

Implications of the EU Carbon Border Adjustment Mechanism for the ASEAN's Industries

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SYNOPSIS

The commencement of the European Union (EU) Carbon Border Adjustment Mechanism (CBAM) marked a pivotal step within the EU's Fit for 55 legislative package. Given its potential impacts on industries with substantial carbon footprints, particularly those susceptible to carbon leakage, ASEAN nations are closely monitoring the emerging trade regime and studying its possible implications. The CBAM's focus on carbon reduction and technological advancements has garnered considerable attention from diverse stakeholders. This Policy Brief delves into the implications of CBAM for ASEAN countries' industries, particularly the manufacturing sector, and provides a perspective on the future course of profound decarbonisation in the region.

KEY POINTS

- The impacts of CBAM are likely to vary across ASEAN countries as some industries and countries are relatively more exposed to the CBAM.
- ASEAN firms may not face the immediate competitiveness pressures of their EU counterparts, but the financial burden would increase as the export volume expands and the CBAM coverage extends.
- CBAM could motivate firms in ASEAN to embark on the path of deep decarbonisation and governments to launch domestic or regional carbon pricing schemes.
- CBAM needs to be viewed as a driver of green infrastructure development instead of a discriminatory trade barrier.

INTRODUCTION

Since the time when committing to reducing its greenhouse gas (GHG) emissions by 8% during the first commitment period (2008-2012) of the Kyoto Protocol, adopted in 1997, the European Union (EU) has been a frontrunner in global efforts to combat climate change with tightening its GHG reduction targets several times. In 2022, the EU strengthened its climate mitigation action by adopting the Fit for 55 package, which aims to reduce net GHG emissions by at least 55% by 2030 from the 1990 levels. It is more ambitious than the previous 40% reduction target. Carbon Border Adjustment Mechanism (CBAM), launched on 1 October 2023, stands as a pivotal component in this new legislation.

The implementation of the EU CBAM (hereafter, CBAM) is expected to affect international trade patterns and landscape by putting carbon prices on imported goods into the EU. Given that international trade is a major driver of global GHG emissions due to the massive embodied emissions in the exports and imports of goods, CBAM could play a role in reducing trade-related GHG emissions by accelerating decarbonisation in exporting countries. On the other hand, CBAM could generate economic loss in exporting countries that are not ready for deep decarbonisation or do not have carbon pricing schemes. [According to the ASEAN Statistical Yearbook 2022, Trade accounted for 40-50% of ASEAN's gross domestic product \(GDP\) between 2012 and 2021, and the EU has been the third-largest](#)

[export market for ASEAN goods since 2015](#). Thus, understanding the implications of CBAM for ASEAN economies is of great importance.

ANALYSIS

Rationale Behind the Introduction of CBAM and Its Implementation Plan

CBAM was not designed to be a trade barrier. As the revised EU Emissions Trading System (ETS) Directive specified the gradual decrease and ultimate phase-out of free allowances in the EU ETS phase 4, concerns over a loss of competitiveness for EU firms and the risk of carbon leakage emerged. CBAM, a carbon price on carbon-intensive goods, was introduced to address these concerns. CBAM requires the importers to purchase certificates representing embedded emissions in the goods. The cost of certificates will be linked to the weekly average price of the EU Allowances (EUA). If a carbon pricing scheme has been used on the goods in the exporting country, there would be proportional adjustments. By assigning a carbon price to imports based on their associated carbon contents, CBAM aims to level the playing field by taxing foreign productions that are not covered by equivalent carbon pricing, thus reducing the risks of carbon leakage. The role of CBAM could, however, extend beyond addressing carbon leakage. It could serve as a tool to incentivise firms and countries to adopt ambitious climate policies and contribute to the worldwide effort to mitigate climate change.

CBAM initially covers the six energy-intensive sectors at high risk of carbon leakage, namely aluminium, cement, electricity, fertilisers, hydrogen, and iron and steel. These sectors are vital contributors to the EU's industrial landscape and are significant sources of GHG emissions. At this moment, it is unclear whether the CBAM coverage would be extended to other energy-intensive sectors. However, there is a possibility that plastics and organic chemicals, which had been included in the original proposal, might be added to the regulated goods in the future. On the contrary, less energy-intensive sectors such as agriculture and textiles will likely be exempted.

