

MAKING CARBON PRICING WORK FOR SOUTHEAST ASIA'S ENERGY TRANSITION

Policy Brief

Prepared by:



UNOPS



AFD
AGENCE FRANÇAISE
DE DÉVELOPPEMENT



Federal Ministry
for Economic Affairs
and Climate Action



Department for
Energy Security
& Net Zero



Environment and
Climate Change Canada
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Changement climatique Canada



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Executive Summary

REGIONAL CONTEXT

Carbon markets offer Southeast Asian countries a strategic tool to align climate goals with economic growth by incentivizing private investment in climate change mitigation and adaptation interventions, while enhancing export competitiveness. In 2023, global revenue from compliance carbon pricing mechanisms exceeded USD 100 billion. Despite being home to 50% of the world's low-carbon opportunities, the Asia-Pacific region has only collected about USD 4.35 billion through compliance carbon markets.^[1]

Despite having carbon markets at various stages of development in the Philippines, Vietnam, and Indonesia, there is no platform for informal peer-driven dialogue to exchange regional best practices. A common challenge to the launch of national carbon markets is fragmented action by national agencies due to conflicting mandates

\$100B+

Global revenue from compliance carbon pricing (2023)

\$4.35B

Revenue collected in APAC region (Underutilized Potential)

APPROACH: LESSONS FROM SPARK

SPARK (Sharing Perspectives to Advance Regional Knowledge on the Energy Transition in Southeast Asia) is an ETP initiative that establishes a regional platform for collaboration, policy innovation, and peer-to-peer learning among policymakers, driving the region's energy transition. In October 2025, 15 government representatives from Vietnam, Indonesia, and the Philippines gathered for the inaugural SPARK Dialogue on carbon markets, held under the Chatham House Rule to enable open and candid exchange with experts. This brief draws on the lessons learned at the SPARK event to 1) map the current state of carbon markets in the three countries, 2) identify common constraints to developing carbon markets, and 3) prescribe recommendations to address these key constraints, including actionable steps for both national governments and international donors to support carbon markets in Southeast Asia.

CONSTRAINTS IDENTIFIED

- Fragmented institutional mandates create overlap between environment, finance, forestry, transport and energy agencies, slowing policy adoption.
- Lack of interoperable national registries and MRV systems limit transparency, traceability, and the ability to trade credits across borders.
- Market confidence is weak, due to inconsistent verification standards, unclear legal definitions of carbon assets, and insufficient safeguards.
- Insufficient technical and operational capacity to operationalize compliance markets, manage digital infrastructure, and ensure data integrity.

RECOMMENDATIONS

- Inter-agency frameworks should consolidate authority and streamline decision-making.
- National systems should adopt strict standards for MRV and social/environmental safeguards.
- Development agencies and banks should direct resources towards capacity building.
- Countries should prioritize developing sovereign controlled, interoperable registries.
- Strategic design should be prioritized to ensure mobilization of finance.

Background

ETS

EMISSIONS TRADING

Sets an **overall cap** on emissions allowing companies to trade allowances for cost effective reductions

Carbon Tax

FIXED PRICING

Places a **fixed price** on each ton of emission to generate predictable fiscal revenue

VCM

VOLUNTARY CARBON MARKETS

Allows **purchase** of certified carbon credits from mitigation projects outside regulatory schemes

Carbon markets are an increasingly vital tool for Southeast Asian countries seeking to achieve their NDCs, attract private investment, and maintain competitiveness under global trade regimes such as the EU's Carbon Border Adjustment Mechanism (CBAM). The International Monetary Fund (IMF) estimates that a carbon price of USD25/tCO₂ gradually implemented over the next decade could generate revenue equivalent to 0.8% of a country's GDP.^[2] Challenges such as integrity issues, inconsistent regulatory frameworks, and a lack of integration with international standards must first be addressed to unlock the benefits of a carbon market in Southeast Asia.

To deliver these benefits, countries typically rely on three types of carbon pricing mechanisms. Emissions Trading Systems (ETS), set by national governments, are an overall cap on emissions and allow companies to trade allowances, driving reductions where they are most cost-effective. Carbon taxes place a fixed price on each ton of emissions, generating predictable fiscal revenue for climate and energy transition programs.

