IDEAS
ACTION
RESULTS

Understanding Border Carbon Adjustments

THE PROS AND CONS OF BCA POLICY DESIGNS

AUTHORS:

XAN FISHMAN
GEORGE DAVID BANKS
JOHN JACOBS

November 2022

Border Carbon Working Group Members:

Ben Beachy, Blue Green Alliance

Greg Bertelsen, Climate Leadership Council

Catrina Rorke, Climate Leadership Council

Michael Mehling, MIT

Billy Pizer, RFF

Maureen Hinman, Silverado

Sarah Stewart, Silverado

Lauren Stowe, Silverado

Melissa Barbanell, WRI

Kevin Kennedy, WRI

Border Carbon Adjustment (BCA) policy is entering the limelight as a potential bipartisan climate and trade policy, but there is significant confusion as to how exactly a BCA would work and what it would accomplish. There are three major versions of a BCA policy design, and each has its own set of pros and cons. Additionally, there are multiple design decisions within each version of a BCA that change the overall impact of the policy. This issue brief explains the three major approaches — **Carbon Tax BCA**, **Regulatory Cost BCA**, and **Emission Performance BCA** — and compares how each version stacks up against a set of goals. Understanding these differences, and not ascribing the deficiencies of one approach to another, will be crucial to good-faith efforts to advance a BCA policy in a bipartisan manner.

When comparing the policy design options, it becomes clear that the **Emission Performance BCA** offers the most potential to accomplish the goals set forth in this brief analysis. While internal design choices are important in expanding political support for an **Emission Performance BCA** – both domestically and internationally – serious political and implementation limitations to the **Carbon Tax** and **Regulatory Cost BCAs** make them less attractive options.

This issue brief is partially informed by robust discussions among the Bipartisan Policy Center's Border Carbon Working Group. While these conversations occur under Chatham House rules, we wish to acknowledge and thank the following individuals for contributing to the discussion and helping refine our collective understanding of these issues.[1]

1 Listed individuals may not agree with every assessment in this analysis but all agreed to be acknowledged as participants in the discussions that inform this brief.

1. What is a Border Carbon Adjustment?

Historically, the term BCA refers to a border adjustment that applies a carbon-related fee or tax on imports from countries without comparable environmental policies in place, while also removing carbon-related fees or taxes on domestically produced exports to countries without similar policies. Policymakers in the developed world have viewed BCAs as a way of building greater political support for more ambitious climate action at home by leveling the playing field for domestic industry, which often faces higher regulatory costs than much of its overseas competition. A BCA would also help deter industry from offshoring manufacturing to countries with less stringent standards and then importing the products back – a practice that offshores emissions and jobs at the same time.

More recently, the term BCA has also been used to describe a tariff that is based on the comparative embodied emissions of the import, or the costs associated with reducing emissions when producing the good domestically. For example, if a foreign country, such as China, creates a product in a manner that releases more greenhouse gas (GHG) emissions than manufacturing that product domestically, a tax would be paid on the imported product.

By incentivizing cleaner and more efficient production methods, a BCA can spur innovation across sectors that may otherwise be stagnant in terms of carbon intensity of production. If significant importing economies, such as the United States, adopt a BCA, that incentive would spread globally to firms that export products to those markets, kickstarting investment in emission reduction innovations that will, over time, be shared between firms and catalyze cleaner production methods globally. Moreover, a BCA offers geopolitical benefits, particularly if implemented in coordination with other economies. Because the U.S. economy is more carbon efficient than most other major economies, including China's,[2] a common climate and trade policy with a group of countries – such as the G7 – offers the opportunity for the United States to recapture global market share, return key components of the supply chain, and bolster domestic manufacturing. Some U.S. policymakers have even argued that an internationally coordinated BCA with U.S. treaty allies could help check Russia and other countries that use their energy and mineral resources as a political weapon.[3]

2 The Chinese economy, on average, is more than three times as carbon intensive as the U.S. economy. See Rorke, Catrina and Greg Bertelsen. "America's Carbon Advantage," *Climate Leadership Council*, September 2020 at https://clcouncil.org/reports/americas-carbon-advantage.pdf.

3 See Cramer, Kevin and H.R. McMaster. "Use Climate and Trade Policy to Counter Putin's Playbook," Foreign Policy, December 23, 2021 at https://foreignpolicy.com/2021/12/23/russia-energy-us-europe-carbon-tarriff-ukraine-nordstream-oil-gas/.