The transitional phase began in October 2023 and will last until December 2025. During this phase, the importers are not required to pay

carbon prices. Instead, they are required to submit quarterly CBAM reports containing the total quantity of goods imported, their embedded direct and indirect emissions, and the carbon price due in the country of origin. The EU will use this transitional phase as an opportunity to gather information from stakeholders and engage in dialogue with its trading partners to encourage the adoption of comparable carbon pricing mechanisms or equivalent measures. This diplomatic dimension underscores the EU's commitment to fostering a global approach to climate action.

Short-term Economic Implications of CBAM for the ASEAN's Industries

ASEAN economies have significant trade ties with the EU. However, the impacts of CBAM are likely to vary across the region as some countries are relatively more exposed to the CBAM than others due to their large volume of exports of CBAM goods and high carbon intensity. In general, among ASEAN member states, Indonesia, Malaysia, and Vietnam are more likely to be impacted by CBAM. Cambodia, Lao PDR, Myanmar, and Singapore will likely experience limited impacts since their main exports to the EU, such as agricultural products, textiles, footwear (Cambodia, Lao PDR, Myanmar), organic chemicals and pharmaceutical products (Singapore) are not yet covered under CBAM. This section analyses ASEAN countries' export trend of CBAM goods to the EU based on the [EU Access2Markets dataset](#).

Aluminium: Aluminium exports from Indonesia, Malaysia, and Vietnam to the EU have shown fast growth. Malaysia's aluminium metal exports to the EU reached EUR 322 million in 2022, double the pre-pandemic value (in 2019). Vietnam and Indonesia have also demonstrated accelerated export growth in recent years, valued at EUR 286 million and EUR 103 million in 2022, respectively.

Cement: Vietnam has exhibited a distinctive U-shaped trajectory in cement exports to the EU over the past five years. Experiencing a robust rebound since 2020, Vietnam concluded the last two years with cement export values of EUR 12 million and EUR 19 million. Malaysia's exports showed steady decline between 2018

and 2021 but nearly doubled in 2022 from EUR 6.5 million to EUR 11.6 million.

Fertilisers: Geopolitical factors, such as Russia-Ukraine war, seem to have played an important role in accelerating exports of fertilisers to the EU. In 2022, while the EU's fertiliser imports from Ukraine fell from EUR 281 million to EUR 191 million, those from Vietnam, Indonesia, and Malaysia reached record highs, valued at EUR 31 million, EUR 21 million, and EUR 20 million, respectively.

Hydrogen: The export of hydrogen to the EU has become notable in Vietnam and Malaysia. Vietnam experienced a remarkable growth from EUR 38 million in 2021 and EUR 130 million in 2022. Malaysia's hydrogen exports have also steadily grown until reaching a total export value of EUR 58 million in 2022. In addition, hydrogen stands out as Singapore's most prominent export to the EU among the CBAM-covered sectors, amounting to approximately EUR 9 million annually.

Iron and Steel: The steel industry, mainly concentrated in Vietnam, Indonesia, and Malaysia, is the most CBAM-exposed industry in ASEAN. Iron and steel are major contributors to these three countries' overall export values. As traditional pivotal players in ASEAN's steel production, these countries have witnessed a resurgence in steel sector exports to the EU. Exports from Vietnam and Indonesia increased by 542% and 203% in 2022 compared to pre-pandemic levels in 2019, resulting in steel exports surpassing EUR 2 billion and EUR 1.2 billion, respectively. Malaysia has also experienced a significant uptick in 2022 compared to pre-pandemic levels, with export growth of about 115%, valued at about EUR 647 million.

Such huge increases might be attributed to the ASEAN's growing steel production capacity and the challenges that EU steel industry faces. The rapid expansion of Chinese investments into the region's steel industry since 2017 has led to overcapacity in the ASEAN steel industry. Although domestic demand remains strong as steel is an essential input for infrastructure and industrial development, it may not be adequate to absorb all the excess capacity. In this sense, a strategy for the ASEAN steel industry is to look for new markets.

