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DESIGNING EFFECTIVE BORDER CARBON ADJUSTMENT MECHANISMS: ALIGNING THE GLOBAL TRADE AND CLIMATE CHANGE REGIMES

by Goran Dominioni and Daniel C. Esty

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I. Introduction

Under the 2015 Paris Agreement on climate change, countries determine their own action plans and define their own nationally determined contributions (NDCs) to the global response to climate change.¹ Jurisdictions that commit to stringent greenhouse gas (GHG) mitigation policies risk reducing the competitiveness of domestic industries. Relatedly, these jurisdictions also risk high-emissions production processes moving to low-standard nations, resulting in *carbon leakage*: an increase in GHG emissions elsewhere that negates the stringent requirements of the high-standard nations.

Policymakers are implementing border carbon adjustment (BCA) mechanisms on imports to prevent carbon leakage. BCA is a special tariff that targets the GHG emissions associated with imported products. The price applied to the embedded GHG emissions in these products would

be a function of the difference between the climate change policy stringency in the two jurisdictions. In 2023, the European Union (EU) began the implementation of the Carbon Border Adjustment Mechanism (CBAM). Under CBAM, the relative stringency of the climate policies implemented in the EU and abroad is gauged by reference to the price of allowances in the EU emissions trading system and the level of carbon taxes and emissions trading system allowance prices in the non-EU countries.² In the meanwhile, several similar proposals have been put forward in the United States including a proposal for a BCA instrument that would instead compare a broader set of regulatory requirements that discourage GHG emissions³ and legislation that would gauge the relative GHG emissions intensity of imported goods, which would of course reflect the full spectrum of emissions control strategies.⁴

We propose a taxonomy of approaches to comparing climate policies implemented in the importing and the exporting countries and analyze their relative strengths: (1) no crediting for any GHG emissions controls (*no crediting BCA mechanism*); (2) comparing only *explicit* carbon prices (costs that can be traced to carbon taxes and GHG emissions trading systems) (*explicit BCA mechanism*); (3) comparing *effective* carbon prices (the sum of explicit

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1. Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 13, 2015, in Rep. of the Conference of the Parties on the Twenty-First Session, U.N. Doc. FCCC/CP/2015/10/Add.1, Article 4(2) (2016) [hereinafter Paris Agreement].

2. Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism (CBAM), OJ 2023 L 130/52, Art. 3.29.

3. FAIR Transition and Competition Act of 2021, H.R. 4534, 117th Cong. §9904 (2021) [hereinafter FAIR Transition and Competition Act]; see Janet L. Yellen, U.S. Secretary of the Treasury, Remarks at the G20 Finance Ministers and Central Bank Governors Meeting's High-Level Symposium on International Tax (July 9, 2021) [hereinafter Yellen Remarks], <https://home.treasury.gov/news/press-releases/jy0266> [<https://perma.cc/G278-YKYS>].

4. PROVE IT Act of 2023, S.1863, 118th Congress (2023-2024).

carbon prices and implicitly applied carbon prices) (*effective BCA mechanism*)⁵; and (4) comparing an even broader set of climate change policy actions including those that do not have any implicit or explicit price effect (*wide-open BCA mechanism*).

Effective BCA mechanisms can yield better environmental outcomes, gain broader political support, and are more likely to be compatible with World Trade Organization (WTO) law than explicit BCA mechanisms. Although effective BCA mechanisms pose additional administrative challenges, many jurisdictions have trade policy experience that they could deploy. The other two approaches—*no crediting BCA mechanism* and *wide-open BCA mechanism*—are instead impractical from a political, legal, or administrative point of view.

Additionally, we propose that BCA mechanisms designed to allow for greater ambition in climate action should be seen as acts of “multilateral unilateralism [and] . . . should be subject to lighter WTO scrutiny.”⁶ To ensure the policy frameworks that nations have developed in furtherance of their climate commitments are WTO-consistent, we propose creating a review mechanism under the auspices of the WTO (and perhaps the United Nations Framework Convention on Climate Change (UNFCCC)) to assess whether the policy instruments used serve to advance implementation of the 2015 Paris Agreement and do not impose disproportionate burdens on trade compared to the environmental gains achieved. A finding of alignment with the Paris goals and proportionality would bar further WTO scrutiny of the policy.