2. What Types of BCAs Could Be Implemented?

This paper explores three major types of BCAs as well as subtypes within two of these types for a total of five distinct designs. There is one version of a **Carbon Tax BCA**, which is straightforward and relies on domestic carbon pricing. In addition, we identify two versions of both the **Regulatory Cost** and **Emission Performance BCAs** as shown below. The policy design details of each version create diverging results in the goals that they accomplish.

A. CARBON TAX BCA

When a country imposes a price on carbon emissions, it can impose that price on imports from countries without a similar regulatory regime and remove the price on its exports to countries without comparable policies. By using domestic carbon prices as the core metric and comparing domestic prices during trade, a **Carbon Tax BCA**, also referred to as an "explicit pricing BCA", offers the most straightforward policy design of the three major options.

In the most common **Carbon Tax BCA** design, if an exporting country has a lower domestic carbon price than its trading partner, then the exporter will face a tariff equal to the difference of their domestic carbon price and the domestic carbon price of the importer, which will then be charged per ton of carbon released during the good's production. If a country has no domestic carbon price and is exporting to a country that has implemented a **Carbon Tax BCA**, the exporter will face a tariff equal to the carbon released during the production of the good multiplied by the domestic carbon price of the importer. Consequently, a **Carbon Tax BCA** can incentivize trading partner countries to adopt their own domestic carbon pricing, which would reduce the tariff their exports face.

The actual tariff level under a **Carbon Tax BCA** would be based on a domestic carbon price or an agreement between economies that creates a common climate and trade approach (e.g., a "carbon club"). Because of its reliance on domestic carbon pricing, a **Carbon Tax BCA** currently faces stiff political resistance in countries unwilling to tax domestic emissions. Political resistance to carbon tax is particularly present in the United States.

B. REGULATORY COST BCA

A **Regulatory Cost BCA**, also referred to as an "implicit pricing BCA", seeks to measure the price of *abating* emissions. Another way to think about that is to calculate the economic cost of the various policies that require companies to reduce their emissions and then impose that same cost as a fee on imports from countries that lack equivalent policies. The benefit to this specific approach is largely a political one since it directly addresses the criticism of fairness and global competitiveness in climate-related policies.

Importantly, abatement costs vary widely sector-by-sector, so each sector would have a different pricing system for emissions. Economists tend to dislike such a system, because varied pricing based on abatement costs does not drive capital towards the most efficient emissions reductions. Additionally, measuring regulatory costs is very challenging and relies on subjective decision making that can affect accuracy compared to simply calculating the emissions.

There are two ways to design a **Regulatory Cost BCA**:

Costs Only

A **Regulatory: Costs Only BCA** calculates the cost of the tariff on imports by determining the cost that domestic producers incur when complying with environmental regulations. If an exporting country has similar environmental regulations in place, the tariff on their imports is reduced or eliminated.

Costs x Emissions[4]

A **Regulatory: Costs x Emissions BCA** takes the same tariff calculated under the cost-only approach but multiplies it by the non-abated emissions. This design increases incentives to reduce emissions; however, it exacerbates the concern that a **Regulatory Cost BCA** does not drive capital toward the most efficient emissions reductions. If this design calculates the tariff at the sector, firm, or product level, hard-to-abate sectors end up paying much higher fees for non-abated emissions than easy-to-abate sectors do. A policy design that produces an equal (or greater!) incentive to abate the easiest-to-abate emissions wouldbe preferable since each ton of emissions contributes equally to climate change regardless of its source.

C. EMISSION PERFORMANCE BCA

An **Emission Performance BCA** only weighs the amount of embodied carbon in an imported product when determining the border tariff. It does not give any subjective consideration to a country's policies or climate ambition, as the embodied emissions in an import represent the totality of the exporter's emission-reducing policies. By placing a fee on emission performance, the design incentivizes cleaner and more efficient production methods.

4 The Regulatory Cost- Costs x Emissions BCA is based off the carbon border adjustment design included in H.R.4534 - FAIR Transition and Competition Act

Emissions performance for any given sector could be based on a national standard or an average of the economies that agree to work together on implementing a common approach (the "carbon club"). It could also be pegged to the highest or lowest performers – and not the average. In addition, the standard could be applied at the firm or facility level. Because emissions performance is expected to improve over time, whether by market forces, innovation, or government design, the standard will be dynamic and change accordingly. Thus, if a market participant fails to invest in emission reduction or avoidance, it should expect to lose market share to competitors that do.

