

SUPPORTING CARBON PRICING IMPLEMENTATION

IN

SOUTHEAST
ASIA

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Introduction

Carbon pricing is rapidly emerging as a popular policy tool to support low-carbon economic transitions and reduce greenhouse gas (GHG) emissions. Since 2012, the number of carbon tax or emissions trading systems (ETS) in place globally has risen from under 12 to over 70, complemented by rapid growth in carbon crediting activities encompassing both voluntary and regulatory markets (World Bank, 2023). Several factors explain the contemporary popularity of carbon pricing instruments (CPIs).

Despite widespread use of industry-, sector-, or technology-focused policies and policy instruments to support decarbonization, scientific evidence paints a picture of worsening climate change. Reports published since 2021 under the IPCC's Sixth Assessment Report call for global GHG emissions to peak by 2025 in order to limit global heating to no more than 1.5°C over the pre-industrial average, in contrast to existing policies and targets which put the world on track for an increase in average surface-level temperatures closer to 3°C (IPCC, 2022). It is clear that stronger action is needed. Carbon pricing, long proposed by economists and scientists as a necessary component of climate action, can provide incentives for an economy-wide low-carbon transition.

Many carbon pricing instruments (CPIs) implemented today complement an ecosystem of climate change policies and policy instruments already in place to support decarbonization. Fundamentally, they associate a direct cost with the GHG emissions arising from fossil fuels or other "climate bads" (for example, deforestation), making activities which emit GHGs less financially appealing. This complements the approach of many existing policy instruments, which incentivize specific low-carbon practices and technologies, such as energy efficiency and renewable energy.

Beyond these immediate impacts, CPIs can become an important source of public revenue to boost climate efforts or support other economic needs and priorities. Climate finance being in short supply, particularly in the developing world, adds weight to the importance of implementing national CPIs. In 2022, carbon taxes and emissions trading systems generated some USD 95 billion in revenue globally, 40% of which was redirected towards low-carbon investment and spending (World Bank, 2023). Prevailing global macroeconomic conditions only enhance the attractiveness of this alternative source of public finance.

National-level movements towards CPI adoption are also hastened by a rising global appetite for climate action itself. Progress towards the operationalization of Paris Agreement's Article 6 mechanism, which will facilitate collaborative approaches towards achieving emissions reductions across public and private sectors, is likely to continue at the UNFCCC's 28th Conference of Parties (COP28) in November 2023. This is expected to drive another wave of attention towards carbon pricing. Recent private sector efforts, typically expressed in the form of net-zero emissions targets, has added to demand for carbon credits. One way for governments to regulate and legitimize these activities, while ensuring they do not compromise upon national-level climate priorities and targets, is to envelop them within the framework of an overarching compliance market CPI.

Beyond crediting, the proliferation of CPIs can itself be a self-sustaining cycle. Countries that have adopted carbon taxes or ETS have strong incentives to apply these same regulations on imports to address carbon leakage and competitiveness concerns, through the application of border carbon adjustments (BCAs).

BCAs incentivize exporters to themselves implement CPIs, in order to capture revenues otherwise lost to their trading partners. The European Union (EU) has already announced the implementation of a BCA to be enforced by 2026, and it is possible that other nations or blocs follow suit in the future.

Carbon Pricing: The State of Play in Southeast Asia

All these pressures to implement CPIs are increasingly felt across Southeast Asia, a region highly vulnerable to the host of climate-related impacts likely to be caused by rising temperatures. There is strong evidence of rising climate ambition and action across the region, with all ASEAN Member States (AMS, with the exception of Cambodia, Laos, and Myanmar) presently either assessing, designing, implementing, or having already implemented, compliance market CPIs. In all cases, these CPIs would serve to complement a raft of existing low-carbon initiatives and policies.

