

The ASEAN's Green Trade Policy in Response to EU CBAM: A Comparative Study of Indonesia and Vietnam

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Abstract. The European Union's Carbon Border Adjustment Mechanism (CBAM), part of the "Fit for 55" package, embeds carbon accountability into global trade. This study examines how Indonesia and Vietnam, two ASEAN member states, respond to CBAM through differing green trade strategies. Based on qualitative document analysis (2019–2025), it finds that Vietnam has taken a proactive approach, introducing emissions monitoring, pilot Emissions Trading Systems (ETS), and clean energy investments, spurred partly by the EU-Vietnam Free Trade Agreement (EVFTA). Conversely, Indonesia's response remains fragmented, constrained by fossil fuel reliance, delayed carbon tax implementation, and institutional challenges, despite involvement in the Just Energy Transition Partnership (JETP). The paper also explores ASEAN's emerging but limited institutional response, such as the ASEAN Taxonomy for Sustainable Finance and the ASEAN Strategy for Carbon Neutrality. Though largely aspirational, proposals for an ASEAN CBAM Task Force and regional carbon market suggest growing momentum for policy coordination. Using theories of regulatory diffusion and complex interdependence, the study argues that ASEAN's collective action is key to harmonizing national policies, reducing trade frictions, and improving regional competitiveness. This research contributes to discussions on green industrial policy in the Global South and highlights the role of regional organizations in navigating transnational climate rules.

Keywords: Carbon Border Adjustment Mechanism (CBAM), Green Trade Policy, ASEAN Climate Governance

1 Introduction

The introduction of the European Union's Carbon Border Adjustment Mechanism (CBAM), part of the "Fit for 55" package, signals a new regulatory era at the intersection of climate governance and trade. By pricing embedded emissions in imports of carbon-intensive products (e.g., steel, cement, aluminum), CBAM marks a normative shift where trade embodies carbon accountability. For Southeast Asian developing economies, this introduces not only regulatory challenges but strategic inflection points in global supply chains.

Indonesia and Vietnam, both ASEAN members with strong export linkages to the European Union, are positioned at the frontline of CBAM-related trade and regulatory pressures. As major exporters of carbon-intensive and energy-dependent products, both countries face increasing scrutiny over the emissions embedded in their industrial outputs. Vietnam has responded proactively by aligning its trade and climate governance through the EU-Vietnam Free Trade Agreement (EVFTA), institutionalizing emissions monitoring,

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renewable energy targets, and a roadmap for a national Emissions Trading System. In contrast, Indonesia's policy trajectory remains fragmented, constrained by its continued dependence on coal, delayed implementation of carbon pricing instruments, and regulatory fragmentation across sectors [1]. These responses highlight ASEAN economies' varied capacity to internalize climate trade norms.

This research responds to an urgent policy and scholarly gap: how Southeast Asian economies, particularly Indonesia and Vietnam, recalibrate their trade and environmental governance in response to external climate regulations such as CBAM. Despite CBAM's anticipated impacts, little is known about the differentiated responses among ASEAN states or the role of ASEAN itself as a regional platform in coordinating green trade policy. Although the literature on climate diplomacy and regulatory diffusion has expanded in recent years [2], most existing studies focus on bilateral or EU-centered perspectives, overlooking how regional groupings like ASEAN mediate external regulatory pressures and internal governance asymmetries.

This paper seeks to fill that gap by situating ASEAN's evolving green trade governance within the frameworks of complex interdependence and regulatory diffusion [3]. Specifically, the research addresses the following questions: (1) How have Indonesia and Vietnam's green trade policies evolved in response to the EU CBAM? (2) What role does ASEAN play as a coordinating platform for its member states in adapting to CBAM-related pressures? These questions help assess policy convergence in Southeast Asia and the capacity of regional organizations in the Global South to influence trade-environment regimes.

The novelty of this research lies in its dual-level analysis: comparing national-level policy adaptation in two key ASEAN states, while also critically evaluating ASEAN's institutional role in shaping regional responses to external environmental trade norms. Unlike previous studies that focus on state-to-state climate diplomacy or unilateral trade measures, this paper highlights the strategic importance of regional coordination in mitigating trade fragmentation and aligning with global sustainability transitions. Moreover, by bringing CBAM into the analytical conversation on ASEAN's regulatory cohesion and green diplomacy, the paper opens new pathways for research on a trade-climate interface in middle-income and transitional economies.