If the standard is applied at the firm level, it would allow a private or state-owned multinational to consider the greenhouse gas profile of its entire supply chain, including its operations overseas and outside of the covered market. This would allow an exporter to seek least-cost opportunities to reduce emissions across its operations in the most efficient way. It would also likely result in increased investments to achieve cleaner supply chains in poorer economies, thus helping avoid or reduce emissions.[5]

A facility-level focus would incent cleaner production at that specific location and accelerate the closure of the most carbon-intensive operators, but compliance would be more costly for private and state-owned multinational operations. Accordingly, it could have a disproportionately negative impact on poorer economies as multinationals shut down facilities with more carbon-intensive production, thus increasing the possibility of political tensions and trade retaliation.

There are two versions of an **Emission Performance BCA**:

Imports Only

An **Emission Performance: Imports Only BCA** would just apply the emission performance standard to imported goods while ignoring domestic production. As previously discussed, because applying taxes or fees on domestic producers is difficult politically, some consider an Imports Only design to be the more pragmatic path forward. In this case, domestic emissions reductions wouldrely on other domestic policies, such as innovation investments or regulation,and the private sector's desire to decarbonize to maintain a trade advantage. However, this design, particularly if implemented unilaterally, may be viewed less kindly by trading partners or the World Trade Organization than a version with a domestic component.

Imports + Domestic

An **Emission Performance: Imports + Domestic BCA** would apply the same emission performance standard to both imports and domestic production, incentivizing emission reduction for trading partners and domestic firms

5 George David Banks and Tim Fitzgerald. "A Sectoral Approach Allows an Artful Merger of Climate and Trade Policy," Climatic Change, Vol 62, 165-173 (2020) at https://link.springer.com/article/10.1007/s10584-020-02822-2.

alike. While more politically difficult to implement in the United States, this design is more likely to be acceptable to trading partners and the World Trade Organization.

3. How Would a BCA Work?

A. CARBON TAX BCA

When a country implements a **Carbon Tax BCA**, it would peg the tariff to a domestic carbon price, or if multiple countries create a club, they may choose to peg the tariff to an average of their domestic prices or reach another agreement. If two countries that both have **Carbon Tax BCAs** are trading, the importing country would compare their tariff to that of the exporter and consider the carbon emitted by the production of the good.

Let's assume an import has 2,000 kilograms (2 metric tons) of carbon and that the importing country has a carbon price of $100 per ton of CO_2, while the exporting country has a carbon price of $80 per ton. The importing country would see that their carbon price is $20 per ton higher than the exporter's so they would charge that price per ton of carbon on the import, in this case, $40 total.

If a country without a **Carbon Price BCA** is exporting to a country with a **Carbon Price BCA**, the exporter would pay the full price of the tariff.

While administratively challenging, countries with **Carbon Price BCAs** could also credit countries with environmental standards that are not based on carbon pricing. By decreasing the tariff that exporters face at the border, crediting countries for non-pricing environmental standards would incentivize those countries to still adopt meaningful emission reduction policies.

B. REGULATORY COST BCA

The first step to implement a **Regulatory Cost BCA** is to identify the laws and regulations that are in place to reduce GHG emissions, sector by sector. For the United States, some examples of these may be the Clean Air Act, California's

Cap and Trade Program, the Regional Greenhouse Gas Initiative on the east coast, motor vehicle fuel economy (CAFE) standards, and the Renewable Fuel Standard. The federal government would then estimate the additional cost that those policies create in the production of a good relative to a scenario in which those policies are not in place.

Costs Only

Under a **Costs Only** design, imagine that making a product in the United States costs $100, but it would only cost $80 in the absence of extra costs imposed by emissions-reductions policies. The cost differential would be $100-$80=$20. Therefore, imports of that same good from a country without equivalent emissions-reducing policies would have a $20 tariff applied.

Costs x Emissions

Under a **Costs x Emissions** design, the cost differential is still $20, but this fee would now be multiplied by the unabated emissions released during the production of the good. If 2 metric tons of carbon are unabated, the fee is $20x2=$40. An alternate policy design might first divide the cost differential by some scaling factor. For example, one might divide the cost differential by domestic unabated CO2 emissions and then multiply that by the unabated emissions of the imported product.