II. Border Carbon Adjustment Mechanisms Explained

BCA mechanisms aim to prevent carbon leakage by imposing a tariff on imports from countries with less ambitious climate policies than the importing country.⁷ The tariff level is established based on the difference between the stringency of policies in the importing and exporting countries.⁸

Carbon leakage can be the consequence of three different effects.⁹ First, mitigation policies can increase domestic production costs, reducing the competitiveness of domestic producers who lose sales to imports from low-standard countries. This can result in a net increase of GHG emissions as production shifts to relatively more-polluting jurisdictions.¹⁰ Second, implementing strict GHG control policies may reduce the profitability of domestic car-

bon-intensive industries, leading to systematically lower investment in these enterprises over time to the benefit of industries in low-standard countries.¹¹ Third, mitigation policies that reduce the consumption of fossil fuels in one jurisdiction may decrease fossil fuel prices, thereby stimulating higher fossil fuel consumption in trading partners.¹²

A well-designed BCA mechanism can “level the playing field” between domestic and foreign producers for products consumed domestically.¹³ If imported goods are cheaper than domestically produced ones due to lower GHG constraints in the exporting country, a BCA mechanism will increase the price of imported goods as if these products were subject to the GHG controls that apply to domestic production.

BCA strategies can also induce trade partners to implement more ambitious climate policies.¹⁴ Rather than having their exporters pay duties to importing nations, low-standard exporting countries have the incentive to implement carbon charges domestically to reduce the burden of the BCA mechanism.

III. Selecting Options to Credit for Policies Abroad

One approach would be to offer no border adjustment credit for the exporting nation’s climate policies. However, giving BCA credit for a range of climate policies abroad is more likely to be compatible with the Global Agreement on Tariffs and Trade (GATT) and is more likely to face less resistance from trade partners.

Second, *explicit* BCA mechanisms, such as the EU CBAM regulation, only credit the exporting nation’s climate policies that explicitly put a price on GHG emissions—carbon taxes and emissions trading systems.¹⁵ In this context, the charge would equal the difference between explicit carbon price levels in the two jurisdictions.

A third approach, an *effective* BCA mechanism, would credit a broader set of climate change policy instruments that impose costs on GHGs. BCA credit would extend to instruments that increase the marginal cost of emitting GHGs even though they do not directly target the carbon content of fossil fuels or the GHGs embedded in products (*implicit carbon pricing*), such as energy taxes. The border adjustment would occur based on the levels of effective carbon prices (the sum of explicit and implicit carbon prices)¹⁶ in the importing and exporting jurisdictions.

Fourth is the *wide-open* approach whereby the border tariff adjustment would credit all climate policies that

5. See Goran Dominioni, *Pricing Carbon Effectively: A Pathway for Higher Climate Change Ambition*, 22 CLIMATE POL’Y 897 (2022).

6. DANIEL C. ESTY, GREENING THE GATT: TRADE, ENVIRONMENT, AND THE FUTURE 139-41 (1994) (explaining the concept of multilateral unilateralism).

7. Michael A. Mehling et al., *Designing Border Carbon Adjustments for Enhanced Climate Action*, 113 AM. J. INT’L L. 433, 442 (2019).

8. See Aaron Cosbey et al., *Developing Guidance for Implementing Border Carbon Adjustments: Lessons, Cautions, and Research Needs From the Literature*, 13 REV. ENV’T ECON. & POL’Y 3, 16 (2019).

9. *Id.* at 5.

10. *Id.*

11. *Id.*

12. *Id.*

13. Andrei Marcu et al., *Border Carbon Adjustments in the EU: Issues and Options*, EURO. ROUNDTABLE ON CLIMATE CHANGE & SUSTAINABLE TRANSITION 3, 7 (2020), <https://ercst.org/border-carbon-adjustments-in-the-eu-issues-and-options> [<https://perma.cc/TD2C-V4UJ>].

14. See Joseph E. Stiglitz, *A New Agenda for Global Warming*, in THE ECONOMISTS’ VOICE: TOP ECONOMISTS TAKE ON TODAY’S PROBLEMS 22 (2011).