By drawing on qualitative document analysis, policy reviews, and theoretical insights from international political economy, this study contributes to emerging debates on how global regulatory innovations, such as CBAM, reshape environmental governance beyond the North. The following section outlines the methodological approach and data sources used in this comparative analysis.

2 Research method

This study applies a qualitative comparative case study approach, focusing on Indonesia and Vietnam as divergent responses to the EU's Carbon Border Adjustment Mechanism (CBAM) [4]. Data were primarily collected through document analysis, appropriate for tracing policy evolution, regulatory discourse, and institutional responses over time [5]. The study population consists of policy instruments and trade–climate governance documents (2019–2025), purposively sampled to include revised Nationally Determined Contributions (NDCs), carbon pricing legislation (e.g., Indonesia's Law No. 7/2021, green industrial strategies (e.g., Vietnam's VGGs and Decision 882/2022), sectoral action plans, ASEAN's Strategy for Carbon Neutrality, the ASEAN Taxonomy for Sustainable Finance, and ASEAN–EU climate joint statements. Supplementary sources include Eurostat and national customs trade data, policy briefs (IGES, UNCTAD, IEA), and peer-reviewed articles on regulatory convergence and green trade in Southeast Asia.

Data were analyzed using thematic content analysis, guided by theoretical frameworks of regulatory diffusion [2] and complex interdependence [3]. Documents were coded into four categories: CBAM vulnerability, national policy adaptation, ASEAN coordination, and EU engagement. This approach identified patterns, gaps, and rhetorical versus substantive responses to CBAM. Following interpretive policy analysis traditions, no ethical review was needed as no human subjects were involved. Using only public documents enhances replicability for future studies. Only contextual adaptation for ASEAN–EU trade was applied. To strengthen validity, triangulation used firm-level reports and emissions data (e.g., Krakatau Steel, SIG, Vietnamese SMEs). While not primary sources, these materials supported findings and linked regulatory frameworks to industry-level adaptation.

3 Results and Discussions

This section presents the findings from the document analysis, structured around two core themes: (1) national responses to CBAM in Indonesia and Vietnam, and (2) the role of ASEAN in coordinating regional adaptation. Each subsection integrates empirical findings with interpretive insights to ensure clarity and coherence.

3.1 Diverging National Responses to EU CBAM: Indonesia and Vietnam

The comparative analysis reveals significant divergence in how Indonesia and Vietnam are responding to the emerging pressures of the EU CBAM. These national-level divergences reflect broader patterns in Southeast Asia, where sectoral green economy initiatives, particularly in tourism and creative industries, have gained momentum as drivers of sustainable development and policy innovation [6]. Vietnam has adopted a coordinated regulatory approach, issuing Decision 882/2022 to establish MRV systems for carbon-intensive sectors by 2025, and preparing a pilot ETS alongside potential carbon taxation. Programs like VNEEP 3 aim to cut energy use by 8–10% by 2030, while renewable energy capacity reached 16.5 GW (solar) and 11.8 GW (wind) by 2021. These measures are supported by international financing, including a €142 million grant from the EU for clean energy and energy efficiency development [2].

Indonesia, by contrast, has pursued a more cautious and fragmented strategy. While the 2021 Harmonized Tax Law introduced a carbon tax of Rp30,000 per kg CO₂ (~US\$2.1 per ton), its implementation has been delayed and remains narrowly focused on coal-fired power plants. Despite a US\$20 billion JETP pledge, only US\$280 million was disbursed by 2025, mostly in the form of loans. Compounding these limitations, a 2024 revision to the National Energy Plan (RUEN) downgraded the country's renewable energy target, reflecting persistent reliance on fossil fuels. Table 1 summarizes key areas of policy response by both countries.

Table 1. Comparative Policy Responses to EU CBAM (as of 2025)

Source: MONRE Vietnam, IRENA, Government of Indonesia, and JETP.

Policy Area	Vietnam	Indonesia
Carbon Pricing	ETS by 2025; exploring carbon tax	Carbon tax (Rp30,000/kg CO ₂), delayed
MRV System	Mandatory by 2025 (steel, cement, aluminum)	Not yet standardized
Renewable Energy Targets	21–39% of the energy mix by 2030	Downscaled in the 2024 revision
External Climate Finance	€142M EU grant; major RE FDI	US\$280M JETP loans disbursed
Policy Instruments	VGGs, Decision 882/2022, VNEEP 3	NDC revision, JETP, HPP Law

Vietnam's alignment with CBAM compliance requirements is shaped by its exposure to EU trade norms and the incentives embedded in bilateral agreements such as the EVFTA. Indonesia, however, faces greater constraints due to fossil fuel subsidies, political economy pressures, and slower institutional reform.