Voluntary carbon markets (VCM) allow companies to purchase certified carbon credits from mitigation projects outside regulatory schemes. These credits are typically issued under international standards such as Verra or the Gold Standard, which provide methodologies and safeguards to ensure emissions reductions are real, measurable, and socially responsible.

These systems increasingly operate alongside international mechanisms: Article 6 of the Paris Agreement, which governs cross-border transfer of mitigation outcomes, and CORSIA, the global aviation offsetting scheme. Both require high-integrity credits and robust national accounting systems, underscoring the need for ASEAN countries to strengthen domestic governance and digital infrastructure as they build their carbon markets.

The Association of Southeast Asian Nations, (ASEAN) is developing a Common Carbon Framework. Collaboration and knowledge sharing between countries are needed to ensure that emerging systems capture this potential economic benefit, while maintaining environmental and social integrity.

Country Mapping

The SPARK Dialogue on Carbon Pricing that was organized in October 2025, aimed to accelerate carbon market adoption in the region by providing an opportunity for knowledge sharing. This brief draws on the information shared at the inaugural SPARK event to provide actionable recommendations that national governments as well as international donors can use to support carbon market development in Southeast Asia. To reach these recommendations, this brief first maps the current status of carbon markets in Vietnam, Indonesia, and the Philippines, then identifies common gaps or barriers to carbon market development. These gaps are analyzed to reach a set of five recommendations, with corresponding action items that directly address the main blockers to carbon market development in Southeast Asia.

Figure 1 shows that, as of September 2025, Indonesia and Vietnam have active emissions trading systems, while Singapore has enforced a carbon tax since 2019. Malaysia, Thailand, and the Philippines are developing or considering carbon pricing policies that could take effect as early as 2026.

