

A Guide to the EU CBAM:
Entering the Full Operational Phase
in 2026

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I. INTRODUCTION AND SUMMARY:

The European Union's ("EU") Carbon Border Adjustment Mechanism ("CBAM") entered its full operational phase on January 1, 2026, following the conclusion of a two-year transitional period. During the transitional phase, EU-based importers or indirect customs representatives were subject to reporting obligations for "embedded emissions,"¹ a term that is defined in the CBAM to refer to certain greenhouse gas ("GHG") emissions released during the production of aluminum, cement, electricity, fertilizers, hydrogen, iron and steel, including certain precursors and downstream products ("Covered Goods"), imported into the EU. As of January 1, 2026, Covered Goods may be imported into the EU only by importers that have been granted the status of "authorized CBAM declarant." From that date, authorized CBAM declarants are subject, in addition to existing reporting obligations, to financial obligations implemented through the purchase and surrender of CBAM certificates corresponding to the embedded emissions, subject to adjustments for any carbon price paid in the country of production.

Conceptually, the CBAM operates as a corollary to the EU Emissions Trading System ("EU ETS"), under which EU producers in covered sectors are subject to a cap on GHG emissions and are required to surrender emissions allowances either allocated for free or purchased on the market. As the EU works toward progressively phasing out free allowances in the EU ETS, carbon costs for EU producers are expected to rise.² The price of CBAM certificates is linked to the quarterly average auction price of EU ETS allowances in 2026 and weekly average prices starting 2027.³ By applying an equivalent carbon cost to imports of Covered Goods based on their embedded emissions and the prevailing EU ETS allowance price, the EU seeks to use the CBAM to prevent the risk of carbon leakage resulting from strengthening the EU ETS. Carbon leakage would arise when, as a result of differences in costs related to climate policies, businesses in certain industries transfer production to other countries and imports from those countries replace equivalent products that are less emissions intensive, resulting in higher global GHG emissions. The EU also intends for the CBAM to induce emission reductions in non-EU countries seeking continued access to the EU market.⁴

In advance of the CBAM's full implementation, the European Commission ("Commission") adopted eight implementing acts and one delegated act⁵ in November and December 2025 that give operational effect to the CBAM framework with the explicit objective of ensuring consistency with the EU ETS while limiting circumvention of the CBAM rules. These regulations cover, *inter alia*, the calculation and verification of embedded emissions, accreditation of verifiers, pricing of CBAM certificates, use of default values, and calculation of adjustments for reflecting the status of free allocation of allowances under the EU ETS.⁶ Additional implementing and delegated regulations are expected to be adopted in 2026.

While CBAM obligations in the full operational phase apply to EU-based authorized CBAM declarants (typically importers), the practical and commercial implications extend well beyond EU borders. Non-EU producers ("Operators"), play a central role in enabling compliance because the emissions relate to their production. They, therefore, have a key role in calculating embedded emissions, arranging third-party verification by accredited verifiers, keeping emissions records, and, where applicable, determining the carbon price paid in the country of production. For many U.S. exporters, the CBAM will therefore function less as a traditional EU customs measure and more as a data-intensive condition of market access and commercial competitiveness in the EU. Some of the practical issues likely to be most consequential for U.S. exporters and producers include the following:

- *Emissions data*: The calculation of product-level embedded emissions is based on actual emissions using verified primary data from the production process or default values set by the Commission under the

implementing regulations. Default values incorporate mark-ups that are meant to be punitive; as a result, reliance on default values can materially increase the CBAM cost burden on an importer by elevating the level of embedded emissions and requiring the purchase of a greater number of CBAM certificates. As such, competitiveness in the EU market may depend on U.S. exporters and Operators collecting and sharing data according to the methods specified by the EU CBAM regulations. Developing the capacity to collect and verify actual emissions data will be central to cost management, maintaining commercial relationships with EU importers, and preserving market access over time.

- *Registration of non-EU Operators:* The CBAM envisions the possibility for Operators of installations (i.e. a stationary technical unit where a production process is carried out) in non-EU countries to register in the EU and take up the obligation of monitoring, calculating, and verifying emissions. Authorized CBAM declarants in the EU can rely on the information provided by the registered Operators to fulfil their reporting obligations. For U.S. producers, engaging with the registration process would help ease the regulatory burden on EU importers and help with maintaining commercial relationships with EU importers and preserving long-term competitiveness, though Operators would bear the costs of and exposure to EU regulatory processes.
- *Expansion of CBAM:* The CBAM is designed to evolve over time, including expansion to cover additional products and ultimately, all sectors covered by the EU ETS.
- *Shift toward data-driven climate regulation:* The CBAM signals a shift toward climate measures in which verified emissions data becomes an operational requirement and a pricing variable. For U.S. exporters, early engagement including mapping product scope, aligning internal data systems with CBAM methodologies, and coordinating third-party verification of the embedded emissions, can reduce the risk of disruption, avoid reliance on punitive default values, and position companies to adapt as the CBAM expands and similar mechanisms emerge in other jurisdictions, including the United Kingdom.
- *Lingering uncertainty:* Though the EU has issued a series of implementing regulations, aspects of the CBAM methodology, documentation, and verification requirements are not yet final or are subject to change as soon as 2026. Rather than a fixed regulation, the EU CBAM is a regulatory process and U.S. exporters and Operators will have to stay attentive to evolving requirements.

To that end, this white paper focuses on the core operational and compliance architecture of the CBAM in the full operational phase and the implementing regulations establishing the practical compliance obligations that will determine the CBAM cost exposure for imports of Covered Goods from 2026. In particular, it addresses regulations governing (1) the methodologies for calculating embedded emissions, (2) the principles and procedures for third-party verification of embedded emissions based on actual values, (3) the establishment and use of default values, and (4) the operation of the adjustment mechanism reflecting the free allocation of allowances under the EU ETS. Section II provides an overview of the structure and implementation of the CBAM in the operational phase. Section III addresses the calculation of embedded emissions. Section IV examines the free allocation adjustment methodology, which will determine how increasing percentages of embedded emissions will be covered under the CBAM as free allowances under the EU ETS are phased out. Section V concludes with a discussion of the implications for U.S. exporters and Operators.

