

## **CBAM Unveiled: A Deep Dive into Reporting Requirements for Non-EU Producers**

As the European Union (EU) endeavors to address the intricate challenge of carbon leakage across its borders, it has introduced the Carbon Border Adjustment Mechanism (CBAM), a pioneering initiative designed to harmonize carbon prices and deter the relocation of carbon-intensive production. This article delves into the comprehensive reporting framework underpinning CBAM, examining its phased implementation, covered sectors, flexible reporting methods, and intricate monitoring methodologies. By providing an in-depth exploration of CBAM's reporting landscape, this piece aims to equip stakeholders, both within and outside the EU, with a nuanced understanding of the evolving regulatory landscape.

### **Overview**

**CBAM Motive:** The impetus behind the Carbon Border Adjustment Mechanism (CBAM) arises from the fact that EU domestic producers must comply with stringent climate policies and utilize the complimentary allowances provided by the Emissions Trading System (ETS). This adherence has given rise to a phenomenon known as carbon leakage, wherein certain producers shift their carbon-intensive production activities to non-EU locations. This shift has not only created a competitive advantage for importers of more carbon-intensive products from countries lacking significant climate policies but also poses a challenge to the EU's climate goals.

In response, the EU has introduced the CBAM to address this carbon leakage issue and simultaneously foster cleaner production practices. The CBAM is carefully crafted to align with World Trade Organization (WTO) rules. Specifically, it targets these carbon-intensive sectors:

- Cement
- Iron and Steel
- Aluminium
- Fertilizers
- Electricity
- Hydrogen.

The sector coverage of the CBAM is set to broaden after the year 2030.

**Phases of CBAM:** The rollout of the CBAM occurs in phases aligned with the reduction of free allowances in the EU Emissions Trading System (ETS).

- Phase 1, the Transitional Phase, took effect on October 1, 2023. This phase necessitates quarterly reporting but does not require verification or financial payments in the form of carbon certificates. The deadline for the first reporting period for importers is on January 31, 2024.

- Phase 2, termed the Definitive Phase, commences at the start of 2026. During this phase, EU importers of CBAM goods must declare their goods, purchase certificates and surrender the requisite number of CBAM certificates. The value of a certificate will be closely aligned with the EU ETS on a weekly basis.

**Emission Types and Their Calculation Methods:** In the Transitional Phase, embedded direct and indirect greenhouse gas (GHG) emissions of products in covered sectors must be reported. Notably, product imports in the Cement and Fertilizers sectors only need to report direct emissions during this period.

There is reporting flexibility until the end of 2024, with three allowed emissions calculation methods:

1. EU Method
2. Equivalent Method
3. Default Reference Values (permissible until July 2024)

However, starting January 1, 2025, only the EU Method will be acceptable. Estimates, including default values, will only be permissible for complex goods if they constitute less than 20% of the total embedded emissions. This stringent approach reflects the EU's commitment to ensuring the effectiveness and accuracy of the CBAM.

### **Monitoring Steps**

1. **Boundary Definition:** Clarify the boundaries of the installation, encompassing production processes and production routes. The term "production process" refers to the delineation of system boundaries necessary for attributing emissions to specific goods manufactured. Each "aggregated good category," denoting a grouping of goods with distinct CN codes but subject to common monitoring rules, corresponds to a unique production process.
2. **Reporting Period:** Specify the reporting period, with the default being the (European) calendar year. However, if the installation is located in a country with a different calendar or if there are valid reasons for an alternative period, such variations are acceptable, provided the period covers at least three months. Potential alternative periods may align with the reporting cycles of a carbon pricing scheme or mandatory emissions monitoring scheme in the installation's country, or even the fiscal year. The rationale for selecting such alternative periods is rooted in the potential for additional scrutiny, such as stock assessments and financial audits for annual financial accounts, or third-party verification of emissions. Utilizing these periods enhances the credibility and quality of data, particularly when applied for CBAM purposes.
3. **Parameter Identification:** Identify all parameters relevant to various emissions types.
  - a. **Direct Emissions:** Determination of direct emissions can be achieved through either of the following approaches:
    - i. **\*\*Calculation-Based Approach:\*\*** Quantify the consumption of fuels and relevant materials, along with corresponding "calculation factors" (especially the "emission factor" based on the carbon content of the fuel or material).