C. EMISSION PERFORMANCE BCA

An emission performance BCA could use a life-cycle analysis for each covered sector, encompassing Scope 1 and 2, plus upstream Scope 3 – a cradle-to-factory-gate approach. While there are two types of **Emission Performance BCA** policy designs, the trade transaction would be the same for both.

Let's assume an import has 1,000 kilograms (1 metric ton) of carbon, compared to the same U.S. product that, on average, has 300 kilograms (0.3 metric ton) of carbon. As a default, the United States would impose a tariff on 700 additional kilograms (0.7 metric ton) of carbon in the import, unless the exporter could prove – perhaps through an environmental product declaration verified by a credible, independent party – that the product was produced in a less carbon-intensive manner. If the fee is set at $30 per ton of carbon, the exporter would need to pay a tariff equal to $30 multiplied by 0.7 metric tons, or $21.

To the extent an import's embodied emissions are above the 300-kilogram threshold, a prorated fee would be applied based on the emissions level, and if emissions are at or below that amount, no fee would be levied. Exporters that do not provide the necessary data to calculate embodied emissions would face the most stringent tariff.

4. What Should the Evaluation Criteria be for a BCA Mechanism?

One reason that combining climate and trade objectives via a BCA policy has garnered so much attention is that there are many goals that can be achieved simultaneously through one well-designed policy. A historic argument against domestic climate policies is that they would increase costs on domestic producers and disadvantage their products against imports. A BCA could negate that critique, particularly if the BCA is designed to increase U.S. market share and achieve geopolitical goals. Another argument is that domestic policies won't make a dent in global climate goals if other countries, particularly high-polluting countries like China, don't take similar action. A BCA would incentivize global decarbonization, not simply domestic action.

Below are various goals to achieve and challenges to overcome for a well-designed BCA.

1. Monetizes the U.S. Carbon Advantage
2. Offers a Political Pathway to National Consensus
3. Helps Strengthen Cooperation with U.S. Partners and Allies
4. Complies with International Trade Law
5. Creates Incentive for Global Decarbonization
6. Prevents Bad Actors from Circumventing the Tariff
7. Avoids Burdening Least Developed Economies
8. Adjusts for Hard-to-Abate Emissions

The rest of this paper analyzes how the five BCA design options stack up against each other on these eight goals, helping to better understand the advantages and disadvantages of each policy.

A. WOULD THE POLICY MONETIZE U.S. CARBON ADVANTAGE?

Because U.S. manufactured products are 40% more carbon efficient than the world average,[6] using any of these BCA methods that accounts for emissions would give the United States a competitive advantage in global trade. U.S. relative carbon efficiency cuts across all major economic sectors, including agriculture, mining, refining, and chemicals. For example, the U.S. steel industry is 75% to 320% more carbon efficient than its major competitors, depending on the product segment.[7]

With 75% of all U.S. imports coming from less carbon efficient countries,[8] we can expect an increase in demand for lower-carbon, domestically produced goods, a boost in U.S. manufacturing investment, and the reshoring of key components of the supply chain. Furthermore, when exporting to countries with a comparable BCA mechanism, the tariff U.S. exports face would be lower than those faced by alternatives produced in economies with higher emission intensity, making domestically produced goods more competitive in foreign markets.

The only BCA design that would not monetize the U.S. carbon advantage is **Regulatory: Costs Only BCA**, because it would simply create parity on regulatory costs rather than factoring in emissions.

B. IS THE POLICY POLITICALLY FEASIBLE IN THE NEAR TERM?

Implementing a **Carbon Tax BCA** would require the United States to implement a domestic carbon price, a policy which lacks support in Congress

6 Based on 2015 data. Rorke, Catrina and Greg Bertelsen. "America's Carbon Advantage," Climate Leadership Council, September 2020 at https://clcouncil.org/reports/americas-carbon-advantage.pdf.

7 Ibid.

8 Ibid.

and therefore has no near-term path to adoption. In recent years, a small handful of Republican members of Congress have either cosponsored or signaled openness to carbon pricing legislation.[9] However, when an anti-carbon tax resolution came to a vote on the House floor in 2018, more Democrats voted for the resolution than Republicans voted against.[10] Even with the potential to pass a carbon tax with Democrat-only votes as part of reconciliation in 2021, House Democrats chose not to include it as part of their Build Back Better legislation. While a carbon tax is the climate policy of choice for economists looking to reduce emissions in as efficient manner as possible, the politics are clearly against passage in the near term.

