

Border Carbon Adjustment: Questions and Answers (but more of the former)

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Introduction

Parties to the UNFCCC and the Kyoto Protocol are currently in talks designed to help shape a climate change regime to succeed the Protocol's first commitment period, which ends in 2012. At this point, even this close to COP-15 in December 2009 where results are mandated, the nature of that regime and the commitments it will entail are uncertain. It is possible that the successor agreement to Kyoto will not look much like Kyoto at all, and may contain neither quantitative targets nor compliance mechanisms.ⁱ Even if quantitative targets are adopted, it is almost certain that they will not apply to any developing countries (the UNFCCC's non-Annex I countries).

In those OECD countries that are set to take serious domestic action on climate change, this will inevitably prompt calls from domestic producers for protection from "unregulated" foreign firms taking their market share in both domestic and third country markets. In the US, it is understood that no climate legislation stands a chance in Congress unless it contains significant protection of this sort. The EU's third phase ETS also contains provisions aimed at placating nervous domestic producers, including the possibility of border measures. Other countries, such as Canada and Australia, are wondering if and when they may have to craft similar protective measures.

The concerns that lead to such measures are both economic and environmental. From the economic perspective, it is argued that strong measures in a world of differential commitments on climate change will cause economic pain to domestic producers that face costly regulations. From the environmental perspective, the concern is that if domestic firms lose market share, or if greenfield investment goes elsewhere, domestic environmental regulations would be rendered ineffective (or less effective), since the targeted emissions would simply have been displaced rather than eliminated. Obviously the two concerns are closely related, but they are distinct.

There are basically three options for dealing with these concerns, none of which precludes the others:ⁱⁱ

- Equalize the costs of climate regulations across global sectors;
- Lower the costs of domestic compliance;
- Increase the costs for foreign producers.

The first of these is a matter of achieving global agreements, either sectorally or more broadly in negotiations such as those conducted under the UNFCCC and the Kyoto Protocol.ⁱⁱⁱ The second is an option adopted for now by the EU and provisionally in the US as well, embodied in such measures as free allocation of emission permits or rebates to vulnerable industries.

The third is the subject of this brief, and to date has been imagined as some form of border measure designed to "level the playing field," sometimes labelled border carbon adjustment (BCA).^{iv} This could take the form of a tax designed to correspond to a domestic carbon tax burden (in which case it would be a border tax adjustment), or of a requirement to buy into a domestic emissions permitting scheme at the point of import, as currently envisioned under the America Clean Energy and Security Act (ACESA). A full treatment of BCA as a policy option would, of course, include treatment of the alternatives to BCA – strategies 1 and 2 – but such an analysis lies beyond the scope of this brief.^v

The analysis below first considers the nature of the competitiveness problem, and then the challenges of dealing with it through BCAs. It then surveys the issues of trade law, and of effectiveness and administrative feasibility, and finally considers the wider geopolitical implications of the use of BCAs. The brief concludes with a set of questions designed to stimulate discussion.

Competitiveness

Not *all* domestic producers will be subject to competitiveness impacts under the “unilateral action” scenario. Some, for example, may not trade their goods across borders in any significant measure. Ultimately only the following types of sectors are potentially vulnerable:

- those that use large amounts of energy in the production process;
- those for which there are easy substitutes, either in the form of imports of the same good (highly traded goods), or in the form of different goods that can serve the same purpose;
- those for which there are no cost-effective technologies available or in the pipeline that would lower carbon intensity.

These are the *trade-exposed energy-intensive* sectors. There has now been enough analysis that we have an agreed list of the usual suspects: iron & steel; chemicals; pulp & paper; cement; aluminum and sometimes petroleum refining. Exposure can be high; in one U.K.-based study, the costs faced by domestic producers in the top five sectors ranged from just over 10 per cent to over 40 per cent of value added.^{vi} The same study found that those sectors made up just over 0.5 per cent of GDP. That number will vary from country to country, of course, but the analysis to date agrees that the percentage is relatively low.

