

## EU CBAM Full Enforcement from January 1, 2026: Impact Analysis for Thai Industries and Recommendations



**The Carbon Border Adjustment Mechanism (CBAM) is a key component of the European Union's European Green Deal and "Fit for 55" policy package, which aims to reduce greenhouse gas emissions by 55% by 2030.** The primary objective of CBAM is to prevent carbon leakage, which occurs when EU-based producers relocate their production facilities to countries with less stringent environmental regulations to avoid carbon cost burdens, or when imported goods from abroad have lower prices than EU-produced goods because foreign producers do not bear the same carbon costs as EU manufacturers.

**The implementation of CBAM is structured in two phases. The first is the Transitional Period, which began on October 1, 2023, and concluded on December 31, 2025.** During this phase, exporters of CBAM target products to the EU are required to provide embedded emissions data to EU importers. Meanwhile, EU importers must register in the CBAM Registry system and submit quarterly embedded emissions reports to the European Commission through this system. EU importers are not yet required to purchase CBAM certificates or pay any fees. This transitional period is designed to allow businesses worldwide to familiarize themselves with the system, improve their carbon measurement and reporting processes, and prepare for full enforcement. Concurrently, the EU leverages this period to collect actual carbon footprint data from production sources around the world, with the aim of refining standards and enhancing accuracy.

**The second phase marks the full implementation of CBAM, which commenced on January 1, 2026.** This phase differs significantly from the previous period. For EU importers whose CBAM goods imports exceed 50 tons per calendar accounting year, they must obtain "Authorised CBAM Declarant" status. (If imports fall below this threshold (de minimis), they are exempt from this requirement. However, for electricity and hydrogen products, this status is required regardless of import volume (no de minimis exemption).) Notably, EU importers who do not yet have this status but submit their application by March 31, 2026, will receive temporary authorization. After this date, importing CBAM goods into the EU may not be permitted, or penalties of approximately 100-500 euros per ton of carbon may be imposed. Additionally, all EU importers must purchase CBAM Certificates to offset carbon emissions exceeding EU-established thresholds. The price of CBAM Certificates is referenced against prices in the EU's mandatory carbon market (Emissions Trading System: ETS). All EU importers are required to submit annual reports on embedded greenhouse gas emissions in goods to the European Commission. For exporters of CBAM target goods to the EU, they are obligated to provide embedded emissions data to EU importers. This data must be verified and certified by an Accredited Verifier accredited by a National Accreditation Body in an EU member state. Additionally, exporters are required to provide evidence of carbon pricing payments made in the country of origin (if applicable) to the EU importer. This evidence can then be used to claim deductions when purchasing CBAM Certificates.

The target product categories under CBAM include (1) iron and steel, (2) aluminum, (3) cement, (4) fertilizers, (5) electricity, and (6) hydrogen. These industries are defined as high greenhouse gas emission sectors and face the greatest risk of carbon leakage. Furthermore, the EU has announced plans for ongoing review and expansion of product coverage. It is anticipated that future enforcement will extend to additional goods, such as petrochemicals, plastics, chemicals, ceramics, and potentially downstream products that use raw materials from target industries as key components, including automotive parts, machinery, and electronic equipment.

The EU's implementation of CBAM is not merely a unilateral trade measure. It has effectively established a new global standard for cross-border carbon pricing, prompting other major trading partners of Thailand, including the United States, United Kingdom, Australia, and Japan, to study or develop similar Border Carbon Adjustment (BCA) measures. This creates significant pressure on Thai businesses to adapt, as failure to do so risks the permanent loss of competitive access to global markets.

## Analysis:

In the short term, CBAM will have a limited impact on Thailand's overall economy due to relatively low exports of CBAM target products to the EU. This measure represents a direct cost burden for EU importers including costs for registration and obtaining Authorised CBAM Declarant status, expenses for purchasing CBAM Certificates to offset embedded carbon in products, and the preparation of related reports. However, Thai exporters may face risks of both direct and indirect impacts from these measures. Thai exporters must bear increased administrative and cost burdens, including expenses for hiring consultants and verifiers to measure and report greenhouse gas emissions, as well as human resource costs for preparing documents, reports, and data to submit to EU importers. These challenges have significant impacts, particularly on SMEs who lack the resources and expertise to manage these complex requirements. Simultaneously, Thai exporters may encounter order rejections from EU importers if they are unable to measure or reduce greenhouse gas emissions. They may also face a competitive disadvantage compared to rival countries that already have mandatory carbon pricing mechanisms in place, as EU importers may choose to source from those countries instead, since the costs incurred from carbon pricing measures paid in those countries can be deducted against CBAM certificate purchase.

Another significant impact is the indirect effect on related industries or those in the supply chain of CBAM target industries. This is primarily driven by raw material costs being passed through to downstream industries, as well as logistical costs for Thai exporters who ship both CBAM-covered and non-CBAM-covered goods together in bulk consignments to save costs.