II. OVERVIEW OF THE CBAM IN THE FULL OPERATIONAL PHASE

Regulation (EU) 2023/956 (“**CBAM Regulation**”),⁷ which established the EU CBAM, has applied since October 1, 2023, and provides for a two-phase implementation. The first phase comprised of a transitional period from October 1, 2023, to December 31, 2025, where EU-based importers or indirect customs representatives were subject to certain reporting obligations. The second phase commenced on January 1, 2026, marking the start of the CBAM’s full operation.

Scope of the CBAM

Product scope

The CBAM applies to imports of Covered Goods listed in Annex I to the CBAM Regulation: iron and steel, aluminum, fertilizers, cement, hydrogen, and electricity. The Covered Goods are identified by Combined Nomenclature (“**CN**”) customs codes. The CBAM Regulation contemplates a gradual expansion to cover additional products and ultimately, all sectors covered by the EU ETS, as free allocation of EU ETS allowances is phased out.

A *de minimis* exemption applies for importers of certain Covered Goods (iron and steel, aluminum, fertilizers, and cement) where the total net mass of imports is below 50 tonnes per year (“**Single Mass-Based Threshold**”).⁸ Accordingly, importers whose cumulative imports of iron and steel, aluminum, fertilizers, and cement in a specific calendar year do not exceed the Single Mass-Based Threshold are exempt from CBAM obligations for that year. In such a case, importers must declare the exemption in the relevant customs declaration. However, if within the relevant calendar year, an importer exceeds the Single Mass-Based Threshold, the *de minimis* exemption ceases to apply and the importer becomes subject to all CBAM obligations for all Covered Goods imported that year. Importers expecting to exceed the Single Mass-Based Threshold must obtain the authorized CBAM declarant status before the threshold is exceeded. Failure to obtain authorization before exceeding the threshold may trigger penalties.

The Commission will monitor whether the *de minimis* exemption operates to benefit no more than 1% of the emissions embedded in imported Covered Goods. The Single Mass-Based Threshold may be amended by a delegated act, where the value of the recalculated threshold deviates from the applicable threshold by more than 15 tonnes.

Emissions scope

The CBAM Regulation covers both direct emissions for all Covered Goods and indirect emissions for some of them (see below).⁹ Direct emissions are defined as those released from the production process, including emissions from the production of heating and cooling that is consumed during production, regardless of where that heating or cooling is produced.¹⁰ Indirect emissions are those released from the production of electricity that is consumed during production processes of goods regardless of where the consumed electricity is produced.¹¹

Annex II specifies the categories of Covered Goods for which the CBAM applies only to direct emissions: iron and steel, aluminum, hydrogen, and electricity. For the remaining categories of Covered Goods that are not listed in Annex II (i.e., cement and fertilizers), the CBAM applies to both direct and indirect emissions. This distinction is

central to determining the amount of embedded emissions applicable to a particular Covered Good and thus the total number of CBAM certificates required for a given import, as further described in Section II(c) below.

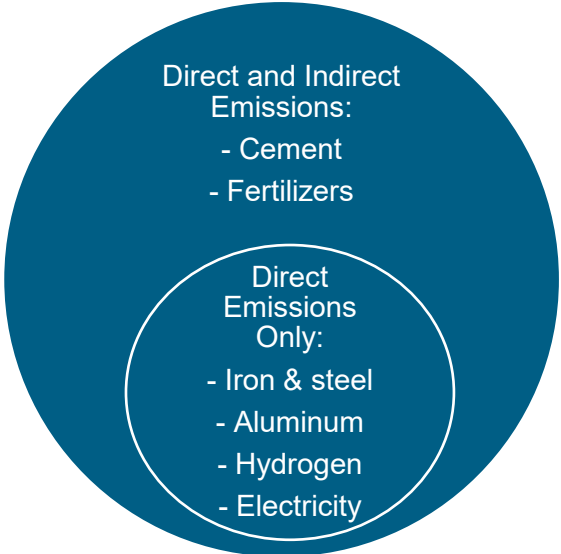


Figure 1 - Calculating Emissions for Covered Goods

From 2026 to 2034, the CBAM will be phased in by gradually increasing the proportion of embedded emissions subject to an obligation to surrender CBAM certificates, at the same rate as the phase-out of free allowances under the EU ETS. During this time, the CBAM will apply only to the proportion of emissions that does not benefit from free allowances under the EU ETS. Free ETS allowances will be phased out as follows: 2.5% in 2026, 5%, in 2027, 10% in 2028, 22.5% in 2029, 48.5% in 2030, 61%, in 2031, 73.5% in 2032, 86% in 2033, 100% in 2034. Thus, by 2034, the CBAM will apply to 100% of embedded emissions associated with Covered Goods since the EU ETS free allowances will have been fully phased out.

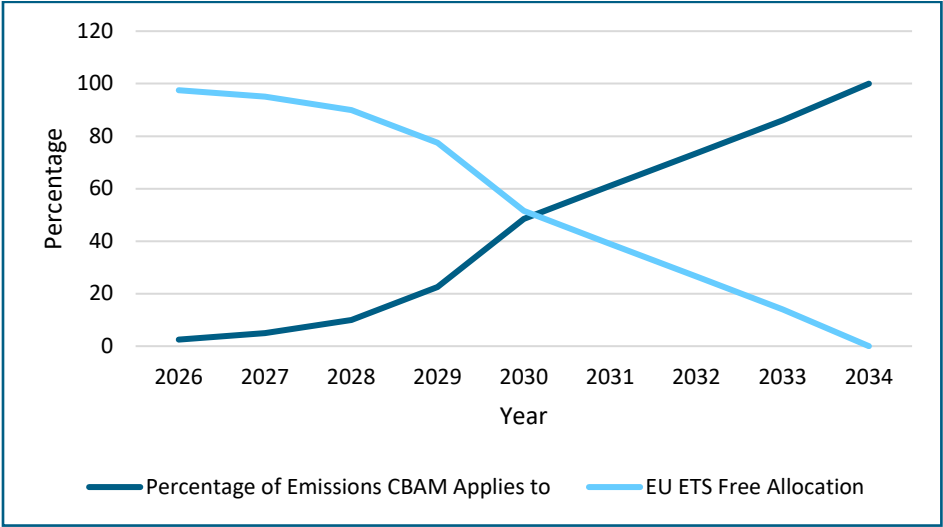


Figure 2 – Interaction between CBAM Phase-in and EU ETS Free Allocation Phase-out