- ii. **\*\*Measurement-Based Approach:\*\*** Measure the concentration of greenhouse gases and the flow of flue gas for each "emission source" (stack).
  - iii. During the introductory phase until July 31, 2024, alternative methods are permissible for emissions monitoring in the company's jurisdiction, provided they yield similar emission coverage and accuracy. These may include default values published by the European Commission for the transitional period. Other default values are acceptable if the reporting declarant indicates and references the methodology used to establish such values. Notably, a special methodology based on overvoltage measurements is required for PFC emissions from primary aluminum production, while N<sub>2</sub>O emissions from nitric acid production necessitate the measurement-based method. In all other cases, the method most suited to the installation's situation can be utilized. If there are multiple production processes within an installation, monitoring fuel or material streams between processes may be necessary for accurate emission attribution.
- b. **(Direct) Emissions Related to Heat Flows:** Heat consumption, both produced within the installation or received from a separate source, must be attributed to each production process. Emissions related to exported heat need deduction from the attributed emissions of the production process where the heat is produced or recovered.
- c. **Indirect Emissions:** These arise during the generation of electricity consumed in the installation for production processes, whether it is generated within the installation or imported. The amount of electricity consumed in each production process must be monitored and multiplied by the relevant emission factor.
- i. For grid electricity, the default emission factor from the European Commission based on IEA data is applicable.
  - ii. For self-production of electricity, emissions from the power or co-generation plant are monitored similarly to other direct emissions, with specific rules for calculating the emission factor from the fuel mix.
  - iii. If electricity is procured through a "power purchase agreement," the emission factor determined by the power plant may be used, provided they monitor their emissions following the same rules as for self-produced electricity.
- d. **Embedded Emissions of Precursors:** As previously explained, embedded emissions encompass the aggregate emissions of materials used in production, known as precursors. The following considerations determine the parameters for each precursor:
- i. If produced within the installation, consider only the precursor's embedded emissions when calculating the goods' overall embedded emissions.
  - ii. If purchased, request data from relevant producers, including:
    - 1. Identification of the production installation,

2. Specific direct and indirect embedded emissions,
  3. Production route,
  4. Reporting period applied by the precursor producer, and
  5. Information on any carbon price in the relevant jurisdiction.
- iii. In both cases, monitor the quantity of each precursor used during the reporting period for each production process.
- e. **Additional Qualifying Parameters:** These parameters depend on the goods produced. For example, for imported cement, reporting the total clinker content is required; for mixed fertilizers, reporting the contents of different forms of nitrogen, etc.
4. **Methodology:** Establish the methodology for monitoring each parameter outlined in Step 3 as follows:
    - a. **Quantities of Fuels and Materials (including Precursors):**
      - i. Direct measurement using available instruments (e.g., weighing belts, flow meters, heat meters) is one approach.
      - ii. Alternatively, quantities can be derived from purchase records and stock measurements at the conclusion of each period.
    - b. **Calculation Factors (e.g., Carbon Content):**
      - i. Use either standard published values (e.g., from national GHG inventories or Annex VIII to the Implementing Regulation).
      - ii. Alternatively, determine factors based on laboratory analyses following rules specified in the Implementing Regulation.
    - c. **Continuous Emission Measurements, Heat Flow, and Electricity Measurements:**
      - i. Specify the instruments employed, along with relevant calibration and maintenance measures.
    - d. **Estimation methods or indirect methods**
      - i. These may be used, if necessary, based on established correlations of measurement parameters.
    - e. **Default Values for Embedded Emissions:**
      - i. In cases where no other methods are available to determine embedded emissions of goods or if the producer of used precursors does not supply requisite data, default values for embedded emissions from the European Commission may be employed.

### **Carbon Pricing Considerations**

In instances where the producing entity is already subject to a carbon price within their jurisdiction, this existing carbon price can be factored into the calculation to potentially reduce the Carbon Border Adjustment Mechanism (CBAM) carbon price during the definitive period starting from 2026 onwards. It is imperative that such information is also reported during the transitional period of the CBAM, extending until the conclusion of 2025. To facilitate transparency and compliance, the carbon pricing information must be incorporated into the

producer's Monitoring Methodology, ensuring its accessibility for sharing with the importers of CBAM goods.

For installations subject to a carbon price, meticulous data collection on the incurred carbon price is essential. This data should be organized in a manner that allows for its attribution to specific production processes and CBAM goods categories, mirroring the methodology employed for attributing emissions to goods. Any applicable rebates, including considerations such as free allocations within an Emissions Trading System (ETS), must be factored into the determination of the effective carbon price.

Furthermore, it is crucial to gather information concerning each precursor purchased if there is a carbon price applicable in its country of origin. In cases where the producer of the precursor fails to provide the necessary information, the carbon price paid for the precursor is assumed to be zero.

To arrive at a comprehensive assessment, the total effective carbon price should be assigned to a CBAM good and expressed in euros per tonne of that specific good.

