadvantages only for individual foreign producers, as required by GATT Art. III:2, second sentence. Second, and more importantly, the WTO Appellate Body has repeatedly held that differentiated tax burdens based on product characteristics do not “afford protection” if the design, architecture, and structure of the measure at issue (here: the CET) provide objective support for non-protectionist objectives and purposes[11]. This would arguably be the case here.

b) CBAM and most-favoured-nation (MFN) treatment

In accordance with the MFN requirement of GATT Art. I:1, all “like” imported products would in principle be equally taxed under the proposed CBAM. However, the proposed design would also make imported products that have been produced with less carbon-intensive technologies than the EU PMP-standard eligible for a corresponding reduction of the border tax adjustment. This could *prima facie* be regarded as a deviation from the MFN obligation, which requires to accord any tax benefits “unconditionally” to like products from other WTO member countries. However, several WTO Panel Reports have stressed that this requirement must be interpreted contextually and therefore restrictively. Essentially, it prohibits to make the extension of the advantage “subject to conditions with respect to the situation or conduct of those countries”[12], such as, e.g., the operation of an equivalent ETS scheme in the country of origin. By contrast, other conditions that are not intrinsically related to product origin are admissible; this includes – but is not limited to – conditions related to the imported product itself[13]. The production process for a particular product that would be relevant for an eventual reduction in the proposed border CET adjustment, even if not considered as a condition “related” to the imported product, would in any event not be intrinsically related to a particular product origin. It would therefore be acceptable under GATT Art. I:1.

c) CBAM and the prohibition of export subsidies

Pursuant to the legally binding explanations to GATT Art. XVI and ASCM Art. 1.1(a)(1)(ii), a border tax adjustment is generally permissible for indirect taxes on products. Since the CET qualifies as such a tax, and the export tax rebates in particular would also not exceed the effective tax burden, no issues should arise with respect to the prohibition of export subsidies.

3. Additional considerations for the prevention of indirect carbon leakage

The design of a CBAM which also addresses the risk of indirect carbon leakage resulting from the inclusion of electricity producers in the ETS, to the extent that the electricity is used for industrial production in energy-intensive sectors of the economy, would be possible but it would also increase complexity.

One possible option could be to waive the need to surrender ETS certificates for the production of electricity to the extent that the energy is put to use for qualifying industrial processes (in defined energy-intensive sectors of the economy). The waiver would, however, be limited to the amount of ETS allowances that would be needed for electricity production under a BAT benchmark, in order to maintain an incentive for electricity producers to invest in more efficient and therefore less carbon-intensive production processes. To compensate for the waiver and restore the carbon price signal, the CET on the products resulting from those qualifying processes would be increased by the average costs of the acquisition of ETS allowances needed for the electricity inputs (the estimated “carbon cost footprint”). This additional CET burden on the energy-intensive product would be calculated on the basis of a BAT benchmark with respect to the production of the electricity used, and on the basis of a PMP standard with respect to the amount of electricity input for the production process. The additional CET would then only be creditable against the acquisition cost of auctioned EUAs to the extent that the taxpayer can demonstrate that her production process is more energy efficient than the PMP standard, and only in proportion to the relationship between the PMP premise and the actual electricity use. The carbon price built into the additional CET that reflects the actual electricity use (i.e. at least the one corresponding to a production process that meets the BAT benchmark regarding its electricity input) must not be compensated for, because it is not matched by a corresponding previous ETS carbon cost (since the electricity producer did not have to surrender ETS allowances, to the extent that the electricity was generated based on BAT). However, the additional CET would be fully taken into account for the purposes of the CBAM on imports and exports.

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[1] See, e.g., *Hudec*, The product-process doctrine in GATT-WTO jurisprudence, in: New directions in international economic law: essays in honour of John H. Jackson, 2000, pp. 187 et seq., with further references.

[2] See also Kysar, Preferences for Processes: The Process/Product Distinction and the Regulation of Consumer Choice, Harvard Law Review 2004, p. 525 (at p. 547, with further references): “Article XX tends to be read stringently in the context of environmental trade measures.”

[3] The NACE (Nomenclature des Activités Économiques dans la Communauté Européenne) is a European industry standard classification system relied on for sector classification in Decision C(2019) 930 final. The CPA (Classification of Products by Activity) is the related code for products typically produced in the respective industry sector.

[4] Alternatively, the CET burden could be based on the best available technology (BAT) benchmark of the current system of free allowances. However, this would reduce the incentives of CET for the development and use of less carbon-intensive technologies, as will be explained below.

[5] If deemed administratively too complex, this escape clause could also be waived, at the cost of a higher risk of carbon leakage.

[6] This is mainly relevant with respect to the GATT non-discrimination standards, which are discussed in the following section. However, it should also be noted that when making a comparison between the tax burden on imported products and like domestic products, GATT Art. III:2, first sentence, permits to take into account "internal charges of any kind ... applied, directly or indirectly, to like domestic products" (emphasis added). In one WTO Panel Report, the word "indirectly" was considered to cover, *inter alia*, taxes that are imposed on inputs; see Panel Report, Japan – Customs Duties, Taxes and Labelling Practices on Imported Wines and Alcoholic Beverages, L/6216 – 34S/83 (10 November 1987), para. 5.8.

[7] Panel Report, United States – Taxes in Petroleum and Certain Imported Substances ("US-Superfunds"), L/6175 – 34S/136 (17 June 1987), para. 5.2.7.

[8] Panel Report, Brazil – Certain Measures concerning Taxation and Charges, WT/DS472/R and WT/DS497/R (30 August 2017).

[9] Panel Report, Brazil – Certain Measures concerning Taxation and Charges, WT/DS472/R and WT/DS497/R (30 August 2017), paras. 7.164 et seq. See also Panel Report, Argentina – Measures Affecting the Export of Bovine Hides and the Import of Finished Leather, WT/DS155/R (19 December 2000), paras. 11.182 – 11.184.

[10] See, however, Appellate Body Report, EC – Measures Affecting Asbestos and Asbestos-containing Products, WT/DS135/AB/R (12 March 2001), para. 100, suggesting that a WTO member state must not necessarily accord identical treatment to each individual domestic and like imported product, but rather the group of domestic products and the group of like imported products must be compared. Admittedly, the exact implications of this finding have not yet been fully explored further, see also *Englisch, Wettbewerbsgleichheit im grenzüberschreitenden Handel*, 2008, pp. 394 et seq.; and the earlier Appellate Body Report, Canada – Certain Measures concerning Periodicals, WT/DS31/AB/R (30 June 1997), pp. 29 et seq., which required national treatment per individual import transaction.

[11] See, e.g., Appellate Body Report, Chile – Taxes on Alcoholic Beverages, WT/DS87/AB/R and WT/DS110/AB/R (13 December 1999), paras. 62 and 71.

[12] See, e.g., Panel Report, Canada – Certain Measures Affecting the Automotive Industry, WT/DS139/R and WT/DS142/R (11 February 2000), para. 10.23.

[13] See, e.g., Panel Report, Canada – Certain Measures Affecting the Automotive Industry, WT/DS139/R and WT/DS142/R (11 February 2000), paras. 10.24 and 10.25.