Assessing the Feasibility of Carbon Pricing in the Philippines: Policy, Design, and Political Considerations

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Abstract

The Philippines, one of the most climate-vulnerable nations globally, faces simultaneous environmental and fiscal pressures. As part of its commitment under the Paris Agreement, the country has pledged a 75 percent reduction in greenhouse gas (GHG) emissions by 2030, largely dependent on international support. This study explores the feasibility of introducing a carbon pricing mechanism, through a carbon tax, an emissions trading system (ETS), or a hybrid approach, to help achieve this ambitious target.

While economic models, including an International Monetary Fund study, have previously examined the quantitative effects of carbon pricing in the country, this research focuses on the political and implementation dimensions by addressing the aspects of public acceptance, legislative viability, and administrative readiness. The study assesses carbon pricing by considering domestic political institutions, existing administrative capacities, and comparative insights from regional and economic peers.

The assessment finds that while a carbon tax is administratively easier to implement and offers near-term revenue opportunities, political sensitivities around new taxes are expected due to inflation concerns and experiences from past tax reforms. An ETS, although potentially more politically acceptable due to its market-based nature, is more technically demanding and would require extensive preparatory work. Hybrid systems, with features from Singapore, Indonesia, and Mexico's systems, offer a more realistic pathway. Despite these challenges, the Philippines possesses enabling conditions, such as supportive climate frameworks through its Nationally Determined Contribution Plan, a suitable tax infrastructure, and an existing national GHG inventory.

Policy recommendations are laid out across three time horizons: (1) short-term actions from 2025 to 2028 focused on public engagement, drafting of legislation, and technical groundwork; (2) medium-term goals from 2028 to 2034 emphasizing legislative passage, tax rollout, and pilot ETS implementation; and (3) long-term expansion and integration efforts post-2035, including the possible linking with regional carbon markets. Ultimately, the study concludes that a hybrid carbon pricing system is both economically viable and institutionally achievable, provided there is clear and strong political leadership, effective public communication, and targeted support for impacted sectors.

Introduction

The Philippines faces the dual challenge of accelerating economic development while being at the center of global climate change risks. Consistently the most climate-vulnerable country in the world according to the World Risk Index, it confronts a higher frequency of typhoons, rising sea levels, extreme temperature changes, and threats to food and water security. In response, the Philippines has pledged to reduce its greenhouse gas (GHG) emissions by 75 percent from 2020 to 2030 under its Nationally Determined Contribution (NDC) which is largely conditional on international support.

The paper explores how the potential implementation of a carbon pricing mechanism through carbon taxes, emissions trading systems, or hybrid models could help the Philippines meet both its climate and economic targets. The paper assesses the feasibility of these mechanisms by examining three dimensions: economic viability, political acceptability, and implementation readiness. This paper primarily builds on existing economic analyses, such as the quantitative assessment of International Monetary Fund (IMF) on carbon pricing in the Philippines, and adds value by examining the political feasibility and implementation challenges as well. It also provides comparative experiences from regional and economic peers such as Indonesia, Singapore, Mexico, and Japan to identify design considerations suited for the Philippine context.

This study employs a qualitative, comparative policy analysis using secondary sources from international agencies, official executive and legislative documents, and reputable news articles. Data sources include existing assessments from IMF, proposed legislation and existing executive orders, global carbon pricing reports from international organizations such as World Bank (WB), International Carbon Action Partnership (ICAP), and International Energy Agency (IEA), and various official news articles. No primary data were collected. The concluding policy recommendations aim to provide a potential direction for carbon pricing in the Philippines in the next decade.

Rationale for Carbon Pricing in the Philippines

Despite a coal moratorium, the country remains heavily reliant on coal to meet its growing energy demand, with coal accounting for around 62 percent of the country's power generation mix in 2024. While the country contributes less than 0.4 percent to global GHG emissions (IEA, 2024), its commitment to a 75 percent GHG reduction by 2030 through its NDC is commendable. Carbon pricing is a tool that can help the country achieve its targets by internalizing the cost of emissions and assist in the incentivizing of cleaner energy production and use. This could also potentially generate fiscal revenues that can be budgeted for climate adaptation, social protection, and other priority climate-related investments.