Country scope

Covered Goods are exempt from the CBAM if they originate in countries that (1) apply the EU ETS or have an ETS that is fully linked to the EU ETS, and (2) impose a carbon price on the emissions released during production of Covered Goods without rebates beyond those foreseen in the EU ETS.¹² At present, only imports from Iceland, Liechtenstein, Norway, and Switzerland will be exempt from the CBAM.¹³

Covered Parties: Authorized CBAM Declarants and Operators of Non-EU Installations

Authorized CBAM Declarants

From January 1, 2026, Covered Goods may be imported into the EU only by an “authorized CBAM declarant.” EU-based importers or indirect customs representatives must apply to the competent authority responsible for CBAM enforcement in the Member State where they are established to become authorized CBAM declarants.¹⁴ To ensure a smooth transition to the CBAM in 2026, importers that apply for authorized CBAM declarant status by March 31, 2026, may provisionally continue importing CBAM-covered goods while their applications are under review.¹⁵

Where an indirect customs representative agrees to act on behalf of an importer, that representative must obtain authorized CBAM declarant status prior to importing goods listed in Annex I.¹⁶ If multiple indirect customs representatives act for the same importer, each must separately obtain authorization and is responsible for compliance with respect to the goods it imports, even if its individual imports fall below applicable thresholds.¹⁷

Operators of Non-EU Installations

The CBAM allows Operators of installations in non-EU countries to register in the EU and take up the legal responsibility for determining the quantity of embedded emissions for Covered Goods produced at their installations, ensuring that those emissions are verified by an accredited verifier, and retaining the underlying records and verification reports.¹⁸ Operators may also determine and document any carbon price¹⁹ effectively paid in the country of production, and disclose verified emissions and carbon price information to authorized CBAM declarants, who may rely on that information to meet their own compliance obligations.

The CBAM Obligations: Financial Obligation and Related Administrative Requirements

The main CBAM obligations for authorized CBAM declarants include the following:

- **Purchasing (and holding) CBAM certificates in the year of importation:** Authorized CBAM declarants must purchase CBAM certificates from a competent authority, with one certificate accounting for each tonne of embedded emissions in Covered Goods.²⁰ CBAM certificates will be sold by Member States starting from February 1, 2027 for Covered Goods imported in 2026.²¹ The price of CBAM certificates purchased in 2027 will be the quarterly average of the closing prices of the EU ETS allowances for the quarter of importation.²² From 2027 onwards, the price of CBAM certificates will be based on the weekly average of the closing prices of the EU ETS allowances on the auction platform.²³

From 2027, authorized CBAM declarants must ensure that the number of certificates held in their CBAM registry account at the end of each quarter corresponds to at least 50% of the embedded emissions of all Covered Goods imported since the start of the year, reflecting the gradual integration of the CBAM with the EU ETS free-allocation phase-out.²⁴

- **Submitting a CBAM declaration:** By September 30 of the year following the year of importation, authorized CBAM declarants must submit a CBAM declaration for the previous calendar year indicating: (1) the total quantity of Covered Goods imported, (2) the total quantity of embedded emissions, (3) the total number of CBAM certificates corresponding to those emissions, and (4) a copy of the verification report issued by the accredited verifier.²⁵

Authorized declarants may delegate the technical submission of CBAM declarations to third parties that are acting on behalf and in the name of that declarant, but responsibility for accuracy and compliance remains with the declarant.²⁶

When collecting the relevant information to make their CBAM declarations, authorized declarants will rely on the information provided by Operators of installations in the non-EU countries where Covered Goods are produced.²⁷

- *Surrendering CBAM certificates:* By September 30 of the year following the year of importation, authorized CBAM declarants must surrender the total number of CBAM certificates corresponding to the emissions associated with the Covered Goods imported in the previous calendar year.²⁸ Where an authorized CBAM declarant submits an incorrect or no CBAM declaration, the competent authority may (re)calculate the number of CBAM certificates, based on the net mass of the imported goods and embedded emissions determined by default values, which may be detrimental to the authorized CBAM declarant.²⁹

An authorized CBAM declarant may claim a reduction in the number of CBAM certificates to be surrendered on account of the carbon price paid in the non-EU country, by reference to yearly default carbon prices.³⁰ Where default values are used to calculate emissions, a reduction can only be claimed by a reference to yearly default carbon prices.³¹

Penalties and Enforcement

The CBAM Regulation introduces penalties where:³²

- An authorized CBAM declarant fails to surrender the correct number of certificates. In such cases, a penalty of at least EUR 100 for each CBAM certificate not surrendered will be imposed.³³ Where the failure is due to inaccurate information from third parties, competent authorities may reduce the penalty.³⁴ Factors such as gravity, duration, intent, repetition, and cooperation must be considered when determining penalties for this type of violation.³⁵
- Persons other than authorized CBAM declarants introduce Covered Goods into the EU customs territory without surrendering CBAM certificates. The penalty may be three to five times more than the penalty levied for failing to surrender certificates.³⁶
- An importer exceeds the Single Mass-Based Threshold without holding authorized CBAM declarant status. Penalties are based on the total embedded emissions imported without authorization. Where the threshold is exceeded marginally, competent authorities may reduce the penalty.³⁷

III. CALCULATING PRODUCT-LEVEL EMISSIONS

Article 7 of the CBAM Regulation establishes a framework for determining direct and indirect embedded emissions for Covered Goods. Under this framework, embedded emissions are calculated based on actual emissions data or default values, in each case in accordance with the methodology set out in Annex IV to the CBAM Regulation. To give operational effect to this framework, the Commission adopted Commission Implementing Regulation (EU) 2025/2547 (“**Methodology Regulation**”) which elaborates on the methods for calculating embedded emissions in Covered Goods and the application of calculation elements set out in Annex IV.³⁸

