CARBON BORDER ADJUSTMENT PROVISIONS IN THE 118TH CONGRESS

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Carbon border adjustment mechanisms (CBAM) are an emerging set of trade policy tools that aim to prevent carbon-intensive economic activity from moving out of jurisdictions with relatively stringent climate policies and into those with relatively less stringent policies. Border adjustments have the potential to increase the environmental effectiveness of climate policies, by averting shifts in economic activity that could lead to higher total greenhouse emissions—a phenomenon known as "carbon leakage." They are also seen as a way of protecting industrial competitiveness by reducing the incentive for businesses to move production abroad.

This factsheet compares border adjustment-related proposals introduced in the 118th Congress (2023–2024). It also outlines key considerations in designing a carbon border adjustment.

WHAT ARE CARBON BORDER ADJUSTMENTS?

Carbon border adjustments are known by many different names, including border carbon adjustments or border tax adjustments, but they all aim to achieve the same objectives: Address differences in the domestic climate policies, and the resulting emissions intensity of production, between trading partners. By accounting for these differences in climate ambition and emissions from the production of goods, carbon border adjustments are designed to protect industrial competitiveness and avoid shifting production—and emissions—to countries with dirtier processes or weaker environmental standards, which is known as carbon leakage.

Carbon emissions leakage results from a geographic shift of production between countries without any net benefit to global greenhouse gas emissions, either through shifts in investment patterns, loss of market share for domestic industries to more emissions-intensive trading partners, or changes in energy markets that result in greater global emissions.[1] To date, evidence on carbon leakage has been mixed. Most studies find little to no evidence of leakage occurring, though much of the existing research on carbon leakage was completed during periods of low carbon prices and significant sectoral exemptions from climate policies.[2] Contrary to earlier research, a more recent study found significant leakage rates, particularly in small open economies such as individual European Union (EU) countries.[3] Regardless of the uncertainty surrounding the impact of carbon leakage, it remains a concern of policymakers for some emissions-intensive industries in countries with ambitious climate policies, especially those with steadily rising carbon prices.

Carbon border adjustments apply fees on imported goods based on their emissions content and can also include rebates or exemptions from domestic policies for domestic producers that export their goods to markets abroad, especially to countries with laxer climate policies. Proposals for carbon border adjustments typically envision that the price an importer would pay would be aligned with a domestic carbon price. Recent discussions in the United States, however, include consideration of an implicit carbon price based on a range of regulatory and other policies, and a price based on the difference between the emissions intensity of U.S.- and foreign-produced goods.

STATUS AND OUTLOOK

Some observers have raised concerns that carbon border adjustments could amount to disguised protectionism; at a minimum, such policies involve unsettled issues of trade policy that have the potential to provoke disputes in the World Trade Organization (WTO).

The WTO's General Agreement on Tariffs and Trade (GATT) includes protections aimed at ensuring equal treatment of domestic and foreign-produced goods, which a border adjustment could violate if not carefully designed. While GATT allows exceptions for certain policies on environmental grounds, it nonetheless prohibits any measure that amounts to arbitrary or unjustifiable discrimination against trading partners.[4] As such, some observers conclude a border adjustment could be consistent with WTO rules or an allowable exception under GATT Article XX as long as domestic producers pay an equivalent fee.[5] Recent research explores other alternative exceptions under WTO rules.[6]

Carbon border adjustments are also sometimes criticized as incompatible with the United Nations Framework Convention on Climate Change (UNFCCC), particularly Article 3.5, which forbids measures that constitute "arbitrary or unjustifiable discrimination" or serve as a "disguised restriction on international trade."[7] International observers have also expressed concerns that border adjustments can stifle multilateral climate efforts through the UNFCCC.

As of October 2023, the European Union is the only jurisdiction that has implemented a carbon border adjustment, but there is growing interest. In February 2023, Taiwan adopted climate legislation which established a carbon fee and included a carbon border adjustment, however there is no specific legislative timeline for implementing such a border adjustment mechanism.[8] In August 2024, Taiwan announced regulations for implementing their carbon fee system starting in 2026. The carbon fee regulations include an emissions adjustment mechanism that would effectively lower the fee for high carbon leakage risk domestic industries to address concerns about international competitiveness and to provide time for a low-carbon transition. Domestic companies considered to have high carbon leakage risk must submit a voluntary carbon reduction plan that must be approved by the government to qualify for this mechanism. Taiwan has yet to release regulations for implementing a border adjustment on imported goods.[9]

In December 2023, the United Kingdom announced that it would implement a carbon border adjustment by 2027.[10] Further details on the design of the UK CBAM underwent public consultation in 2024. Other countries are starting to consider similar policies in response to the EU CBAM. For example, Canada has completed a consultation, and Australia has completed a second consultation.[11] Some observers note that California was the first to implement a border adjustment, but the mechanism is a limited measure that covers only imported electricity under its cap-and-trade program.[12]

Moreover, carbon border adjustments have become a topic of discussion in international political forums.

CARBON CLUBS

The difficulty of addressing a global challenge like climate change through unilateral action or through the UNFCCC has led for calls to organize smaller groups of countries that align on key facets of climate policy, known as "climate clubs" or "carbon clubs".[13] As originally conceived by academics, climate clubs would include minimum carbon prices among members alongside common border adjustments that apply to countries outside of the club to spur greater global climate ambition and reduce the risk of carbon leakage. Efforts by countries seeking to form climate clubs have scaled back ambition and speed while striving for a more inclusive approach.[14]

Under the German Presidency of the Group of Seven (G7), leaders agreed to establish "an open, cooperative international Climate Club to support the implementation of the Paris Agreement, consistent with international rules and with participation beyond the G7."[15] The initial scope of the Climate Club would be on decarbonizing hard-to-abate industrial sectors.[16] Under the Japanese Presidency, the G7 issued a Clean Energy Economic Action Plan, which says the group will "pursue trade policies that drive decarbonisation and emissions reduction, by spurring markets to account for embedded emissions in traded goods, and affirm that environmental standards should not be lowered to unfairly gain competitive advantage."[17] In December 2023, G7 members and 27 other countries formally launched the "Climate Club" at the UNFCCC 28th Conference of Parties (COP28) in Dubai. The Climate Club will support the "advancement

of ambitious policies, alignment of methodologies and standards" to unlock the potential of industrial decarbonization, starting with steel and cement.[18]

In September 2024, the Climate Club called for greater financial and technical assistance for industrial decarbonization in emerging markets and developing countries. Options to boost international cooperation here include funds that target industry decarbonization projects, assistance for industrial decarbonization in emerging markets and developing economies, and target programs utilizing disruptive low-carbon technologies.[19]

BRICS

However, some of the large countries that would likely be among the most impacted by a coordinated carbon border adjustment are opposed to the idea. In May 2022, the so-called "BRICS" countries—Brazil, Russia, India, China, and South Africa—issued a joint statement opposing "any measures to restrict trade and investment and setting up new green trade barriers with the pretext of addressing climate change, such as the imposition of Carbon Border Adjustment Mechanisms, which are incompatible with multilateral rules under the World Trade Organization."[20] In June 2023, BRICS countries issued a similar statement, condemning "unilateral protectionist measures under the pretext of environmental concerns such as unilateral and discriminatory carbon border adjustment mechanisms, taxes and other measures."[21] In June 2024, BRICS countries "condemned unilateral, punitive and discriminatory protectionist measures, that are not in line with international law, under the pretext of environmental concerns, such as unilateral and discriminatory carbon border adjustment mechanisms."[22] And in August 2024, BRIC countries signed a memorandum of understanding on partnering to establish "joint carbon markets projects and targets." The framework could be seen as a joint action against carbon border adjustments implemented by developed countries.[23]

EU'S CARBON BORDER ADJUSTMENT MECHANISM

In July 2021, the European Commission released a package of proposals to help the EU achieve its updated climate targets of reducing net greenhouse gas emissions 55 percent below 1990 levels by 2030 and becoming carbon neutral by 2050.[24] The proposals included establishing a CBAM that would put a carbon price on imports of covered goods to ensure that ambitious climate action in Europe does not lead to carbon leakage. The EU CBAM is intended to serve as an alternative to distributing free emissions allowances to industrial sectors, which serves as the current leakage protection mechanism under the European Union Emission Trading System (EU ETS) but is seen as unsustainable and ineffective as a decarbonization strategy. It also aims to encourage industry outside the EU to take steps in the same direction to reduce emissions. Revenues from the EU CBAM would go toward the EU's general budget.