Vietnam's textile and electronics industries, the country's leading export sectors, face moderate direct CBAM risk today (CBAM initially covers metals and cement), but their upstream supply chains (fibers, electronics components) are carbon-intensive. For example, Vietnam's textile sector (US\$39.7 billion in exports in 2023) relies on energy-intensive processes (dyeing, finishing) and fossil-fueled electricity. Recent analyses find Vietnam's exports have very high carbon intensity (on the order of 0.7–1.4 kg CO₂ per US\$ exported in key markets) [7]. Electronics manufacturing is also energy- and resource-intensive (notably in semiconductor fabrication), and Vietnamese firms report difficulty tracking Scope-3 emissions along global supply chains. On the positive side, Vietnam has rapidly expanded renewables: its 2024 Power Development Plan raises the 2030 non-hydro renewables target to 21% of capacity and trims coal's share from 52% to 43%. Large-scale solar and wind projects are online or planned, supported by foreign investment (e.g., JETP funding ~US\$15.5 billion [8]). These shifts lower future CBAM burdens. Nevertheless, MRV and carbon accounting remain nascent: Vietnam has only a few pilot ETS/quota systems slated (power, steel, cement to be quota-covered by 2025 [9]), and most SMEs lack emissions reporting capability.

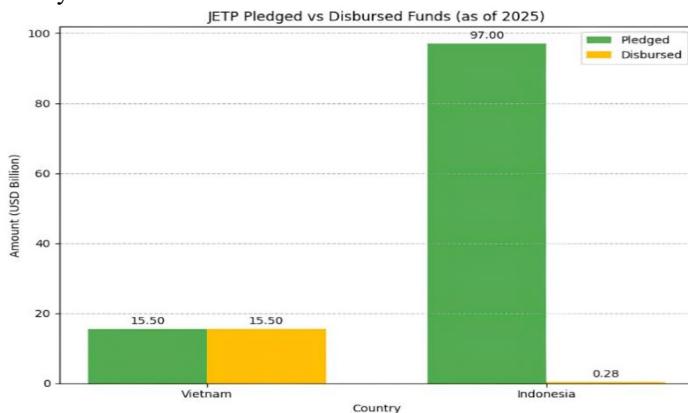


Fig. 1. Disbursed JETP Financing in Indonesia and Vietnam (as of 2025) **Source:** JETP.

Indonesia's steel and cement sectors are directly subject to CBAM (accounting for ~6–7% of global CO₂) and are primary export earners. Both industries are highly carbon-intensive (blast furnaces and kilns fueled by coal) and rely on old, inefficient plants. Indonesian steelmakers (e.g., Krakatau Steel) have announced long-term decarbonization roadmaps (e.g., 33% CO₂ reduction by 2030, carbon neutrality by 2060), and PT Semen Indonesia (SIG) is rapidly adding renewables, e.g., a 6.4 MW rooftop solar plant at Tuban and using biomass to displace coal. Nonetheless, policy constraints are severe: Indonesia's planned carbon tax on coal plants has been postponed to 2025, and coal still fuels most power generation (>60%), driving industrial emissions. The new IDXCarbon market (launched Sep 2023) is voluntary and limited in scope. Overall, Indonesian firms face high CBAM costs but limited domestic carbon pricing or MRV infrastructure to offset them.

This divergence reflects not only policy approaches but also deeper structural differences in both countries' economic and energy profiles. Vietnam's export sector is dominated by light manufacturing (textiles, electronics) with growing integration into low-carbon global supply chains, supported by rapid renewable energy deployment, solar and wind accounted

for over 30% of new capacity additions in 2023 [10]. Indonesia, conversely, relies heavily on carbon-intensive industries such as cement and steel, which combined contribute to approximately 40% of its manufacturing emissions [11]. Indonesia's electricity grid remains over 60% coal-based, whereas Vietnam has reduced coal's share to below 43% by revising its Power Development Plan. These fundamental differences shape each country's regulatory readiness for CBAM compliance: Vietnam can leverage cleaner electricity and bilateral trade agreements like EVFTA to meet EU carbon standards, while Indonesia faces higher adjustment costs due to its fossil fuel dependency and delayed carbon market implementation. The analytical contrast between the two pathways highlights the policy challenges ASEAN faces in harmonizing green trade strategies across diverse energy economies.