15. EU CBAM Regulation, *supra* note 2.

16. See Dominioni, *supra* note 5, at 898.

reduce GHG emissions.¹⁷ This approach is problematic because it requires estimating the GHG price equivalence of diverse climate change policies, some of which may be challenging to quantify.¹⁸

The remainder of the Article focuses on two design options. We put aside the *no-credit* option as likely too divisive and disruptive to efforts to get countries to work together to reduce GHG emissions—and inconsistent with the long-time trade system principles that diversity in policy choices must be respected and that form should not trump substance. We also drop the *wide-open* BCA approach as administratively difficult and politically problematic for the reasons noted above. Our analysis thus seeks to evaluate the relative merits of *explicit* BCA mechanisms (which establish a border tariff based entirely on comparing explicit GHG prices in the importing and exporting countries) versus an *effective* BCA mechanism (which compares explicit and implicit GHG prices in the two jurisdictions). We compare these two approaches regarding their climate and other environmental benefits, political and administrative viability, and compliance with the GATT.

IV. Delivering Climate and Other Environmental Benefits

One could argue that explicit BCA mechanisms will yield better climate outcomes than effective BCA mechanisms because—through the crediting mechanism—the former incentivizes the adoption of carbon taxes and emissions trading schemes in trading partner countries. These instruments sharply focus on GHG mitigation.¹⁹ Instead, an effective BCA mechanism incentivizes exporting countries to implement a broader set of policies, some of which may only indirectly increase the price of burning fossil fuels.

While explicit carbon prices provide sharper incentives to mitigate emissions, it does not follow that explicit BCA mechanisms will deliver better GHG mitigation. This result emerges for two main reasons. First, effective BCA mechanisms leave exporting countries wider latitude to determine how best to address climate change in their own political context. This wider latitude is likely to result in greater climate—and more broadly environmental—action in exporting jurisdictions. Second, effective BCA mechanisms increase the transparency of climate change actions undertaken in different jurisdictions by allowing countries to track net changes in the stringency of climate policies that may increase trust and spur *co-opetition* (a mix of cooperation and competition) between countries.²⁰

17. Yellen Remarks, *supra* note 3.

18. Marcu et al., *supra* note 13, at 37-38; Cosbey et al., *supra* note 8, at 16.

19. ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, EFFECTIVE CARBON RATES: PRICING CO₂ THROUGH TAXES AND EMISSIONS TRADING SYSTEMS 22-25 (2018) [hereinafter OECD], <https://www.oecd.org/tax/effective-carbon-rates-9789264260115-en.htm> [<https://perma.cc/FT72-44GP>].

20. See Daniel C. Esty & Damien Geradin, *Regulatory Co-Opetition*, 3 J. INT'L ECON. L. 235 (2000).

A. Incentivizing Climate Change Policy Domestically and Abroad

In many countries, implicitly pricing GHG may be the only viable climate change policy option. Thus, effective BCA mechanisms might lead to greater overall GHG reductions than explicit BCA mechanisms.²¹ While explicit BCA mechanisms may incentivize the use of explicit carbon pricing, the flexibility of effective carbon prices allows for better alignment with national policy priorities and political realities.

Financial, technological, and administrative capacity constraints may also hinder implementing explicit carbon pricing in many jurisdictions.²² Policies that increase implicit carbon prices tend to pose fewer capacity constraints than explicit carbon pricing mechanisms.²³ Indeed, implementing implicit carbon prices is often a more feasible option than explicit carbon pricing schemes, especially for low-capacity governments.²⁴ Effective BCA mechanisms may, therefore, lead to more stringent climate change action in countries that struggle to implement explicit carbon prices due to financial, technological, or administrative capacity constraints.

B. Creating Transparency, Trust, and Co-Opetition

The Paris Agreement's bottom-up approach to global climate policy can only function if trust exists among member countries. Effective BCA mechanisms are well-suited to create trust among countries because they reduce the risk of deceitful environmental tax reforms that seek to raise apparent GHG pricing but offer hidden rebates.