Currently, the Philippines relies on regulatory measures such as the Renewable Portfolio Standards[1] and indirect pricing through fuel excise taxes under Republic Act (RA) No. 10963 or the Tax Reform for Acceleration and Inclusion Law (TRAIN) Law. Likewise, while the Philippines has already made some progress in incorporating climate goals into national plans and budgets, such as through the People's Survival Fund (PSF) under RA No. 10174 or the amended Climate Change Act and the Climate Change Expenditure Tagging (CCET) initiative that followed, these have had limited revenue and emission reduction impacts. Progress towards the climate target remains unsatisfactory as most mitigation and adaptation measures remain underfunded or depend on foreign assistance. Without any drastic intervention, emissions could significantly outpace the 2030 climate target.

Depending on the system design, adding an explicit carbon price to the national climate finance strategy could raise revenue that the government can use for climate programs while abating emissions simultaneously. It would send a strong signal that the country is committed to shifting towards low carbon practices. This paper sees carbon pricing as a useful addition, not a standalone solution, to achieving the country's climate ambitions.

Carbon Pricing Mechanisms

Carbon pricing mechanisms that are currently being utilized in various countries include carbon taxes and emissions trading schemes (ETS). Hybrid systems are also in place.

a. Carbon Tax

A carbon tax places a clear price on each ton of carbon dioxide emitted, typically charged where fossil fuels are produced or imported. It is one of the most straightforward ways to address emissions, either by applying it across the entire economy or targeting specific sectors. Usually, governments start with a set rate and adjust it over time as needed. This pricing approach provides predictability, is easy to administer, and builds on the existing tax infrastructure of the country.

According to WB's Carbon Pricing Dashboard, 39 national and subnational jurisdictions use carbon taxes as of 2024. Examples include Singapore, which was the first in Southeast Asia to adopt one, as well as South Africa, Canada, Japan, and many European Union countries.

b. Emissions Trading Scheme

An emissions trading scheme, also called a cap and trade scheme, sets an overall limit on greenhouse gas emissions and allows companies to buy and sell emissions allowances within that

[1] The Renewable Portfolio Standards refer to market-based policies that require electricity suppliers to source a part of their energy supply from eligible renewable energy resources.

cap. This creates a market-driven carbon price and offers both emissions certainty and economic flexibility. Firms that emit less can sell their excess permits while those that exceed their limits must purchase additional allowances. Over time, the emissions cap can be gradually lowered to drive steeper reductions aligned with the country's NDC plan.

ETSs are widely adopted around the world by around 36 jurisdictions globally per WB's dashboard. Examples include the European Union, Canada, China, Kazakhstan, and New Zealand. In Southeast Asia, Indonesia and Vietnam are moving forward with their own frameworks.

However, implementing an ETS requires strong institutional and technical foundations, including reliable monitoring, reporting and verification (MRV) systems, a national emissions registry, and detailed sectoral data. These requirements have posed challenges for regional peers Indonesia and Vietnam, which have experienced delays due to capacity and governance issues (Recessary, 2025).

C. Hybrid Mechanisms

Hybrid systems combine carbon taxes with emissions trading. This can ease implementation by using a tax to generate early income, while gradually introducing market mechanisms. A hybrid setup might apply a tax in some sectors and trading in others, or integrate both within a single setup, such as an ETS with a minimum price or a tax system that allows for credit trading.

One common approach is a sectoral split. In this setup, sectors with many small emitters, such as transport fuel or residential gas use, are taxed. Meanwhile, emissions trading is applied to large emitters like power plants or industrial facilities. This method reduces administrative complexity for diffuse emissions[2] by taxing fuel supply while still capping emissions from major polluters. Indonesia adopts such a mechanism.

Another variation is a system that incorporates offset trading. Under this, companies that reduce emissions beyond a certain baseline can earn credits, which they can use to lower their carbon tax payments or sell to others. This introduces limited market trading within a tax framework. South Africa's carbon tax follows this design, allowing firms to offset up to 5 to 10 percent of their emissions using carbon offset credits.

A third type is a cap-and-trade system that includes a price floor or ceiling. A price floor might be enforced through minimum auction prices or a guaranteed government buyback of permits, while a ceiling allows firms to purchase extra allowances at a fixed price if market rates rise too high. This mechanism, used in California's emissions trading program, ensures that carbon prices remain within a predictable range while maintaining an emissions cap (CARB, 2025).