Under the Methodology Regulation, the focus of the calculation is not the total emissions of an installation, but the “specific embedded emissions” of a given good, expressed per “functional unit.” For most Covered Goods (except electricity and fertilizers), this generally means emissions calculated per tonne of goods identified under the CN codes listed in Annex I to the CBAM Regulation.³⁹ As a result, emissions data calculated by Operators should be attributed in a way that aligns emissions directly with the physical output with respect to the production of a particular good, rather than aggregated production activity. Calculations are based on actual emissions, default values, or in certain instances a combination of both.⁴⁰ Accordingly, Covered Goods, whether reported using actual emissions or default values, must follow a harmonized calculation approach that is aligned with the EU ETS methodology, but adapted to a product-based and cross-border context.

Calculating Embedded Emissions Based on Actual Emissions

Under Article 2 of the Methodology Regulation, actual values must be calculated at the installation level for the reporting period and attributed to goods using the methods laid down in Chapters II and IV of the Regulation and its Annexes I–III. The Regulation identifies several key calculation elements for determining actual embedded emissions, including:

- *System boundaries:* The starting point for the use of actual data is the definition of system boundaries.⁴¹ The system boundary identifies the set of chemical or physical processes that must be included when calculating embedded emissions of goods under the same aggregated goods category.⁴² All processes occurring within a given system boundary must be taken into account. System boundaries must cover direct emissions, indirect emissions for goods not listed in Annex II to the CBAM Regulation, and the embedded emissions of any relevant precursors.⁴³ This means that installation operators must account not only for emissions from core production processes, but also for electricity consumption and upstream inputs where required.
- *Functional units:* Within the system boundaries, operators must also identify the production process using a common functional unit (i.e. a standard reference unit for calculating embedded emissions).⁴⁴ For most Covered Goods, this unit is the quantity produced in tonnes under the same CN code.⁴⁵ Some sectors use specific functional units instead, such as kilowatt-hours for electricity, tonnes of clinker for cement, or nitrogen-based or supplementary units for fertilizers.⁴⁶ Using a common functional unit ensures that emissions are measured consistently and can be compared across producers and jurisdictions.
- *Monitoring methodologies:* Monitoring of actual emissions must comply with Article 5 and Annex II to the Methodology Regulation. Direct emissions from a production process are determined using either (1) a calculation-based approach, which estimates emissions by applying emission factors or mass-balance techniques to measured production or fuel-use data, or (2) a measurement-based approach, which determines emissions through continuous monitoring of GHG concentrations and flue gas flows at the emission source.⁴⁷ These approaches mirror those used under the EU ETS.⁴⁸

Indirect emissions must be determined by monitoring electricity consumption in the relevant production process in accordance with point D of Annex II, which sets out the calculation methodology for emissions related to

electricity.⁴⁹ Operators are required to design and implement a monitoring plan containing the elements listed in point A.5 of Annex II, which serves as the foundation for both emissions calculation and verification.⁵⁰

- *Attribution of emissions to goods:* Once installation-level emissions are determined, they must be attributed to goods in accordance with Article 6 and Annex III of the Methodology Regulation. Specific embedded emissions are calculated by Operators by attributing direct and, where relevant, indirect emissions of production processes to goods.⁵¹ Annex III provides detailed attribution rules addressing situations common in CBAM industries, including multiple production routes for the same functional unit, joint or multifunctional production processes, and the use of precursors produced in different installations or reporting periods.⁵² In such cases, emissions must generally be allocated using weighted averages unless the operator can demonstrate, with sufficient evidence, that a more granular allocation is appropriate for “valid commercial reasons.”⁵³ Accordingly, operators generally cannot attribute lower embedded emissions to some products that are produced within an installation using lower-emissions processes.
- *Identification of the reporting period:* Under the Methodology Regulation, there is a presumption that goods imported in a given year were produced during that same calendar year.⁵⁴ The presumption may be rebutted where sufficient evidence demonstrates the actual time of production, but no reporting period may precede 2026.⁵⁵ For electricity imported into the EU, the reporting period is always the year of import.⁵⁶

Verification of Embedded Emissions Calculated Based on Actual Values

Article 8(3) of the CBAM Regulation requires that embedded emissions calculated based on actual values be verified by an accredited verifier, using the verification principles set out in Annex VI. Commission Implementing Regulation (EU) 2025/2546 expounds on how these verification principles should be applied in practice (“**Verification Regulation**”).⁵⁷ Key aspects addressed in the Verification Regulation include:

- *Site visits:* A physical site visit of the non-EU installation is mandatory starting in 2026, the first year in which emissions are subject to verification.⁵⁸ In subsequent years, the regulation allows for limited flexibility, permitting virtual site visits or in certain cases, waivers, provided strict conditions are met.⁵⁹ These conditions include completion of a prior physical site visit and a verifier risk assessment demonstrating that the reliability of the verification process would not be compromised.⁶⁰
- *Materiality thresholds and risk-based assessment:* An accredited verifier must apply a risk-based approach when assessing emissions data.⁶¹ The Verification Regulation establishes materiality thresholds at the level of individual goods, generally set at 5% of total specific embedded emissions per tonne of goods.⁶² This materiality threshold is set to facilitate verification of the operator’s emissions report and to assist the verifier in determining whether any misstatement, non-conformity, or non-compliance materially affects the emissions data or the free allocation adjustment. Verifiers must also exercise expert judgment in determining whether misstatements below the quantitative threshold should be treated as material, reflecting the technical complexity and novelty of CBAM verification.⁶³
- *Verification reports:* Verification outcomes must be documented using the standardized electronic template referred to in the Verification Regulation.⁶⁴ The verification report must include, *inter alia*, confirmation of the verified emissions, identification of material misstatements or non-conformities, and a conclusion providing reasonable assurance that the emissions report is free from material misstatements, as set out in the Annex to the Verification Regulation.