Effective BCAs can be a tool to incentivize the monitoring and public reporting of accurate data on the GHG pricing policies implemented in exporting countries.²⁵ In particular, an effective BCA mechanism can stimulate the exporting jurisdiction to establish, through monitoring and reporting, a validated estimate of their domestic implicit carbon price. This additional transparency on effective carbon prices in various countries is itself valuable. However, such transparency can also contribute to

21. Barry G. Rabe & Christopher P. Borick, *Carbon Taxation and Policy Labeling: Experience From American States and Canadian Provinces*, 29 REV. POL'Y RES. 358, 370-72 (2012); Goran Dominioni, *Motivated Reasoning and Implicit Carbon Prices: Overcoming Public Opposition to Carbon Taxes and Emissions Trading Schemes*, 13 EUR. J. RISK REGUL. 158, 169-70 (2022).

22. A notable example of the challenges faced in implementing emission allowance trading schemes is the Kazakhstan Emissions Trading System (ETS). The Kazakhstan ETS, launched in 2013, was temporarily suspended in 2016-2017 to address operational challenges and amend rules on the allocation of emission allowances. See Kazakhstan Emissions Trading System, INTERNATIONAL CARBON ACTION PARTNERSHIP, <https://icapcarbonaction.com/en/ets/kazakhstan-emissions-trading-system> [<https://perma.cc/85KN-UU9E>] (last visited Dec. 30, 2022).

23. Paasha Mahdavi, Cesar B. Martinez-Alvarez & Michael L. Ross, *Why Do Governments Tax or Subsidize Fossil Fuels?*, CTR. FOR GLOB. DEV. (Aug. 2020), <https://www.jstor.org/stable/pdf/resrep29812.pdf?acceptTC=true&coverpage=false&addFooter=false> [<https://perma.cc/MRM5-MRFA>].

24. Dominioni, *supra* note 5, at 901.

25. *Id.*

increased trust and co-operation among countries on climate change action undertaken abroad.

For effective carbon pricing approaches to increase trust and maintain legitimacy, estimates must be based on well-established calculation methodologies, publicly available and verifiable data, and a process that is transparent, fair, and open to review and challenge. Countries have adopted third-party verification and peer review to pursue their efforts to phase out inefficient fossil fuel subsidies and could replicate them to develop credible estimates of effective carbon prices.²⁶

V. Addressing Political Constraints

Three dimensions of political viability are particularly relevant: (1) avoiding WTO disputes and retaliation from trading partners, (2) reducing the risk of disrupting existing international cooperation on climate change, and (3) supporting new sub-global cooperation on climate change action.

Implementing an effective BCA mechanism is less likely to create an intense backlash from trading partners than crediting only explicit carbon prices. The more flexible approach of crediting for effective carbon prices aligns more closely with the spirit of the 2015 Paris Climate Accord and its emphasis on NDCs to control emissions. At its core, an effective BCA mechanism respects other countries' unique circumstances and sovereignty to a greater degree and better acknowledges the right of each nation to address climate change in light of its own specific circumstances.

This flexibility might be particularly useful in reducing opposition from the United States, a key player in international climate change negotiations. The United States may be more amenable to BCA mechanisms implemented abroad that incentivize the adoption of higher fuel taxes than it would be to mechanisms exclusively tied to explicit carbon prices.

There has been increasing international attention toward forming a climate club, an agreement among a group of countries with high ambitions for curbing climate change who seek to avoid carbon leakage and competitive disadvantage.²⁷ BCA mechanisms can help prevent carbon leakage, and the threat of carbon tariffs may incentivize other countries to join the climate club.²⁸ Effective BCA mechanisms may provide the flexibility needed to ensure that club membership can be open to enough countries to achieve viability.²⁹ The United States' scale of economic output, GHG production, and diplomatic leadership make its participation crucial to the success of any climate club.³⁰

VI. Addressing Administrative Complexities

One reason for adopting explicit rather than effective BCA mechanisms is administrative simplicity. The administrative burden of effective BCA mechanisms may, however, be overstated.³¹

Implementing BCA mechanisms of any sort will require a significant amount of data and processing capacity.³² Importing countries require data on the emissions released in producing and transporting imported goods and those released in producing goods used as input. Furthermore, crediting for climate change policies implemented in the exporting jurisdiction requires data on the stringency of these policies.

Many jurisdictions have substantial experience analyzing policies implemented in countries from which they import products and calculating how these policies affect production costs. Indeed, governments of various countries frequently engage in subsidies and anti-dumping investigations and already possess significant capacity to analyze and compare policies implemented in exporting countries. This internal capacity, if harnessed, could gradually overcome difficulties in imposing effective BCA mechanisms.

