



The Mechanism of CBAM

Steps and Processes

As the European Union continues its phased implementation of the Carbon Border Adjustment Mechanism (CBAM), businesses engaged in importing carbon-intensive goods must prepare for its operational requirements. While previous articles in this series have explored CBAM's objectives and the industries affected, this article focuses on the procedural aspects—how CBAM works in practice and what steps are involved in compliance. Understanding the key processes will be crucial for companies navigating this evolving regulatory framework.

CBAM's Operational Framework

CBAM is designed to ensure that imported goods are subject to a carbon price equivalent to that imposed on domestic producers under the EU Emissions Trading System (ETS). To achieve this, the mechanism follows a structured process, requiring importers to assess emissions, report them, and ultimately account for their carbon footprint through the purchase of CBAM certificates.



CBAM is being introduced gradually, with a transitional phase allowing businesses to familiarize themselves with reporting obligations before full financial implementation takes effect. The transitional phase, which began in October 2023, will last until the end of 2025, after which the full financial obligations of CBAM will come into force. During this period, importers are required to report emissions data but are not yet required to purchase CBAM certificates.

Steps for Importers Under CBAM

Identifying Goods Under CBAM

Importers must determine whether their goods fall within the scope of CBAM. **Currently, the regulation applies to high-emission sectors such as steel, aluminum, cement, fertilizers, electricity, and hydrogen. These sectors were chosen due to their significant contribution to global carbon emissions and their exposure to carbon leakage risks.**

Each product is classified under specific Combined Nomenclature (CN) codes, which determine its regulatory treatment. Accurately identifying these codes is essential for compliance, as they dictate reporting and carbon pricing requirements. The classification process can be complex, particularly when dealing with composite materials or goods that undergo multiple production stages.

For example, steel products are classified under various CN codes, such as 7208 51 00 for hot-rolled steel and 7210 41 00 for cold-rolled steel. Similarly, aluminum products are classified under codes like 7604 10 00 for aluminum bars and 7606 12 00 for aluminum plates. Importers must ensure that their goods are correctly classified to avoid penalties or delays in customs clearance.

Embedded Emissions

Embedded emissions refer to the greenhouse gases emitted during the production of goods, from raw material extraction to the final product. CBAM requires importers to report these emissions, ensuring that the carbon footprint of imported goods is fully accounted for.

Embedded emissions are classified into different categories:

- Direct emissions: Emissions resulting from the main production process, such as the combustion of fossil fuels in a steel furnace or the electrolysis process in aluminum production.
- Precursor emissions: Emissions associated with the raw materials used in production. For example, in steel manufacturing, the emissions from iron ore processing must be accounted for.
- Indirect emissions (currently excluded but under discussion): Emissions from electricity used during production, such as power sourced from coal-fired plants in a non-EU country.

To comply with CBAM, businesses must accurately track these emissions throughout the supply chain, which can be complex, particularly when dealing with suppliers in regions with limited emissions reporting frameworks.

A critical challenge for importers is ensuring that emissions data is consistent and verifiable. Many suppliers outside the EU may lack

the infrastructure to provide detailed carbon footprint assessments, requiring importers to assist in setting up emissions reporting mechanisms or to seek third-party verification.

Collecting Emissions Data

The core requirement of CBAM is the calculation of embedded emissions in imported goods. This includes emissions from direct production processes as well as precursor materials used in manufacturing. Importers must work closely with their suppliers to gather accurate emissions data, following methodologies outlined by the European Commission.

If actual emissions data is unavailable, default values may be used under specific conditions. However, the EU has signaled that default values should only be relied upon as a last resort, and importers must demonstrate efforts to obtain real data from producers.

The process of emissions data collection involves tracking emissions across multiple stages of production. For instance, in steel manufacturing, emissions data must be recorded from raw material extraction, transportation, processing, and final production. Similarly, in the aluminum sector, emissions from bauxite mining, refining, and electrolysis must be captured accurately.

Many companies are now investing in blockchain-based systems to trace carbon emissions throughout their supply chains. Such technologies can improve transparency, reduce fraud, and ensure compliance with CBAM's stringent reporting requirements.