The EU enacted the CBAM legislation in May 2023 and released implementing regulation in August 2023 for a transitional phase from 2023 to 2025.[25] During this period, which started in October 2023, a reporting system applies to importers of covered goods to facilitate a smooth rollout of the program, gather data, and to facilitate dialogue with non-EU countries. Starting in 2026, the EU CBAM will become fully operational, and importers will start paying a financial adjustment. As the EU CBAM phases in, the existing system of free allowances under the EU ETS for sectors covered by the CBAM will be phased out. The goal is to transition from a system of free allowances to the CBAM so EU producers will be incentivized to reduce emissions through exposure to the carbon price while still maintaining leakage protections. During this period, the EU CBAM fee that importers face will be reduced to reflect the value of free allowances until the phaseout is completed. The EU Commission has yet to adopt implementing regulation that specifies how it will reduce fees for importers to reflect ongoing free allocation during the phaseout.

The EU CBAM will initially cover goods mostly from sectors at significant risk of carbon leakage: cement, iron and steel, aluminum, fertilizers, and hydrogen. The CBAM also covers electricity generation, given increasing interconnectivity with the EU's more emissions-intensive neighbors, such Ukraine, Turkey, and countries in North Africa and the Balkans. Before the end of the transitional period, the CBAM could be extended to cover other goods, such as organic chemicals and polymers. The EU has the goal to include all products covered by the EU ETS by 2030.

Under the program, importers will be required to purchase certificates equal to the total embedded emis-

sions of the covered good each year. The price of the CBAM certificate will be based on the weekly average auction price of EU ETS allowances. If a non-EU producer can show that they already paid a price for carbon emitted during production of the imported good, then that price can be deducted from the CBAM fee paid by the importer.

Importers will calculate the embedded emissions of covered goods according to procedures established by the implementing regulation for the transitional phase and will need to independently verify their reporting. During the transitional phase, importers have to report both direct emissions from on-site combustion of fuels and industrial processes (scope 1) and indirect emissions from purchased electricity and heat (scope 2). However, there will be no EU CBAM fees applied to indirect emissions on goods that currently receive additional compensation for high electricity costs under the EU ETS, which include aluminum, iron and steel, and hydrogen. For some products, reporting and fees will include other upstream goods used in the manufacturing process that are also covered by the CBAM (scope 3). Examples include reporting the emissions intensity of hydrogen that is used to make ammonia-based fertilizers or the emissions of scrap steel that is used to produce recycled, or secondary steel. The implementing regulation for the transitional phase provides two overarching emissions measurement methodologies with further sector-specific guidance and methodologies for attributing facility emissions to specific covered goods.

If the actual direct emissions data is not available, then importers will be allowed to use default values for determining embedded emissions in the covered good (except electricity). Where feasible, default values for goods will be set at the average emission intensity of each exporting country and for each covered good. In cases where reliable exporter-country data is not available, the EU Commission will set the default rate at the value of the worst-performing EU installations that produce the covered good. The EU Commission published default values to be used during the transitional phase from 2023 through 2025. Based on the experience using the default values, the EU Commission will refine the scope and mechanisms for calculating embedded emissions before the CBAM becomes fully operational in 2026.[26]

The default value for electricity will be based on the emissions factor in the non-EU country, group of non-EU countries, or region within a non-EU country using the best available data. In cases where reliable exporter-country data is not available, the EU Commission will set the default value for electricity at the emissions factor within the EU. Actual emissions data for electricity can only be used where importers can demonstrate with "reliable data" that the source-specific emissions factor is lower than the default value applied. Certain non-EU countries who participate in the EU ETS or have an emissions trading program linked with the EU ETS will be excluded from the CBAM system. However, the CBAM legislation urges the EU Commission to explore concluding agreements that "take into account the carbon pricing mechanism of third countries." The EU CBAM legislation also calls for bilateral, multilateral, and international cooperation with third countries, including an open and non-exclusive climate club that aims for high ambition among a set of like-minded countries and facilitates comparison and coordination of emission reduction measures among members.[27]

Moreover, there's anecdotal evidence that other countries (e.g., India, Indonesia, Morocco, Turkey, Ukraine, Uruguay, and Western Balkan countries) are implementing or adjusting their carbon pricing programs in response to the EU CBAM. Countries may be motivated to capture the revenue that would otherwise be paid to the EU and to reduce compliance costs for small- and medium-sized enterprises.[28]

UK'S CARBON BORDER ADJUSTMENT MECHANISM

In December 2023, the Government of the United Kingdom announced plans to implement a carbon border adjustment mechanism by 2027. The UK CBAM would put a "carbon levy" on imports of covered goods from countries with a lower or no carbon price to ensure that the UK's net-zero commitment does not lead to higher emissions abroad.[29] The UK CBAM is intended to serve as a replacement to distributing free emissions allowances to industrial sectors, which serves as the current leakage protection mechanism under the UK Emissions Trading Scheme (UK ETS).

The UK CBAM follows a 2023 consultation on addressing carbon leakage risk to support UK decarbonization efforts.[30] The design details and implementation of the UK CBAM was subject to further consultation in 2024. In October 2024, the UK government issued its

response to the second consultation. Similar to the EU CBAM, the stated goal of the UK CBAM is to accelerate its industrial decarbonization goals while mitigating the risk of carbon leakage and resource shuffling for highly traded goods.[31]

The UK CBAM would cover goods from iron, steel, aluminum, fertilizer, hydrogen, and cement. Scrap aluminum and steel will not be covered under the UK CBAM. The UK government has set a minimum threshold of £50,000 of imported covered goods over a 12-month rolling period. This threshold would cover 99 percent of emissions through goods covered by the UK CBAM while reducing administrative burden on small- and medium-sized enterprises.

Importers will be required to pay a "CBAM liability" based on the embedded emission of the imported covered good. The actual amount of the CBAM liability will depend on the emissions embodied in the covered good, and the difference between the UK's effective carbon price (i.e., UK CBAM rate) and the effective carbon price applied in the country of origin (if any). Each quarter, the UK government will set individual UK CBAM rate for each covered sectors, which will be comparable to the carbon price faced by UK domestic producers (accounting for the UK ETS, free allocations, and the carbon price support rate on electricity generated using fossil fuels in Great Britian). Only explicit carbon prices will be used in reducing the UK CBAM liability. Implicit pricing policies are not eligible because they do not place a price per metric ton of carbon dioxide equivalent directly on greenhouse gas emissions. The UK CBAM will not involve the purchase or trading of emissions certificates.

