

What is a carbon border adjustment mechanism (CBAM) and what are some legislative proposals to make one?

A [Carbon Border Adjustment Mechanism](#) (CBAM) is an emerging bipartisan tool that aims to cut global pollution and support American industry. A CBAM is a fee applied to products upon entry or imports that accounts for the amount of greenhouse gases (GHG) emitted during their production in their country of origin. When in place, these [fees](#) can improve domestic industries' global competitiveness against cheaper, higher-polluting imports and prevent producers from flocking to countries that lack environmental protections. A CBAM can be designed as a permissible import [fee](#) under the World Trade Organization. To be clear, it is not a carbon tax. In fact, a CBAM in the United States would make [domestic](#) steel and aluminum more cost-competitive and help producers capture an additional \$8.5 billion and \$6 billion of their respective markets by 2030.

Why now?

CBAM proposals in the United States are gaining bipartisan momentum, especially after the European Union passed a [CBAM](#) in October 2023, which will be gradually implemented over the next ten years. Passing a U.S. CBAM would ensure that domestic remain globally competitive as these policies are rolled out in other countries.

These approaches are also popular among Americans. While largely unknown to most people, nearly [75%](#) of voters nationwide support a CBAM once they have heard a brief explanation. Support is strong even in states where the local economy relies on heavy manufacturing and fossil fuel industries.

What would they accomplish?

A CBAM would create economic incentives to reduce pollution for important parts of the global economy. CBAM proposals in the United States focus on the [industrial](#) sector, both because it produces a quarter of all global carbon dioxide emissions and because it covers the production of traded goods. Since U.S. goods are 40% more carbon [efficient](#) than the world average, using a CBAM to account for higher emissions in other countries would:

- Make many domestic industries more competitive,
- Strengthen global environmental protections,
- Bolster industrial supply chains with our [allies](#), and
- Increase global demand for lower-polluting U.S. goods by enabling coordination with other countries on a club.

Additionally, enacting a CBAM will counter the economic role of higher-polluting competitors like China and Russia.

What are the recent legislative proposals to create a CBAM?

Below is a high-level description of recent CBAM proposals both in the United States and abroad. More detail is available in the table below.

[The Clean Competition Act](#)

The Clean Competition Act introduced by Senator Whitehouse in 2023 would establish a system of carbon intensity benchmarks applied to domestic industrial facilities and relevant imported products. A companion bill in the House was reintroduced simultaneously by Congresswoman DelBene. Joint Economic Committee Chairman Martin Heinrich is a cosponsor in the Senate and JEC Member Representative Beyer is a cosponsor in the House. A charge is levied on both domestic producers and imported products for carbon emissions above specified industry baselines, which are initially set at the average emissions intensity of U.S. production for each industry. Primary goods produced in a “relatively least developed country” would be excluded from the import charge unless they have a large market share of that good. U.S. facilities that export covered products would be eligible for an export rebate on charges paid, if any. The bill would allocate 75% of emissions charge revenues to Treasury for grants to domestic producers to reduce their carbon intensity and 25% to the Department of State for multilateral and bilateral assistance to developing countries to support their decarbonization.

[The Foreign Pollution Fee Act](#)

The Foreign Pollution Fee Act introduced by Senator Cassidy and cosponsored by Senator Graham in 2023 would establish a CBAM framework while excluding a domestic carbon tax. This bill leverages the cleaner emissions profile of U.S. producers relative to their foreign competitors, with the purpose of reining in China and Russia and weakening their control of global supply chains. National laboratories set the underlying calculations and the fee from the U.S. Environmental Protection Agency’s greenhouse gas data, which is phased in over three years. Generally, a fee is triggered if an imported product is more than 50% polluting than a U.S. product. The fee would increase over time to incrementally reduce the average intensity difference between U.S. production and imports of covered products. This would force foreign producers to decrease their carbon intensities if they wish to compete in the United States against cleaner American products. This CBAM framework includes many exemptions, including if the covered product meets certain national security interests, if the U.S. lacks sufficient domestic production of the product, or if the product is from a country with a Congressionally-approved free trade agreement and fulfills other requirements.