Submitting CBAM Reports

During the current transitional phase, importers must submit quarterly reports detailing the emissions associated with their imports. These reports serve as a trial period for businesses to adapt to CBAM's requirements and provide the EU with data to refine its implementation.

Reports must include:

- **The quantity and type of imported goods.**
- **The total embedded emissions for each product.**
- **Information on any carbon pricing mechanisms applied in the country of origin.**

While no financial obligations exist during this phase, compliance with reporting requirements is essential to avoid penalties and to prepare for the next stage.

To ensure accurate reporting, companies should establish internal processes for emissions tracking and verification. This may involve implementing digital tracking systems or hiring sustainability experts to assist with compliance.



Purchasing and Surrendering CBAM Certificates

Once CBAM is fully implemented, importers will need to buy CBAM certificates corresponding to the emissions embedded in their goods. The price of these certificates will be linked to the EU ETS carbon price, ensuring alignment between domestic and imported carbon costs.

By the end of each compliance period, importers must surrender the appropriate number of certificates to cover their declared emissions. **If an importer has paid a carbon price in the country of production, they may be eligible for a reduction in the number of required CBAM certificates, provided that the foreign carbon price is deemed equivalent to the EU standard.**

Compliance Challenges and Business Considerations

Implementing CBAM will introduce several challenges for businesses:

- **Data Collection:** Many companies rely on complex international supply chains, making it difficult to gather emissions data from upstream producers.
- **Administrative Burden:** CBAM requires importers to maintain detailed records and ensure compliance with evolving EU regulations.
- **Cost Implications:** While CBAM promotes fair competition, it could increase costs for businesses importing goods from countries with high-carbon production methods.

Despite these challenges, CBAM also presents opportunities for companies willing to adapt:

- **Supply Chain Optimization:** Businesses may explore sourcing from lower-carbon producers or invest in cleaner production methods.
- **Competitive Differentiation:** Companies that proactively reduce their carbon footprint may gain a competitive advantage as sustainability becomes a key market driver.
- **Policy Alignment:** Understanding and integrating CBAM into corporate strategy will ensure long-term compliance with EU climate policies.

Looking Ahead: The Road to Full Implementation

CBAM is a dynamic policy that will continue evolving. The transitional period, which runs until the end of 2025, serves as a critical phase for refining implementation mechanisms. However, businesses should already be preparing for full compliance, as financial obligations will commence thereafter.

Future developments could include:

- **Expansion of CBAM to additional sectors, such as chemicals, plastics, and glass.**
- **Adjustments to reporting methodologies based on feedback from businesses and regulators.**
- **Potential agreements with non-EU countries on mutual recognition of carbon pricing schemes.**

One of the key discussions surrounding CBAM's expansion is whether it will encourage other countries to adopt similar carbon pricing mechanisms. If more regions introduce their own CBAM-style measures, global trade patterns could shift toward a new standard for carbon accountability.

Conclusion

CBAM is a major shift in global trade and carbon regulation. As the mechanism progresses, businesses must stay informed about regulatory updates, refine their compliance strategies, and engage proactively with their supply chains.

By understanding the operational steps and integrating CBAM requirements into business processes, companies can not only meet regulatory obligations but also position themselves as leaders in the low-carbon economy. The companies that take proactive measures today will be best positioned to navigate future regulatory changes and benefit from an increasingly carbon-conscious market.

Additional Considerations for Businesses

As CBAM continues to evolve, businesses should also consider the following:

- **Engaging with Stakeholders:** Companies should engage with suppliers, customers, and industry associations to stay informed about CBAM developments and share best practices for compliance.
- **Investing in Technology:** Investing in digital tools and technologies for emissions tracking and reporting can streamline compliance processes and reduce administrative burdens.
- **Monitoring Regulatory Changes:** CBAM is still in its early stages, and regulatory changes are likely as the EU refines the mechanism. Businesses should monitor updates from the European Commission and other relevant authorities to stay ahead of new requirements.

By taking these steps, businesses can not only ensure compliance with CBAM but also contribute to the broader goal of reducing global carbon emissions and promoting sustainable trade practices. ■

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