The embedded emissions of a covered good will be calculated according to procedures that are yet to be fully established. The UK CBAM will be applied to Scope 1 emissions, Scope 2 emissions, and select precursor product emissions embodied in imported products to ensure comparable coverage with the UK ETS.[32]

Following consultation, the next stage would be to produce primary and secondary legislation for the CBAM. The UK government plans to publish the draft legislation ahead of introduction in Parliament to allow for public review.[33]

U.S. INTEREST IN BORDER ADJUSTMENTS AND TARIFFS

Proposals for border adjustments have traditionally been paired with carbon pricing policies and framed as a means of addressing concerns around emissions leakage resulting from a carbon price. Partly prompted by the EU's CBAM, however, there is growing interest among U.S. policymakers—both on Capitol Hill and in the Biden administration—in implementing a carbon border adjustment without an explicit domestic carbon price. There are varying reasons why Democrats and Republicans are interested in a standalone carbon border adjustment mechanism, but the overlapping consideration is economic competitiveness.[34]

U.S. manufacturers are able to produce the same goods with a lower overall carbon intensity than many other countries, giving the United States a clear "carbon advantage." A 2020 study found U.S. manufacturing to be 40 percent more carbon-efficient than the world average.[35] However, a recent study reinforces aspects of the carbon advantage finding but with more nuanced conclusions: the United States is significantly less carbon intensive than large developing countries but is generally more carbon intensive than advanced economies like EU member states and Japan.[36]

Growing attention on embodied emissions of globally traded goods has underscored another finding—nearly a quarter of global carbon dioxide emissions in 2019 are embedded in imported goods. For the United States, that amounted to about 1.26 gigatons of embedded carbon emissions in imported goods.[37] Closing this "carbon loophole" whereby countries are able to reduce their direct emissions by importing less emissions-intensive goods represents a significant opportunity to reduce emissions.

U.S. CONGRESS

The 117th Congress (2021–2022), saw the introduction of six carbon pricing proposals that include some form of border adjustment and two standalone border carbon adjustment proposals.[38] In the 118th Congress (2023–2024), there was growing interest in standalone border adjustment proposals or bills that lay the groundwork for a standalone border adjustment. Ten proposals were introduced—two bipartisan proposals, seven Democratic proposals, one Republican proposal, and two bipartisan proposals. (For a summary of this and other border

adjustment provisions, see the section below on *Carbon border adjustments*.)

There is bipartisan interest in this topic. In June 2023, Senators Chris Coons (D-Del.) and Kevin Cramer (R-N.D.) introduced the Providing Reliable, Objective, Verifiable Emissions Intensity and Transparency Act (PROVE IT Act, S. 1863) that would require the U.S. Department of Energy to conduct a study on the energy intensity of goods manufactured from certain sectors. Senators Coons and Cramer argue their bipartisan proposal would "demonstrate our [U.S.] advantage in clean production and make clear to consumers around the world the environmental damage caused by some emissions-intensive foreign products."[39] The PROVE IT Act does not establish a carbon price or set a border adjustment. Instead, it takes the crucial step toward building a foundation of strong emission measurements that would be essential to implement a carbon border adjustment. In January 2024, the PROVE IT Act passed the Senate's Environment and Public Works committee with bipartisan support.[40] In July 2024, Reps. John Curtis (R-Utah) and Scott Peters (D-Calif.) introduced a companion bill in the House of Representatives.

In November 2023, Republican Senators Bill Cassidy (R-La.) and Lindsey Graham (R-S.C.) introduced the Foreign Pollution Fee Act (S. 3198), which would establish a border carbon adjustment based on the difference between the emissions intensity of U.S. and foreign-produced goods, without imposing a fee domestically. Senator Cassidy said this proposal would, "enhance American security and competitiveness, streamline domestic permitting processes, and safeguard the environment."[41] The Foreign Pollution Fee Act also would establish a carbon club to incentivize international participation with the framework. In December 2024, Senators Cassidy and Graham released a new discussion draft of the Foreign Pollution Fee Act for public comment. Based on public comments, the Senators plan to introduce a new version of the Foreign Pollution Fee Act in 2025.[42]

In December 2023, Democratic Senator Sheldon Whitehouse (D-R.I.) and Representative Suzan DelBene (D-Wash.) lead the introduction of the Clean Competition Act (S. 3422 and H.R. 6622) that would establish a border adjustment based on a benchmark price paired with a domestic performance standard. Senator Whitehouse said his proposal would "give domestic companies a step up in the global marketplace while lowering carbon emissions at home and abroad, and ultimately steering the planet toward climate safety."[43]

BIDEN ADMINISTRATION

While there is interest in developing legislation to implement a carbon border adjustment, some observers suggest the president already has the executive authority to implement a form of carbon border adjustments (i.e., carbon import tariff). Advocates of executive action argue that President Joe Biden could implement a tariff based on carbon emissions under Section 232 of the Trade Expansion Act of 1962, which allows the president to restrict imports of goods critical to national security. For instance, President Donald Trump used Sec. 232 to place tariffs on steel and aluminum and to create negotiating leverage for other goods.[44] Recent Sec. 232 tariff agreements provide an indication of how the Biden administration is looking to advance carbon-based trade policies.[45]

In October 2021, the United States and the EU reached an agreement to temporarily lift tariffs on each other's steel and aluminum exports. The United States and the EU plan to replace these tariffs with the first carbon-based sectoral arrangement on steel and aluminum trade by 2024. The expectation is that both jurisdictions would align efforts to place import tariffs based on emissions criteria (e.g., emission intensity of products).[46] Negotiations for the Global Arrangement on Sustainable Steel and Aluminum were supposed to conclude by November 2023; however, in December 2023 both parties extended for two years the temporary suspension of the tariffs.[47] The extension will give both parties more time to negotiate a "global arrangement that addresses carbon intensity and non-market capacity in the steel and aluminum industries."[48]

Following the U.S.-EU agreement, in February 2022, the United States and Japan reached an agreement to allow historically-based, sustainable volumes of steel imports from Japan. The agreement includes conferring on methodologies for calculating steel and aluminum carbon intensity and sharing emissions data.[49]

In the U.S. context, a key design issue concerns whether and how a border adjustment could be implemented in the absence of a federal price on carbon. The Biden administration has acknowledged the difficulty in calculating the environmental cost without an explicit carbon

price. However, Biden economic and climate advisors have previously argued that the technical challenge of basing a border adjustment on an implicit carbon price is not insurmountable, encouraging further research on methodologies, and suggesting that the implicit price created through the U.S. policy mix can be harmonized with explicit carbon prices abroad.[50]

A related issue is whether a border adjustment could be implemented in the absence of any associated federal policies to directly address domestic emissions. Some observers argue that a carbon tariff could be based purely on differences in emission intensity.[51] However, some policymakers and analysts raise concerns that such an approach, in the absence of regulatory policies to justify it, would be seen as protectionist and as an arbitrary and impermissible violation of the core WTO principles of nondiscrimination and national treatment.

Moreover, reporting indicated climate policies for a potential second term for the Biden administration would focus on decarbonizing the industrial sector. Such policies would include a carbon border adjustment mechanism. The report noted Congress would need to pass legislation authorizing a "carbon tariff" that would need to be paired with a fee on domestic producers to be compliant with WTO trade rules. The Biden administration could attempt to establish a "carbon tariff" through greenhouse gas regulations under the Clean Air Act, but such an approach would most likely trigger legal challenges from opponents.[52]

In April 2024, John Podesta, senior advisor to President Biden for international climate policy, spoke about the need for "a global trading system that slashes pollution, creates a fair and level playing field, protects against carbon dumping, supports good manufacturing jobs and economic opportunity, and rewards every country that's doing the right thing—no matter their stage of development."[53] To accelerate the transition toward climate-smart trade and policies, the Biden administration announced the formation of a new White House Climate and Trade Task Force. This task force will have three priorities:

1. develop climate and trade policies that will be effective at addressing carbon leakage, carbon dumping, and embodied carbon in general
2. ensure we have credible, robust, and granular data to implement climate and trade policies
3. identify additional actions to allow domestic and foreign producers to thrive.