While this sort of research is indispensable as a basis for sound policy, it typically suffers from two weaknesses that may cause it to overstate the extent of vulnerability. For one thing, many models assume unilateral action—the implementing country takes action, but no other country does. This may be a convenient simplifying assumption, but in the final event it is not realistic. For another thing, general equilibrium models for assessing the impacts of domestic policies will typically understate the ability of those policies to drive technological change that might blunt competitiveness impacts in the longer term.

Legal aspects

A border carbon adjustment is a trade measure and, as such, would be covered by the rules of international trade. These are embodied in the World Trade Organization (WTO), as well as in numerous regional and bilateral trade agreements. Only the former is considered here, the relevant obligations contained in the latter being typically similar.

It is impossible to say in the abstract whether BCA would or would not breach WTO obligations, since any such judgement would depend fundamentally on how the scheme was designed. But it is possible to describe what WTO law says about that design.

First, it should not discriminate between domestically produced products and like foreign-produced products—both should be treated similarly (national treatment). Arguably this is not a

problem if the tax or cap-and-trade scheme can be made to have equal effect on domestic and imported goods.^{vii} If domestically produced products in certain sectors are covered by free allocations of emission permits, for example, then their foreign counterparts should also get such treatment, other things being equal.^{viii}

Second, it should not discriminate between like products based on the country of production (MFN). The rules for like imported products should not favour any importing country over another. This might pose problems for schemes designed to focus on only a few key foreign countries. But before getting to that question, it is important to note the importance of what is meant by “like” products. Is a tonne of cement produced with solar energy “like” a tonne of cement produced using coal? Is a ream of paper from a country with no climate change policies “like” a ream of paper from an Annex B Party to the Kyoto Protocol?^{ix} This is a critically important question, a full treatment of which is not possible here. We argue that according to WTO Appellate Body jurisprudence the two products probably would be considered “like.”^x

So a BCA could neither discriminate on the basis of a country’s climate change policies, nor choose to just focus on the trading partners of major commercial interest, without violating MFN. It is worth noting that ACESA as currently framed does exempt countries on the basis of low contributions to total global GHG emissions.

This would not be the end of the story, however, since such a measure might still be saved by recourse to GATT Article XX Exceptions. Article XX(b) or XX(g) are the relevant exceptions, but a full analysis of how they might or might not be applicable to BCAs is beyond the scope of this brief.^{xi} But if we assume, as seems likely, that BCAs would be accepted as covered by one of these exceptions, what does the case law tell us about how they must be designed?

It should be noted here that the case law in question is all highly specific to the case at hand. Depending on the final design of the BCA measures being examined, it can’t be said *ex ante* that the WTO’s dispute settlement mechanism would hold a measure to the requirements described below. It can be said, though, that a measure that followed these requirements probably stands a much better chance of being cleared by the Article XX exceptions.

There are at least three requirements of interest. First, BCAs should probably be designed to take into account *all* policies and measures implemented by its trading partners that might have an impact on climate change.^{xii} For example, in deciding whether a given exporting country is taking actions comparable to EU actions, it would not be permissible to require a cap-and-trade system identical to the one in force in the EU. The EU would have to consider whether a range of other policies (such as renewable portfolio standards, energy efficiency targets, technology requirements and fiscal measures) might, in the end, be delivering an equivalent result.

Second, BCAs should probably also take into account the differences prevailing among individual producers.^{xiii} The implementing country might be tempted to simply assign a carbon-intensity baseline for all producers from a given sector within a country based, say, on the sector average. This would unfairly penalize highly efficient producers that emitted less carbon than the assigned average. To respect this requirement would mean firm-by-firm (or perhaps even factory-by-

factory) calculations of embodied carbon, or at least an avenue for affected firms to challenge the baseline.

Third, BCAs as a unilateral measure to enforce environmental policies should probably only be implemented after a concerted effort to gain multilateral agreement to address the problem.^{xiv} According to this requirement, before implementing a BCA, there should have been good faith (but ultimately unsuccessful) efforts to reach a cooperative multilateral solution to the problems that the BCA would address.