The two operational CPIs in ASEAN as of August 2023 are Indonesia’s ETS, launched in February 2023 and which currently covers only emissions from state-owned coal-fired power plants; and Singapore’s carbon tax, launched in 2019 and which covers emissions from its 50 largest emitters, accounting for roughly 80% of national emissions. Thailand, meanwhile, is planning to launch a carbon tax over the coming years, covering activities within the energy, transport, and industrial sectors. Brunei, Malaysia, the Philippines, and Vietnam are all considering the implementation of carbon taxes and ETS, and are currently assessing their feasibility and practicality for adoption, as well as studying their various design elements. Carbon crediting programs or initiatives have been ongoing across all AMS except Brunei, largely since the establishment of the Clean Development Mechanism (CDM). An overview of the CPI ecosystem across ASEAN is presented in Figure 1.

Figure 1: Status of CPI Implementation Across ASEAN

Countries	Carbon Pricing Instruments					
	Law or Act	Tax	ETS	Crediting ^α	Indirect ^β	Fossil Fuel Subsidies ^γ
Brunei	◆	◆	◆	◆	◆	◆
Cambodia	◆	◆	◆	◆	◆	◆
Indonesia	◆	◆	◆	◆	◆	◆
Laos	◆	◆	◆	◆	◆	◆
Malaysia	◆	◆	◆	◆	◆	◆
Myanmar	◆	◆	◆	◆	◆	◆
Philippines	◆	◆	◆	◆	◆	◆
Singapore	◆	◆	◆	◆	◆	◆
Thailand	◆	◆	◆	◆	◆	◆
Vietnam	◆	◆	◆	◆	◆	◆
Notes: ^α Includes carbon credit programs and voluntary market activities. See Table 11 for a detailed assessment ^β Includes indirect carbon pricing instruments, i.e., fossil fuel taxes and related environmental taxes. ^γ Includes only explicit subsidies to final consumers, as reported by Parry et al. (2021b)				Legend: ◆ Active ◆ In Development ◆ Under Consideration ◆ Inactive		
Sources: AMRO (2022); Parry et al. (2021a); Parry et al. (2021b); So et al. (2023); World Bank (2023)						

At the regional level, a number of platforms have been established to support climate change activities and carbon pricing implementation. These operate through several institutions, including the ASEAN Secretariat, through the ASEAN Working Group on Climate Change; the UNFCCC’s Collaborative Instruments for Climate Action, or CiACA, and also Article 6 mechanisms moving forward; multilateral development agencies such as the Asian Development Bank and the World Bank; or through bilateral channels such as the Enhanced Regional EU-ASEAN Dialogue Instrument, or E-READI. Within this highly-dynamic policy arena, the coming years will be crucial as many AMS continue ongoing processes of designing and establishing compliance market CPIs. Combined with expected progress towards finalizing Article 6 of the Paris Agreement, growing private sector action, and the establishment of a number of national-level carbon marketplaces, it is likely that the current focus across AMS governments on carbon pricing will continue strongly throughout the 2020s.

Supporting the implementation of carbon pricing in developing countries and regions is crucial for global efforts to mitigate climate change. Despite Southeast Asia’s climate vulnerabilities, its economic and population growth are projected to add upward pressures to aggregate GHG emissions unless concerted, successful attempts are made at decarbonizing key economic activities. This is reflected by the continued growth in GHG emissions over the past two decades, particularly from electricity generation, transport, industrial process, and land-use change (see Figure 2), despite the heightening of climate targets across the region. Indeed, such growth is indicative of rising incomes and broader economic advancement, as AMS progress from a reliance on primary industries and sectors to greater industrialization. The objectives of CPIs across the region, therefore, have to include decoupling growth and economic progress from GHG emissions to meet and exceed what existing targets (see Figure 3) and low-carbon initiatives and policies seek to achieve.