[The FAIR Transition and Competition Act](#)

The Fair, Affordable, Innovative, and Resilient (FAIR) Transition and Competition Act was introduced by Senator Coons in 2021. A House companion was introduced by Representative Peters. This bill would have established a CBAM based on a calculation of existing domestic environmental costs while not instituting charges on domestic entities. Least Developed

Countries and countries with climate laws that are at least as ambitious as the United States and do not impose a CBAM on the U.S. would have been exempted. Revenues would have provided supplemental appropriations to administer the CBAM and any remaining funds would have been divided between Resilient Communities Grant programs and support for technologies to reduce or eliminate GHG emissions.

[The PROVE IT Act](#)

The Providing Reliable, Objective, Verifiable Emissions Intensity and Transparency (PROVE IT) Act of 2023 does not establish a CBAM but would direct federal agencies to undertake research to quantify the carbon intensity of heavy industrial materials. This sort of information could be an important input to a future CBAM. Senators Coons and Cramer introduced this bipartisan bill in 2023, and it was passed out of committee (14-5) in early 2024 with 10 Democratic and 4 Republican votes.

For reference internationally, [the EU CBAM just started its initial phase](#).

The European Union's CBAM went into effect on October 1, 2023, and will require importers to pay a fee for the GHG emissions associated with the covered products they import. It draws the carbon price used in CBAM calculations from the EU's domestic GHG mitigation strategy, a cap-and-trade program that started in 2005. The EU CBAM will be phased in over a number of years: an initial reporting period runs until 2026 when the CBAM fee starts in limited form, and full implementation begins in 2034. This CBAM covers imports from all non-EU countries with a few exceptions. Importers can '[buy down](#)' their CBAM fee liability if a fee is paid on emissions in the country of origin. EU countries retain 25% of the CBAM revenues with the rest going into the EU budget.

How do these proposals differ in their creation of a CBAM?

In general, these proposals differ in their answers to the following questions about the [structure](#) of a CBAM:

- Which imported items are “covered products” subject to a CBAM fee? All industrial products? Only certain inputs like steel or aluminum?
- How large is the fee? For example, is the fee based on the average cost of complying with domestic regulations, the prevailing social cost of carbon, or something else—and does the fee increase over time?
- How are CBAM fee revenues distributed? Do revenues finance administering the CBAM, climate resilience grants, or something else? How is the fee applied to covered products, and how is it calculated? Is the fee based on average intensities of products in a sector, facility-level data, or a mix?
- How is the carbon or GHG intensity of a product calculated? What emissions are covered by the policy? Are embodied emissions calculated from direct emissions, indirect emissions, or all emissions required to create a covered product?

- What baseline is used to compare the carbon intensity of an imported good to a domestic good? Is the fee applied to all embodied emissions associated with the imported goods, or just the emissions above a certain U.S. baseline?
- What information, resources, and methods are used to determine the carbon intensity of a product when detailed data are unavailable?
- What steps, if any, does the policy take to reduce the domestic carbon emissions of covered products?
- Does the policy encourage coordinating with the CBAMs of other countries through a club or alliance? Are any countries that are members of [clubs](#) or alliances, based on development level or environmental standards, exempt from paying the fee?

And how do these CBAM proposals compare?

Comparison of CBAM Proposals

Bill Number; Congress; Sponsor; Cosponsors; Date	S. 3422 118th Congress Clean Competition Act Sen. Whitehouse Sen. Coon, Sen. Schatz, and Sen. Heinrich Dec. 6, 2023	S. 3198 118th Congress Foreign Pollution Fee Act Sen. Cassidy Sen. Graham Nov. 2, 2023	S. 2378 117th Congress Fair, Affordable, Innovative, and Resilient Transition and Competition Act Sen. Coons July 19, 2021	European Union Carbon Border Adjustment Mechanism
General Framework	<p>The bill would impose a domestic emissions charge at certain facilities, based on an annual carbon price and the degree to which a facility’s carbon intensity exceeds the intensity of the relevant industrial sector; the price would increase over time, based on the degree of intensity exceedance.</p> <p>The Department of the Treasury (Treasury) would determine the carbon intensity for covered industries; covered entities would be allowed to petition for a different carbon intensity of a specific good. Treasury would be required to establish a reporting program for facilities to provide data for calculating their carbon intensity (e.g., process</p>	<p>The bill would establish a CBA framework for specific products based on the difference between the GHG emissions intensity of the imported product and the GHG emissions intensity of similar products in the United States. The Department of the Treasury would be directed to make necessary determinations through the rulemaking process.</p> <p>The bill explicitly states that it would not impose a new carbon fee or charge on domestic entities.</p> <p>The bill would encourage international partnerships to reduce or eliminate the import fee.</p> <p>The bill would create a new Advisory Board, comprised of directors of the National Laboratories, federal agencies,</p>	<p>The bill would have established a BCA framework that is based on a calculation of existing “domestic environmental costs” specific to covered fuels and goods from covered sectors.</p> <p>The Department of the Treasury, in coordination with other agencies, would have determined these specific costs. The bill would not have imposed a new carbon fee or charge on domestic entities.</p>	<p>CBAM requires importers to submit payments for the GHG emissions associated with their covered imported materials.</p> <p>CBAM complements the EU’s principal GHG mitigation policy mechanism: the Emissions Trading System (ETS); the ETS is a GHG emissions cap-and-trade program that started in 2005 and covers emissions from the electricity sector, selected energy-intensive industries, and aviation.</p>