The task force will be open to proposals from Capitol Hill, as well as policy thought leaders, to accomplish those goals. And in terms of analytical metrics, it bears mentioning that federal agencies are already collecting the necessary data to calculate carbon-intensity metrics, most notably through buy-clean initiatives. Bringing together these disparate efforts through the task force could make it easier to calculate these metrics as well as make these metrics available to consumers and producers. It is important to note that determining the carbon intensity of traded goods on its own does not make for a CBAM.

In July 2024, Podesta elaborated the climate and trade task force is reviewing and gathering data to consider policy options to account for embodied carbon in traded goods. Podesta said, "the specific policy mechanism that we will adopt needs to fairly reflect the carbon that is embodied in the goods being produced."[54] And in September 2024, Ali Zaidi, national climate advisor to President Biden, noted the need for an emissions-intensity measurement system to drive toward cleaner manufacturing. To build the necessary data infrastructure, the U.S. Department of Energy launched a pilot program that will offer data tools to measure greenhouse gas intensity of certain industrial products.[55] DOE will support this work by combining existing data to build accurate, coordinated greenhouse gas intensity of certain energy-intensive industrial products, starting with U.S. production.[56]

POLICY DESIGN OPTIONS AND IMPLICATIONS

At first glance, a carbon border adjustment appears relatively straightforward. The border adjustment is essentially the product of a price (in dollars per ton of emissions), the emissions intensity associated with the production of a covered good (in tons of carbon dioxide equivalent emissions per unit of the good), and the quantity of the good (see Equation 1).

However, there are significant design questions associated with what to base the price on and how to measure and account for the emissions associated with production of a good. More broadly, there are questions about scope and coverage, and the treatment of foreign carbon pric-

EQUATION 1: General formula for calculating border adjustments

border adjustment = price × emissions intensity of a good × quantity of good

ing and border adjustment policies.

Design choices must also be weighed against:

- Fairness: Does the policy benefit particular groups within a sector or does it benefit certain sectors over others?
- Ease of administration: Is the policy difficult to implement and administer?
- Data availability: Is the necessary emissions data readily available or possible to obtain?
- WTO compatibility: Does the policy adhere to WTO rules aimed at preventing discriminatory trade practices?
- Potential alignment with other countries' programs: Does the policy recognize similar programs in other countries and adjust import fees accordingly?
- Emissions reduction: Does this policy lead to emission reductions domestically as well as abroad?
- Competitiveness: Does the policy protect the competitiveness of covered industries? If so, is this protection durable or static?

PRICING OPTIONS

There are three main ways to determine the price used in calculating a carbon border adjustment: an explicit carbon price, an implicit carbon price, or a performance standard with a fee. These approaches could be blended to take a hybrid approach based on political economy considerations. Ultimately, the choice will reflect the policies that are already in place for domestic industries and will have implications for the complexity of implementing a carbon border adjustment as well as the potential for a WTO challenge.

Explicit carbon price: Fundamentally, the aim of a border adjustment is to create a "level playing field" by imposing the same cost on imported goods as domestic producers face under mandatory climate policies. If those policies involve an explicit carbon price, such as a carbon tax or an allowance price in an emissions trading system, then that price can be readily applied to the border adjustment. An explicit carbon price offers the easiest approach to implement a border adjustment. Almost all congressional carbon tax proposals include a border adjustment. The EU CBAM is based on an explicit price: the market price of an allowance in the EU ETS.

Implicit price: In the absence of a domestic carbon pricing program, a border adjustment could be based on an "implicit price" representing the estimated marginal cost to domestic producers of reducing greenhouse gas emissions to comply with relevant laws, regulations, and executive actions. An implicit price offers the most difficult approach to implement a border adjustment. Calculating the implicit price based on these metrics could be complicated, especially when factoring in different local, regional, state, and national programs and determining average marginal costs that are related to controlling greenhouse gas emissions. The challenge of establishing a fair and representative methodology also makes an implicit price approach more likely to lead to WTO disputes.

Performance standard with fee: A third approach is to establish a performance standard for domestic producers alongside a border adjustment for importers that mirrors the performance standard. Performance standards rely on benchmarks expressed in terms of emissions intensity. Under a fee-based performance standard with a border adjustment, both domestic producers and importers in each covered sector would face a charge for each ton of emissions in excess of a common sectoral benchmark. The fee could be set relative to the social cost of carbon or at another pre-determined level, with predictable increases over time. (While such a fee can be viewed as a form of carbon pricing, it differs from a conventional carbon tax in that it is levied only on emissions above the performance standard.) Sectoral benchmarks could be tied to average emissions intensities, "best in class" performance, or some other referent; they would need to be tightened over time to incentivize deeper emissions reductions.

PRODUCT COVERAGE

Developing eligibility criteria is an important step in determining which goods would be covered by the border adjustment.

Fundamentally, there's a question of which goods should be subject to the border adjustment. Placing a border adjustment on all imports could be difficult to administer given manufactured or finished goods (e.g., cars, electronics, appliances, etc.) are made up of various components from different regions. Assuming the instrument aims to cover emissions beyond those that occur directly at a facility, the importer would have to know the associated emissions of key components that make up the finished good, which is particularly difficult given international supply chains. It is administratively easier to implement a border adjustment on only basic industrial materials and fuels (e.g., steel, aluminum, cement, natural gas). These are also the goods for which the rationale of implementing a border adjustment is strongest because they have high emissions intensity relative to their value and are highly traded, with prices set by international markets, which makes them more susceptible to losses of competitiveness than more complex final goods. Their placement higher upstream in product value chains also makes covering them advantageous from an administrative standpoint and emissions-reduction potential.

There are also criteria that can help determine which goods would be covered by the border adjustment:

Specified products: Carbon border adjustment provisions have generally covered traditional energy-intensive, trade-exposed (EITE) products (e.g., iron, steel, aluminum, cement, glass, pulp and paper, chemicals, and industrial ceramics) since these goods are most at risk of emissions leakage. However, specifying sectors and products without considering the actual increase in the cost of production from climate policies could be seen as giving an advantage to domestic producers of those sectors.

Intensity metrics: Eligibility criteria could also be based on metrics such as carbon intensity or energy and trade intensity. For example, goods with carbon emissions per kilogram of product above a certain threshold relative to their value would be covered.[57] The degree of international trade in a sector is also a useful metric for determining border adjustment eligibility. Together, emissions and trade intensity are commonly used to determine eligibility for carbon leakage protections under climate policies, including in the California cap-and-trade program and the EU ETS.

Specified products and intensity metrics: Another approach would be to determine covered goods from industrial sectors with a six-digit North American Industry Classification System (NAICS) code and use metrics such as greenhouse gas or trade intensity. This would be a more targeted approach to address any cost concerns resulting from competitiveness.

CARBON ACCOUNTING OF EMISSIONS AND SCOPE OF EMISSIONS COVERAGE

One of the biggest challenges in terms of implementing a border adjustment is accounting for the emissions involved in the production of domestic goods and for imported goods. Generally, a border adjustment reflects the emissions associated with the production of a covered good, but there are three main considerations to approach this calculation: gases covered, scope of emissions, and aggregation level.