[2] This refers to pollution from widespread activities with no one discrete source, e.g. acid rain, pesticides, urban run-off, etc. (European Environment Agency)

Lastly, a transitional hybrid system begins with a carbon tax and later shifts to an ETS once the necessary infrastructure is in place. During the transition, both systems run simultaneously. While the tax remains in effect, firms participating in a pilot ETS could receive credits for surrendered permits, preventing them from being taxed twice. In Mexico, this transitional hybrid allowed them to gain early experience**,** generate revenue, and build institutional capacity before enforcing a full cap-and-trade system.

The following table provides a summary comparison of carbon pricing systems of regional and economic peers, highlighting key features such as the type of instrument used, implementation timeline, and lead agencies. Details of the systems of the referenced countries in this paper can be found in Annex I.

Table 1. Carbon Pricing Comparative Summary of Selected Countries

Country	**Instrument and Features**	**Timeline**	**Lead Agencies**
Brunei Darussalam	Voluntary carbon market under development; incentive-based strategy	Brunei National Climate Change Policy (BNCCP) in 2020; roadmap by 2025	Brunei Climate Change Secretariat, Ministry of Energy, Ministry of Finance and Economy, National Council on Climate Change
Indonesia	Hybrid system: carbon tax (IDR 30,000/kgCO2e or equivalent unit) + ETS for coal plants; uses domestic offset credits and IDXCarbon platform	Tax legislated in 2021, ETS pilot in 2023; full rollout by 2025	Ministry of Finance, Ministry of Energy and Mineral Resources, Ministry of Environment and Forestry, Financial Services Authority
Japan	Low carbon tax (JPY 289/ tCO_2e) + subnational ETS (Tokyo); GX ETS pilot with auction by 2033	Tax started in 2012; Tokyo ETS in 2010; GX ETS pilot in 2023, mandatory in 2026	Ministry of Finance, Ministry of the Environment, Ministry of Economy, Trade and Industry, Tokyo Metropolitan Gov., Tokyo Stock Exchange
Malaysia	Voluntary carbon market (BCX); carbon tax planned for 2026	BCX launched in 2022; carbon tax expected by 2026; ETS under study	Ministry of Natural Resources, Environment and Climate Change, Ministry of Finance, Bursa Malaysia
Mexico	Carbon tax (MXN 63/ tCO_2e); ETS pilot for large emitters; offset credits allowed	Tax in 2014; ETS pilot in 2020; full ETS by ~2025	Ministry of Environment and Natural Resources, Ministry of Finance

Country	Instrument and Features	Timeline	Lead Agencies
Singapore	Carbon tax (SGD 5-80/tCO2e); covers 80% emissions; offset credits allowed from 2024	Tax legislated in 2018, effective from 2019; rate increases planned to 2030	National Environment Agency, Ministry of Finance, National Climate Change Secretariat
South Africa	Carbon tax (ZAR 120/tCO2e, indexed to inflation); phase-in with allowances and domestic offsets	Tax started in 2019; Phase 2 began in 2023; rising prices and fewer exemptions by 2030	National Treasury, South African Revenue Service, Department of Forestry, Fisheries and the Environment
Thailand	Hybrid: voluntary ETS, carbon tax on fuel producers; national ETS in development	V-ETS since 2013; carbon tax in 2025; ETS and Climate Change Act by 2027	Thailand Greenhouse Gas Management Organization, Department of Climate Change and Environment (planned), Ministry of Finance
Vietnam	Cap-and-trade system; free allowances; offsets allowed; no carbon tax	Law in 2020; pilot 2025-2028; full rollout by 2029	Ministry of Natural Resources and Environment, Ministry of Finance, Ministry of Industry and Trade, Hanoi Stock Exchange

Note: Ministry names may differ from their official local-language designations.

Feasibility Assessment for the Philippines

Economic Feasibility

Carbon pricing is widely regarded as one of the most cost-effective ways to reduce emissions across an economy. A carbon tax provides price certainty, offering a stable cost per ton of carbon that helps businesses make long-term investment decisions. In contrast, an ETS offers quantity certainty by capping total emissions and allowing market forces to determine the carbon price. Carbon taxes are often adopted for their administrative simplicity and broad application, and well-functioning ETSs for their market efficiency and emissions certainty.