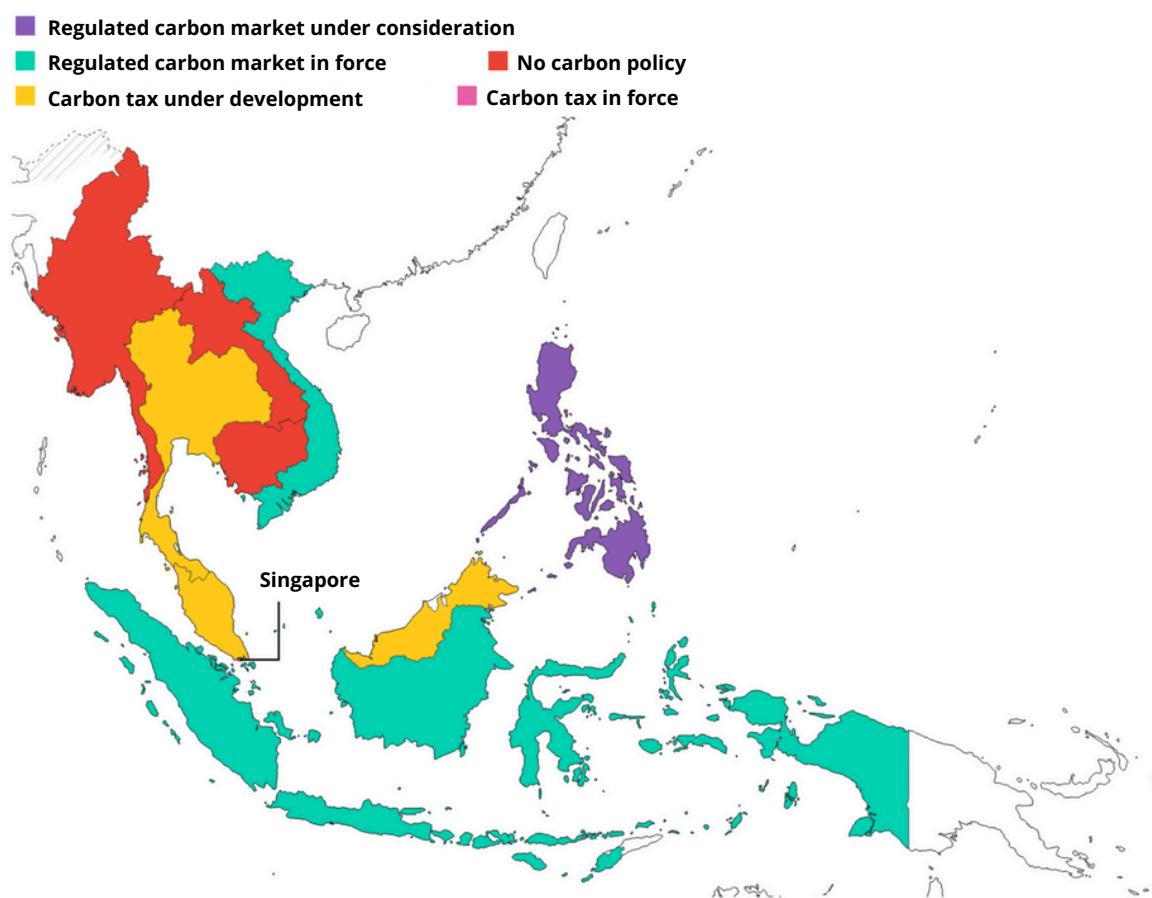


Figure 1: Status of Carbon Policies in Southeast Asia.^[3]

Country	ETS (Emissions Trading System)	Carbon Tax	Voluntary Carbon Market	Key Challenges and Priorities
 Vietnam	<p>Vietnam is preparing a pilot ETS for 2025–2027, under the Law on Environmental Protection (2020) and related decrees. Full implementation is expected by 2028.</p>	<p>A carbon tax is being explored as a complementary tool but has not yet been legislated.</p>	<p>A growing voluntary carbon market is active, particularly in forestry and renewable energy projects, supported by both domestic and international standards.</p>	<ul style="list-style-type: none"> • Operationalizing the legal framework. • Integrating MRV and accounting systems across sectors • Building technical and institutional capacity • Ensuring alignment between Article 6 rules and NDC implementation
 Indonesia	<p>Indonesia has launched an operational ETS for the power sector through the Indonesia Carbon Exchange (IDX) and plans to expand it to other sectors under Regulation 16/2022 published by the Ministry of Energy and Mineral Resources (MEMR).</p>	<p>A broader carbon tax mechanism is in development following initial implementation in 2022, with future alignment planned with ETS pricing.</p>	<p>The voluntary market remains active, especially for nature-based and renewable projects, but lacks consistent regulation and transparent crediting standards.</p>	<ul style="list-style-type: none"> • Fragmented regulatory framework • Need for a national carbon pricing roadmap • Enhancing data transparency • Improving institutional coordination
 Philippines	<p>The Philippines is developing a national ETS framework under the Low Carbon Economy Investment Act (2023) and House Bill 11375, led by the Department of Environment and Natural Resources (DENR).</p>	<p>No carbon tax is currently in place, though fiscal policy options are being discussed as part of broader climate finance reforms.</p>	<p>The voluntary market is expanding, supported by private initiatives and ongoing Article 6.2 collaboration with Singapore.</p>	<ul style="list-style-type: none"> • Strengthening inter-agency coordination • Ensuring data integrity • Building technical capacity • Addressing political and fiscal constraints to implementing pricing instruments

Table 1: A Summary of Carbon Market Development Across the Three Countries

Source: Research by Asia Clean Energy Partners

A review of Table 1 reveals distinct trajectories of market development, as well as several shared challenges and priorities that shape readiness for future compliance and international cooperation.

All three countries are progressing toward ETS systems, but at different stages of implementation. Carbon taxation remains at an early stage and secondary to ETS design in most countries. All three countries exhibit active and expanding voluntary market activity, particularly in forestry, renewable energy, and other mitigation projects. Collectively, this indicates strong regional momentum toward ETS adoption and highlights the importance of activity in voluntary markets as a bridge to future compliance markets.

A review of the Key Challenges and Priorities column reveals several shared barriers across the region.

- Vietnam is focused on operationalizing its legal framework, strengthening MRV systems, and aligning Article 6 implementation with its NDC.
- Indonesia faces a fragmented regulatory landscape, limited data transparency, and the need for a national carbon pricing roadmap.
- The Philippines plans to address coordination gaps, data integrity issues, and political and fiscal barriers to implementing pricing instruments.

Together, these priorities reveal common obstacles: fragmented mandates, insufficient institutional capacity, early-stage registry and MRV systems, and the need for clearer alignment between domestic policies and international mechanisms.