Figure 2: ASEAN GHG Emissions by Sector, 2000–2019

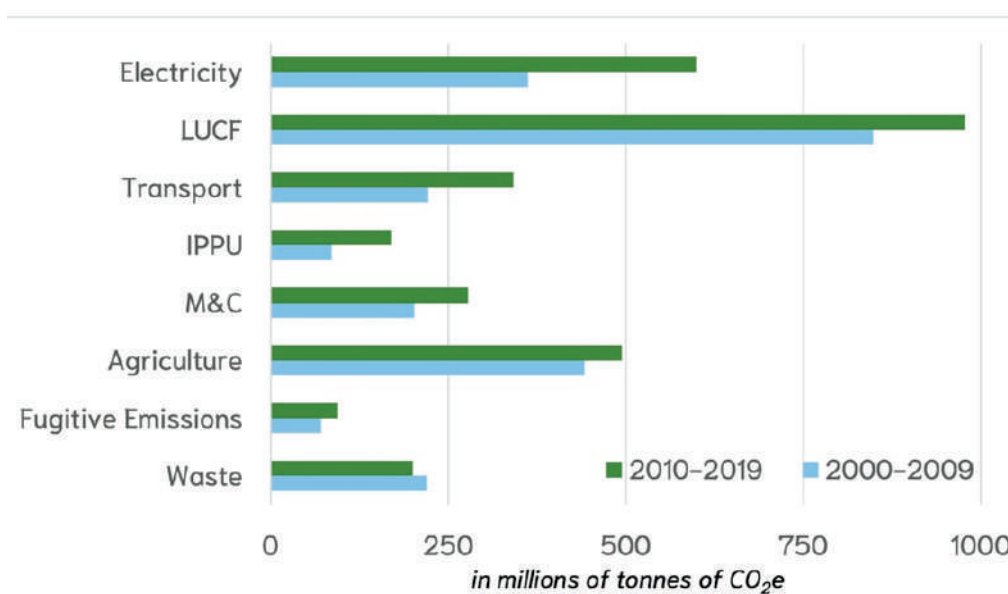


Figure 3: Key Climate Targets Across ASEAN

Countries	Key Climate Targets				
	GHG Emissions	GHG/Energy Intensity of GDP	Renewable Energy	Emissions Peak	Net-Zero Emissions
Brunei	◆ (Relative to BAU)	◆	◆ (30%, 2035)	◆	◆ (2050)
Cambodia	◆ (BAU)	◆	◆ (25%, 2030)	◆	◆ (2050)
Indonesia	◆ (BAU)	◆	◆ (31%, 2030)	◆ (2030)	◆ (2060)
Laos	◆ (Absolute)	◆	◆ (30%, 2025)	◆	◆ (2050)
Malaysia	◆	◆	◆ (40%, 2035)	◆	◆ (2050)
Myanmar	◆ (BAU)	◆	◆ (47%, 2030)	◆	◆ (2040)
Philippines	◆ (Absolute)	◆	◆ (15GW, 2030)	◆ (2030)	◆
Singapore	◆ (Absolute)	◆	◆ (2GW, 2030)	◆ (2030)	◆ (2050)
Thailand	◆ (2005)	◆	◆ (30%, 2026)	◆	◆ (2065)
Vietnam	◆ (BAU)	◆	◆ (31%, 2030)	◆	◆ (2050)

Sources: Nationally Determined Contributions (NDCs)

Implementing CPIs can prove challenging even for developed nations with the financial and technical capacity to do so readily, as they require a stream of prerequisites. Political will and public acceptance are important, non-technical, foundational requirements. To illustrate this, such efforts have in the past been met with protest, such as in the 2014 carbon tax repeal in Australia, and proposed fuel tax increases in Chile, France, and the United Kingdom. Beyond this lays a number of technical prerequisites for CPI implementation: the establishment of robust GHG inventory measurement and management ecosystems; strong measurement, reporting and verification (MRV) capacities across public and private sectors; a clear understanding of the functions and requirements of carbon pricing; and the potential broader impacts of carbon taxes or ETS.

Carbon pricing is strongly interrelated with other climate change policies, instruments and targets, and so thought must also be given towards maximizing complementarities and minimizing conflict across these efforts. It is also important to best manage adverse economic ramifications of carbon pricing and the low-carbon transition. Simply put, the cacophony of requirements for effective carbon pricing implementation can prove overwhelming.

This creates space for collaborative efforts towards the implementation of CPIs and, in turn, the achievement of emissions reductions and other climate and environmental goals. This section briefly overviews some of the areas where support will likely be needed across ASEAN amidst ongoing efforts to assess, design, and implement CPIs.