In terms of revenue generation, a carbon tax provides a reliable and predictable source of public funds. These revenues can be strategically reinvested into infrastructure, clean energy, or used to offset other taxes. An ETS can also generate revenue through permit auctions, but many systems begin by allocating free permits, which limits the fiscal returns in the early stages. A well-

functioning ETS can also be linked to global carbon markets, potentially allowing the Philippines to participate in credit trading under Article 6 of the Paris Agreement. This could attract foreign investment through contingent climate finance. Hybrid models offer the potential to balance both objectives, using a tax to raise funds while applying a cap to limit emissions in critical sectors.

The primary economic concerns for the Philippines are the impacts of either carbon pricing system on growth, inflation, and competitiveness, particularly for trade-exposed sectors such as cement, steel, and manufacturing.

The macroeconomic impact of carbon pricing depends largely on the rate, design, and how revenues are spent. According to modeling by the IMF, a carbon price starting at USD 20 (around PHP 1000) per ton would result in only a slight reduction in GDP in the short term, especially if revenues are recycled back into the economy through public investments or tax relief (IMF, 2022). The same study recommends gradual increases of USD 4.3 per ton each year, eventually reaching USD 50 by 2030. Their results were run using the Climate Policy Assessment Tool jointly created by IMF and WB and estimates as much as USD 7 billion in annual revenue by 2030.

Despite only some slight projected GDP reduction, carbon pricing will likely have inflationary effects since around 62 percent of electricity is still generated through coal or oil. These effects are not unprecedented as seen with the fuel excise taxes previously introduced under the TRAIN Law. To cushion the potential inflationary impact, carbon revenues must be earmarked towards targeted compensation measures such as unconditional cash transfers for low-income families.

Carbon pricing could also hurt competitiveness and lead to carbon leakage if exporters face higher costs while foreign competitors do not. They would be forced to relocate abroad to jurisdictions without or with lower carbon prices. This scenario induces investor uncertainty, which may require some transitional support like free ETS allowances or tax rebates, funded by carbon revenues, to keep these exporters in the country.

At the sectoral level, renewable energy firms stand to benefit from improved cost competitiveness and new investments, while financial institutions may also profit from expanded carbon markets and trading instruments. However, the most negatively affected sectors including coal power generation and energy-intensive industries will face higher costs unless they drastically switch to cleaner technologies. Transportation operators such as jeepneys and buses may also pass on higher fuel costs to commuters through increased fares. Part of the carbon revenues should therefore fund subsidy programs like the previously-implemented *Pantawid Pasada Program*, on top of the subsidies proposed for low-income families.

To ensure the effectiveness of a carbon price that internalizes negative externalities, it is important to remove fossil fuel subsidies that give the opposite price signal to the carbon price. In line with this, the Philippines has taken huge steps to reduce market-distorting fossil fuel subsidies. Most

notably, RA No. 8479 or the Downstream Oil Industry Deregulation Act of 1998 abolished the Oil Price Stabilization Fund. This fund was essentially used to control the price of oil by insulating domestic fuel prices from global fluctuations, but burdened the country fiscally and discouraged efficient energy use (IISD, 2013). It also mainly liberalized the oil sector and ushered in a broadly market-based pricing system in the country. However, RA No. 9136 or the Electric Power Industry Reform Act of 2001 prescribed the Universal Charge on Missionary Electrification (UCME) which provided subsidies in off-grid areas to maintain consumer affordability (ADB, 2018). The UCME remains in place and has actually increased from PHP 7 to 25 billion from 2015 to 2024 (Felipe, 2024).

To facilitate a just transition, the proposed exemptions or rebates for producers and the cash transfers and electricity subsidies for consumers may still be included or retained in the early stages. However, to avoid weakening the carbon price signal due to prolonged use of incentives, these measures should be regularly audited for their effectiveness and removed if deemed redundant, while the new proposed measures should be made time-bound.