It is possible a bill based on a **Regulatory Cost BCA** could garner bipartisan support; however, the FAIR Transition and Competition Act introduced by Senator Chris Coons (D-DE) and Congressman Scott Peters (D-CA) attracted only one co-sponsor of the same party and no Republicans are on the record supporting that mechanism.[11]

Depending on its design, an **Emission Performance BCA** may offer the best opportunity to garner bipartisan support and become law. Republican Senators Bill Cassidy (R-LA) and Kevin Cramer (R-ND) have both signaled support for this concept[12] and Democratic Senator Whitehouse (D-RI) recently introduced the Clean Competition Act based on an emission performance mechanism.[13] The **Imports + Domestic** design would penalize the dirtiest operations at home and abroad,thus encouraging the greening of the most carbon-intensive firms but at the expense of stiffer political opposition in the United States. The **Imports Only** design (not applying the tax to domestic producers) would be an easier political lift, especially among Republicans and energy-intensive manufacturing firms and their labor unions. Moreover, an **Imports Only** design would still create incentives for domestic carbon-intensive industry to avoid and reduce emissions, given the incentive to take advantage of an overall market design that increases market share for cleaner producers.

---

9 *Bipartisan Legislation Seeks to Reduce Carbon Emissions and Spur Infrastructure Investment*. Rep. Fitzpatrick. September 2019. https://fitzpatrick.house.gov/2019/9/fitzpatrick-carbajal-rooney-peters-introduce-market-choice-act.

10 Timothy Cama and Juliegrace Brufke. *House votes to disavow carbon tax*. The Hill. July 2018. https://thehill.com/homenews/house/397848-house-votes-to-disavow-carbon-tax/

11 https://www.congress.gov/bill/117th-congress/senate-bill/2378.

12 See https://www.cassidy.senate.gov/newsroom/press-releases/cassidy-discusses-energy-operation-warp-speed-climate-policy-at-council-of-foreign-relations-forum and https://www.cramer.senate.gov/news/press-releases/sen-cramer-participates-in-a-conversation-with-the-climate-leadership-council.

13 See https://www.congress.gov/bill/117th-congress/senate-bill/4355.

C. WOULD U.S. ALLIES AND TRADING PARTNERS APPROVE OF THE POLICY?

In June 2022, the European Parliament adopted a **Carbon Tax BCA** that would complement the EU's existing domestic carbon price system and, if passed into law, would be phased in over the coming years.[14] EU leadership has stated that they hope this policy incentivizes other countries to adopt similar carbon pricing schemes.[15] **Carbon Tax BCAs** work neatly together because the importing country simply needs to compare the difference between their and the exporter's domestic carbon price to calculate the tariff. However, requiring countries to adopt a domestic carbon price creates immense political challenges.

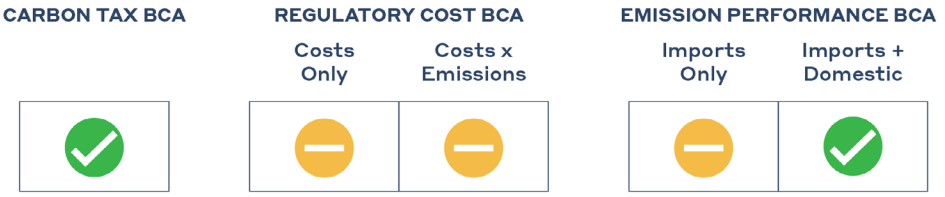
It is highly unlikely that a **Regulatory Cost BCA** would align well with U.S. trading partners who have focused more on actual emissions than on the incurred costs of regulation. Additionally, the subjective nature of comparing regulations across countries creates even greater administrative hurdles as some countries will count regulations that provide indirect GHG benefits while others will only want to credit policies that have a direct effect.

An **Emission Performance BCA** offers a more likely pathway than a BCA based on carbon pricing or regulatory cost to develop a consensus approach internationally. The emissions performance metric respects diverse national circumstances and their impact on policymaking. It allows foreign governments and firms to pursue decarbonization strategies that work best for themselves. For a country to join an **Emission Performance BCA** club, a government only needs to agree to the club's performance standard or a glidepath to achieving it. The entry of a new member would have an impact on the club's standard if its industries were a better or worse performer. The more carbon-intensive performers within the club might be required to pay the tariff when exporting to other club members or there might be a "free trade" agreement between club members that would avoid the tax altogether.That being said, should a country exempt domestic firms from its emission performance standard, trading partners would be irked by the immense market advantage granted to domestically produced goods compared to imports.