Vietnam's renewable shift contrasts with Indonesia's continued coal reliance. Regulatory diffusion from the EU's CBAM pushes both governments to align with EU-style standards, yet responses diverge: Vietnamese firms increasingly adopt proactive compliance, accelerating pilot ETS programs and emissions reporting for over 1,900 entities by 2026, while Indonesian initiatives remain largely voluntary and delayed. This reflects proactive decarbonization in Vietnam versus cautious, resistant adaptation in Indonesia.

Table 2. Comparative CBAM Metrics: Vietnam and Indonesia.

Metric	Vietnam	Indonesia
<i>Export carbon intensity</i>	0.7 kg CO ₂ / US\$ (exports; e.g. to ASEAN)	(est.) 0.5–0.8 kg CO ₂ / US\$ (heavy export sectors)
<i>Clean energy investment</i>	US\$15.5 billion (JETP pledge)	US\$97 billion (JETP expected)
<i>MRV/ETS status</i>	Pilot ETS (quota system) by 2025; major exporters must report by 2026	No mandatory ETS yet; voluntary IDXC Carbon launched (2023); coal tax deferred to 2025

Source: JETP, IEA, SIG, EARTH

Both countries' current policies have mixed strengths. Vietnam's advantage lies in aggressive renewable targets and emerging carbon regulations (e.g., quota system for power/steel/cement in 2025) and active engagement with EU resources. However, implementation gaps (e.g., weak enforcement of quotas) and reliance on residual coal capacity may blunt CBAM mitigation. Indonesia has not yet embedded carbon costs domestically, making CBAM a novel "wake-up call". Its strengths include abundant solar potential and large-scale international financing (JETP). The key policy weaknesses in both are the absence of a firm national carbon price and incomplete MRV systems.

To mitigate CBAM risk and regional leakage, policymakers could pursue cooperative approaches. For example, an ASEAN carbon club could harmonize standards and create a regional ETS pilot (building on initiatives like the ASEAN Taxonomy framework). Cross-border cooperation on MRV (e.g., mutual recognition of emissions audits) would reduce duplicative reporting. Joint pilot projects or EU-supported ETS pilots (as in the JETP frameworks) could demonstrate low-carbon industrial processes. In particular, targeted support for high-emitters, such as credit lines for clean tech in cement and steel, or subsidies for textile firms' energy-efficient equipment, would shift industry from "resistant adaptation" to proactive decarbonization. Overall, aligning national climate strategies (regulatory diffusion) and offering clear signals (domestic carbon pricing, compliance roadmaps) should help both Vietnam and Indonesia turn CBAM from a trade barrier into an impetus for green competitiveness.

Evidence from firm-level actions reinforces the broader policy divergences between Indonesia and Vietnam. In Indonesia, Krakatau Steel has published a decarbonization roadmap targeting a 33% CO₂ reduction by 2030, while PT Semen Indonesia has commissioned a 6.4 MW rooftop solar installation and adopted biomass co-firing to reduce emissions intensity in cement production. However, these initiatives remain voluntary and not yet embedded in a national carbon pricing framework. By contrast, in Vietnam, CBAM readiness among small and medium-sized exporters, particularly in the textile sector, has been supported through EU-sponsored training programs and industry-level capacity building. Although MRV capacity remains limited among SMEs, this institutional engagement indicates an early strategic alignment with CBAM requirements. These cases illustrate that, while national policy is a critical enabler, firm-level compliance behaviors also reflect varying degrees of regulatory diffusion and market-driven adaptation across ASEAN.

The inclusion of such micro-level evidence offers empirical triangulation to the document-based analysis and suggests that CBAM pressures are already shaping not just high-level policy discourse but also investment and reporting practices at the corporate level. However, the extent and pace of this adaptation remain uneven and contingent on access to climate finance, technical capacity, and the credibility of domestic carbon governance systems.

3.2 ASEAN's Limited but Emerging Role in Regional CBAM Coordination

The ASEAN Carbon Neutrality Strategy (2023) and Taxonomy for Sustainable Finance mark early steps toward a regional green trade framework. ASEAN–EU Joint Statements on Climate Change (2022 and 2023) also reflect growing awareness of the link between trade and environmental standards. These documents emphasize emissions monitoring (MRV), climate finance cooperation, and regulatory convergence, yet stop short of imposing binding commitments. ASEAN's institutional design, particularly its reliance on consensus and non-interference, continues to limit deeper harmonization of carbon-related trade policies [12].