Gases covered: The border adjustment could cover carbon dioxide emissions instead of all greenhouse gas emissions (in terms of carbon dioxide equivalent) associated with a covered good. Carbon dioxide emissions account for about 80 percent of U.S. greenhouse gas emissions and about three-quarters of industrial sector emissions.[58] Most of the remaining emissions from the industrial sector are from methane. Broadening the scope to include non-carbon dioxide gases allow for reductions in short-lived climate pollutants (e.g., methane) that have a relatively short atmospheric lifetime compared to carbon dioxide and usually have a higher warming effect than carbon dioxide.

Scope of emissions: Border adjustments can also vary in their coverage of emissions along product value chains and life cycles. One approach could cover direct emissions associated with the production of a covered good (scope 1 emissions). Another approach could include scope 1 emissions and indirect emissions associated with production, which would include electricity consumption and purchased heat of the manufacturing facility (scope 2 emissions). A broader approach could account for other sources of indirect emissions, including those associated with the materials used in the inputs in the production process (upstream scope 3 emissions). And

an even broader approach could include transportation of materials to project sites or consumer use (downstream scope 3 emissions).

It may be administratively difficult, and unnecessary, to cover all scope 3 emissions, but it may make sense to cover some categories of upstream scope 3 emissions to account for emissions of some inputs used for manufactured or finished goods, an approach the EU has taken with its CBAM. Failure to do so may lead to leakage risks shifting further downstream product value chains to goods that contain large amounts of covered materials.

Broadening the scope of emissions covered by the border adjustment heightens implementation challenges due to factors like data availability. Reliable data with third-party verification will be critical in determining the appropriate border adjustment. In instances where reliable product-level assessment of emissions is not readily available, there may be opportunities to leverage existing data sources at various levels of granularity (e.g., global, national, regional). For instance, a U.S. industry average could be used as a default value and importers could have an opportunity to submit data to get revised emission determinations. This would help incentivize foreign firms that are cleaner than the U.S. industry average to adopt reliable greenhouse gas accounting standards.

Moreover, a lack of interoperability across greenhouse gas accounting protocols could further complicate emissions accounting for traded goods. Put differently, existing carbon accounting methodologies may not be suited for measuring emissions for a border adjustment. Others have suggested an assessment focused on key phases before goods reach the borders of another country, when domestic policies take precedence over the use and end-of-life phases of a product.[59]

Aggregation level: Emissions could be accounted for at the product, facility, company, sector, or national level. The administrative complexity of accounting for emissions decreases as data is aggregated from a product to national level. Accounting for sectoral or national level emissions could be one way to incentivize exporting countries to decarbonize. While national or sectoral data may be readily available, it does not differentiate between products or facilities with different carbon intensities, weakening the incentive for foreign producers to reduce emissions. At the same time, using data at a product or facility level makes it easier for foreign producers to engage in resource shuffling, which refers to an effort to reallocate production to reduce exposure to a border adjustment or other climate policy without reducing emissions overall. For instance, a firm that makes aluminum via both hydropower and fossil fuels could export the cleaner, hydropower-produced goods to the country imposing a border adjustment while selling the dirtier goods in markets without border adjustments.

EXPORT REBATES

Congressional proposals that pair a carbon fee with a border tax measure have also included an export rebate for domestic producers. In this scenario, domestic producers would pay a carbon fee associated with the production of a covered good and importers of a covered good would pay a fee associated with the production of a good so as not to disadvantage domestic producers in the home market. This could be paired with rebates associated with the production of a covered good that is later exported to ensure domestic manufacturers are not disadvantaged in markets that do not have a similar price on carbon, though this introduces greater administrative complexity and WTO concerns.

In the absence of an explicit price or benchmark-based price that also applies to domestic producers, a border adjustment should not provide export rebates for domestic producers.

RECIPROCITY WITH OTHER JURISDICTIONS

As more countries adopt carbon pricing and carbon border adjustments, there arises a question of how to treat these policies under a domestic border adjustment. A carbon border adjustment could be suspended or revised based on foreign countries' climate policies. The border adjustment could also reduce the fees importers face based on evidence that the producer faced a carbon price (or other costs from climate policies), which is the approach the EU is taking in its CBAM. Recognizing climate policies in exporting countries can enhance the effectiveness and fairness of the instrument. Some proposals introduced in the 118th Congress would suspend or reduce import fees for countries through international partnership agreements and alignment on climate policies (i.e., climate clubs).

An additional consideration is whether to treat developing countries differently under a domestic border carbon adjustment. Some modeling has indicated a carbon

border adjustment mechanism implemented by major economies (e.g., EU CBAM) could impact the socioeconomic development of some developing countries.[60] To address this concern, a carbon border adjustment could exclude certain developing countries (e.g., low- and lower middle-income countries) since they make up a small portion of EITE imports. A border adjustment could also phase in product coverage based on a country's socioeconomic development indicator where least developed countries have more time (than developed countries) to achieve environmental standards, and the import fees for covered goods from these countries could also increase slowly over time. Alternatively, a border carbon adjustment could treat all countries the same regardless of socioeconomic development level and provide least developed countries with financial and technical assistance to adopt low- and zero-carbon solutions. One proposal introduced in the 118th Congress would provide low- and lower-middle-income economies a five-year period to achieve environmental standards and greater leniency in achieving comparable emissions-intensity levels of covered products. Another proposal would mostly exempt least developed countries and use the part of the revenues to help developing countries decarbonize.

REVENUES

A carbon border adjustment would raise revenues from the levy on imported goods. There are different ways the revenues from the program could be used, such as: innovation and deployment of new technologies for industry, climate resilience, financing climate-friendly development in other countries, etc.

CARBON BORDER ADJUSTMENTS IN FEDERAL LEGISLATIVE PROPOSALS

In the 118th Congress (2023–2024), ten proposals were introduced related to a border adjustment. This includes five carbon pricing proposals, two border carbon adjustment proposals, one border carbon adjustment discussion draft, two sectoral border adjustment proposals, and one proposal on measuring embodied emissions and trade.[61]

The ten proposals and one discussion draft are:

- Providing Reliable, Objective, Verifiable Emissions Intensity and Transparency Act (PROVE IT Act, S. 1863 and H.R. 8957) introduced by Sens. Chris Coons (D-Del.) and Kevin Cramer (R-N.D.) on June 7, 2023 and Reps. John Curtis (R-Utah) and Scott Peters (D-Calif.) on July 9, 2024.
- Chapter 102 of the Energy Innovation and Carbon Dividend Act (H.R.5744) introduced by Rep. Salud Carbajal (D-Calif.) on September 27, 2023
- Foreign Pollution Fee Act (S. 3198) introduced by Sens. Bill Cassidy (R-La.) and Lindsey Graham (R-S.C.) on November 2, 2023
- Clean Competition Act (S. 3422 and H.R. 6622) introduced by Sen. Sheldon Whitehouse (D-R.I.) and Rep. Suzan DelBene (D-Wash.) on December 6, 2023
- Sec. 102 of the Modernizing America with Rebuilding to Kickstart the Economy of the Twenty-first Century with a Historic Infrastructure-Centered Expansion Act (MARKET CHOICE Act, H.R. 6665) introduced by Reps. Brian Fitzpatrick (R-Pa.) and Salud Carbajal (D-Calif.) on December 7, 2023
- Methane Border Adjustment Mechanism Act (H.R. 8962) introduced by Julia Brownley (D-Calif) on July 9, 2024
- Part E of the Climate Pollution Standard and Community Investment Act of 2023 (H.R. 9230) introduced by Rep. Paul Tonko (D-N.Y.) on July 30, 2024
- Title II of the Steel Modernization Act (H.R. 9334) introduced by Rep. Ro Khanna (D-Calif.) on August 9, 2024
- Subchapter E of the America's Clean Future Fund Act (S. 5107) introduced by Sen. Dick Durbin (D-Ill.) on September 19, 2024
- Chapter 103 of the Healthy Climate and Family Security Act of 2024 (S. 5495) reintroduced by Sen. Chris Van Hollen (D-Md.) and Rep. Don Beyer (D-Va.) on December 11, 2024
- Foreign Pollution Fee Act of 2024 (discussion draft) released by Sens. Bill Cassidy (R-La.) and Lindsey Graham (R-S.C.) on December 11, 2024.