### **Exclusions**

During the transition phase of the CBAM regulation, the following are excluded:

1. Consignments of low value, defined as those totaling no more than 150 euros.
2. Goods intended for military purposes.
3. Goods originating in Iceland, Liechtenstein, Norway, or Switzerland.
4. A limited exemption is granted for electricity imports from non-EU countries, provided that the non-EU country demonstrates close integration with the EU internal market for electricity.

### **National Competent Authorities (NCAs)**

The Commission has released a preliminary roster of National Competent Authorities (NCAs) assigned to each of the 27 EU Member States. These NCAs bear the responsibility of authorizing importers within their respective Member States, granting them access to the CBAM Transitional Registry. Declarants utilize the CBAM Transitional Registry to fulfill their CBAM obligations, effective from January 1, 2024.

The Commission has committed to regularly updating this provisional NCA list as it receives notifications from Member States. This dynamic list will also be accessible within the CBAM Transitional Registry. The finalized version of the NCA list will be formally published by the Commission in the Official Journal of the EU.

## **Communication Template**

At the conclusion of the reporting period, such as the end of a calendar year, it is essential to aggregate the monitored data spanning the entire reporting duration. This involves determining the attributed emissions for each production process and subsequently dividing them by the corresponding "activity level" – denoting the total tonnes of goods falling under the relevant CBAM category produced within the reporting period. The outcome provides the specific embedded emissions for the particular goods and constitutes one of the primary parameters to be reported.

The emissions data inherent in CBAM goods must be communicated to the EU importer(s) responsible for fulfilling reporting obligations under the CBAM Regulation. Given the potential involvement of multiple clients, the European Commission advocates the use of a template for streamlined communication, particularly beneficial when dealing with clients situated in different EU member states. This template serves to establish a uniform format, ensuring consistency and efficiency in the reporting process.

## **Monitoring Methodology Documentation (MMD)**

An additional recommended document is the Monitoring Methodology Document or MMD. It is a comprehensive handbook encompassing all monitoring methods applicable to materials or emission sources requiring continuous monitoring throughout the year. The purpose of the MMD is to ensure the consistent application of the methodology across successive years.

This documentation must be transparent enough for independent individuals with some knowledge of GHG monitoring to comprehend. At the same time, it should also contain enough detail for installation personnel, guiding them through all necessary tasks to determine the embedded emissions of goods.

The documentation should cover the following details:

1. A compilation of measurement instruments.
2. Defined measuring intervals.
3. Data sources for standard values.
4. Step-by-step calculation procedures.
5. Calculation factors.
6. An illustrative diagram of the installation, indicating the locations of all necessary instruments and sampling points.
7. Outlined control measures.
8. Regular independent verification procedures.
9. Data comparisons across various sources.
10. Consistency checks for time series data.

The MMD should also explain the following actions for data collection, calculation, and quality control measures:

1. Regular readings of fuel meters.
2. Inventorying materials consumed or produced.
3. Collecting samples of fuels or materials for analysis.
4. Conducting maintenance, control, and calibration of measuring instruments, among other tasks.

Implementing the following supplementary housekeeping measures would better guarantee the continual effectiveness of the MMD:

1. Periodic review of the MMD for accuracy and up-to-date information.
2. Documenting all changes and improvements made to the MMD.
3. Utilizing the latest version of the MMD.

### **Conclusion**

To summarize, the Carbon Border Adjustment Mechanism (CBAM) is emerging as a pivotal instrument in the European Union's quest for a sustainable and equitable approach to carbon pricing. With its phased implementation, meticulous reporting requirements, and emphasis on monitoring methodologies, CBAM reflects the EU's commitment to encouraging global climate responsibility.

As businesses and entities adapt to the evolving CBAM framework, it becomes crucial to navigate the reporting landscape with precision and foresight. Producers outside the EU must embrace the flexibility afforded during the transitional period, aligning their practices with the recommended reporting methods and ensuring transparency in their monitoring methodologies.

The integration of carbon pricing considerations and the documentation of monitoring methodologies underscore the EU's dedication to fostering a robust and accountable carbon market. By utilizing communication templates and collaborating with National Competent Authorities, stakeholders can streamline the reporting process, facilitating a seamless transition into the CBAM regime.

In essence, CBAM not only addresses carbon leakage but also underscores the EU's leadership in shaping a global paradigm for climate-conscious trade practices. As the world grapples with the challenges of climate change, CBAM stands as a testament to the EU's commitment to fostering a sustainable future and encouraging a collective effort toward mitigating the impacts of carbon-intensive production. Through compliance, cooperation, and innovation, stakeholders can contribute to a greener, more resilient global economy underpinned by responsible carbon management.