### 1) Direct Impact on Thai Industries

The LH Bank Business Research team estimates that CBAM will have the greatest direct impact on Thailand's steel and aluminum exports, while the cement and fertilizer sectors will face limited effects due to

minimal export volumes to the EU. (At present, Thailand has no exports of electricity or hydrogen to the EU.) According to Trade Map data, Thailand exported steel products worth USD 277.8 million to the EU market in 2024, representing 5.3% of Thailand's total steel export value. For aluminum products, exports totaled USD 67.6 million, accounting for 2.7%. Additionally, the Puey Ungphakorn Institute for Economic Research (PIER) reported that the value of Thailand's CBAM goods exports to the EU began declining in 2020 when the EU announced its intention to implement CBAM and decreased substantially following the commencement of CBAM enforcement in October 2023, falling by over 24% compared to exports of other goods to the EU.

**Figure 1:** Value of Thai Exports to the EU in CBAM Target Industries

Products	HS Code	2024 Trade Value (Mn USD)	
		Thai Exports to World	Thai Exports to EU (% of total Exports)
 Steel	72*, 260112, 7301, 7302, 730300, 7304, 7305, 7306, 7307, 7308, 730900, 7310, 731100, 7318, 7326	5,255.873	277.818 (5.3%)
 Aluminum	7601, 7603, 7604, 7605, 7606, 7607, 7608, 760900, 7610, 761100, 7612, 7613, 7614, 7616	2,507.690	67.556 (2.7%)
 Cement	250700, 252310, 252321, 252329, 252330, 252390	295.825	0.005 (0.002%)
 Fossil Electricity Generation	271600	256.166	No exports to the EU
 Fertilizer	280800, 2814, 283421, 3102, 3105**	241.578	0 (<0.001%)
 Hydrogen	280410	0.322	No exports to the EU

Note : \* exclude 7202, 7204 \*\* exclude 310560

Source: LH Bank Business Research analysis based on data from International Trade Centre's Trade Map.

## 2) Indirect Impact on Supply Chain and the Thai Economy

**Beyond the target industries (iron and steel, aluminum, cement, fertilizers, electricity, and hydrogen), CBAM's indirect impact is felt by related industries, particularly downstream sectors, through cost increases.** These include industries that use iron and steel, and aluminum as primary raw materials (e.g., automotive parts, electrical appliances, canned packaging), industries and businesses related to construction materials (e.g., concrete, metal sanitary ware, metal structures for construction, construction contractors), and agricultural industries that use chemical fertilizers for cultivation, as well as processed food industries, especially canned food packed in aluminum and metal containers. These sectors may face rising costs. **Furthermore, there is pressure on industries throughout the supply chain, as EU trading partners may demand that suppliers report embedded emissions data and Carbon Footprint of Products (CFP) information, even for goods not yet directly covered under CBAM.** To comply with these new regulations and standards, Thai entrepreneurs need to invest in carbon data management systems throughout the supply chain, verification processes, and production process improvements. **Additionally, the EU is expected to progressively expand CBAM coverage to additional goods** such as petrochemicals, plastics, chemicals, ceramics, glass and paper packaging, among others. While no official announcement has been made, various signals indicate that CBAM expansion will occur within the next two to three years, particularly for the petrochemical and plastics industries, which have high carbon emissions and significant trade value between Thailand and the EU.

## 💡 Implication:

**Thai government must urgently implement comprehensive policies and measures to prepare for the EU CBAM and maintain the competitiveness of Thai exporters. Most crucially, it must accelerate development of the legal framework and establish mandatory domestic carbon pricing mechanisms, particularly by advancing the Climate Change Act and implementing carbon taxes or mandatory greenhouse gas emissions trading systems. Since CBAM enables EU importers to offset the costs of carbon pricing paid under mandatory EU regulations and measures by crediting those costs against their CBAM Certificate purchases. This makes countries with these mechanisms more attractive compared to countries that may lack such systems, as the latter would require EU importers to pay higher fees to offset carbon emissions. Simultaneously, the government must develop verification infrastructure and databases by supporting Thai organizations to become EU-recognized verifiers and increasing the number of domestic verifiers and auditors. This includes establishing databases of average carbon intensity values for Thai industries and promoting digital systems for carbon data tracking and reporting. These efforts should be coupled with power market reform to unlock access to clean electricity and increase the proportion of renewable energy in the system. In terms of diplomacy engagement, the government should negotiate a request for flexibility regarding reporting conditions for developing countries. It should also advocate for mutual recognition of carbon measurement and reporting systems between Thailand and the EU. Additionally, the government should proactively communication with Thai entrepreneurs to build understanding and awareness about CBAM, including adaptation approaches and production process improvements for Thai operators. This includes providing support to Thai exporters to the EU in calculating the carbon intensity of their products to determine their compliance with international standards.**