While all but one of these proposals include a carbon border adjustment, they differ in terms of their design and specificity. Much of the details of policy design, especially carbon accounting, have been relegated to the

TABLE 1: Carbon border adjustment-related provisions in congressional proposals

BILLS	PRICING OPTION	PRODUCT COVERAGE	SCOPE OF EMISSIONS	RECIPROCITY
PROVE IT Act (S. 1863 and H.R. 8957)	None (collects data only)	22 categories of covered products.	Emissions intensity associated with the "extraction, production, processing, manufacture, and assembly" of a covered product.	N/A
Energy Innovation and Carbon Dividend Act (H.R. 5744)	Explicit price	Fossil fuels and specified products determined to be EITE.	Emissions "accumulated upon the GHG content of the imported carbon-intensive product" had it been manufactured domestically and subject to domestic carbon fee. Emissions from "fuel's GHG content under the domestic carbon fee, including processing emissions." Exact accounting to be determined through rulemaking.	Foreign credit
Foreign Pollution Fee Act (S. 3198)	Hybrid of implicit price and performance standard	16 categories of covered products, including industrial materials, fuels (incl. biofuels), minerals, solar cells, and wind turbines.	Scope 1 ("point source") and scope 3 emissions through coverage of component parts and "upstream pollution".	Only through international partnership agreements that require meeting numerous conditions
Clean Competition Act (S. 3422 and H.R. 6622)	Performance standard with domestic fee	Specified products meeting carbon intensity metrics.	Emissions associated with the production of covered primary goods and from electricity used for the production of such goods. Exact accounting to be determined through rulemaking.	Fees waived for countries with policies that "achieve materially similar outcomes"

BILLS	PRICING OPTION	PRODUCT COVERAGE	SCOPE OF EMISSIONS	RECIPROCITY
MARKET CHOICE Act (H.R. 6665)	Explicit price	Products meeting GHG intensity & trade intensity metrics.	Equivalent to the carbon tax of comparable domestically manufactured goods. Exact accounting to be determined through rulemaking.	Not specified
Methane Border Adjustment Mechanism Act (H.R. 8962)	Explicit price	Petroleum and natural gas.	Scope 3 emissions through waste methane emissions.	If a country meets certain requirements, including signing mutual recognition arrangements with the U.S. Customs-Trade Partnership Against Terrorism (C-TPAT), it can opt for an alternative tax calculation based on its supply chain emissions rather than the standard methane border tax.
Climate Pollution Standard and Community Investment Act of 2023 (H.R. 9230)	Explicit price	Products meeting energy or GHG intensity and trade intensity metrics.	Emissions associated with all relevant stages of production. Exact accounting to be determined through rulemaking.	Not specified
Steel Modernization Act (H.R. 9334)	Hybrid of implicit price and performance standard	Iron and steel products	Emissions associated with the product on a "mine-to-metal" basis, as well as the emissions associated with the production of all other imports.	Tariff can be waived for countries that impose explicit carbon prices that are materially similar to the tariff, have emissions intensity within 150% of the U.S. intensity, and waive any similar tariffs on U.S. products.

BILLS	PRICING OPTION	PRODUCT COVERAGE	SCOPE OF EMISSIONS	RECIPROCITY
America's Clean Future Fund Act (S. 5107)	Explicit price	Fossil fuels and specified products determined to be EITE.	Emissions associated with input or processed used in manufacturing of covered product that would be subject to domestic carbon fee. For covered fuel, fee related to the use, safe, or transfer. Exact accounting to be determined through rulemaking.	Foreign credit
Healthy Climate and Family Security Act (S. 5495)	Explicit price	10 specified primary products and other products meeting emission intensity metrics of a primary product	Emissions associated with all relevant stages of production. Exact accounting to be determined through rulemaking.	Fee waives if country or international agreement requiring adoption of equivalent measures
Foreign Pollution Fee Act of 2024 (discussion draft)	Hybrid of implicit price and performance standard	9 categories of covered products	Lifecycle GHG emissions, including direct and indirect emissions.	Reduced fee through international partnership agreements that require meeting numerous conditions

rulemaking process, which could take years to finalize and implement. Table 1 highlights the key policy design parameters of carbon border adjustment provisions in these proposals.

PROVE IT ACT

The Providing Reliable, Objective, Verifiable Emissions Intensity and Transparency (PROVE IT) Act would require the U.S. Department of Energy to conduct a study to: determine the average emissions intensity of each category of covered products (22 products on the Harmonized Tariff Schedule of the United States) produced in the United States and to identify gaps in the data; determine the average emissions intensity of each category of covered products produced in a covered country (i.e., G7 countries, free trade agreement partners, foreign countries of concern, and countries that hold a substantial global market share for a covered product) and to identify any issues with verifying the average product emissions intensity data; and determine the relative average product emissions intensity of each category of covered products produced in the United States compared to the average product emissions intensity of each category of covered products produced in covered countries. The study would be required within two years of enactment of the bill and updated at least every five years. The House and Senate versions of this proposal are substantively similar, though the former would require an additional study on whether any country would gain a competitive advantage in international trade through human economic rights abuses.

This proposal does not establish a carbon price nor set a border adjustment. Instead, it takes the crucial step toward building a foundation of strong emission measurements that would be essential to implement a carbon border adjustment.

ENERGY INNOVATION AND CARBON DIVIDEND ACT

The Energy Innovation and Carbon Dividend Act would establish a carbon fee based on the greenhouse gas content of fossil fuels.

The Carbajal proposal would impose a carbon border fee adjustment on imports of carbon-intensive products and covered fossil fuels. Carbon-intensive products are any economic sector or product determined to be prone to carbon leakage because it is energy intensive and trade exposed.

Importers of carbon-intensive products would pay a fee equivalent to the total carbon fee that would have "accumulated upon the greenhouse gas content of the imported product" if the imported product were produced domestically and subject to the carbon fee. Importers of covered fuels would pay a fee equivalent to the total carbon fee that would be imposed on the fuel's greenhouse gas content under the domestic carbon fee, including processing emissions. The Treasury Secretary may adjust the carbon border adjustment fee based on exporting country mitigation efforts and carbon pricing.

U.S. exporters of carbon-intensive products and covered fuels would receive a credit or refund (without interest) based on the carbon fee levied before export.

While revenues from the carbon fee would go toward a dividend, revenues from the carbon border fee adjustment would go toward administering the carbon border fee adjustment and to the Green Climate Fund.

FOREIGN POLLUTION ACT

The Foreign Pollution Act would establish an ad valorem fee—a fee based on the value of the goods or services provided—on imported goods based on emissions performance relative to U.S. production and seek to push trading partners to enact similar measures to achieve global emissions reductions.

The act charges the Department of Treasury and an advisory board with the complex task of setting ad valorem fees for imported products that can achieve the act's emissions-intensity goals. The goal of the act is to steadily reduce the amount of goods imported with emissions intensities that significantly exceed U.S.-produced equivalents and to narrow the gap in emissions over three six-year periods. By the end of the last six-year period, the act proposes that imports of all covered goods be no greater than ten percent of their U.S.-produced equivalents.