Common Constraints

While Vietnam, Indonesia, and the Philippines are progressing along different carbon market pathways, the mapping exercise highlights a shared set of structural gaps that could limit the credibility, interoperability, and long-term viability of their emerging systems. Across all three countries, early-stage MRV and registry infrastructure, fragmented institutional mandates, uneven data quality, and limited alignment with Article 6 and international standards pose constraints to scaling both domestic ETS frameworks and cross-border cooperation. These cross-cutting barriers form the basis for the following analysis of common constraints that must be addressed to build high-integrity, investment-ready carbon markets in Southeast Asia.



MARKET CONFIDENCE AND INTEGRITY

Strong governance, data integrity, and transparency are the foundations of credible carbon markets. Regional markets must be built on consistent MRV systems, reliable registries, and clear institutional mandates to ensure environmental and social integrity. Integrity extends beyond emissions reduction to include safeguards for biodiversity, community participation, and equitable benefit-sharing.

To build trust in carbon markets, the “3Cs” of Certainty, Clarity, and Consistency are needed.



REGIONAL COOPERATION AND POLICY ALIGNMENT

Regional initiatives, such as the ASEAN Common Carbon Framework, could serve as key platforms for harmonizing methodologies, building mutual recognition, and facilitating cross-border trading. Effective regional cooperation will require alignment of national registry architectures, comparable MRV protocols, and clarity on how credits are treated under NDC accounting. Without these shared parameters, cross-border market linkages risk fragmentation, inconsistent credit quality, and reduced investor confidence.



INFRASTRUCTURE AND INTEROPERABILITY

Sovereign-controlled and interoperable registries are essential infrastructure for credible markets. National systems should provide traceability, cybersecurity, and the ability to link with international mechanisms such as Article 6 and CORSIA. Reliance on voluntary market standards (Verra, Gold Standard) in domestic registries is a transitional step while countries develop their own accreditation systems.



DEMAND AND COMPETITIVENESS

The region remains supply-heavy, with limited compliance-based demand. There is a need for predictable policy signals such as carbon pricing, renewable energy mandates, or offsetting requirements to stimulate investment and anchor market confidence.

Frameworks like CBAM are expected to be significant demand drivers.

Recommendations

The challenges outlined above underscore that ASEAN countries are not held back by a lack of ambition, but by a set of common structural barriers that constrain market credibility and slow implementation. These recommendations translate the identified constraints into priority actions that governments and development partners can take to accelerate readiness, strengthen integrity, as well as enable regional interoperability. Supporting actions are included to showcase potential areas of intervention by sovereign or donor entities that directly support the recommendations identified below, in no particular order of priority.

1. ACCELERATE DOMESTIC MARKET READINESS

Each country should finalize national policy instruments and roadmaps to establish a clear legal basis for carbon markets. Examples included sector-specific crediting frameworks in the Philippines, and Indonesia's National Carbon Pricing Roadmap. Inter-agency collaboration, such as a steering committee, can be used to coordinate the mandates between ministries and agencies to avoid overlap or lack of accountability.

Strong interagency frameworks can help consolidate authority as well as streamline decision-making. Fragmented responsibilities delay implementation and increase investor uncertainty. The Philippines' planned National Steering Committee is an example that can address this fragmentation as it allows different stakeholders to coordinate and jointly implement policy.

2. IMPLEMENT REVENUE RECYCLING

The ability to use the design of carbon prices to stimulate additional finance for countries while still meeting climate goals is a common goal across countries. It is important to prioritize strategic design in order to align priorities and ensure finance mobilization. For example, Colombia introduced a carbon tax allowing companies to retire assets for a tax write-off instead of paying carbon tax. This approach successfully mobilized private capital for forestry and land restoration at a time of limited public funds, demonstrating how fiscal mechanisms can simultaneously drive market activity and environmental outcomes.^[4]

SUPPORTING ACTIONS

National Collaboration Convening

Support inter-agency coordination through the establishment of steering committees or working groups that align environment, energy, and finance ministries.

Regional Peer Learning

Continue the SPARK-style knowledge exchanges as well as practitioner-led workshops to enable countries to learn from one another's policy implementation experiences.

SUPPORTING ACTIONS

Improve design of carbon pricing and markets

Provide tailored research and advisory support for designing context-specific carbon pricing systems that can balance fiscal and climate priorities. Open-minded approaches are essential due to the diverse national dynamics at play.