Finally, carbon pricing can demonstrate the Philippines' commitment to climate action and position itself to receive support from global climate funds or sell emissions reductions abroad. This, however, can only be leveraged once the systems have matured. Until such a time, the Philippines should continue to pursue international climate finance, particularly through mechanisms such as the Loss and Damage Fund. While carbon pricing can generate significant revenue to support mitigation and adaptation, it is not a substitute for climate justice-based financing from developed countries. As a member of the Vulnerable Twenty (V20) Group, the Philippines is eligible to receive funds to address the irreversible impacts of climate change, such as displacement, loss of livelihoods, and destruction of ecosystems. Integrating carbon pricing with access to the Loss and Damage Fund (LDF) enhances the country's fiscal resilience and strengthens the overall economic case for a comprehensive climate finance strategy. The Marcos administration has expressed strong intentions to be a critical member of the LDF Board and the LDF's operationalization (DOF, 2024).

Political Feasibility

Political feasibility of carbon pricing in the Philippines depends on two major factors: public acceptance and legislative support. Although the country has existing technical groundwork and institutional momentum through its NDC Implementation Plan, the challenge remains the ability to build public trust and confidence and secure political capital needed to legislate carbon pricing.

Carbon taxes, as with any tax, tend to trigger heightened political sensitivities, especially in the Philippines where energy prices are relatively higher and directly affect basic household spending. Imposing another tax-related reform will be met with public resistance and implementation derailment without strategic messaging. The country's experience with the TRAIN Law wherein

the government had to temper negative public sentiment is a cautionary example (DOF, 2018). There will also be strong opposition from powerful sectors such as fossil fuel companies, coal-dependent electric utilities, and transport unions. These groups could lobby for exemptions or delays and undermine the policy's effectiveness. As early as 2024, business groups like the Philippine Chamber of Commerce and Industry (PCCI) have voiced strong concerns about potential cost burdens, inflation, and competitiveness of a carbon tax. (Campos, 2024)

In the case of an ETS, it provides environmental certainty by ensuring emissions remain under a set cap. Politically, it may also be more acceptable than a tax since costs are less visible to the public, especially when initial permits are allocated for free. However, if the cap is set too high, the market will be flooded with permits. This would lead to low prices that fail to change behavior related to emissions. The complexity of emissions monitoring and trading may also be burdensome for smaller firms so it might be difficult for them to operate within the new trading environment.

Public acceptance might be higher if the hybrid approach is framed as a balance between environmental and economic priorities. A more complex hybrid system requires that coverage, responsibilities, and administration between the tax and trading actors are clearly defined. If the carbon tax overlaps with sectors under an ETS, businesses may face double compliance costs and damage investor confidence. The messaging strategy should highlight that the government is carefully designing the policy by picking the advantageous features found in both systems.

Irrespective of the chosen model, carbon pricing must be framed not primarily as a fiscal tool, but as an environmental policy essential to combatting climate change. The urgency of the climate crisis, the carbon revenue use, such as for green infrastructure, and recipients of subsidies particularly vulnerable and low-income groups should be explained clearly and simply. The Department of Environment and Natural Resources (DENR) as the environmental authority or the Climate Change Commission (CCC), should lead this messaging effort to emphasize their non-fiscal identity. The messaging should also include that the Philippine proposal is a priority driven by regional momentum, as seen through Singapore, Indonesia, Vietnam, Thailand, Brunei, and even Malaysia's implementation or interest in carbon markets in the recent decade.

As the emerging design suited for the Philippine context is shaping up to be a hybrid model, negative public perception may also be appeased by communicating that the carbon tax is a transitional instrument. The initial carbon tax will be low and will eventually evolve into a market-based ETS once MRV infrastructure mature. This phased approach combines the strategies of Indonesia and Mexico, where carbon taxes served as an initial instrument while more complex trading systems were being developed.

On the other hand, legislative action remains the formal bottleneck. In the legislative branch, House Bill No. 7705 or the Low Carbon Economy Investment Act of 2023 was approved on August 6, 2025. This landmark bill provides a framework for achieving decarbonization and the

potential establishment of an ETS. While the bill's details on the ETS design are quite lacking, its congressional passage suggests some level of political interest. However, this bill will have to be refiled during the 20th Congress of the Philippines due to the convening of new representatives after the 2025 midterm elections. This proposed legislation will also require Senate support and bicameral consolidation, which may be difficult given contrasting legislative priorities.