**Thai enterprises must enhance their production processes to reduce greenhouse gas emissions from their products.** It is important to note that voluntary carbon credit cannot be used to offset CBAM certificate purchases. Key strategies that should be urgently implemented include restructuring energy sources by accelerating the installation of solar power generation systems or entering direct renewable electricity purchase agreements. This could include the purchase of renewable energy certificates to prove the use of clean electricity sources and improving factory energy efficiency. **In terms of raw material management, producers should select low-carbon materials**, such as using scrap metal in smelting processes instead of virgin ore, designing products according to circular economy principles that can be reused, and developing industrial symbiosis networks to transform waste from one factory into raw materials for another. **Additionally, entrepreneurs should study the costs of reducing greenhouse gas emissions to select the most cost-effective technology investments**, such as low-carbon cement production, waterless dyeing technology in the textile industry, and preparing to explore carbon capture and storage technology as well as green hydrogen use for large-scale industries in the long term. This should be coupled with implementing digital systems and automation to measure greenhouse gas emissions in real time, integrating carbon accounting systems with enterprise resource

management systems, and using blockchain or satellite technology to verify raw material sources throughout the supply chain.

**Commercial banks play a crucial role as funding sources that will drive the transition and adaptation of Thailand's industrial sector to EU CBAM.** First, they must urgently develop green finance products specifically designed for the low-carbon economic transition. These products should include environmentally friendly business loans to support machinery upgrades and investment in alternative energy technology. They should also promote capital raising through green bonds or sustainability-linked bonds and sustainable supply chain finance for large-scale greenhouse gas reduction projects, offer supply chain financial solutions by partnering with major clients to help SME suppliers access lower-interest loans more easily, and support funding access for businesses that need to invest in carbon intensity data preparation, verification, and production process improvements to reduce greenhouse gas emissions. Secondly, banks should serve as sustainability advisors by helping assess the financial impact of CBAM and analyzing the costs of reducing greenhouse gas emissions to enable clients to select the most cost-effective technology investments. At the same time, banks must integrate ESG factors and transition risks into their credit assessment criteria to mitigate risks to the bank's own loan portfolio, which may be impacted if clients cannot adapt. Finally, banks should play a role in supporting the carbon credit ecosystem and clean energy markets by supporting voluntary greenhouse gas reduction projects to help businesses become familiar with carbon pricing mechanisms, which will serve as an important foundation when the Thai government implements mandatory carbon taxation in the future.

**Sources:** [European Commission](#), Ministry of Commerce, Office of SMEs Promotion, Federation of Thai Industries, Office of Customs Affairs, Royal Thai Embassy Brussels, Puey Ungphakorn Institute for Economic Research, Chulalongkorn University, TDRI, BangkokBizNews [1](#) [2](#), Thansettakij [1](#) [2](#), [Moneyandbanking](#)

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6

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## Appendix: Embedded Emissions Calculation Methodology for CBAM

Embedded Emissions under CBAM refers to the total greenhouse gas emissions that occur from the raw material input stage to the point where CBAM goods are ready for export, excluding transportation and end-use. This differs from Carbon Footprint of Products (CFP), with specific requirements as follows:

- **Verify Product Code (CN Code):** Must verify whether the product is covered under CBAM
- **Calculation Formula:**

**CBAM Embedded Emissions (tCO2e) = Direct Emission**

+ Indirect Emission (from electricity use)  
+ Precursor (emissions from materials used in the production process)

- **Calculation Scope:** Products are divided into 2 categories:
  - **Simple goods:** Calculate from Direct Emission (Scope 1) + Indirect Emission (Scope 2).
  - **Complex goods:** Calculate from Direct Emission (Scope 1) + Indirect Emission (Scope 2) + Precursor.
- **Report Only Specified Gases:** Not required to report all 7 types of greenhouse gases as with CFP.

CBAM Goods	Greenhouse Gases to be Reported	Examples of Activities in Scope 1
Iron and Steel	Carbon Dioxide (CO <sub>2</sub> )	Fuel combustion, steel production processes (smelting, hot rolling)
Cement	Carbon Dioxide (CO <sub>2</sub> )	Fuel combustion, lime calcination
Aluminum	Carbon Dioxide (CO <sub>2</sub> ) and Perfluorocarbons (PFCs)	Fuel combustion, Anode effect
Fertilizers	Carbon Dioxide (CO <sub>2</sub> ) and Nitrous Oxide (N <sub>2</sub> O)	Ammonia production, Nitric acid (N <sub>2</sub> O emissions)
Hydrogen	Carbon Dioxide (CO <sub>2</sub> )	Steam Reforming (high CO <sub>2</sub> emission)
Electricity	Carbon Dioxide (CO <sub>2</sub> )	กระบวนการผลิตไฟฟ้า

Source: [WOLQE EU CBAM](#), Federation of Thai Industries