Prices would be tier-based considering existing trade flows and depending on the difference between the pollution intensity of the foreign-produced good and the U.S.-produced equivalent. In cases where the difference is less than 10 percent, the fee would effectively be waived. For differences between 10 percent and 50 percent, the tiers would be set at five-percentage-point increments, topping out at 20-percentage-point increments where the difference is equal to or greater than 200 percent.

In addition to industries that are typically considered EITE (e.g., cement, steel, aluminum, various chemical products), the act also covers photovoltaic solar cells, lithium-ion batteries, wind turbines, and critical minerals. Goods that are not yet covered can be added later through a process whereby businesses, trade organizations, labor unions, and others petition to add the product if they represent at least 50 percent of total domestic production. Products would be defined using Harmonized Tariff Schedule (HTS) codes.

The emissions intensity of the foreign-produced good would be based on the weighted average emissions intensity associated with manufacturing in the country of origin, including the upstream supply chain and component parts that are also covered products, at the six-digit HTS level of granularity. The Treasury and an advisory board made up of national labs, relevant government agencies, and industry representatives would determine emissions intensity. If data availability is insufficient, the Treasury and advisory board could defer to less granular HTS codes. The act gives a preference for U.S. data obtained through regulatory reporting by the U.S. Environmental Protection Agency but allows for data from a variety of sources. Countries can establish alternative emissions-intensity values if they provide sufficiently granular, accurate, and verifiable data.

The act aims to mobilize U.S. trading partners by waiving fees for countries that enter international partnership agreements and enact similar programs to enforce emissions standards on imported goods. This club-like mechanism is available to any country and can be based on a single product or set of products. Additionally, agreements can be established between single countries or groups of countries (e.g., G7, Organisation

for Economic Development). Entering an agreement, however, requires fulfilling numerous conditions, including enacting "compatible" methods to promote emissions reductions through trade mechanisms; an ability to measure emissions between countries; coming within 50 percent of U.S. emissions intensity for the products covered under the agreement; the elimination of border fees between the countries; "compatible" application of higher fees for countries that are not parties to the agreement; and compatible systems of monitoring, reporting, and verification of emissions.

Low-income and lower-middle-income economies have a five-year window to achieve the conditions and face no fees during that period, as well as greater leniency in achieving comparable emissions-intensity levels of covered products. Richer economies have three years and will face fees during that time. Lower-income countries also receive direct aid and technical assistance to help them successfully conclude a partnership agreement, though there are conditions such as forbidding new manufacturing capacity that is more emissions intensive than the average emissions intensity at the time the partnership was agreed. Agreements are also open to specific facilities within countries if they fulfill numerous conditions, including similar emissions intensity levels as country-level agreements and providing real-time access to physical monitoring by U.S. officials or designees. Non-market economies and facilities within non-market economies are explicitly not eligible for partnership agreements.

CLEAN COMPETITION ACT

The Clean Competition Act would impose a "carbon intensity charge" on covered primary imported goods and imported finished goods that would mirror a domestic performance standard on primary goods.

The Whitehouse proposal would cover domestically produced and imported primary goods from 21 energy-intensive industrial sectors (e.g., fossil fuels, iron, steel, aluminum, cement, glass, pulp and paper, and chemicals), and those classified under the same six-digit Harmonized Tariff Schedule.

Starting in 2025, importers of primary goods would pay a carbon intensity charge relative to a benchmark based on the performance of U.S. producers in the same sector. The benchmark would be developed based on average performance of producers across their scope 1 and 2 emissions. U.S. primary good producers and importers would pay for emissions per metric ton that exceed the benchmark. For importers, the charge would be based on the ratio between the economy-wide emissions intensity in the country of origin and U.S. economy-wide emissions intensity multiplied by the sectoral benchmark. However, if the Treasury Department determines emissions data is reliable and transparent in the country of origin, and if the country is a transparent market economy where evasion of the import fee (i.e., resource shuffling[62]) is less likely, then the charge can be based on the difference between the U.S. sectoral benchmark and the average sectoral performance in the exporting country or at a company level. The proposal would exempt least-developed countries, except those least-developed countries producing at least three percent of total global exports by value of the covered primary good.

For domestic producers of primary goods, the charge would be based on the difference between the facility carbon intensity and the U.S. sectoral benchmark. If the domestic producers and imported good's emissions exceed the U.S. sectoral benchmark, they would pay the difference multiplied by a fee that increases annually.

The U.S. sectoral benchmarks would decrease by 2.5 percent per year from 2026 to 2029 and then 5 percent per year thereafter from the initial sectoral average, meaning both domestic producers and importers would face escalating costs unless they can reduce emissions at the same pace. Effectively both U.S. producers and importers would have to pay for all of their covered emissions in 22 years.

For 2027 and 2028, importers of finished goods containing at least 500 pounds of covered primary goods would pay a border adjustment equal to the amount of primary good multiplied by the total weight of the applicable primary good and the carbon price. For 2029 and 2030, the threshold for coverage drops to 100 pounds. Starting in 2030, the Treasury Secretary could lower this amount to less than 100 pounds.

The carbon price starts at $55 in 2025 and increases five percent plus inflation annually, rounded to the nearest whole dollar.

The Treasury Secretary could waive all or parts of the carbon intensity charge on a foreign nation if they have policies (e.g., explicit price) that achieve "materially

similarly" outcomes as the fee (i.e., carbon clubs). The legislation does not lay out how the Treasury Secretary will arrive at such a decision.

U.S. exporters of covered primary goods that were subject to the carbon intensity charge would receive a refund based on the carbon intensity of the covered facility.

Revenues from the carbon intensity charge would be split among two categories. Three-quarters of the revenues would fund a competitive grant program for covered industrial sectors to help them invest in new technologies that reduce their carbon intensities or build new eligible facilities that will have best-in-class carbon intensities. The remaining 25 percent would go to the State Department to support international climate activities.

MARKET CHOICE ACT

The Modernizing America with Rebuilding to Kickstart the Economy of the Twenty-first Century with a Historic Infrastructure-Centered Expansion (MARKET CHOICE) Act would establish a carbon tax based on the carbon-dioxide-equivalent emissions from fossil-fuel combustion and certain industrial products and processes.

The Fitzpatrick proposal would impose a border tax adjustment on imports of covered goods. Covered goods are those from eligible industrial sectors (manufacturing sectors, metal ores, soda ash, and phosphate processors) and those with a greenhouse intensity of at least five percent and a trade intensity of at least 15 percent, and a manufactured item for consumption (as determined by the Treasury Secretary). Greenhouse gas intensity is calculated by dividing the product of the carbon dioxide equivalent emissions of an industrial sector and carbon tax rate by the value of the shipments for the sector. Trade intensity is calculated by dividing the value of the total imports and exports of the sector by the value of shipments plus the value of imports of the sector.

Importers of a covered good would pay a border tax adjustment equivalent to the cost of comparable domestic manufactured goods associated with the carbon tax.

U.S. exporters of a covered good would receive a rebate based on the carbon tax paid before export.

METHANE BORDER ADJUSTMENT MECHANISM ACT

The Methane Border Adjustment Mechanism would impose a tariff on petroleum and natural gas that would mirror the methane waste emission charge. The waste emission charge applies to methane emissions from specific types of facilities that are required to report their greenhouse gas emissions to the EPA's Greenhouse Gas Reporting Program.