14 *European Parliament adopts carbon legislation package, final negotiations with EU Member State representatives expected soon.* EY. June 2022. https://www.ey.com/en_gl/tax-alerts/european-parliament-adopts-carbon-legislation-package-final-negotiations-with-eu-member-state-representatives-expected-soon

15 *Council agrees on the Carbon Border Adjustment Mechanism (BCAM).* Council of the EU. March 2022. https://www.consilium.europa.eu/en/press/press-releases/2022/03/15/carbon-border-adjustment-mechanism-BCAm-council-agrees-its-negotiating-mandate/

D. DOES THE POLICY COMPLY WITH INTERNATIONAL TRADE LAWS?



There are questions regarding whether any of the BCA mechanisms comply with the rules and regulations of the World Trade Organization (WTO). WTO requires that member nations provide equal access to markets for domestic and foreign producers. Members would argue that, if applied domestically, a **Carbon Tax BCA** and **Emission Performance: Imports + Domestic BCA** levy an equivalent tax on both imports and domestically produced goods, balancing the costs of accessing markets between domestic and foreign producers. These two designs have the strongest argument for WTO compliance.

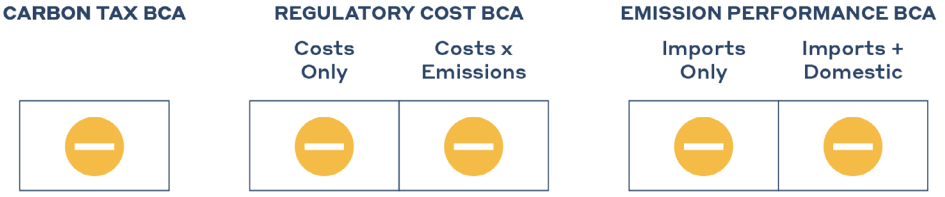
If the more politically feasible position is taken to adopt an **Imports Only** and not an **Imports + Domestic Emission Performance BCA**, WTO compliance becomes uncertain. By placing a tariff only on imports and not domestic production, importers would argue that this design favors domestic producers and therefore does not provide equal access to markets. The **Regulatory: Costs x Emissions BCA** would also levy a tariff only on imports, with domestic producers not facing an equivalent fee. These policies could be tied to the importer's national environmental goals and designed in a way that is WTO compliant, but there has yet to be an example of how this would play out. Similarly, while a **Regulatory: Costs Only BCA** would theoretically levy a tariff on imports equal to the cost that domestic producers incur when complying with environmental standards, creating parity between imports and domestically produced goods, there is currently no precedent for translating domestic regulatory costs to a price placed on imports. The subjective nature of measuring regulatory compliance costs creates further uncertainty on whether this design could be WTO compliant.

E. DOES THE POLICY INCENTIVIZE GLOBAL DECARBONIZATION?

Each of the BCA designs that factor in emissions themselves would incentivize decarbonization globally. To avoid paying a tariff on exports to countries with BCAs, countries without stringent environmental policies or with low performance standards may change course and adopt measures that more closely align their policy regime or emissions profile with that of the importer. Countries would be especially incentivized to pick the low-hanging fruit and cut easy-to-reduce emissions to lower the tariff on their exports. Similarly, most companies themselves would have this same incentive. If countries also adopt a carbon price or emission performance standard and apply it to domestic firms, that would also incentivize decarbonization for domestic firms that don't trade internationally.

The **Regulatory: Costs Only BCA** could create an incentive to increase regulation (and cost-of-compliance), but more stringent regulation does not necessarily decrease emissions in a manner that is proportionate to costs. Moreover, once compliance costs are matched, there would be no further incentive to cut excess emissions.

F. DOES THE POLICY PREVENT BAD ACTORS FROM CIRCUMVENTING THE TARIFF?



With each of these BCA designs, we should expect high-emitting countries to attempt to game the system. China, for example, is likely to reorganize its state-owned industry in a way that exports its cleanest production to the United States and other countries with BCAs while selling its more carbon-intensive products elsewhere. Designing a BCA to use national sectoral averages to determine the fee may help prevent this type of resource shuffling by placing the same tariff on all producers of a specific good. However, a drawback of

this approach is that there is a stronger incentivize for individual firms to decarbonize if reporting is done at the firm level rather than using national sectoral averages.