3. DEVELOP INTEROPERABLE NATIONAL REGISTRIES AND DIGITAL INFRASTRUCTURE

Countries in Southeast Asia should prioritize developing sovereign-controlled, interoperable registries for tracking issuance, transfer, and retirement of credits. These systems should be built on secure IT architecture (potentially blockchain or custodial models) that ensures traceability, cyber resilience, and compatibility with Article 6, CORSIA, and emerging voluntary market standards. These systems are technically difficult to build and engaging a reputable developer to build a registry, while ensuring national ownership, may be a potential solution.

Participants stressed that interoperability with Article 6 and the building of international trust can help drive demand for carbon credits and unlock significant economic benefits for ASEAN countries. International demand for Indonesia's IDX for example, remains quite low compared to domestic demand, with 90% of buyers coming from the domestic market.^[5]

4. BUILD INSTITUTIONAL CAPACITY

Technical and financial assistance from development agencies, banks, and regional programs should be directed toward capacity building for market oversight agencies, data management, and registry operation. Well-targeted support can accelerate market readiness and reduce the risks of policy or infrastructure gaps. An example is the technical assistance that Vietnam is currently providing for registry development. However, there is still a need for training on MRV, digital security, and compliance mechanisms to prepare for Article 6 transactions and CBAM-related reporting. Developing financial mechanisms such as green bonds, carbon revenue recycling, or insurance-linked instruments can further help sustain long-term institutional capacity and reinvest market proceeds in the energy transition.

SUPPORTING ACTIONS

Implement national registries

Provide hands-on technical expertise to help countries in completing, operationalizing and finally, securing national carbon registries.

Develop interoperable systems with data integrity

Assist in designing interoperable systems that meet Article 6, CORSIA, and voluntary market standards while strengthening cybersecurity and governance protocols.

Support implementation of Article 6

Fund pilot transactions and institutional readiness for Article 6 cooperation agreements to accelerate stakeholder participation in international carbon markets.

SUPPORTING ACTIONS

Training for banks and lenders

Build foundational knowledge to enable and increase participation in carbon markets.

5. STRENGTHEN MARKET INTEGRITY AND SAFEGUARDS

To build trust and investor confidence, national systems should adopt strict standards for MRV and social/environmental safeguards. One of the biggest risks to carbon markets is discovering a lack of integrity in a project, as it undermines credibility for the entire system. This is particularly true for nature-based projects on Indigenous lands. Adding national review processes to existing (Verra and Gold Standard) verification systems, such as BURSA Malaysia's approach, is a way to provide safeguards in addition to providing a sovereign verification system*.

SUPPORTING ACTIONS

Training on MRV systems and methods

Build technical skills for government officials and market operators to ensure data accuracy, consistency, and transparency.

Seed funding for infrastructure

Provide initial financing for registry platforms, MRV systems, and digital infrastructure essential for market operation.

Regional pilots

Facilitate sandbox models or pilot programs among early movers to test cross-border trading and data-sharing mechanisms.

*BURSA Malaysia ensures credits are viable under Malaysian law as well as the Shariah Principles. This adds some additional safeguards to the Verra/Gold Standard certifications.

Conclusion

Southeast Asia has enormous potential for low-carbon solutions. Well-designed carbon markets can unlock this decarbonization potential while generating new revenue streams for national governments. As carbon markets advance rapidly in other regions, and trade measures such as the EU's CBAM come into play, the cost of inaction is rising. Southeast Asia has a timely opportunity to establish credible carbon markets that can shape the region's role in the global low-carbon economy.

Vietnam, Indonesia, and the Philippines illustrate both the region's carbon market momentum and its shared constraints. An analysis of SPARK, a regional collaboration meeting for carbon markets in these three countries, revealed a common set of four main challenges to implementing carbon markets:

- fragmented institutional mandates that slow cohesive policymaking;
- limited interoperability across registries and MRV systems;
- weak market confidence linked to inconsistent standards and unclear carbon asset definitions; and
- insufficient technical and operational capacity. These issues collectively hinder the development of credible, connected, and impactful carbon markets.

Without targeted action, these barriers will continue to limit the scale and impact of carbon markets across the region. This brief sets out five priority recommendations, supported by concrete actions, to turn the region's potential into tangible climate and fiscal benefits. Governments, development partners, and market actors are urged to use these recommendations as a shared regional roadmap to accelerate implementation and position Southeast Asia as a leader in carbon markets.

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