In addition, international institutions³³ and private-sector actors³⁴ can produce standard methodologies for calculating effective carbon prices. These methodologies could serve as a basis for further refinements.

Once adequate estimates of effective carbon prices become available from international institutions, they could serve as default values to estimate the level of adjustment per ton of GHGs embedded in imported products. Organizations such as the International Trade Centre, Organisation for Economic Co-operation and Development, International Monetary Fund, and World Bank could help countries that lack adequate capacity to produce and verify estimates of effective carbon prices.

Certain policies that implicitly price carbon, such as negative credits for fossil fuel subsidies, might be more challenging to credit than others. The first countries to implement effective BCA mechanisms may initially only credit implicit carbon pricing policies that are easier to account for and expand crediting to more policies as they overcome administrative barriers.

VII. Compliance With GATT Rules

Scholarship and policy debates commonly assert that BCA mechanisms are unilateral measures that can restrict

26. OECD—IEA *Analysis of Fossil Fuels Support*, ORG. FOR ECON. COOP. & DEV., <https://www.oecd.org/fossil-fuels/publication/> [<https://perma.cc/WHE4-NLMK>].

27. See Robert Faulkner et al., *Climate Clubs: Politically Feasible and Desirable?*, 22 CLIMATE POL'Y 480 (2021).

28. William Nordhaus, *Climate Clubs: Overcoming Free Riding in International Climate Policy*, 105 AM. ECON. REV. 1339, 1370 (2015).

29. Dominioni, *supra* note 5.

30. Michael Jakob et al., *How Trade Policy Can Support the Climate Agenda*, 375 SCI. 1401, 1401-03 (2022); Dominioni, *supra* note 5.

31. See Marcu et al., *supra* note 13, at 37-38.

32. Sam Kortum & David Weisbach, *Border Adjustments for Carbon Emissions: Basic Concepts and Designs* 22 (Res. for Future, Discussion Paper 2016), <https://media.iff.org/documents/RFF-DP-16-09.pdf> [<https://perma.cc/9RY7-KM65>].

33. OECD, *supra* note 19.

34. VIVID ECON. & OVERSEAS DEV. INST., ESTIMATING EFFECTIVE CARBON PRICES: ACCOUNTING FOR FOSSIL FUEL SUBSIDIES (2019), <http://www.vivideconomics.com/wp-content/uploads/2019/08/Vivid-Economics-ODI-Estimating-Effective-Carbon-Prices.pdf> [<http://perma.cc/4V2L-RPTB>].

trade and, therefore, need to comply with core provisions on nondiscrimination in the GATT. We believe that adequately designed BCA mechanisms should be seen as an example of “multilateral unilateralism” that should be understood to be tacitly condoned by exporting countries that have ratified the Paris Agreement.³⁵ Since all WTO members are part of the Paris Agreement,³⁶ BCA mechanisms adequately designed to allow for Paris-aligned ambition in climate policy have arguably been (tacitly) approved by WTO members.

Ideally, an ex-ante review mechanism could determine whether a BCA mechanism aligns with the Paris Agreement before implementation. This mechanism could operate under the auspices of the WTO—perhaps in conjunction with the UNFCCC—and a multilateral body could assess whether actions undertaken by the relevant jurisdictions qualify as “sufficiently multilateral” to bar scrutiny under the GATT. The implementation of such an ex-ante review mechanism could be part of a broader remaking of the trading system to align it with the international climate change regime and the sustainability imperative, such as the WTO reform agenda recently proposed in the Villars Framework³⁷ advanced by the Remaking Trade for a Sustainable Future Project.³⁸

In the absence of such review mechanisms or tacit approval, BCA mechanisms will need to comply with the fundamental nondiscrimination obligations of the GATT: Article I³⁹ and Article III.⁴⁰ Alternatively, they would need to be justifiable under Article XX of the GATT.⁴¹

Below, we argue that effective BCA mechanisms are more likely to comply with Article I and Article III, §2 of the GATT and are more likely to be justified under Article XX of the GATT.

A. Article III, §2 GATT

Under Article III, §2(a), countries may impose a charge on an imported product if that charge is equivalent to an internal tax the country already imposes on a “like” domestic product. Article III, §2’s national treatment obligation also prohibits importing countries from applying internal charges or taxes in excess of those that apply to domestic “like” products.