Calculating Embedded Emissions Based on Default Values

Article 7 of the CBAM Regulation permits the use of default values when calculating embedded emissions for Covered Goods and indirect embedded emissions based on the methodology in Annex IV. To encourage the measurement and disclosure of actual values, default values are designed to be punitive and increase the number of CBAM certificates that importers must surrender. Commission Implementing Regulation 2025/2621 (“**Default Values Regulation**”) explains how default values are established and applied.⁶⁵ Key aspects addressed in the Default Values Regulation include:

- *Establishment of default values:* Where embedded emissions are determined based on default values, the values laid down in Annex I to the Default Values Regulation must be used.⁶⁶ The Commission is responsible for determining those values based on the methodology in Annex IV to the CBAM Regulation, using the most up-to-date and reliable information available for specific products, countries, and production routes. Default values are to be set “at the average emissions intensity of each country” for each of the goods other than electricity covered under the CBAM.⁶⁷ Where reliable data for the exporting country cannot be applied for a type of good, default values are based on the average emission intensity of the top 10 exporting countries with the highest emissions for the relevant good.⁶⁸
- *Mark-ups in default values:* The default values established by the Commission are increased by a mark-up. These mark-ups are increased annually, with sector-specific adjustments, including lower mark-ups for fertilizers.⁶⁹ The default values for Covered Goods other than fertilizers will be increased by a 10% mark-up in 2026, 20% in 2027, and 30% in 2028.⁷⁰ Fertilizers will have a markup of 1% throughout 2026, 2027, and 2028.
- *Category-specific default values:* More specific default values apply depending on the emissions category. Default values for indirect embedded emissions are based on the average emissions factor of the five most recent years for which reliable data is available for the country-of-origin..⁷¹ Default values for electricity imported into the EU are subject to the same five-year averaging approach.⁷² For precursors, if the country of production cannot be identified, the highest applicable default value should be used.⁷³
- *Review:* Default values and mark-ups will be reviewed preferably in 2026 but by December 2027 at the latest.⁷⁴

IV. THE FREE ALLOCATION ADJUSTMENT MECHANISM

Article 31 of the CBAM Regulation establishes the mechanism by which the number of CBAM certificates to be surrendered is adjusted downwards to reflect the continued allocation of free allowances under the EU ETS. The purpose of this mechanism is to ensure a gradual and symmetrical transition between the phase-out of free allowances for EU producers and the phase-in of CBAM obligations for imports, while preventing any situation in which imported goods receive more favorable treatment than goods produced within the EU. To give operational effect to this mechanism, the Commission adopted Commission Implementing Regulation (EU) 2025/2620 on the free allocation adjustment mechanism (“**Free Allocation Regulation**”).⁷⁵

Conceptual Structure of the Free Allocation Adjustment

The free allocation adjustment is, in essence, the share of embedded emissions that will not be subject to an obligation to surrender a CBAM certificate. The size of this share depends on the extent of free allowances allocated to producers of equivalent goods in the EU, at the relevant time, under the EU ETS.

The free allocation adjustment operates by reducing the number of CBAM certificates that an authorized CBAM declarant must surrender. This adjustment is applied at the level of goods, not installations, and is calculated separately for each good declared under Article 6 of the CBAM Regulation.⁷⁶

The free allocation adjustment must be calculated in accordance with point 2 of the Annex to the Regulation.⁷⁷ Point 2 of the Annex defines the adjustment as the product of two elements: (1) the specific embedded free allocation of the good and (2) the mass of that good imported during the reporting period. The resulting value represents the quantity of emissions, expressed in tonnes of carbon dioxide equivalent, for which CBAM certificates do not need to be surrendered.

Determination of the Specific Embedded Free Allocation Using Actual Data

Where an authorized CBAM declarant reports embedded emissions using actual values, the specific embedded free allocation must also be calculated based on actual data.⁷⁸ This approach is intended to ensure internal consistency between the emissions reported and the free allocation adjustment applied.

For a “simple good” produced through a single production process requiring input materials and fuels with zero embedded emissions, the process-level specific free allocation is calculated by multiplying three factors: (1) the CBAM factor for the reporting year, (2) the cross-sectoral correction factor applicable under the EU ETS for that year, and (3) the process-related CBAM benchmark.⁷⁹ The CBAM factor refers to the progressive phase-out of free allocations under the EU ETS in conjunction with the phase-in of pricing under the CBAM. The cross-sectoral correction factor reflects any adjustment applied to the total volume of free allowances under the EU ETS to ensure that the total allocation of free allowances stays within the level permitted under the EU ETS.⁸⁰ The process-related CBAM benchmark refers to an emissions intensity value based on the cleanest 10% of facilities in the EU using a given production process to produce a Covered Good. The specific embedded free allocation for simple goods is equal to the process-level specific free allocation, without further adjustment.⁸¹

By contrast, for complex goods produced using precursor materials, the production of which itself generates upstream emissions, the calculation must consider the free allocation embedded in both the final good and in each precursor used.⁸² In such cases, the specific embedded free allocation of the complex good is calculated as the sum of the process-level specific free allocation and the weighted contribution of each precursor’s specific embedded free allocation, based on the specific mass of that precursor consumed per tonne of final good.⁸³

The specific mass of each precursor is determined by dividing the total mass of the precursor used during the reporting period by the activity level of the relevant production process.⁸⁴ Where precursors are themselves complex goods, the calculation must be repeated recursively until no further precursors are relevant, ensuring that the free allocation adjustment fully reflects upstream production chains.⁸⁵

The reporting period used for determining the specific embedded free allocation must correspond to the reporting period used for calculating embedded emissions based on actual values.⁸⁶ As with emissions reporting, a presumption applies that goods and precursors were produced in the year of import, subject to rebuttal with sufficient evidence, and no reporting period may precede 2026.⁸⁷

Determination of the Specific Embedded Free Allocation Using Default Values

Where an authorized CBAM declarant uses default values to determine embedded emissions, the free allocation adjustment must also be calculated using default values.⁸⁸ In such cases, the specific embedded free allocation is calculated using a formula that multiplies the CBAM factor and the cross-sectoral correction factor by the CBAM benchmark applicable to the relevant good.⁸⁹