emissions, electricity use, weight of primary goods produced).

and industry to help with implementation details

The domestic carbon price would start at \$55, increasing annually by 5% plus inflation.

The bill would create a BCA framework that imposes a charge on certain imported goods based on the domestic carbon price and the carbon intensity differences between imported materials and their U.S. counterparts.

Scope of Materials

The domestic charge would apply to facilities that are required to report GHG emissions to the EPA’s GHG Reporting Program (40 CFR Part 98) and produce primary goods in covered national industries (as defined in the bill), including:

- petroleum and natural gas extraction;
- surface coal mining;
- underground coal mining;
- iron and steel;
- aluminum;
- chemical manufacturing;
- pulp and paper;
- paperboard mills;
- petroleum refineries;
- asphalt;
- glass;
- hydrogen production;
- adipic acid production;
- ethyl alcohol;
- nitrogenous fertilizers; and
- petrochemicals

The import charge would apply to primary goods imported into the United States from the same industries listed above.

Covered products would include materials listed in the Harmonized Tariff Schedule (HTS) with 6-digit subheadings in the following categories:

- aluminum;
- biofuels;
- cement;
- crude oil;
- glass;
- hydrogen, methanol, or ammonia;
- iron and steel;
- lithium-ion batteries;
- selected minerals;
- natural gas;
- petrochemicals;
- plastics;
- pulp and paper;
- refined petroleum products;
- solar cells and panels;
- wind turbines

The bill would include a process of allocating intensity from crude oil and minerals to “resulting products”.

The bill would include a petition process to add a covered product.

Covered fuels would have included coal, natural gas, and petroleum. Covered sectors would have included facilities that produce the following:

- steel;
 - aluminum;
 - cement;
 - iron; and products containing more than 50% of the above materials.
- Treasury would have been able to add more products on an annual basis.

CBAM regulations identify applicable covered materials by their Combined Nomenclature codes (the EU’s trade classification system), including:

- cement materials;
- iron and steel products;
- aluminum products;
- fertilizers and related chemicals (e.g. ammonia);
- hydrogen; and
- electricity

CBAM regulations include a process by which EU policymakers may expand the list above.

CBA Mechanism

Imports of carbon-intensive goods (and finished goods) would be subject to a charge based on the domestic carbon price and the difference in carbon intensities between the imported good and the carbon intensity of the relevant U.S. industrial sector; carbon intensity would be a measure of “covered emissions” divided by total weight of primary goods produced. The default measure of carbon intensity for imported goods would be the exporting country’s gross domestic product divided by total production-based emissions.

Treasury would be required to determine the intensity measure for the relevant industrial sector in the exporting country (emissions divided by total weight of product in that sector). An importer would be able to submit a petition supporting a carbon intensity specific to a particular manufacturer in the exporting country.

Importers would be required to pay a fee at time of importation based on a measure of the amount of the covered product multiplied by the “variable charge;” the variable charge is an “ad valorem fee”^a that would be based on the GHG intensity difference^b between the covered product and the GHG intensity of the same type of product in the United States (referred to as the “baseline” GHG intensity).

