

Border Carbon Adjustment: Questions and Answers (But More of the Former)

**Background paper produced for the
2009 International Trade Experts' Meeting
October 26–27, Toronto**

Aaron Cosbey
Associate and Senior Trade and Climate Change Advisor
International Institute for Sustainable Development
acosbey@iisd.ca



©2009 International Institute for Sustainable Development (IISD)

IISD contributes to sustainable development by advancing policy recommendations on international trade and investment, economic policy, climate change and energy, measurement and assessment, and sustainable natural resources management. Through the Internet, we report on international negotiations and share knowledge gained through collaborative projects with global partners, resulting in more rigorous research, capacity building in developing countries and better dialogue between North and South.

IISD's vision is better living for all—sustainably; its mission is to champion innovation, enabling societies to live sustainably. IISD is registered as a charitable organization in Canada and has 501(c)(3) status in the United States. IISD receives core operating support from the Government of Canada, provided through the Canadian International Development Agency (CIDA), the International Development Research Centre (IDRC) and Environment Canada; and from the Province of Manitoba. The Institute receives project funding from numerous governments inside and outside Canada, United Nations agencies, foundations and the private sector.

**Border Carbon Adjustment:
Questions and Answers (But More of the Former)**

October 2009

Aaron Cosbey, IISD

International Institute for Sustainable Development
161 Portage Avenue East, 6th Floor
Winnipeg, Manitoba

Canada R3B 0Y4

Tel.: +1 (204) 958-7700

Fax: +1 (204) 958-7710

Website: www.iisd.org

The full suite of IISD's work on trade and climate change—featuring the *Bali to Copenhagen* suite of research—is available at www.iisd.org/trade/crosscutting.

1.0 Introduction

Parties to the United Nations Framework Convention on Climate Change (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 (Drexhage, 2009). 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 Organisation for Economic Co-operation and Development (OECD) countries that are set to take serious domestic action on climate change, this will inevitably herald calls from domestic producers for protection from "unregulated" foreign firms taking their market share in both domestic and third-country markets. In the United States it is understood that no climate legislation stands a chance in Congress unless it contains significant protection of this sort. The European Union's third-phase Emission Trading System (ETS) also contains provisions aimed at placating nervous domestic producers. 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), because the targeted emissions would simply have been displaced rather than eliminated. Obviously, the two concerns are closely related, but they are distinct.

Basically, three options exist for dealing with these concerns, none of which precludes the others:

- Equalize the costs of climate regulations across global sectors;
- Lower the costs of domestic compliance;

- Increase the costs for foreign producers. (Grubb, Brewer, Sato, Heilmayr & Fazekas, 2009)

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.¹ The second is an option adopted for now by the European Union and provisionally in the United States as well, embodied in such measures as free allocations 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, or BCA (Cosbey, 2008). 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 above—but such an analysis lies beyond the scope of this brief.

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, finally considering the wider geopolitical implications of the use of BCAs. The brief concludes with a set of questions designed to stimulate discussion.

2.0 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 and steel, chemicals, pulp and 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 (Hourcade, Demailley, Neuhoff & Sato, 2007). 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.

3.0 Legal aspects

A BCA is a trade measure and, as such, would be covered by the rules of international trade. These rules 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 judgment 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 domestic producers and foreign producers of like 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.² If domestic producers in certain sectors are given free allocations of emission permits, for example, then their foreign counterparts should get no worse treatment, other things being equal.³

Second, it should not discriminate between like products based on the country of production (most favoured nation, or 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?⁴ 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” (Cosbey, 2008).

So a BCA could neither discriminate on the basis of a country’s climate change policies, nor choose just to 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 greenhouse gas emissions.

This would not be the end of the story, however, since such a measure might still be saved by recourse to the General Agreement on Tariffs and Trade (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.⁵ 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 trading partners that might have an impact on climate change.⁶ For example, in deciding whether a given exporting country is taking actions comparable to E.U. actions, it would not be permissible to require a cap-and-trade system identical to the one in force in the E.U. The E.U. 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 probably should also take into account the differences prevailing among individual producers.⁷ 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.⁸ 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.

4.0 Effectiveness

Some aspects of BCA design will influence the degree to which BCAs are successful in achieving their basic objectives; 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 (covering only commodities) may have unintended adverse impacts. Specifically, a narrow scheme raises the price of aluminum (a commodity) as an input good to domestic manufacturers of, say, bicycles, but does not levy any charges on imported bicycles (manufactured goods). 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, Bradley, Childs, Werksman and Heilmayr (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, with 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.

5.0 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.

I noted previously 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.