The amount of the tax would be based on the ratio of the volume or energy content of the imported substances to the total volume or energy content of the substance produced or extracted in its country of origin. The proposal would allow for an alternative tax based on supply chain emissions if an international body established interoperable standards throughout supply chains for collecting and reporting data related to methane emissions.

The bill does not include specific provisions for exemptions from the tax nor for BCA revenue distribution.

CLIMATE POLLUTION STANDARD AND COMMUNITY INVESTMENT ACT

The Climate Pollution Standard and Community Investment Act would establish a cap-and-investment program to reduce greenhouse gas emissions.

The Tonko proposal would establish an international reserve allowance program for importers of goods in energy-intensive, trade-exposed (EITE) industries to purchase allowances based on the embodied greenhouse gas emissions of those goods.

Starting before 2027, an importer would be required to purchase allowances to cover emissions from all relevant stages of production. The price for an international reserve allowance is the average of the last four auction clearing prices for an emissions allowance.

The international reserve allowance program would exempt imported goods that: meet the domestic greenhouse gas intensity benchmark, are produced in a country that the United Nations has identified as among the least developed of developing countries, or are produced in a country that is responsible for less than 0.5 percent of total global greenhouse gas emissions and makes up less than five percent of U.S. imports of the covered good's industrial sector.

Half the revenues generated from the sale of international reserve allowances should be used to supplement

funding for a clean energy rebate program for domestic households, up to ten percent of the revenue to administer this program, and any remaining funds should be divided equally for use of other funds (i.e., worker and community assistance fund, cleaner air community fund, negative emissions activities fund, and energy innovation fund) within this Act.

STEEL MODERNIZATION ACT

The Steel Modernization Act would provide tax credits and financial assistance to decarbonize the iron and steel industries.

Of relevance, the proposal would require the U.S. International Trade Commission to prepare a biennial report, starting in 2026, to the President on the greenhouse gas intensity of domestic and foreign iron and steel industries. The report will include a recommendation on whether or not impose an import tariff to compensate for any differences in emissions intensity between the foreign market and the United States. The tariff would be double for nonmarket economy countries. The president may waive the tariff for countries that have price on greenhouse gases that are similar to the tariff, impose costs on similar products based on emissions intensity, achieve emissions intensity for covered product categories that do not exceed 150 percent of U.S. emission intensity, and waive any tariffs based on emissions intensity that would be imposed on the United States.

Revenues from the tariff would be split for two purposes. Three-quarters of the revenue would be used to pay for the tax credits and grants, created under the proposal, for iron and steel industries. The remaining quarter would go toward supporting industrial decarbonization programs and climate and energy programs in foreign countries.

AMERICA'S CLEAN FUTURE FUND ACT

The America's Clean Future Fund Act would establish a carbon fee based on the greenhouse gas content of fossil fuels.

The Durbin proposal would impose a carbon border fee adjustment on imports of carbon-intensive products and covered fuels. According to the proposal, carbon-intensive product include iron, steel, steel mill products (including pipe and tube), aluminum, cement, glass (including flat, container, and specialty glass and fiberglass), pulp, paper, chemicals, or industrial ceramics, and any manufactured good determined as energy-intensive and trade exposed. Covered fuels include any petroleum, natural gas, or coal used to emit greenhouse gases into the atmosphere.

Importers of carbon-intensive products would pay a fee equivalent to the cost of manufacturing if the inputs or processes were subject to the domestic carbon fee. While importers of covered fuels would pay a fee equivalent to the total carbon fee that would be imposed on the fuel's greenhouse gas content under the domestic carbon fee, including processing emissions. The Treasury Secretary may adjust the carbon border adjustment fee based on exporting country mitigation efforts and carbon pricing.

U.S. exporters of carbon-intensive products and covered fuels would receive a refund based on the carbon fee levied before export.

HEALTHY CLIMATE AND FAMILY SECURITY ACT

The Healthy Climate and Family Security Act of 2025 would establish a cap-and-dividend program to reduce greenhouse gas emissions.

The Van Hollen-Beyer proposal would establish a carbon equivalency fee imposed on imported carbon-intensive goods. The Treasury Secretary would be required, through a rulemaking process, to identify carbon-intensive goods that are primary products or a manufactured items (i.e., finished goods) where at least one primary product are used as inputs and the cost of manufacturing are increased due to the cap-and-dividend program. Primary products are defined as: iron, steel, steel mill products (including pipe and tube), aluminum, cement, glass (including flat, container, and specialty glass and fiberglass), pulp, paper, chemicals, or industrial ceramics, and any other manufactured product that the Treasury Secretary determines is sold for further manufacturing and generates emissions similar to manufacture or production of a primary product.

Importers of carbon-intensive goods would pay a fee equivalent to the cost domestic manufacturers were subject to the cap-and-dividend program and carbon equivalency fee paid by importers of carbon-intensive goods used in the production of a comparable good. U.S. exporters of carbon-intensive products and covered fuels

would receive a refund based on the carbon fee levied before export.

This fee would be waived when exporting countries, either through an international agreement or own their own, adopt equivalent measures.

FOREIGN POLLUTION FEE ACT OF 2024 DISCUSSION DRAFT

The discussion draft of the Foreign Pollution Fee would place a fee on imported goods based on emissions performance relative to U.S. production.

The discussion draft would establish a variable charge (expressed as a percent) with a baseline 15 percent ad valorem tariff on the customs value of all covered goods, with a surcharge of 0.4 for every percentage point the pollution intensity difference is greater than 10 percent. The discussion draft requires a reassessment of the United States' baseline pollution intensity for covered products every three years. This reassessment requirement similarly applies to the variable charge, mandating that it grows with the difference in pollution intensity.

The discussion draft covers a narrower list of products, identified by their six-digit Harmonized Tariff Schedule (HTS) codes within the following categories: aluminum, cement, iron, steel, fertilizers, glass, and hydrogen.

The discussion draft includes provisions for the formation of international partnerships, which would allow signatory countries to agree to create compatible methods to reduce pollution through trade and develop compatible monitoring, reporting, and verification standards. In return, partner countries would be charged a reduced variable charge on covered products. The discussion draft places conditions on the United States' ability to enter into partnerships with high- and upper-middle-income countries, mandating that partner countries provide reciprocal treatment for U.S. exports of covered products and commit to reducing pollution intensity of covered products.

The discussion draft offers special and differential treatment for low- and lower-middle-income countries that enter into international partnership agreements, including extended compliance deadlines and technical assistance. This assistance is contingent upon partner countries meeting certain investment, market-access, and procurement thresholds. Additionally, the discussion draft permits facility-specific treatment, allowing foreign production facilities—specifically U.S.-owned entities or those within partner countries—to apply for individualized pollution intensity assessments that would reduce the variable charge paid on covered products provided they meet stringent monitoring, reporting, and verification standards. Nonmarket economy countries are ineligible for international partnership agreements.

The discussion draft includes anti-circumvention measures to prevent avoidance of fees through fraudulent practices, dumping, subsidies, or misreported emissions. Penalties for circumvention include adjustments to the fee or prohibitions on importing the affected goods altogether.

ENDNOTES

* The Center for Climate and Energy Solutions wants to express our appreciation to Chris Kardish for contributing to the development of the previous version of this document, and Brock Burton and Olivia Windorf for contributing to recent updates.

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C2ES CENTER FOR CLIMATE AND ENERGY SOLUTIONS

The Center for Climate and Energy Solutions (C2ES) is an independent, nonpartisan, nonprofit organization working to forge practical solutions to climate change. We advance strong policy and action to reduce greenhouse gas emissions, promote clean energy, and strengthen resilience to climate impacts.

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