
INTERNATIONAL COOPERATION TO LIMIT THE USE OF BORDER ADJUSTMENT

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Climate Strategies aims to assist governments in solving the collective action problem of climate change.

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About Climate Strategies

Climate Strategies aims to assist governments in solving the collective action problem of climate change. It connects leading applied research on international climate change issues to the policy process and to public debate, raising the quality and coherence of advice provided on policy formation. Its programmes convene international groups of experts to provide rigorous, fact-based and independent assessment on international climate change policy.

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International Cooperation to Limit the Use of Border Adjustment

The paper summarises the discussion that took place during a one day workshop organised by Climate Strategies and hosted by the South Centre in Geneva, September 10. While every effort has been pursued to ensure the notes reflect the outcome of the discussions, this report is the sole responsibility of the authors Karsten Neuhoff and Roland Ismer.

Expert discussion revealed marked differences in the international perception of the objectives of border adjustments, their impact on future climate negotiations as well as preferred approaches to their implementation and legal justification. These differences became the basis for discussion about possible international cooperation on border adjustment that seeks to limit and possibly harmonise their use to a narrowly defined and therefore more widely acceptable scale and scope.

1. Objective of Border Adjustment

Throughout the day of discussion we repeatedly returned to the motivations for the use of border adjustment, as these objectives are fundamental in guiding the specific design of border adjustments and are crucial in understanding the benefits of international cooperation.

It is generally agreed that carbon pricing will only create significant cost increases for the production of a few basic commodities, including basic iron, clinker (for cement), and perhaps some basic chemicals, pulp and paper or glass. These increases only constitute a small fraction of total GDP (1-2%) in developed countries but are usually responsible for 10-20% of CO₂ emissions. Further analysis is required to understand whether carbon price differences maintained over a period of time will have significant effects on investment, production and closure decisions of associated production in countries with higher carbon prices.

From this common understanding, five **different motivations for border adjustment** emerged during the discussions:

1. provide assurance to voters that measures are pursued to address competitiveness concerns during the implementation of carbon pricing.
2. avoid relocation of production of carbon intensive commodities to areas not covered by the domestic emissions trading and thus preserve environmental integrity.
3. facilitate a move from free allowance allocation to auctioning of allowances to ensure full carbon price signal also for production with leakage concerns.
4. provide incentives for other countries to pursue more ambitious climate policy or even join an international agreement on climate policy.
5. provide incentives for producers in countries not covered by carbon pricing to improve the efficiency of their production.

A gradual shift of emphasis between the different priorities can be observed:

Shift from competitiveness to leakage concerns: Detailed analysis of carbon price impacts show that only a small number of carbon-intensive production activities are affected. Specific measures are discussed to address concerns that environmental regulation results in leakage of emissions. As production is not relocated, this also ensures that jobs are not relocated. Focusing on leakage thus addresses relevant competitiveness concerns, without opening discussion on wider competitiveness concerns that are by and large unrelated to carbon pricing.

Shift away from border adjustment as tool to influence other countries: Some political references to border adjustment envisage the instrument as a ‘stick’ to encourage countries to pursue more ambitious climate policy or join an international agreement. However, border adjustment only applies to 1-2% of production activities, which are often not very trade intensive (cement, refineries). This is unlikely to be a credible ‘stick’. It may, however, create negative repercussions that undermine international cooperation on climate policy. Even more disconcerting is the possibility that outside pressure threatening far reaching border measures could undermine the political credibility of domestic actors who aim to pursue and implement climate policy.

Shift from leakage concerns to concerns about distortions from free allocation: The policy discussions in Europe, North America and Australia have demonstrated that no government will pursue implementation of stringent carbon pricing to sectors with leakage concerns. All countries therefore are pursuing or retaining the option of subsidies to carbon intensive sectors using free allowance allocation or direct grants (e.g. State Aid). This approach limits incentives for innovation, distorts efficient investment and production choices, and by and large undermines the incentives to substitute carbon intensive products and services with lower carbon alternatives. Thus less emissions reductions are pursued in carbon intensive production and higher cost options have to be pursued in other sectors. In line with WTO rules, border adjustment can only be pursued for the real costs incurred by firms for acquiring allowances. Any free allowance allocation would therefore result in a proportional reduction of the level of border adjustment. Coordination on the implementation of border adjustment thus also helps countries to shift policy discussions from free allowance allocation towards auctioning.