The CBAM benchmarks are designed to reflect the same conditions used in the determination of default values for embedded emissions, including production routes, precursor composition, and representative product formulations.⁹⁰ While the benchmarks are generally applicable independently of the country of origin of the imported good or precursor, the default values tables in Annex I of the Default Values Regulation indicates for some products the underlying production route that should be used to determine the applicable CBAM benchmark according to each country of origin.⁹¹

CBAM Benchmarks and Their Relationship to EU ETS Benchmarks

CBAM benchmarks play a central role in both actual-data and default-value calculations. EU ETS benchmarks are determined at the installation or sub-installation level, whereas CBAM benchmarks must apply at the level of goods listed in Annex I to the CBAM Regulation. To bridge this structural difference, EU ETS product benchmarks, heat benchmarks, fuel benchmarks, and process emission fallback approaches have been combined and adapted to create CBAM benchmarks specific to individual goods.⁹²

For the period 2026–2030, CBAM benchmarks are based on the EU ETS benchmarks applicable during that same period, in order to ensure equal treatment between imports and EU production.⁹³ Because the final EU ETS benchmarks for 2026–2030 will only be published in early 2026, the Free Allocation Regulation provides that estimated benchmarks apply from January 1, 2026, and must be reviewed once the final EU ETS benchmarks are available, with updated CBAM benchmarks applying from January 1, 2027.⁹⁴

Special rules apply to certain sectors and production routes. For example, electricity production receives no free allocation under the EU ETS, and therefore the free allocation adjustment for imported electricity is set to zero.⁹⁵ In the steel sector, dedicated CBAM benchmarks have been developed to distinguish between blast furnace, direct reduced iron, and electric arc furnace production processes, in order to preserve environmental integrity and avoid distortions that could otherwise favor more carbon-intensive imports.⁹⁶ Similarly, where EU ETS benchmarks cover indirect emissions that fall outside the current scope of the CBAM, only the direct-emission share of those benchmarks is reflected in the corresponding CBAM benchmark.⁹⁷

V. CONCLUSION: IMPLICATIONS FOR U.S. EXPORTERS AND OPERATORS

The CBAM marks a structural shift in how carbon costs are incorporated into international trade, with direct and growing implications for U.S. exporters whose products enter the EU market. Although CBAM compliance obligations formally rest on EU-based authorized CBAM declarants, the operational and commercial burden increasingly falls on non-EU producers, who must calculate, verify, and disclose product-level emissions in order to remain competitive in the EU market. Accordingly, there are several implications for U.S. exporters and operators of facilities that produce covered products.

First, the CBAM should be understood as an evolving regulatory framework rather than a static border measure. Important elements of the CBAM, including the benchmarks and default values, will be revised in 2026 or 2027. Moreover, the Commission will prepare a report every two years assessing various aspects of the CBAM and recommending revisions.⁹⁸ The Regulation expressly contemplates expansion beyond its initial product scope to additional downstream products and, ultimately, to all sectors covered by the EU ETS as free allocation is phased out. In December 2025, the Commission also proposed a regulation for the establishment of a “Temporary Decarbonisation Fund” to support EU producers of Covered Goods. The aim of this Fund would be to help offset any competitive disadvantage EU producers may face in export markets.⁹⁹ For U.S. exporters, this trajectory means that the market effects of the CBAM are likely to grow over time, both in terms of product coverage and financial impact, even for companies that currently fall outside the mechanism’s scope or rely on *de minimis* thresholds.

Second, the EU’s approach is already influencing climate and trade policy discussions well beyond its borders. Other jurisdictions are actively considering or developing internal carbon pricing as well as carbon border adjustment mechanisms or analogous tools, often drawing directly on the CBAM model. For example, the United Kingdom, which has its own ETS, has announced plans to introduce a CBAM beginning January 1, 2027, with inclusion of indirect emissions deferred until at least 2029.¹⁰⁰ Norway is also implementing a CBAM in 2027, and other countries including Canada and Australia are considering similar measures.¹⁰¹ As these policies proliferate, U.S. exporters should anticipate a more fragmented but consistently carbon-conscious trade environment in which emissions transparency, comparability, and verification become baseline expectations rather than exceptional compliance exercises.

Third, the CBAM materially raises the stakes around emissions data quality. While default values offer a transitional compliance pathway, they are intentionally punitive and become increasingly more so over time. Reliance on default values therefore carries both near-term cost risks and longer-term competitive disadvantages. Operators, including those based in the United States, that bear the costs of documenting, reporting, and verifying actual emissions data will be able to avoid punitive default values and may be better positioned to manage compliance costs, maintain market access, and respond flexibly as the CBAM and similar regimes expand.

Taken as a whole, the EU’s CBAM represents a structural integration of climate policy into the mechanics of its international trade. As the framework evolves and similar measures are considered or adopted in other jurisdictions, carbon emissions-related compliance requirements are likely to become a more regular feature of cross-border commerce. This development underscores the importance of understanding the CBAM’s methodology, documentation, and verification requirements, as well as monitoring future regulatory updates. The extent to which companies invest in emissions data systems will depend on their product scope, trade volumes, and commercial relationships. Nevertheless, the regulatory direction suggests that emissions transparency and comparability will play an increasingly relevant role in market access over time.

