

Turning Challenge into Opportunity >>

Practical Implications of CBAM for the Fasteners Industry



Introduction

As the Carbon Border Adjustment Mechanism (CBAM) transitions from legislative concept to enforceable reality, it is beginning to reshape trade and compliance practices for a wide range of industrial products, including fasteners. Screws, nuts, bolts, washers, rivets, and other mechanical fixings—especially those made from steel, aluminum, or coated alloys—are all affected. While not always explicitly listed in the initial annex of CBAM, fasteners made from the covered base materials fall under indirect scrutiny due to the high emissions intensity of their inputs. Companies operating within this sector—be they importers, distributors, processors, or integrated manufacturers—must quickly adapt to a new regulatory environment that monetizes embedded emissions in international trade.

This article examines the specific implications of CBAM for the fasteners industry, highlighting compliance challenges, emissions optimization opportunities, and practical strategies for procurement and supply chain adaptation.

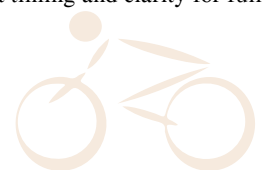
Compliance Challenges for Fastener Operators

For companies dealing with fasteners, a key hurdle lies in tracing the carbon footprint of semi-finished and finished components. Many bolts and screws are produced from wires rods, bars, or coils that have undergone upstream processing such as hot rolling, pickling, and drawing. These transformation steps are often performed outside the EU, and emissions from these precursor stages must be included in the embedded emissions calculation under CBAM.

In the current transitional phase, importers must collect emissions data from the production site where the last substantial transformation occurred. For fasteners made from

imported steel or aluminum, this means engaging directly with mills or intermediate processors to identify emissions from casting, rolling, or extrusion, depending on the product route.

The European Commission has not yet published the Benchmark Values for many CN codes relevant to fasteners. Without these references, importers cannot determine whether their goods exceed the emissions intensity thresholds that trigger certificate obligations. The procedure for third-party verification of declared emissions is also still under development, raising concerns about timing and clarity for full compliance in 2026.



Multi-origin production adds complexity. For example, a bolt forged in one country from wire produced in another, using billets cast elsewhere, may involve several CBAM-relevant stages. Emissions tracking across these steps require a robust precursor identification and allocation method.

Omnibus Package: Relief for Small Importers

A positive development for smaller operators is the revision introduced by the Omnibus Package. **The previous monetary threshold of €150 per shipment has been replaced by a mass-based threshold: importers bringing in less than 50 metric tons of CBAM-covered goods per quarter are exempt from filing declarations.**

This change simplifies the burden for small fastener importers who manage lower-volume, high-mix shipments. However, **once the quarterly threshold is exceeded, the declaration requirement applies to all relevant imports retroactively for that quarter.** Monitoring cumulative tonnage is essential to ensure compliance.

ETS and International Signals

Countries like China, Turkey, and South Korea have introduced emissions trading systems (ETS). Although not recognized by the EU for deduction under CBAM, these schemes signal a global move toward carbon pricing. For fastener manufacturers in these countries, carbon intensity is becoming a competitiveness factor.

Until formal EU recognition is granted, European importers must assume all embedded emissions are uncompensated. This impacts cost modeling and pricing, particularly for high-volume, low-margin standard products like DIN fasteners.

Emissions Optimization Strategies

CBAM encourages companies to reduce specific embedded emissions (SEE). For fasteners, this **begins with sourcing materials from low-emissions steel or aluminum producers. EAF-based steel powered by renewables or aluminum smelted using hydropower can significantly lower SEE.**

Operators should also assess emissions from finishing processes like coating, plating, or galvanizing. These may not be directly regulated but contribute to total emissions and influence procurement decisions.

Digital systems for emissions tracking and supplier declarations offer long-term advantages. Automating CBAM-related reporting and integrating it into ERP platforms reduces the administrative burden and improves transparency.

Case Examples: Fasteners in Practice

A European distributor assessed its hex bolt supply chain from Southeast Asia. The product's steel wire came from blast furnace-based billets, resulting in high emissions. By switching to a Turkish EAF-based source with emissions declarations, the distributor cut its CBAM exposure and avoided potential certificate costs.

Another importer of aluminum rivets from China renegotiated sourcing after discovering that electrolysis contributed most of the emissions. Moving to a hydropower-based smelter reduced emissions by over 40%.

Financial Implications and Hedging

CBAM certificates will be priced according to the weekly average EU ETS. Fasteners, often sold under long-term contracts, require predictable pricing. Larger importers are beginning to explore EUA-based financial instruments to hedge against future cost volatility.

While CBAM certificates are not yet tradable, **shadow pricing models in ERP systems help simulate potential costs and inform sourcing and margin strategies.**

Conclusion

CBAM represents a significant change in trade and compliance for the fasteners industry. While it introduces reporting and cost obligations, it also creates incentives for cleaner sourcing, supply chain optimization, and investment in emissions tracking.

Operators should:

- Engage with suppliers to obtain real emissions data.
- Monitor the 50 MT quarterly exemption threshold.
- Prepare for Benchmark Value publication and third-party verification rules, or rely on consultants for forecasts.
- Consider financial hedging and digital integration.

Those who prepare now will be better positioned to remain competitive in a market where carbon intensity is no longer invisible but monetized and monitored. ■

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