Shift to border adjustment as a means to deliver domestic incentives for low carbon production and consumption:

For some sectors the only approach that might prevent or stop the use of free allowance allocation or other public subsidies (State Aid) seems to be the implementation of border adjustment. Border adjustment could also create incentives for consumers to shift away from carbon intensive commodities, irrespective of the location of production. Compared to free allowance allocation, full auctioning with border adjustment for specific carbon intensive commodities does not discriminate against producers in areas with or without lower carbon prices.

We also discussed to what extent the design of border adjustment could create **incentives for carbon efficient production in other countries**. A scheme that bases the border adjustment on the carbon content of the product demonstrated by the importer rewards importers with carbon efficient plants. In practice, most of the new and most efficient steel, cement and chemical plants have been built in the south, and therefore there would be ample supply for commodities produced by the most efficient installations. In this case, a scheme would

provide limited incentives for new investment in efficient plants. The special case of electricity will be discussed in section 2.

In summary, the discussion of border adjustment has moved away from the idea of a ‘stick’ to force other countries, towards a sector specific policy instrument and now aims to create domestic incentives for low-carbon investment, production and consumption choices.

However, even when there is consensus among climate researchers and trade experts that a ‘stick’ is not a helpful policy instrument for climate cooperation, the risk remains that border adjustment continues to be pursued by individual countries as a means to ‘encourage’ the participation in an international deal or as a protectionist approach for industrial competitiveness, rather than to address specific leakage concerns.

This discrepancy between the environmental objective and the possible result of domestic political processes was the starting point of the workshop on **how to limit the use of border adjustment**. We discussed whether it is possible for an informal or formal international process to:

- create confidence among developing countries that a border adjustment which discriminates against their producers will not be applied.
- reassure the trade community that measures which create complexities, non-tariff barriers, or otherwise undermines free trade will not be implemented.
- facilitate the implementation of carbon taxes or emissions trading with full auctioning to expose producers and consumers to the full carbon cost and address leakage concerns for a narrow set of carbon intensive activities.

Any international cooperation on climate policy has to reflect the **common but differentiated responsibilities** of countries. In the case of border adjustment three different interpretations of this requirement were discussed. First, a border adjustment measure could exempt least developed countries as envisaged in some proposals. Certification of the origin of imports could ensure that this would not result in triangle trade. But for carbon intensive commodities with relatively low investment costs, like clinker, such exemptions risk pollution havens that are unlikely to benefit any party. Second, net revenue from any border adjustment measures could be channelled back to developing countries to support mitigation or adaptation efforts in domestic sectors. Finally, it was pointed out that border adjustment would only be a minor component of any bigger climate policy package, and as long as the border adjustment is not discriminatory, other parts of the deal could provide more meaningful support for developing countries and thus reflect the differentiated nature of responsibilities, as was the case for Montreal Protocol.

International cooperation on border adjustment also has to be **flexible in order to complement different national policy instruments**, such as emissions trading and carbon taxes. While the specific implementation of border adjustment under both approaches was subject to some discussion (reflected in section 2), the possibility of an international process being flexible enough to interface with either instrument was not challenged (section 3).

The **possibility of significant carbon price differences, even between OECD countries**, remains. Differing carbon prices could reflect the different emphasis countries put on the carbon price as a policy instrument relative to more direct regulatory measures. Thus carbon prices may differ, even between countries with similarly stringent climate policy.

Border adjustment could avoid leakage concerns and offer policy makers the flexibility to choose the policy mix that is most suitable for their domestic circumstances by adjusting the carbon costs for a selected group of products, in line with the current treatment of value added tax in international trade. If border adjustments are to allow for this possibility, then they have to be linked to the carbon price, and not to the level of ambition or participation in an international agreement of the trade partner.

II. Options for National Implementation

We first discussed the underlying concepts for adjustment, including the commodities for which the adjustment is pursued, the amount of adjustment, to what extent an adjustment is pursued for commodities that are part of complex products, and whether the adjustment is pursued based on weight or value. What form the adjustment should take was then discussed, including whether the adjustment is pursued in allowances or as a charge, whether it is imposed on just imports or on both imports and exports, and whether indirect cost increases related to electricity are also considered.

The empirical work so far points to a **limited number of basic commodities** for which production cost increases related to carbon pricing are significant relative to the value added during the production process (see Sato and Mohr 2008 for international survey).