Products with greater intensity differences would have higher fees;^c the fee would change over time, using a tiered system (i.e., different charges for different magnitudes of intensity differences) that seeks to incrementally reduce the average intensity difference specific to each covered product; these intensity reduction goals would be implemented in several phases; variable charges would be established to meet the goals, while “minimizing any potential increase in domestic costs.”

Treasury would be able to adjust the charge if it determines that a country is attempting to “circumvent” the fee (e.g., through price decreases or subsidies).

The bill would create a National Laboratory Advisory Board on Global Pollution Challenges to work with Treasury to develop GHG intensity values specific to covered products (generally to 6-digit HTS subheadings) by country of origin; values would include both point source and “upstream” GHG emissions (as defined in the bill); would authorize the use of certain sources of data; would

The bill would have directed Treasury to determine the “domestic environmental cost” for each sector and for the production of covered fuels, based on the average costs incurred by companies to comply with “any federal, state, regional, or local law, regulation, policy or program” designed to “limit or reduce” GHG emissions.

EPA would have been directed to annually determine average GHG emissions in each U.S. sector; and “benchmark” emissions for each sector, which were defined as the top 1% of U.S. GHG emitting “production” sites for each sector.

Importers of covered fuels would have been required to pay a fee based on the product of “domestic environmental cost” of the fuel’s production and the “upstream” GHG emissions of the fuel; upstream emissions were defined to include emissions from “extraction, processing, transportation, financing, or other preparation of a covered fuel for use.”

Importers of covered goods would have been required

CBAM indirectly attaches a carbon price to the GHG emissions “embedded” with imported products. The carbon price will link to the weekly average auction price for the EU ETS emissions allowance; the average price in 2022 was \$85 per metric ton of CO₂e emissions.^f

CBAM attaches the price to imported goods through a certificate process; one certificate equates with one metric ton of CO₂ emissions; companies importing covered products into the EU need to purchase certificates through national authorities, and annually surrender the number of certificates that matches the emissions associated with their imported products.

CBAM will be phased in over a number of years; following a reporting period that started in October 2023, the CBAM fee starts in 2026 in a limited form and that will reach full implementation in 2034. During the first period, both direct and indirect emissions must be reported; after the reporting period, the scope varies by product.^g

During this phase-in period, the CBAM applies only to the

give preference to EPA’s data from its GHG reporting program; and would allow EPA to alter this program to collect information that would support the bill.

The bill would provide specific methodologies for calculating intensity values, including treatment of recycled materials; carbon capture; products with multiple parts (including de minimis amounts); products from facilities subject to certain agreements; and foreign ownership;

Treasury would be required to increase the GHG intensity value for covered products by 20% under certain conditions, which generally involve the robustness of the foreign data.

Treasury would be able to adjust specific intensity values based on input from countries under certain conditions, which generally involve data quality.

The U.S. Trade Representative would be able to form an agreement (under certain conditions) with a facility in a foreign country to set a GHG intensity value specific to that facility.

to pay a fee based on the product of “domestic environmental cost” and “production [GHG] emissions,” which were defined to include GHG emissions from “production, manufacture, or assembly of a product”; Treasury would have been required to determine the “production” emissions of a covered good; if data were not reliable for “production” emissions, the fee would have been based on “benchmark” emissions for the relevant U.S. sector (as determined by EPA).

Treasury would have been required to implement the CBAM through regulations and guidance.

The bill would have included a petition process for importers to seek revision to a Treasury determination (e.g., amount of “production” emissions).

percentage of emissions, thus reducing the CBAM price on covered imported products.

CBAM includes an adjustment mechanism to account for a carbon price in place in the exporting country.

Exemptions from CBA

Primary goods produced in a “relatively least developed country” would be excluded from the import charge (unless the country produces a primary good that accounts for at least 3% of total global exports by value).

The import charge would be waived or reduced if Treasury determines (with coordination with other agencies) the exporting country imposes “explicit costs” on GHG emissions that are materially similar to the domestic charge.

U.S. facilities that export covered materials (and finished goods) would be able to seek refund based on payment of the domestic charge.

The import fee for a covered product would be zero under certain conditions: -the covered product (1) comes from a country that has formed an international partnership meeting the conditions of the bill; and (2) the product’s intensity difference is less than 50%; these agreements must provide for a comparable system of reduction in GHG emissions intensity, among other things; agreements can apply to one or multiple products and involve one or more countries.