Effectiveness

Some aspects of BCA design will influence the degree to which they are successful in achieving their basic objectives, and three of these are surveyed here. First is the question of whether the scheme covers only basic materials (such as raw aluminum) or also covers manufactured products made from those materials (such as aluminum frame bicycles). As described in the next section, a broader scheme will be particularly difficult to manage, but a scheme that is more narrowly cast may have unintended adverse impacts. Specifically, it will raise the price of aluminum as an input good to domestic manufacturers of, say, bicycles, but it will not levy any charges on imported bicycles. Such a scheme protects the aluminum sector from competitiveness impacts, but not the sectors that add value to aluminum. It is worth noting that most developed countries depend more heavily on sectors providing value added than on production of basic raw materials.

A second question is whether foreign producers will simply be able to evade the controls imposed by a BCA. Houser *et al.* (2008) point out that the United States imports five million tons of steel from China annually and two million tons from Japan. They argue that a scheme that imposed border adjustment on Chinese steel might simply cause increased flows from China to Japan, and increased flows from Japan to the United States, without in the end protecting U.S. steel producers. It is also possible to imagine scenarios where partially finished products are shipped to Annex B Kyoto Parties for finishing and final export from those Parties to the implementing state. To stick with the example of steel, India might export hot-rolled steel to Canada for cold rolling, and the finished product could then be exported to the United States as originating from Canada. Those familiar with rules of origin challenges will recognize this problem.

Finally, a BCA should be evaluated on its potential leverage—the extent to which it might in fact exert pressure on target countries to adopt stricter policies, or to take on tough treaty obligations. This potential will of course vary from country to country and sector to sector. In those cases where the percentage of a given good exported to the implementing country is particularly small, imposing the BCA will likely have little or no policy impact on the exporter.

Administrative feasibility

The concerns surveyed here stem primarily from the legal and effectiveness aspects surveyed above. In some aspects of BCA design there is an inherent tension between administrative feasibility on the one hand, and effectiveness or WTO legality on the other.

It was noted above that WTO case law gives us some indications what BCA must look like, including a requirement that would seem to rule out the use of nationally established baselines.

That is, it might be considered unfair to adjust at the border for a given shipment of paper based on the national average energy intensity of paper production. Each producer should have the right to establish its own carbon footprint. This would be extremely complex to administer, and would involve a plant-by-plant determination of carbon emitted, as well as some sort of accredited verification process. Most of the necessary data are not currently collected. It is, however, conceivable that baselines could act as a default that could be subject to challenge by individual producers.

Along the same lines, an ideal BCA would have to determine whether the exporting country or firm was in fact making efforts to address climate change that were comparable to those made in the importing country. That is, BCA should be applied only to the extent that it levels the playing field, but first we must find out how far from level it is. This is no easy task. China, for example, has no cap-and-trade scheme, nor does it impose a carbon tax, but it has made enormous efforts to increase energy efficiency and introduce renewable energy sources. But these are not called climate change measures, and it would be a challenge to devise a common metric by which such policies could be compared to the policies of a country imposing a BCA.

It was also noted that BCA should probably avoid covering only basic goods, so as to avoid punishing domestic manufacturers that use them as inputs. In other words, BCA would ideally cover both aluminum *and* bicycles. But this would require an enormous amount of data that currently does not exist, and a highly convoluted system of accounting, given the distributed nature of global production chains.

Geopolitical implications

Whether explicitly or not, many proponents of BCA consider them a good lever to bring reluctant (read: *developing*) countries to the negotiating table in the climate change talks, or otherwise to encourage them to take strong action on climate change. Any proposed BCA must be assessed on this criterion as a matter of primary importance.

It was noted above that some countries may not have particularly large trade flows to the implementing country in the vulnerable sectors. In such cases, the leverage will be correspondingly small. Houser *et al.* (2008) argue, for example, in the context of U.S. proposals to implement BCAs, that China's steel exports to the United States amount to less than one per cent of total production.

More fundamental, however, is the need to consider what impact BCAs would have on the climate negotiation process. In particular, is it likely that they could act as a lever to encourage non-Annex B Parties to sign up for hard targets in the post-2012 context? As partial answer to this question, it should be recalled how developing countries reacted to the U.S. imposition of the measure that gives us much of the WTO dispute settlement material relevant to BCAs—a measure to ban imports of shrimp caught in ways that killed endangered sea turtles. To describe the reactions as vitriolic would be an understatement.