To avoid undue discrimination against foreign producers, border adjustment could only be pursued where domestic producers face carbon costs under a carbon taxing scheme or have to buy allowances rather than receiving them for free. While it was mentioned that partial adjustment might be possible where producers receive a fraction of the necessary allowances for free, we did not discuss this issue further.

Assuming full auctioning or carbon taxes, **two approaches to set the level of adjustment are discussed:**

- carbon intensity of production with best available technology. As the primary production of some basic commodities is a carbon intensive process, international comparison by experts or an agency soliciting information from domestic (and foreign) producers with interests to provide information to shift this level up (and down) should provide accurate information to determine the appropriate level of adjustment. As most concern about leakage relates to the (re-)location of new investment that typically uses best available technology (if only to save energy), this approach addresses leakage concerns. It is also compatible with the like product requirement (Art. 1 GATT) as it does not differentiate according to production process.
- carbon intensity of average domestic production. This approach provides a base line for the adjustment, and typically offers foreign producers the opportunity to use a lower adjustment rate if they can demonstrate their production process is more carbon efficient (refutable average). This would create incentives for foreign producers to increase their carbon efficiency. However, as large new production capacities that are carbon efficient are already available in developing countries, it is unclear whether the use of a refutable average would increase transport volumes to ensure imports are

sourced from the new plants or whether it would have a material impact for new investment decisions.

Setting the adjustment based on best available technology addresses the concern about like products, and can thus allow for a justification of the border measure under Art. III. However, if the objective is to find an internationally coordinated approach, then justifying the border adjustment under Art. XX is also viable and there is no specific requirement for the level of the adjustment. Using Art. XX might be seen as a way to emphasise the international nature of the approach, in contrast to justification under Art. III which in principle is only viable for unilaterally pursued border adjustments. However, the broader provisions under Art. XX do offer less certainty as to whether the dispute settlement body would uphold the border adjustment in the case of a dispute, while it also offers less guidance to limit the use of border adjustment than Art. III. It was argued that the WTO is not only built upon Art. III, but also influenced by political considerations. Therefore a justification of a border adjustment under Art. III using Art. XX as second resort was suggested as a suitable way forward.

The next question is **how far down the value chain** the adjustment for the cost increase of basic commodities is implemented. For example for steel, although the main cost increase relates to primary steel production and the subsequent production stages, the adjustment would only be pursued for the carbon cost associated with the primary steel production. It is clear that the adjustment would have to be pursued not only for primary steel, but also for half forms. It is also clear that for commodities for which carbon intensive components only represent a minor share of overall value, for example the small iron content of computers, the administrative costs of border adjustment are probably not justified. It was less clear where to draw the line between stages of production.

In this context the question of how to deal with **recycling and coupled production** was raised. For example, electric arc furnaces allow for the recycling of steel at a fraction of the carbon intensity of primary steel production. The value of primary steel, and therefore also the value of scrap that is later recycled, increases with the carbon price. This does not create a problem as long as the recycling process is less carbon intensive than the primary production process. In this way any adjustment would be pursued at the carbon intensity of primary steel. After all, scrap and recycled steel also bears the carbon cost from either initial production or import of primary steel. The slag produced together with steel in the blast oxygen furnace is an example for coupled production. Slag is a substitute for clinker in the cement production, almost all slag is used for this purpose and so its price is very close to the clinker price. This means the carbon intensity of clinker can also be applied to slag. This allows for the calculation of how much of the emissions from steel production are to be attributed to the slag production, and how much remain to be attributed to steel production.

Adjustments could be **applied to all trade flows or only to trade flows with countries with less stringent climate policies**, or those who have not signed an international agreement. Such differentiation is discussed where the political objective of border adjustment is to encourage other countries to pursue similar levels of climate policy. Apart from the difficulty of defining comparable efforts in a formal processes, this approach does not address leakage concerns that might result if countries that have signed up to international agreements put different emphasis on the role of carbon pricing in their climate policy mix, even if these countries may otherwise have pursued stringent climate policies. This illustrates the importance of clarity for the design of border adjustment. A border adjustment can either be

designed as a political incentive scheme or as a scheme that offers countries the flexibility to pursue the most suitable domestic policy mix to deliver a certain level of ambition in their climate policy.

The **adjustment can be applied just to imports or to both imports and exports**. In the case of clinker, the carbon intensive input factor for cement, an adjustment on imports would probably address concerns about relocation of clinker production. In the case of more actively traded commodities, like steel, an adjustment applied only to imports would probably not address leakage concerns.