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- ¹ The term “embedded emissions” refers to the direct emissions released during the production of Covered Goods and indirect emissions from the production of electricity that is consumed during the production processes, calculated in accordance with the methods set out in the relevant CBAM regulations. See Article 3(22) of Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism, (as amended) [OJ L 130, 16.5.2023](#). (“**CBAM Regulation**”).
- ² The EU ETS imposes a cap on GHG emissions from EU producers in certain sectors and requires them, within that cap, either to surrender emissions allowances received for free or to purchase allowances on the market. Free allowances under the EU ETS will be phased out progressively between 2026 and 2034, thereby increasing the carbon costs borne by EU producers.
- ³ CBAM Regulation, Art. 21(1)-(1a).
- ⁴ CBAM Regulation, Art. 1(1).
- ⁵ Under EU law, delegated regulations allow the European Commission to supplement or amend non-essential elements of a legislative act, while implementing regulations establish uniform conditions for its application.
- ⁶ See European Commission, “CBAM Legislation and Guidance”, available at https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism/cbam-legislation-and-guidance_en.
- ⁷ The CBAM Regulation was amended by Regulation (EU) 2025/2083, which was adopted on October 17, 2025, to simplify compliance and reduce the administrative burden for companies. See Regulation (EU) 2025/2083 of the European Parliament and of the Council of 8 October 2025 amending Regulation (EU) 2023/956 as regards simplifying and strengthening the carbon border adjustment mechanism, [OJ L, 2025/2549, 22.12.2025](#). (“**Amending Regulation**”).
- ⁸ The *de minimis* exemption replaces the existing value-based exemption for consignments of Covered Goods valued under EUR 150 and is calculated cumulatively across all Covered Goods imported by the same importer during the year.
- ⁹ In establishing the coverage of GHG emissions, the CBAM (like the ETS) does not use the emission classification system established in the Greenhouse Gas Protocol by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI); see the Greenhouse Gas Protocol, available at <https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>.
- ¹⁰ CBAM Regulation, Art. 3(21).
- ¹¹ CBAM Regulation, Art. 3(34).
- ¹² CBAM Regulation, Art. 2(4) & (6).
- ¹³ CBAM Regulation, Annex III, point 1.
- ¹⁴ Once authorization is granted, the CBAM declarant will receive a unique CBAM account number in the CBAM registry, for administrative purposes.
- ¹⁵ CBAM Regulation, Art. 17(7a).
- ¹⁶ CBAM Regulation, Art. 5(1a).
- ¹⁷ European Commission, Carbon Border Adjustment Mechanism (CBAM) Questions and Answers (last updated December 22, 2023), p. 11, available at https://taxation-customs.ec.europa.eu/system/files/2023-11/CBAM%20Frequently%20Asked%20Questions_November%202023.pdf.
- See generally CBAM Regulation, Art. 5(1a)-(2a) on the requirements for an indirect customs representative to be an authorized CBAM declarant.
- ¹⁸ CBAM Regulation, Art. 10(5)(a)-(c).
- ¹⁹ CBAM Regulation, Art. 3(29). Carbon price refers the monetary amount paid in a third country, under a carbon emissions reduction scheme, in the form of a tax, levy or fee or in the form of emission allowances under a greenhouse gas emissions trading system, calculated on greenhouse gases covered by such a measure, and released during the production of good.
- ²⁰ Details of purchased CBAM certificates (identification number, price and date of purchase) will be recorded in the account of the authorized CBAM declarant.
- ²¹ CBAM Regulation, Art. 20(1).
- ²² CBAM Regulation, Art. 21(1a).
- ²³ CBAM Regulation, Art. 21(1).
- ²⁴ CBAM Regulation, Art. 22(2).
- ²⁵ CBAM Regulation, Art. 6(1)-(2).
- ²⁶ CBAM Regulation, Art. 5(7a).
- ²⁷ CBAM Regulation, Art. 8(2), 10(7).
- ²⁸ CBAM Regulation, Art. 22(1).
- ²⁹ CBAM Regulation, Art. 26(4a).
- ³⁰ CBAM Regulation, Art. 9(1).
- ³¹ CBAM Regulation, Art. 9(4).
- ³² CBAM Regulation, Art. 26.
- ³³ Identical to the excess EU ETS emissions penalty in Article 16(3) of Directive 2003/87/EC and increased pursuant to Article 16(4) of that Directive.
- ³⁴ CBAM Regulation, Art. 26(1a).
- ³⁵ CBAM Regulation, Art. 26(1a).
- ³⁶ CBAM Regulation, Art. 26(2).
- ³⁷ CBAM Regulation, Art. 26(2a).
- ³⁸ Commission Implementing Regulation (EU) 2025/2547 of 10 December 2025 laying down rules for the application of Regulation (EU) 2023/956 of the European Parliament and the Council as regards the methods for the calculation of emissions embedded in goods, [OJ L, 2025/2547, 22.12.2025](#) (“**Methodology Regulation**”).
- ³⁹ Different functional units apply to fertilizers and electricity. Methodology Regulation, Art. 4(3).
- ⁴⁰ Methodology Regulation, Art. 2-10 (calculation based on actual values), 11-14 (calculation based on default values), and 15 (combined use of actual and default values).
- ⁴¹ Methodology Regulation, Art. 3.
- ⁴² Aggregated goods categories are specified in the second column of Table 1 in Annex I of the Methodology Regulation, and are as follows: calcined clay, cement clinker, cement, aluminous cement, electricity, nitric acid, urea, ammonia, mixed fertilizers, sintered ore, pig iron, ferro-manganese, ferro-chromium, ferro-nickel, DRI, crude steel, iron or steel products, unwrought aluminum, aluminum products, and hydrogen.

⁴³ Precursors refer to input materials used in a production process whose production itself generated GHG emissions. E.g. Cement clinker when used as an input material in production of portland cement.

⁴⁴ Methodology Regulation, Art. 4.

⁴⁵ Methodology Regulation, Art. 4(2).

⁴⁶ Methodology Regulation, Art. 4(3)-(5).

⁴⁷ Methodology Regulation, Art. 5(1); Annex II, points A and B.

⁴⁸ See *generally* Commission Implementing Regulation (EU) 2018/2066 of 19 December 2018 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council and amending Commission Regulation (EU) No 601/2012, [OJ L 334, 31.12.2018](#).

⁴⁹ Methodology Regulation, Art. 5(4).

⁵⁰ Methodology Regulation, Art. 5(5).

⁵¹ Methodology Regulation, Art. 6.

⁵² Methodology Regulation, Annex III, point A.