Nonetheless, there are growing opportunities for ASEAN to play a more coordinated role. Policy proposals such as an ASEAN CBAM Task Force and the ASEAN Zero Emissions Community (AZEC) suggest a willingness among member states and policy communities to institutionalize climate-trade governance. Emerging initiatives may strengthen ASEAN's coherence in engaging the EU, advancing MRV and carbon pricing harmonization, and enhancing its leverage in global green trade negotiations. Though still nascent, these developments provide a foundation for deeper regional integration. Subnational actions can also reinforce ASEAN's decarbonization goals through bottom-up governance structures [13].

Despite its current limitations, ASEAN could evolve into an effective platform for regional CBAM adaptation through several practical steps: promoting mutual recognition of low-carbon certifications, providing technical assistance to less developed members, and facilitating South–South knowledge exchange on carbon governance. If implemented effectively, these measures could strengthen ASEAN's role not only as a trade bloc but also as a climate governance actor capable of shaping global sustainability norms.

3.3 Scenario-Building and Long-Term Pathways for ASEAN CBAM Adaptation

Building on Section 3.2's analysis of divergent strategies in Indonesia and Vietnam, this subsection explores potential CBAM sectoral expansion and ASEAN's long-term capacity for coordinated adaptation. The European Commission has indicated intentions to extend CBAM coverage beyond current carbon-intensive industries to include textiles and electronics by 2027–2030 [14]. These sectors are crucial to ASEAN economies, accounting

for approximately USD 39.7 billion (27%) of Vietnam's exports and 12% of Indonesia's manufacturing GDP [15]. Lifecycle assessments estimate that carbon-intensive exports from ASEAN, such as textiles and electronics, could result in up to €3.2 billion in annual CBAM costs by 2030, due to emission levels of 0.7–1.4 kg CO₂ per USD of export value.

Institutional fragmentation within ASEAN compounds these challenges. Vietnam's planned pilot Emissions Trading System (ETS) for 2025 aligns closely with EU MRV requirements, while Indonesia's voluntary IDXCarbon market, launched in 2023, lacks robust, enforceable reporting mechanism. Such asymmetries create compliance inefficiencies for small and medium-sized exporters operating across multiple ASEAN jurisdictions.

To mitigate these risks, a phased approach toward establishing a unified ASEAN carbon market is recommended. A phased approach is proposed: bilateral credit recognition (2025–2030), regional Carbon Club with minimum carbon price (2030–2035), and eventual ASEAN-wide ETS post-2035 to enhance market liquidity and negotiate EU equivalence. This gradual integration pathway balances national sovereignty considerations with the collective need for regional climate-trade resilience, enhancing market liquidity and positioning ASEAN to negotiate more effectively for CBAM exemptions or equivalence recognition in the long term.

3.4 Policy Recommendations for ASEAN and National Adaptation to CBAM

The EU's CBAM presents an opportunity for ASEAN to accelerate decarbonization through coordinated regional strategies and targeted national reforms. ASEAN could benefit from an "ASEAN Carbon Club" or similar forum to align policies, develop joint positions on CBAM design, and engage the EU. Building on the COP28 Climate Club, ASEAN should promote flexibility, including recognition of non-tax decarbonization measures. Harmonizing MRV across member states would reduce compliance costs and increase the credibility of ASEAN's emissions data. Indonesia and Vietnam, for example, could align registries with ISSB/ISO standards, adopt shared protocols for energy audits and pool verifier training. In the long run, linked MRV registries could certify credits and track CBAM data, improving market liquidity. ASEAN should also pilot a regional ETS or credit exchange to enhance scale and price stability. Indonesia's power-sector ETS (covering 37% of capacity) could link to voluntary markets in Thailand or Malaysia. Even a basic intra-ASEAN offset scheme could lay the foundation for a more integrated carbon market.

Indonesia has introduced a carbon tax on coal and a sector-specific ETS for coal-fired power plants, but the current price remains low (US\$0.8/tCO₂ in auctions and applies only to electricity). For carbon pricing to be effective, it must follow a credible price path and expand to high-emitting sectors such as cement and steel, which remain unpriced. Auctioning permits for these industries would reduce emissions and generate fiscal revenue. An ADB study estimates that CBAM revenue could reach €14 billion by 2030, recommending its use for climate finance in developing countries; Indonesia could adopt a similar approach by allocating carbon-tax revenues to just transition efforts e.g., subsidizing clean technology in heavy industry. A strong pricing regime would not only cut emissions but also enable exporters to prove that carbon costs have been paid, thereby lowering EU CBAM levies. Ensuring credibility, however, requires upgrading the MRV framework and SRN-PPI registry to international standards. Indonesia's carbon market white paper calls for global MRV standards, sectoral guidelines, and verifier training to ensure transparency. The SRN-PPI platform should publish comprehensive project data (as recommended by PwC) and consider blockchain or digital tracking to enhance data integrity. Clear rules on accounting and taxation are also needed to guide emissions reporting in export documents. Enhanced MRV will allow Indonesian exporters to issue CBAM-compliant certificates and help

domestic planners identify priority areas for reduction. As noted by one Indonesian official, aligning registry systems with global norms could attract greater international investment.