I've also noted that BCA should probably avoid covering basic goods only, 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.

6.0 Geopolitical implications

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

As stated earlier, 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 1 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 have contributed 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.⁹ 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.

7.0 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 the principle of common but differentiated responsibility (CBDR) indicates 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 BCAs 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. If the U.S. climate change regime includes BCA as one of its planks, does this in effect dictate that Canada must also use such measures? There would be intense pressure to do so, of course.
4. If BCAs are implemented, what should be the objective(s)? The European Union has been careful to focus (in public pronouncements, anyway) on leakage concerns. The United States has focused on leakage as well, but has put considerably more weight in the public discussions on competitiveness concerns. The design of any instrument, of course, will differ depending on the objectives.
5. 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 reading

- Bordoff, J. E. (2009). International trade law and the economics of climate policy: Evaluating the legality and effectiveness of proposals to address competitiveness and leakage concerns. In I. Sorkin & L. Brainard (Eds.), *Climate Change, Trade and Competitiveness: Is a Collision Inevitable?* Washington, D.C.: Brookings Institution Press.
- Carbon Trust. (2004). *The European emissions trading scheme: Implications for industrial competitiveness*. London: The Carbon Trust.
- Cosbey, A. (2008). Border carbon adjustment. *Trade and Climate Change Seminar, 18–20 June*. Copenhagen: International Institute for Sustainable Development.
- de Cendra, J. (2006). Can emissions trading schemes be coupled with border tax adjustments? An analysis vis-à-vis WTO law. *RECIEL*, 15 (2), 131–145.
- Drexhage, J. (2009). *Bangkok talks on climate change: Matter over form is the only way ahead* (IISD commentary). Winnipeg: International Institute for Sustainable Development.
- Dröge, S. (2009). *Tackling leakage in a world of unequal carbon prices* (synthesis report). Cambridge, UK: Climate Strategies.
- Grubb, M., Brewer, T. L., Sato, M., Heilmayr, R., & Fazekas, D. (2009). *Climate policy and industrial competitiveness: Ten insights from Europe on the E.U. emissions trading system*. German Marshal Fund of the United States.
- Hourcade, J. C., Demailley, D., Neuhoff, K., & Sato, M. (2007). *Climate Strategies report: Differentiation and dynamics of E.U. ETS industrial competitiveness impacts*. Bonn: Climate Strategies.
- Houser, T., Bradley, R., Childs, B., Werksman, J., & Heilmayr, R. (2008). *Levelling the carbon playing field: International competition and U.S. climate policy design*. Washington, D.C.: Peterson Institute for International Economics/World Resources Institute.
- Howse, R. (2009). Subsidies to address climate change: Legal issues (*Bali to Copenhagen* working paper). Winnipeg: International Institute for Sustainable Development.
- Hufbauer, G. C., Chaarnovitz, S., & Kim, J. (2009). *Global warming and the World Trading System*. Washington, D.C.: Peterson Institute for International Economics.
- Ismer, R., & Neuhoff, K. (2007). Border tax adjustments: A feasible way to support stringent emissions trading. *European Journal of Law and Economics*, 24, 137–164.

OECD. (2006). The sectoral competitiveness issue—Theoretical studies. In *The political economy of environmentally related taxes* (pp. 67–87). Paris: OECD.

Pauwelyn, J. (2007). *U.S. federal climate policy and competitiveness concerns: The limits and options of international trade law* (working paper NI WP 07-02). Durham, NC: Duke University, Nicholas Institute for Environmental Policy Solutions.

Reinaud, J. (2008). *Issues behind competitiveness and carbon leakage—Focus on heavy industry* (information paper). Paris: IEA.

Wooders, P., Cosbey, A., & Stephenson, J. (2009). *Border carbon adjustment and free allowances: Responding to competitiveness and leakage concerns* (background paper). Paris: OECD, Round Table on Sustainable Development.

Notes

1. 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 in the remainder of this brief.
2. For a detailed argument of this proposition, see Pauwelyn (2007).
3. Free allocation might also be regarded as an actionable subsidy under the Agreement on Subsidies and Countervailing Measures. See de Cendra (2006); Howse (2009).
4. The Parties in Annex B of the Kyoto Protocol have subscribed to specific targets for reduction of greenhouse gas emissions.
5. But see, for example, Cosbey (2008); de Cendra (2006); Ismer and Neuhoff (2007); Pauwelyn (2007).
6. 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.
7. See *Ibid.*, para. 165; see 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 Appellate Body’s determination).
8. Technically this is not what the Appellate Body said in *US—Shrimp*, although 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 United States not because of a lack of such an approach, 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.
9. 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.