The **adjustment for indirect cost increases** due to carbon price induced electricity cost increases deserves a separate discussion for two reasons. First, the GATT limits the applicability of border adjustment under Article III GATT to taxes borne by the product; yet in a context of an electricity grid, it becomes difficult to ascertain how many allowances had to be surrendered when generating the electricity used for the production of the good. Second, if border adjustment is to be pursued at the level of best available technology, then this offers the opportunity to use renewable electricity that does not face carbon cost increases, as input for the production process. However, in most countries all available renewable generation will be used, and some electric power still continues to be produced from fossil fuels. Therefore the production of the marginal unit of the commodity will be linked to carbon emissions from fossil fuels. Based on this economic logic, border adjustment could be pursued based on the carbon intensity of the fossil generation. However, price increases under such logic probably could not be qualified as a tax under Article III GATT. They would thus have to pass the test of Article XX GATT which would arguably mean that the adjustment could only apply to importers. Using any average benchmark for the carbon intensity for power generation might, however, discriminate against individual producers. This suggests the need to offer individual importers a guarantee demonstrating that their commodity was produced with new renewables that were not covered by other schemes (refutable average). Such provisions would not only increase the WTO acceptability, but also create material incentives for the investment in new renewable generation capacity.

The adjustment can be related to the **weight or to the value of the product**. As carbon emissions of basic commodities are proportional to the weight of the commodity the former seems more suitable. This raises the question of whether a weight based system creates complexities and complicates the alignment of a border adjustment scheme with existing customs law and codes. However, while most commodities are based on value, invoices presented to customs officials also report the weight of the goods. At all customs points scales are available for statistical verification using spot checks. Therefore it was concluded that implementation on the basis of weight is in principle viable.

An interesting discussion involved the question of whether an **adjustment would be pursued in financial terms or in terms of allowances**. While in the case of domestic carbon taxes, a charge seems to be a most suitable instrument for the adjustment, a domestic emissions trading scheme is in principle compatible with both approaches. If the adjustment is pursued using allowances, then this creates an addition to the financial incentives to avoid leakage in the form of an automated mechanism that adjusts the volume of allowances available domestically in response to any changes in trade flow. Thus it increases the environmental integrity of the scheme and the investment certainty by eliminating uncertainties about future scarcity levels caused by changing trade flows. In principle even in the case of an adjustment with a charge, the domestic government could use the revenue to

adjust the volume of allowances in the domestic trading scheme, to what extent this is in practice a credible approach is an open question.

In the US discussion it is also considered whether importers could use international off-sets to cover the carbon emissions associated with imports. As long as the off-sets used for this purpose are accounted for when determining the overall volume of off-sets used (supplementarity criteria) this can be treated in the same framework as other off-sets used within the domestic trading scheme.

The question was raised at what level a financial adjustment would have to be set if it is to complement emissions trading schemes. To avoid discrimination against foreign producers, the level of adjustment could not be higher than the current carbon price. To ensure leakage concerns are addressed effectively, the adjustment should not be much lower than the current carbon price level. This suggests that the levy varies over time, with some link to recent carbon spot prices as observed at liquid trading platforms.

This leads to the question, relevant both for adjustments using allowances and financial adjustments, whether a changing level of the adjustment creates financial risks for market participants. For exports, the adjustment compensates for the carbon costs incurred during production, and thus their risk profile and predictability of future export prices increases with the variable adjustment. Importers can choose the same strategy as domestic producers when selling on the domestic market. Either they quote future commodity prices that are indexed to the carbon price, and therefore adjust in line with the adjustment of the tariff. Or they offer firm prices in a long-term deal, and hedge the risk of changing carbon prices using forward contracts in the carbon market. This suggests that the changing level of adjustment does support, rather than hinder, international trade.

- From a WTO perspective, it would have to be clarified whether the payments made under a domestic emissions trading regime can be regarded as a tax or other internal charge. Only if that is accepted can Article III:2 GATT apply. For that to be the case, the allowances would have to be auctioned or otherwise sold. If the internal scheme qualifies as an internal charge, no discrimination results if the border adjustment again takes the form of an internal tax or other charge. A tax would obviously meet that requirement. In contrast, if instead of a tax, an importer would be placed under the obligation to surrender allowances, it would not be entirely clear whether the adjustment can be seen as a tax or other charge. However, if one takes the first step of equating the payments under an emissions trading scheme to an internal charge then the second step of equating the obligation to surrender allowances as a tax also would appear quite natural. Otherwise, the requirements under Article III:4 GATT would have to be fulfilled.