⁵³ Methodology Regulation, Art. 4(7) (“Splitting an installation into different installations, with the result that production routes otherwise pertaining to a single production process are carried out in separate installations, shall only be allowed where the operators demonstrate valid commercial reasons for this split that are related to their economic activity. Commercial reasons shall be considered as valid where circumventing [the CBAM Regulation] is not their main purpose or one of their main purposes.”) See *also* Methodology Regulation, Recital 7 (“where such goods are produced using different production routes within an installation, the production process should, for such goods, not be different for each production route but should encompass all production routes, which means that the emissions attributable to goods to which the same functional unit applies should be the weighted average of the emissions of all the production routes used within the installation to produce goods to which the same functional unit applies.”)

⁵⁴ Methodology Regulation, Recital 24.

⁵⁵ Methodology Regulation, Recital 24.

⁵⁶ Methodology Regulation, Art. 7.

⁵⁷ Commission Implementing Regulation (EU) 2025/2546 of 10 December 2025 on the application of the principles for verification of declared embedded emissions pursuant to Regulation (EU) 2023/956 of the European Parliament and of the Council, [OJ L, 2025/2546, 22.12.2025](#) (“**Verification Regulation**”).

⁵⁸ See *generally* Verification Regulation, Recitals 1 and 3.

⁵⁹ Verification Regulation, Art. 2-4.

⁶⁰ Verification Regulation, Art. 3(1)(a), (f).

⁶¹ Verification Regulation, Art. 5.

⁶² Verification Regulation, Art. 5(1).

⁶³ Verification Regulation, Art. 5(2).

⁶⁴ Verification Regulation, Art. 6.

⁶⁵ Commission Implementing Regulation (EU) 2025/2621 of 16 December 2025 laying down rules for the application of Regulation (EU) 2023/956 of the European Parliament and the Council as regards the establishment of default values, [OJ L, 2025/2621, 31.12.2025](#) (“**Default Values Regulation**”).

⁶⁶ Default Values Regulation, Art. 1(1).

⁶⁷ CBAM Regulation, Annex IV, point 4.1.

⁶⁸ CBAM Regulation, Annex IV, point 4.1.

⁶⁹ See Default Values Regulation, Annexes I and IV.

⁷⁰ See Default Values Regulation, Annex I, columns 6-8 in country-specific tables.

⁷¹ Default Values Regulation, Recital 7, Art. 1(3), and Annex II.

⁷² Default Values Regulation, Recital 8, Art. 1(4), and Annex III

⁷³ Default Values Regulation, Art. 1(5).

⁷⁴ Default Values Regulation, Art. 2. See *also*, Default Values Regulation, Recital 11 (“The default values and mark-ups shall be revised by December 2027 at the latest. The Commission should make all necessary efforts . . . to ensure that a revision of the default values can already be carried out in 2026.”)

⁷⁵ Commission Implementing Regulation (EU) 2025/2620 of 16 December 2025 laying down rules for the application of Regulation (EU) 2023/956 of the European Parliament and the Council as regards the calculation of the free allocation adjustment to the number of CBAM certificates to be surrendered, [OJ L, 2025/2620, 22.12.2025](#) (“**Free Allocation Regulation**”).

⁷⁶ Free Allocation Regulation, Annex, point 2.

⁷⁷ Free Allocation Regulation, Art. 1(1).

⁷⁸ Free Allocation Regulation, Art. 2.

⁷⁹ Free Allocation Regulation, Annex, point 3.1.

⁸⁰ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, [OJ L 275, 25.10.2003](#). Article 10a(1a) of Directive 2003/87/EC states that the CBAM factor shall be equal to 97,5 % in 2026, 95 % in 2027, 90 % in 2028, 77,5 % in 2029, 51,5 % in 2030, 39 % in 2031, 26,5 % in 2032 and 14 % in 2033. From 2034, no CBAM factor shall apply.

⁸¹ Free Allocation Regulation, Annex, point 3.2.

⁸² Free Allocation Regulation, Annex, point 3.3

⁸³ Free Allocation Regulation, Annex, point 3.3.

⁸⁴ Free Allocation Regulation, Annex, point 3.3.

⁸⁵ Free Allocation Regulation, Annex, point 3.3.

⁸⁶ The Annex of the Free Allocation Regulation defines the reporting year in reference to Article 7 of the Methodology Regulation.

⁸⁷ Free Allocation Regulation, Recital 12.

⁸⁸ Free Allocation Regulation, Art. 3.

⁸⁹ Free Allocation Regulation, Annex, point 4.

⁹⁰ Free Allocation Regulation, Recital 8.

⁹¹ See *generally* Free Allocation Regulation, Annex, point 5.2 and Default Values Regulation, Annex I, column “Underlying production route determining CBAM BM.”

⁹² Free Allocation Regulation, Recital 6.

⁹³ Free Allocation Regulation, Recital 9.

⁹⁴ See generally Directive 2003/87/EC, Art. 10a(1a).

⁹⁵ Free Allocation Regulation, Art. 1(2).

⁹⁶ Free Allocation Regulation, Annex, point 5.2.

⁹⁷ See generally Directive 2003/87/EC, Art. 10a(1a).

⁹⁸ CBAM Regulation, Article 30(6).

⁹⁹ See generally European Commission, "Proposal for a Regulation of the European Parliament and of the Council establishing the Temporary Decarbonisation Fund," December 17, 2025, available at https://eur-lex.europa.eu/resource.html?uri=cellar:95ee45d7-db37-11f0-8da2-01aa75ed71a1.0001.02/DOC_1&format=PDF.

¹⁰⁰ HM Treasury, "Factsheet: Carbon border adjustment mechanism", available at <https://www.gov.uk/government/publications/factsheet-carbon-border-adjustment-mechanism-cbam/factsheet-carbon-border-adjustment-mechanism>.

¹⁰¹ Max Mucenic, *The Potential Proliferation of CBAM: A Fragmented Carbon Tariff Landscape*, S & P Global (Nov. 13, 2025), <https://www.spglobal.com/energy/en/news-research/blog/energy-transition/111325-cbam-carbon-tariff-potential-proliferation> ; *Evolution of Global Response to EU CBAM*, IETA (June 2025), https://www.ieta.org/uploads/wp-content/Resources/Reports/IETA_Report_CBAM-2025_FINAL2.pdf .