-the GHG intensity difference is less than or equal to 10%; -Treasury determines a covered product does not have “sufficient domestic production” (as defined in the bill); -Treasury determines a covered product fulfills a contract with Department of Defense (or a Defense contractor) -a covered product from a country with a congressionally approved “free trade agreement,” if all of the product’s parts are made in that country and the intensity difference is less than 50%.

Treasury would have been required to determine which countries and their imported products would be exempt; these countries would have included:

(1) “Least Developed Countries”^d and (2) countries that (a) do not impose a BCA on U.S. products; and (b) have laws/regulations that seek to limit or reduce GHG emissions and that are “at least as ambitious” as federal U.S. laws/regulations (as determined by Treasury).

CBAM covers imports of goods from all non-EU countries.

Countries that participate with the EU ETS or have their own emissions trading systems linked with the ETS (e.g., Switzerland) are excluded from the CBAM.

CBAM includes a de minimis exemption, which generally applies to covered materials with a total value 150 Euros or less.^h

Distribution of Revenues

The bill would allocate 75% of the emissions charge revenues to Treasury to establish and implement a competitive grant program to eligible entities for investments in technology that reduce their carbon intensity; would authorize Treasury to “recapture” grant funds under certain conditions; and 25% of the revenues to the Department of State for multilateral assistance to support climate and clean energy programs.

The distribution of BCA revenues is not specified.

Revenues are to provide supplemental Appropriations (amounts unspecified) to the U.S. Customs and Border Protection to administer CBA.

Remaining funds are divided equally between: (1) a Resilient Communities Grant program (newly created by the bill) that provides formula grants to states for a range of

EU countries retain 25% of the CBAM revenues; the remaining 75% go into the EU budget.ⁱ

objectives, including worker transition assistance; climate adaptation; environmental justice; relocation assistance; support for small businesses impacted by a CBAM; and (2) as provided by appropriations, support for research, development, demonstration, technology transfer, commercialization, and export of technologies that reduce or eliminate GHG emissions.

Source: Congressional Research Service

Footnotes:

- a. The World Trade Organization defines an “ad valorem tariff” as a “tariff rate expressed as a percentage of the value of the goods to be imported or exported.” See World Trade Organization, *Dictionary of Policy Terms*, Fifth Edition, 2007.
- b. The bill uses the term “pollution” throughout its text, including the key terms “pollution intensity” and “pollution intensity difference.” The bill defines “pollution” as “greenhouse gas emissions.” To avoid confusion and allow for easier comparisons among the BCA proposals, CRS substitutes GHG emissions for “pollution” in the above table’s entry for this bill.
- c. The bill does not explicitly address situations in which an imported material’s GHG emissions intensity is lower than its counterpart in the United States.
- d. Based on the Organisation for Economic Co-operation and Development (OECD), Development Assistance Committee (DAC) list of “Least Development Countries,” which is available at <https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/DAC-List-of-ODA-Recipients-for-reporting-2024-25-flows.pdf>.
- e. As a point of comparison, the average emissions allowance price in 2022 from the Regional Greenhouse Gas Initiative (RGGI), a cap-and-trade program in 11 U.S. states, was \$13.5 per metric ton. The 2022 average allowance price in California’s cap-and-trade program was \$28.5 per metric ton.
- f. Global warming potential (GWP) is an index that allows comparisons of the heat-trapping ability of different gases over a period of time, typically 100 years. Consistent with international GHG reporting protocols, EPA’s most recent GHG inventory (April 2023) uses the GWP values presented in the Intergovernmental Panel on Climate Change (IPCC) 2013 Fifth Assessment Report. For example, in EPA’s inventories, a metric ton of methane equates to 28 metric tons of CO₂ when averaged over a 100-year time frame.
- g. In general, direct emissions include emissions from an onsite process, such as CO₂ from cement or steel production; indirect emissions include (for example) emissions from the inputs, such as electricity generated offsite but used to run an onsite process.
- h. European Commission, “Carbon Border Adjustment Mechanism (CBAM) Questions and Answers,” updated November 28, 2023, https://taxationcustoms.ec.europa.eu/carbon-border-adjustment-mechanism_en#guidance.
- i. European Commission, “Questions and Answers: An adjusted package for the next generation of own resources,” June 2023, https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_3329. Further details are beyond the scope of this memorandum.