Areas for Potential Collaboration and Support

Public Awareness, Knowledge, Capacity-Building, and Stakeholder Buy-In

Mitigating climate change necessitates a whole-of-society approach, with GHG emissions the result of activities of households, businesses, and government bodies alike. Thus, building the capacity of carbon pricing stakeholders, including government officials and businesses, is also crucial. There are several ways potential donors can assist in improving public awareness, knowledge, and capacity on climate change and carbon pricing to enhance the buy-in of stakeholders:

- Organize training sessions and other educational fora for government officials, businesses, and civil society on the fundamentals of carbon pricing, its benefits and challenges, and CPI implementation processes;
- Conduct awareness campaigns and education initiatives on the potential benefits of carbon pricing among the general public, businesses, and policymakers, conveying the importance of carbon pricing towards addressing climate change and achieving sustainable development;
- Organize stakeholder engagement activities, including workshops, focus group discussions, and public consultations, to gather input and address concerns from diverse groups on climate change and carbon pricing;
- Facilitate peer-to-peer knowledge exchange for national-level representatives to share experiences, lessons learned, and best practices in successfully implementing CPIs;
- Develop communication strategies to further support for carbon pricing among key stakeholders, especially groups assessed to be disadvantaged by CPI implementation;
- Provide access to online platforms and databases containing resources, case studies, and research on carbon pricing implementation;
- Facilitate collaboration and support existing collaborative efforts across AMS to establish longer-term CPI harmonization, especially in addressing potential cross-border challenges (such as transboundary pollution) and opportunities (such as renewable energy trading).

Data Ecosystems and MRV Development

A strong measurement, reporting, and verification (MRV) ecosystem is a foundational component of effective CPI implementation, but is challenging to implement with great authority without the appropriate finance, infrastructure, labor, and technology. Steps are being taken to address these gaps, largely through national and regional efforts catered towards capacity-building centered around MRV. Indeed, collaborative efforts at the ASEAN and UNFCCC levels have included a strong emphasis on MRV. Such support will potentially be scaled up in the coming years as more CPIs are designed and implemented across the region. Efforts are also needed to enhance data collection and harmonization across industries, sectors, and geographic regions. The immediate impact of these actions may be felt more keenly at the national level by supporting the development of robust

national emissions inventory accounting practices. In the longer-term, these initiatives could form the foundations for the development of a future ASEAN-level CPI. Amidst ongoing activities, there may be scope for potential donors to engage with AMS governments in the following capacities:

- Provide expertise to support the establishment of data ecosystems to support emissions data measurement and collection across sectors, providing the foundation for effective carbon pricing;
- Provide funding to develop transparent emissions reporting and data aggregation platforms, allowing for evidence-based policy evaluation;
- Provide financial and technical assistance to small- and medium-sized enterprises in designing MRV systems, enabling accurate emissions measurement and reporting in line with regulatory requirements, and specialized MRV training to ensure long-term in-house capacity;
- Capacity-building efforts for government officials and relevant stakeholders to use MRV systems effectively.

Financial, Technical, and Technological Assistance and Support

Developing countries may lack the technical expertise and administrative capacity required to design CPIs best aligned with their economic structures and development goals, as well as to implement, administer, and manage these mechanisms effectively. Support is also needed to assist high-carbon industries transition towards lower-carbon growth. Given the reliance of some AMS economies on carbon-intensive activities, such a transition must be managed carefully.

Towards this end, donors can support AMS across the following areas:

- Provide financial and technical assistance in designing and implementing effective carbon pricing policies. This includes assistance with instrument assessment, design, and development; and the establishment of institutional, legal, and regulatory frameworks to support implementation ;
- Provide legal expertise to ensure that proposed CPIs are in line with the country's laws, regulations, and international commitments;
- Assist AMS in identifying and accessing international funding to support carbon pricing efforts, such as international climate finance mechanisms and funds, green bonds, and others;
- Facilitate engagements with the private sector, research institutions, and universities offering emissions reductions and clean energy solution. Support could include technology assessments, feasibility studies, and capacity-building to adopt and integrate new technologies;
- Support the implementation of pilot CPIs in specific key sectors, allowing for real-world effectiveness testing of a proposed CPI mechanism before scaling up.