The relevant question becomes whether the BCA mechanism imposes a higher charge on imported products than is imposed on like domestic products. A BCA

mechanism’s compatibility with Article III, §2 relies on the finding that two otherwise “like” products are, in fact, not “like” if their production resulted in different degrees of GHG emissions.

Factors relevant to whether two products are “like” include whether consumers see them as such, as well as the products’ use, “properties, nature and quality,”⁴² and competitive relationship. A few cases suggest that products with different levels of embedded GHG emissions may not be “like” products.⁴³

Effective BCA mechanisms are less likely to be considered de facto discriminatory because they account for a broader set of carbon constraints imposed on imported and domestic products. Under effective BCA mechanisms, producers from virtually any country would see the price they pay domestically recognized in the BCA mechanism.

While there is uncertainty about whether a BCA mechanism that results in a higher carbon price applied on imported products would be compatible with this provision,⁴⁴ some case law suggests that the two products would not be considered “like.” If we follow this interpretation, BCA mechanisms that impose charges proportional to the GHG emissions embedded in products may be deemed as complying with the national treatment clause.

B. GATT Article I Comparison of Effective and Explicit Carbon Prices

Article I establishes that the importing country must grant equal treatment to “like” imported products regardless of the country of provenance. Likeness is determined by various factors, especially whether the products are in a competitive relationship.⁴⁵ A BCA mechanism might be incompatible with Article I if like products are subject to different tariffs due to differences in embedded emissions. However, as discussed above, there are good reasons to believe that two products with different levels of embedded emissions are not “like” one another.

Another key concern on the compatibility of BCA mechanisms with Article I is that tying duties on otherwise-“like” imported products to climate policies could constitute discrimination between exporting countries.

35. ESTY, *supra* note 6, at 139-40.

36. The only exceptions are Taiwan and China’s Special Administrative Regions of Hong Kong and Macau.

37. Joel P. Trachtman et al., *Villars Framework for a Sustainable Global Trade System* (2023), <https://remakingtradeproject.org/villars-framework>.

38. *See Remaking Trade for a Sustainable Future Project*, REMAKING TRADE FOR A SUSTAINABLE FUTURE, <https://remakingtradeproject.org>.

39. General Agreement on Tariffs and Trade 1994, Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194 [hereinafter GATT]; General Agreement on Tariffs and Trade 1994, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 187 [hereinafter Marrakesh Agreement].

40. GATT *supra* note 39, at Art. III.

41. *Id.*

42. Working Party Report, *Border Tax Adjustments* (1970), BIDS 18S/97, ¶ 18.

43. *See, e.g.*, Panel Report, Complaint by Canada, *European Communities—Measures Affecting Asbestos and Asbestos-Containing Products* (2000) WTO Doc. WT/DS135/R, ¶ 8.126; Appellate Body Report, Canada—*Measures Relating to the Feed-In Tariff Program*, ¶ 5.63 WT/DS412/AB/R WT/DS426/AB/R (adopted May 6, 2013), https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds426_e.htm [<https://perma.cc/R8UV-JPV5>].

44. *See, for instance*, HOWARD CHANG, IMPORT TAXES BASED ON CLIMATE POLICIES AND INTERNATIONAL TRADE LAW, U OF PENN, INST FOR LAW & ECON RESEARCH PAPER No. 24-03, (unpublished manuscript), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4734612.

45. Joachim Englisch & Tatiana Falco, EU Carbon Border Adjustments for Imported Products and WTO Law (June 2021) (unpublished manuscript), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3863038 [<https://perma.cc/BJ4B-U367>].

This key concern is a position commonly held in scholarly research,⁴⁶ grey literature,⁴⁷ and existing case law.⁴⁸

An effective BCA mechanism is less likely to be seen as de facto discriminatory than an explicit BCA mechanism because the former accounts for a broader set of carbon constraints—allowing most countries to see their policies credited in the BCA mechanism.

Overall, Sections VII, §§A and B show that if a BCA mechanism is scrutinized under the GATT, it is more likely to comply with Article I and Article III, §2 if it credits for effective carbon pricing. It is uncertain whether any BCA mechanism could be compatible with Article I.

Article XX (b) and (g) provide two relevant provisions that may justify BCA mechanisms despite conflict with the non-discrimination provisions.