In addition, Indonesia must prioritize the decarbonization of its high-emitting industrial base. Heavy industries (steel, cement, and petrochemicals) already contribute roughly 40% of national emission. Without mitigation, these sectors will become significant sources of EU-related carbon costs. The government should therefore launch targeted decarbonization programs. Possible measures include granting tax incentives or concessional financing for upgrades in cement and steel mills (e.g., switching to electric arc furnaces, waste heat recovery, or alternative clinker substitutes). Public investment could help deploy early carbon capture projects in key plants. Development banks (ADB, IFC) could also provide low-interest loans for energy-efficient machinery. These actions would align with IEA findings that material efficiency and CCS are crucial in the cement sector to meet net-zero scenarios.

Vietnam faces a different set of challenges, particularly in enhancing CBAM compliance readiness among small and medium-sized enterprises (SMEs). Vietnam's export economy includes many small and medium enterprises that lack experience in carbon accounting. Policymakers should provide hands-on assistance to these firms. For example, extension centers and industry associations can offer workshops on how to set up emissions databases and calculate embedded carbon in products. As observers note, compliance will require "capacity building and practical experience," and businesses will learn much by piloting initial reporting exercises. The government could subsidize the hiring of sustainability consultants or encourage partnerships with universities for carbon training. Experience from local companies shows that once a firm masters carbon accounting, it can turn compliance into a competitive advantage. Therefore, investing in SME capabilities now will pay off when CBAM reporting is enforced. Over the longer term, accredited training programs and certified consultants could emerge to support all exporters in the carbon-intensive sectors.

Vietnam is also moving forward with the development of its own carbon market, as outlined in Decision 232 issued in early 2025. The pilot ETS is scheduled to begin in mid-2025, with full implementation expected by 2029. It is crucial to target this new policy at sectors most exposed to CBAM and global carbon regulations. Initially, the pilot may focus on power and large industrial sources, but it should rapidly expand to include steel, cement, and fertilizer producers, products already covered by EU CBAM. Beyond that, Vietnam should lay plans to integrate major exporters like textile and electronics factories into future trading or credit requirements, especially if CBAM or similar measures are extended to these sectors. The ETS will strengthen Vietnam's MRV capacity and institutional readiness. For example, GHG inventory reporting under the ETS (mandated from 2025 by an earlier decree) will familiarize companies with emissions accounting. By the time the scheme is fully running, Vietnam can offer compliance "grandfathering" or phased obligations for major exporters, smoothing their transition. In short, scaling up the ETS in a targeted way will both reduce national emissions and give exporters a domestic mechanism to manage their carbon obligations.

4 Conclusion

This study examines how Indonesia and Vietnam, as two major ASEAN economies, have responded to the EU's Carbon Border Adjustment Mechanism (CBAM) through distinct green trade policy trajectories. Vietnam shows proactive alignment with CBAM standards by institutionalizing climate governance via emissions monitoring, energy efficiency, and renewable energy expansion—supported by the EVFTA and foreign clean energy investment. Indonesia, by contrast, exhibits a more cautious approach, shaped by fossil fuel dependence, weak carbon pricing, and institutional fragmentation; despite initiatives like the JETP and carbon tax legislation, persistent implementation gaps heighten the country's

exposure to trade and regulatory risks. At the regional level, ASEAN's engagement remains aspirational: frameworks such as the ASEAN Taxonomy and Carbon Neutrality Strategy signal normative intent but lack binding commitments. However, emerging mechanisms, including the ASEAN CBAM Task Force and the Zero Emissions Community (ZEC), offer pathways for deeper coordination. To effectively navigate the climate–trade nexus, ASEAN must strengthen institutions by harmonizing MRV systems, enabling policy transfer, and presenting a unified voice in EU–ASEAN negotiations. Strengthening national and regional capacity is essential to Southeast Asia's climate–trade resilience.

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