Another issue to be addressed lies in the relationship towards export taxes. Some countries, in particular China already levy such export taxes on primary products such as steel in excess of what the carbon costs would be under an emissions trading scheme. Since the purpose of a border adjustment mechanism is to remove distortions from a diverging carbon price and since such divergence is lowered or eliminated through an export tax, the border adjustment should take account of the export tax. Therefore, one could argue that in the presence of export taxes, border adjustments would be unnecessary. International tax law can provide useful lessons in this context (e.g. relating to double taxation).

Discussion about the adjustment of carbon intensive imports using allowances from the domestic trading scheme moved the debate onto questions about embedded carbon in carbon intensive commodities.

This adjustment makes the importing country responsible for the carbon associated with domestic production, and hence moves from production-based accounting to a scheme of consumption-based accounting. This shift however is only pursued for internationally traded commodities. It still maintains the incentives for domestic producers to improve carbon efficiency of their production, while creating additional incentives for domestic consumers to shift towards less carbon intensive products and services.

A scheme of financial border adjustment does not create such responsibility for the importing country. It does, however, extend the coverage of incentives for consumers to shift to less carbon intensive products and services from domestically produced goods to all goods.

While the discussion did not dwell further on these fundamental questions – they are certainly of relevance and deserve further attention for any international discussion on the use of border adjustment.

III. Options for International Cooperation

As discussed in the introduction – international cooperation on border adjustment might aim to (i) limit their use to a narrowly defined set of products and protect developing countries from discriminating approaches, (ii) create confidence that leakage concerns are addressed where countries want to move from free allowance allocation to full auctioning or carbon taxing to ensure effective carbon pricing, and (iii) ensure simple and harmonized approaches to reduce no-tariff trade barriers.

We discussed several aspects for which international coordination could provide guidance, restrictions or requirements.

- An international process might provide a list for commodities/products for which border adjustment is possible.
- It might determine whether adjustment is pursued only for direct emissions, or also includes indirect emissions related to electricity production.
- If border adjustment is pursued at the level of best available technology, then the international process and body of experts might provide guidance for this level for the relevant commodities. Given different groups of producers benefiting from higher or lower levels, the organisation should be in a good position to assemble the necessary information.
- Using an appropriate methodology, international coordination could be used to determine how far down the value chain adjustment for the carbon intensive primary commodities is applied.
- It could be discussed whether border adjustments are pursued for imports, for both imports and exports, and whether to account for both direct and indirect emissions.
- The international process could provide flexibility for some countries, like LDCs.
- The international coordination could also help to provide guidance on how climate policies in different countries could be compared, e.g. whether targeted tax provisions are used to compensate the cost impact of carbon pricing for a sector.
- It might be preferable, and indeed necessary, to allow individual states to decide whether they want financial border adjustments or allowance-based adjustment.

- International coordination could harmonize the procedures of border adjustment applied by countries (similar to OECD model law on procurement).

Given changing technology and regulatory circumstances in the discussion, it was frequently argued that some flexibility will be required to allow for adjustment over time.

A formal coordination could involve an international agreement, or could be pursued using a WTO or UNFCCC framework. In either case the coordination could involve an ex-ante approval process for countries that aim to pursue border adjustments, or provide an ex-post dispute settlement process to ensure the domestic implementation is in line with the objectives formulated in the international coordination.

Informal coordination could possibly consist of guidelines agreed on in an informal international consultation processes.

Ex-ante we did not exclude that any of the approaches would not be in a position to deliver the desired outcomes mentioned above. While this is obvious for the formal approaches, even an informal guideline might be very effective as it could enhance the WTO acceptability and certainty of any approach. It could also be effective in limiting the use of border adjustments, as countries that would pursue policies that are not covered by informal international guidelines might have difficulties to defend their position if challenged on WTO grounds.

Thus additional criteria might be considered when evaluating suitable institutional arrangements. If the international cooperation is to guide national implementation of border adjustment as envisaged in some US proposals and considered as an option for post-2012 in Europe, then confidence in the existence of a robust process would be desirable by 2010 or 2011. Given the many other topics on the international climate and trade agenda, a simple approach is obviously preferable over a complex arrangement.