C. GATT Article XX Exception (b)

Exception (b) allows for measures that are “necessary to protect human, animal or plant life or health.”⁴⁹ There is overwhelming evidence of the severe risk that climate change poses to human, animal, and plant life and health.⁵⁰ Thus, Exception (b) is likely to apply to BCA mechanisms.

To meet the requirements of Exception (b), the measure must also make a “material contribution” to protecting human, animal, or plant life or health, which requires a “genuine relationship of ends and means between the objective pursued and the measure at issue.”⁵¹ Because of their potential GHG mitigation outcomes, effective BCA mechanisms are likely to be seen as making a material contribution.

Complying with Exception (b) requires that no reasonably available and less trade-restrictive alternatives exist.⁵² Effective BCA mechanisms are likely to increase the administrative and compliance costs of the measure compared to

explicit mechanisms, particularly in countries with lower levels of capacity. To address this, a share of the revenues from the BCA could support countries with limited capacity to estimate domestic effective carbon prices. Moreover, the flexible nature of the effective BCA mechanism indicates they may be the least trade-restrictive alternative.

Exception (b) also requires that the measure be proportional to the values it aims to achieve: the more critical the interests pursued, the more likely the measure is to pass the weighing and balancing test.⁵³ Addressing climate change is one of the fundamental priorities of our time. Both types of mechanisms can support this endeavor.

D. GATT Article XX Exception (g)

Exception (g) protects measures relating “to the conservation of exhaustible natural resources.”⁵⁴ BCA mechanisms relate to this, as they mitigate climate change. Effective BCA mechanisms relate to conserving exhaustible natural resources more strongly because these instruments incentivize environmental action beyond mitigation.

Another requirement of this provision—that the BCA mechanism must “relate to” conserving exhaustible natural resources—would be easily met.⁵⁵ Because the Appellate Body has held that as long as the measure is not merely “incidentally” aimed at the conservation of exhaustible natural resources, well-designed BCA mechanisms should meet this requirement.⁵⁶

Finally, under Exception (g), the measure should be “made effective in conjunction with restrictions on domestic production or consumption.” Case law suggests that this element requires evenhanded—though not *identical*—treatment of domestic and imported products.⁵⁷ Arguably, the evenhandedness of treatment is better assured by effective BCA mechanisms because they encompass a broader set of measures and are, therefore, better able to capture restrictions imposed on domestic and imported products.

E. GATT Article XX Chapeau

Article XX will only justify a measure if it complies with the Chapeau provision. The Chapeau provision requires that a measure not be applied in a way that constitutes arbitrary or unjustifiable discrimination between countries where similar conditions prevail, or that constitutes a disguised restriction on international trade.⁵⁸

46. Steve Charnovitz, *Border Tax Equalization*, in *THE WORLD TRADE SYSTEM: TRENDS AND CHALLENGES* 40 (Jagdish N. Bhagwati et al., eds., 2017), at 40; Englisch & Falcao, *supra* note 45; Joost Pauwelyn, U.S. FEDERAL CLIMATE POLICY AND COMPETITIVENESS CONCERNS: THE LIMITS AND OPTIONS OF INTERNATIONAL TRADE LAW (Duke Univ. Nicholas Inst. for Env’t Pol’y Sols. 2007), <https://nicholasinstitute.duke.edu/climate/policydesign/u.s.-federal-climate-policy-and-competitiveness-concerns-the-limits-and-options-of-international-trade-law> [https://perma.cc/N9G2-BHT5]; ALICE PIRLOT, ENVIRONMENTAL BORDER TAX ADJUSTMENTS AND INTERNATIONAL TRADE LAW 240 (2017), at 240; Joel P. Trachtman, *WTO Law Constraints on Border Tax Adjustment and Tax Credit Mechanisms to Reduce the Competitive Effects of Carbon Taxes*, 70 NAT’L TAX J. 469 (2017), at 477.

47. Brian P. Flannery et al., *Framework Proposal for a US Upstream GHG Tax With WTO-Compliant Border Adjustments: 2020 Update*, RES. FOR THE FUTURE (2020), <https://www.rff.org/publications/reports/framework-proposal-us-upstream-ghg-tax-wto-compliant-border-adjustments-2020-update> [https://perma.cc/AJ66-FXA8].