A plurilateral agreement with a critical mass of economies (e.g., the G7), however, would make it difficult for non-market economies to reorganize their industry to segregate the market. Frustrated by this design, those countries could try to drive a political wedge between the United States and the developing world but an inclusive system that allows new entrants and rewards cleaner producers in those countries to benefit from the market design would reduce their ability to exploit loopholes in a BCA. U.S. financial programs to promote carbon efficiency in those economies would also blunt the abilities of a country like China to pull other countries into a separate trade bloc.

At the firm level, producers in countries that do not implement a BCA would still be incentivized to cut emissions to reduce the tariff on their exports to countries with a BCA. However, those firms may instead decide to shift exports to countries that have not implemented a BCA or reduce exports altogether and focus on domestic opportunities. Additionally, some firms could stop producing some of their most carbon-intensive products to avoid the tariff and instead purchase those products from other companies. Data transparency is vital for a BCA to operate correctly, so it is important that if an exporter does not provide the necessary data or if the data it submits is deemed suspect, its imports would face the most stringent tariff.

G. DOES THE POLICY AVOID BURDENING LEAST DEVELOPED ECONOMIES?

On its face, a BCA would impose a burden on the least developed economies that export goods that are covered by the policy. While the policies would incentivize higher-emitting countries to implement emission reduction policies to decrease the cost of the tariff on their exports, it would harm local producers in countries that already struggle with poverty. The United States could exempt exports from the least developed economies but doing so would give China and other countries a “loophole” they could use to offshore operations to circumvent the tariff.

As a carrot for cooperation, Washington could bolster existing programs that finance deployment of low-carbon technologies in least developed countries or create new programs designed to help their firms meet the data requirements of the BCA. The United States and other countries could also create pathways for the least developed economies to meet climate and trade requirements or join the club – either partially or fully.

Poor countries could also benefit from a BCA design that results in increased "green" foreign investment. For example, if an **Emission Performance BCA** were applied at the firm level and if it accounted for upstream emissions, multinational private sector and state-owned enterprises would invest more to reduce lifecycle GHG emissions across their supply chain, including from operations in the developing world. Cleaner firms in the least developed countries that can afford to cut emissions and use cleaner production processes could increase their market share if a BCA is implemented at the expense of less efficient firms.

H. DOES THE POLICY ADJUST FOR HARD-TO-ABATE EMISSIONS?

A **Carbon Tax BCA** places a price on releasing a metric ton of carbon and charges producers a fee for the carbon released during the manufacturing of a good. All producers face the same carbon price, so producers in less carbon intensive industries or in industries where reducing emissions is less costly than the tariff will invest in emission reduction accordingly. However, industries such as cement and steel production are highly carbon intensive and would need innovative technologies or production methods to reduce emissions, resulting in these industries paying the carbon tax with little room to abate emissions.

A **Regulatory: Costs Only BCA** or **Emission Performance BCA** would be sector based, and therefore hard-to-abate sectors would not be treated identically to easy-to-abate sectors. Consequently, the tariff would likely vary widely from one sector to the next. In the case of the **Regulatory: Costs x Emissions BCA**, while it would technically adjust for hard-to-abate sectors, it would penalize hard-to-abate emissions *more* than easy-to-abate emissions, which is the opposite of what an efficient emissions reduction policy should do.

5. Conclusion

While border carbon adjustments offer significant opportunity for bipartisan climate and trade policy, it is clear that which core metric one chooses for the BCA is highly consequential—both for effectiveness of the program and for the likelihood of gaining support across the political spectrum, as well as internationally. Of the three major BCA options, the two versions of an **Emission Performance BCA** achieve the most goals while posing the fewest challenges. While there are still many design mechanics to work through with such a system, it appears that both Republicans and Democrats are already gravitating towards an emission performance approach. Going forward, it will be important to maintain a clear distinction between this approach and the other two as stakeholders are educated on the policy's opportunities and challenges. In addition, more work will need to be done to examine choices for various policy design details, including but not limited to:

- how the standard is calculated and applied,
- how data is gathered and harmonized across participating economies,
- what the boundaries are for calculating product emissions,
- and how emission regulations are considered across countries and BCA designs.

A forthcoming report will go into more detail on specific design mechanics and recommendations for implementing an effective **Emission Performance BCA.**