Policy Coordination and Policy Evaluation

Carbon pricing must be well-integrated with national development plans, as well as other climate policies and economic instruments to ensure alignment with economic and social goals while minimizing adverse impacts. As CPIs are implemented, attention must turn towards periodic monitoring and assessment of these instruments relative to their objectives, overarching national and international climate obligations and targets, and broader economic impacts.

Donors can play crucial roles in the ASEAN region through these initiatives:

- Support efforts to monitor and evaluate CPIs: assessing their effectiveness, identifying areas for improvement, and assisting AMS to make adjustments to maximize the effectiveness of their CPIs over time. Such assistance could also support AMS in refining and adapting CPIs based on evaluated impacts and changing national, regional, and global circumstances;
- Conduct economic assessments to identify vulnerable populations that may be disproportionately affected by carbon pricing, which may contribute to increased living costs. This can be a starting point to develop mechanisms that redistribute revenues or reform other tax and welfare policies so that low-income households are supported. Assistance for countries to invest in low-carbon solutions can also be included;
- Guide the design of mechanisms to facilitate long-term financing for climate policy initiatives, such as setting up dedicated funds or revenue-sharing arrangements earmarked for mitigation actions, enhancing resilience and adaptive capacities.



Conclusion

Over the past decade, carbon pricing has become an increasingly popular policy measure to support growing global efforts to address the causes of climate change and adapt to its consequences. While historically the domain of climate policy in the developed world, evidence shows that CPIs are now being seriously considered across the developing world too. This trend extends to Southeast Asia, where seven of 10 ASEAN member states are either considering, implementing, or have implemented either a mandatory carbon tax or emissions trading system, and all AMS have been involved in carbon crediting activities in some capacity in recent decades.

While individual countries may have specific objectives in mind through the application of CPIs, part of the impetus towards the development of domestic regulation on GHG emissions is driven by international developments. Particularly important in this context are the finalization of Article 6 under the Paris Agreement, which facilitates international cooperation towards the achievement of GHG mitigation outcomes, as well as the possible implications of other cross-border instruments and mechanisms, such as border carbon adjustments. These developments, coupled with the global nature of the issue of climate change, put international cooperation and collaborative, coordinated efforts at the heart of successfully navigating this challenge.

These trends, combined with the growing intensity of climate change, are likely to ensure that carbon pricing will remain an important component of the climate policy agenda in Southeast Asia over the coming decade. At present, such efforts remain in their nascency, in part because CPIs are complex, multidimensional policy instruments that can have implications across a wide range of economic activities and sectors. While general guidelines exist for their implementation, rooted in both theory as well as practical experience (albeit mostly in the developed world), unique national and subnational circumstances mean that there is no one-size-fits-all approach to CPIs. What works in Europe may not work as well in Southeast Asia, owing to varying underlying economic and social conditions, political structures, energy systems, and other variables.

This creates great scope for potential donor organizations to provide support and guidance to AMS governments in the development of their CPIs, including ensuring the necessary foundational elements of CPI implementation are in place. Indeed, much of the support AMS have received at national and regional levels have thus far been focused on aspects such as the development of robust MRV mechanisms for emissions and studies to better understand the potential impacts of pricing carbon, including direct and indirect economic repercussions.

Such work will need to continue so that AMS have a clear understanding of what is required in ongoing efforts to implement and administer CPIs, and how to design CPIs to ensure environmental objectives can be met without compromising on bread-and-butter economic needs. In laying out the landscape of the climate change challenge and the carbon pricing ecosystem across AMS, as well as highlighting key areas where support may be needed, it is hoped that this desk review provides potential donors with a keen understanding of the state of climate change, low-carbon policies and ambitions, and potential entry-points to engage with national-level governments across Southeast Asia.

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