It is worth recalling that in the *Shrimp-Turtle* case the United States was arguably legitimately trying to protect the environment, and not its producers (at least as a first order objective), and that it had the benefit of clean hands, environmentally speaking, having implemented the very

measures to which it was asking others to adhere. BCAs might have neither of these benefits, being explicitly aimed at competitiveness concerns, and potentially being implemented by those Parties that have done historically, and continue to do, the most global damage in terms of climate change.

This last point is important – developing countries contributed historically very little to climate change, and the UNFCCC principle of common but differentiated responsibility recognizes this by asking developed countries to take the lead in addressing it.^{xv} To the extent that BCA forces equivalent efforts from all countries by levelling the playing field, it ignores this principle.

It is difficult to predict how such measures would eventually play out in the climate change negotiations. But it is worth noting that in recent talks a number of key developing countries have demanded outcome language that would ban the use of unilateral trade measures in the service of climate change objectives. This could yet prove to be a difficult sticking point.

Questions for discussion

1. Is it possible to reconcile BCAs with the UNFCCC principle of common but differentiated responsibility? BCAs are based on the idea of levelling the playing field, but CBDR is an agreement that the field should *not* be level – that Annex I countries should do more, because of their historical responsibility for climate change and because of their greater capacity for action.
2. Is it possible to design a BCA in a way that would make it fair in its treatment of developing country exporters, or are they inherently flawed mechanisms? This discussion should go beyond the issue of compliance with WTO law to compliance with the *spirit* of WTO law. Are there flanking mechanisms that could compensate developing countries for any inherently problematic elements of BCAs?
3. Is there any scope for international agreement that would avert the use—or even *discipline* the use, through some sort of guiding principles – of BCA? Neither the WTO nor the UNFCCC seem likely venues for such agreement, but without it we seem likely to head to a divisive WTO dispute settlement that would make *Shrimp-Turtle* look like a church picnic.

References and Further Readings

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Notes

ⁱ Drexhage (2009).

ⁱⁱ Grubb *et al.* (2009).

ⁱⁱⁱ Note that in neither of these agreements are costs actually *equalized* across countries. The principle of common but differentiated responsibility dictates that developed countries should bear a much larger burden in mitigating climate change. The important thing is multilateral agreement on the sharing of the burden. These issues will be explored in greater depth below.

^{iv} Cosbey (2008).

^v But see Wooders, Cosbey and Stephenson (2009), and Dröge (2009), among others.

^{vi} Hourcade *et al.* (2007).

^{vii} For a detailed argument of this proposition see Pauwelyn (2007).

^{viii} Free allocation might also be regarded as an actionable subsidy under the Agreement on Subsidies and Countervailing Measures. See Howse (2009); de Cendra (2006).

^{ix} The Parties in Annex B of the Kyoto Protocol have subscribed to specific targets for reduction of GHG emissions.

^x Cosbey (2008).

^{xi} But see for example Cosbey (2008); Pauwelyn (2007); de Cendra (2006); Ismer and Neuhoff (2007).

^{xii} See *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, (WT/DS58/AB/R) 12 October 1998, paras. 161-164.

^{xiii} See *Ibid*, para. 165; also *United States – Standards for Reformulated and Conventional Gasoline*, (WT/DS2/AB/R), 29 April 1996, p. 28. (But note that in *US-Gasoline* the ready availability of usable data and methodologies was a central factor in the AB's determination.)

^{xiv} Technically this is not what the Appellate Body said in *US-Shrimp*, though it is frequently cited as such. In its discussion on “unjustifiable discrimination” the Appellate Body said that a multilateral approach was much to be preferred, but in the end ruled against the U.S. not because of a lack of such an approach as such, but because it had taken such an approach with some states and not with others. That said, the language of the ruling *strongly* suggests that multilateral negotiations would be considered a prerequisite to a WTO-legal use of such a unilateral measure.

^{xv} UNFCCC Article 3.1, 4.1, Preamble; Kyoto Protocol Article 10. These are explicit references, but the principle is woven into the fabric of the two agreements in more fundamental ways. The Kyoto Protocol, for example, segregates developing and developed countries in terms of expected actions, the latter having quantified targets for emissions reduction as well as a number of financial and cooperative obligations.