48. See, e.g., Panel Report, *United States—Taxes on Petroleum and Certain Imported Substances*, ¶ 5.2.8, GATT Doc. (June 17, 1987).

49. GATT, *supra* note 39, at Article XX (b).

50. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SPECIAL REPORT: GLOBAL WARMING OF 1.5° C (2018), <https://www.ipcc.ch/sr15/> [https://perma.cc/P9TU-9XND] [hereinafter IPCC SPECIAL REPORT].

51. Appellate Body Report, *Brazil—Measures Affecting Imports of Retreaded Tyres*, ¶¶ 145, 210, WT/DS332/AB/R (Dec. 3, 2007) [hereinafter AB Report, *Brazil—Retreaded Tyres*].

52. Appellate Body Report, *United States—Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, ¶ 309, WT/DS285/AB/R (adopted Apr. 20, 2005).

53. Appellate Body Report, *European Communities—Measures Affecting Asbestos and Asbestos-Containing Products*, 172, WT/DS135/AB/R (adopted Mar. 12, 2001).

54. GATT, *supra* note 39, at Article XX (g).

55. Joost Pauwelyn, *Carbon Leakage Measures and Border Tax Adjustments Under WTO Law*, in *RESEARCH HANDBOOK ON ENVIRONMENT, HEALTH AND THE WTO* 448, 500 (Geert van Calster & Denise Prevost eds., 2013).

56. Appellate Body Report, *United States—Import Prohibition of Certain Shrimp and Shrimp Products*, ¶ 129, WT/DS58/AB/R (adopted Nov. 6, 1998) [hereinafter AB Report, *Shrimp-Turtle I*], at ¶ 136.

57. Appellate Body Report, *United States—Standards for Reformulated and Conventional Gasoline*, ¶ 21, WTO Doc. WT/DS2/R (adopted May 20, 1996).

58. GATT, *supra* note 39, at Article XX.

Effective BCA mechanisms may better meet this requirement because they incorporate climate policies beyond explicit GHG pricing, thus avoiding arbitrary, unfair distinctions between countries that strictly impose an explicit carbon pricing scheme and countries that achieve similar results using other policies.

The Chapeau provision also requires that the measure not discriminate against countries where the same conditions prevail.⁵⁹ Thus, importing countries cannot require exporting countries to adopt their domestic regulatory programs. To meet this requirement, BCA mechanisms should account for the climate policies the exporting country implements and the level of development.⁶⁰ Effective BCA mechanisms may better meet the Chapeau requirement because they do not dictate *how* standards are to be met.

VIII. Conclusion

This Article elaborates a taxonomy of approaches to compare policies implemented by the importing and exporting countries under a BCA mechanism and argues that

BCA mechanisms that consider both explicit and implicit carbon prices could yield more significant GHG emission reductions across the board, are more likely to be compatible with the GATT, and are more likely to support international cooperation on climate change than BCA instruments that consider exclusively explicit carbon prices. Many jurisdictions have significant capacity to impose this administratively more complex form of BCA mechanism and can, therefore, work toward gradually expanding the set of policies credited under BCA mechanisms.

In light of the 2015 Paris Agreement, well-designed BCA mechanisms should be understood as acts of multilateral unilateralism—and thus should be regarded as approved by all parties to the Paris Agreement. We call for a review mechanism under the UNFCCC or WTO to assess proposals for climate change policy measures that affect trade, such as BCA mechanisms. Measures aligned with the Paris Accord that are transparently specified, rigorously justified, not structured as a disguised barrier to trade, and with a trade burden that is not disproportionate to the climate policy gain should not be subject to further legal scrutiny under the GATT.⁶¹

59. Appellate Body Report, *United States—Import Prohibition of Certain Shrimp and Shrimp Products Recourse to Article 21.5 of the DSU by Malaysia*, ¶ 149 WT/DS58/AB/RW (adopted Oct. 22, 2001).

60. Pauwelyn, *supra* note 55, at 502-03.

61. For more on these sustainability disciplines, see Elena Cima & Daniel C. Esty, *Making International Trade Work for Sustainable Development: Toward a New WTO Framework for Subsidies*, J. INT'L ECON. LAW (Feb. 22, 2024) “yellow box” discussion.