Meanwhile, the EU steel producers are subject to compliance costs in the EU ETS as well as abatement costs that are necessary to develop breakthrough technologies required to fulfil emission reduction targets. Hence, [there has been almost a 12% decline in crude steel output between 2013 and 2022. By contrast, imports of finished steel products have increased 65% over the same period, although the imports still accounted for only 0.02% of total output in 2022. Vietnam was among the top ten exporters of finished steel products to the EU in 2021.](#)

Despite the impressive growth in steel exports to the EU in value terms, the share of steel exports to total exports to the EU stands at just 5.2%, 3.9% and 1.8% for Indonesia, Vietnam and Malaysia, respectively. The shares of other CBAM-exposed sectors in total exports are below 1%. Therefore, the impact of CBAM on ASEAN exports may not be significant in the short run.

What Can ASEAN Countries Do More to Minimise the Impacts of CBAM?

The above discussion highlights that ASEAN firms may not face the immediate competitiveness pressures of their EU counterparts. Even with CBAM, ASEAN exporters are still likely to be competitive as a small share of their output is subject to CBAM costs. Assuming a carbon price of EUR 100 per tonne of carbon dioxide and no adjustment for paid carbon prices, the CBAM levy imposed on ASEAN steel exports is estimated to be EUR 592 million, which is about 15% of the value of ASEAN steel exports to the EU in 2022. However, the financial burden will increase as the export volume expands and the CBAM coverage extends. Also, if the ASEAN manufacturing sector retains its high carbon intensity and cannot offer carbon pricing certificates, it may lose competitiveness in the European market in the long run because the European importers will likely select low-carbon products from other countries.

One of the rationales for implementing CBAM is encouraging non-EU countries to decarbonise their industries. Thus, from a long-run perspective, CBAM could motivate firms in ASEAN to embark on the path of deep decarbonisation to avoid the high compliance costs with CBAM. It will become more essential

as carbon prices are likely to increase in the EU ETS with the phasing down of free allowances. Technology and finance are critical issues in this context. From a technology perspective, renewable-based electricity and heat supply combining low-carbon hydrogen and carbon capture, utilisation and storage could be a powerful option for decarbonisation. Regarding iron and steel manufacturing, the expansion of scrap-based steel production could be a decarbonisation option. Further, the demand for high-strength steel products could promote energy efficiency in downstream sectors such as automobiles by reducing vehicle weight. From a financial standpoint, the recently launched Just Energy Transition Partnership (JETP), which aims to mobilise finance for accelerating the shift to clean energy in developing countries, could be a viable option to facilitate the decarbonisation of the industry in ASEAN as Indonesia and Vietnam are significant beneficiaries of this initiative. Foreign direct investment also could play an important role in this context.

ASEAN countries can also minimise the impacts of CBAM by facilitating their carbon markets. The ASEAN governments could set up domestic or regional carbon pricing schemes. If ASEAN exports have already paid for their embedded carbon emissions in their origin countries, they would not need to pay or would pay a reduced CBAM levy depending on the paid carbon price to avoid double carbon taxation. Furthermore, governments could use revenue from carbon pricing to promote and support the decarbonisation of companies. In addition to such compliance markets led by the government, ASEAN companies could also offset their carbon footprint by purchasing carbon credits in the voluntary carbon market if CBAM allows it. Accumulated experience in compliance and voluntary carbon markets will help ASEAN firms build the capacity for carbon accounting and relevant reporting that CBAM requires.

CONCLUSION

The implementation of CBAM may disrupt international trade and create trade tensions with exporting countries that do not have equivalent carbon pricing mechanisms. Nevertheless, in the long-term, CBAM could be an effective tool to foster decarbonisation in the hard-to-abate industrial sectors in ASEAN.

The demand for CBAM goods will likely remain high as they are essential inputs for other economic activities. Therefore, ASEAN countries must view CBAM as a tool to promote deep decarbonisation and carbon neutrality while achieving higher export and economic growth. CBAM could also be viewed as a driver of green infrastructure development.

To this end, both the public and private sectors need to cooperate to develop innovative strategies to thrive in the emerging global trade regime and decarbonisation trends. The Green Public Procurement Pledge, announced at COP 28, which aims to promote low-emission steel, cement and concrete in public buildings and infrastructure, is a step in this direction. Access to finance is also crucial as significant investments are required to scale up clean technologies in the hard-to-abate sectors.

WHAT TO LOOK OUT FOR

- The European Commission's CBAM transitional period review in 2025.
- Development of carbon pricing regimes in ASEAN.
- Pathways to technological innovation and financial viability in the context of CBAM.

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