Unfortunately, given the sensitive nature of pricing emissions, the foreseen opposition from business and transport groups, and the timeline of legislative agendas, it is unrealistic to expect full passage during the 2025 to 2028 congressional period. Further, passing both a carbon tax law and a carbon trading framework would likely require two separate legislative bills. As such, the most viable timing for pushing carbon pricing legislation is after the 2028 presidential elections, when a new administration, ideally one with a climate mandate, could rally political champions to sponsor the bills. Ahead of the 2028 elections, the climate crisis must gradually be brought into mainstream public discourse. Doing so can help elevate the urgency of carbon pricing as a national issue, increase public awareness, and build the political momentum needed to support legislative passage.

In the executive branch, the NDC Implementation Plan already provides institutional infrastructure to support future legislation. Under Executive Order (EO) No. 174 and the Philippines' NDC framework, the NDC Steering Committee, chaired by the CCC and with active roles from the Department of Finance (DOF), DENR, Department of Energy, Department of Transportation, Department of Economy, Planning, and Development (previously National Economic and Development Authority), and Department of Trade and Industry, can carry out much of the technical groundwork before any bill is filed. However, despite earlier pronouncements about DOF's call to study carbon pricing (DOF, 2024), Finance Secretary Recto's recent position against new taxes presents a hurdle for a carbon tax, at least during his term until 2028 (DOF, 2025). The pronouncement retraction may have been done to temper negative public sentiment caused by the digital services tax that began in early 2025.

Still, to prepare legislative support, the administrative version of the two separate bills should be drafted simultaneously by potential agency leads CCC, DENR, and DOF to clearly delineate the responsibilities of each office. Based on their mandates, CCC would be best positioned to lead GHG inventory, coordination, and compliance monitoring, DOF can handle pricing and revenue mechanisms under a carbon tax, while DENR can handle emissions and environmental compliance under an ETS. At least one bill should add a provision to institutionalize the CCET system to track and publicly report how future carbon pricing revenues will be used.

Finally, support from environmental groups such as WWF Philippines, which has already endorsed a carbon tax for its simplicity, can strengthen the environmental legitimacy of the proposal (Eco-Business, 2024).

Implementation and Administrative Feasibility

A carbon tax is the most administratively feasible in the Philippine context. It can be implemented by the Bureau of Internal Revenue (BIR) or Bureau of Customs (BOC) by collecting the tax at the point of production or importation. This upstream design limits the number of entities to monitor. The carbon content specific to fuel types can then be tagged, as practiced in Singapore (NEA, 2024).

In contrast, an ETS requires the development of a national MRV system, facility-level emissions reporting, and the establishment of a well-functioning carbon market or trading platform. Aside from the GHG inventory under EO No. 174, these elements do not currently exist in the Philippines. Even if an ETS is initially limited to only a few sectors, such as power or cement, emissions measurement, registry management, permit allocation, and trading systems must still be developed. The experience of Indonesia and Vietnam illustrates how building ETS systems requires years of preparatory work, implementation, and monitoring.

Hybrid systems would likely require two sets of institutions and rules, which should clearly define which sectors are covered under each pricing mechanism. This creates a risk of overlapping coverage, so the system must ensure that fuels taxed under the carbon tax are excluded from ETS obligations to avoid double costs. CCC, DENR, and DOF should foresee this potential challenge and include careful language during their simultaneous bill drafting. Mexico's hybrid model could be used as a benchmark since its design allows firms to use ETS permits to offset tax liabilities. For the Philippines, a transitional system may eventually merge the two institutions into one upon maturity.

Apart from doing preparatory work, the NDC Steering Committee can also oversee the rollout of carbon pricing. If no formal group is created by law, the committee can be mandated to coordinate emissions monitoring, set and adjust pricing or emissions caps, among other duties. The responsibilities of the lead agencies should also be clearly defined in the law. For example, the DOF should lead if the chosen mechanism is a carbon tax, or the DENR would take the lead in the case of an ETS, given its expertise and regulatory mandate over emissions and environment-related concerns, with the CCC designated to coordinate as Steering Committee Chair while overseeing the national GHG inventory by mandate. The other member agencies can provide their inputs during regular Committee meetings.

The government can start with a carbon tax at a low rate and gradually build the institutional capacity needed for an ETS. A phased approach would give some time to implementing agencies to pilot programs such as voluntary ETS simulations and develop the necessary trading platforms. Firms in key sectors like power and cement also need to get used to emissions reporting or trading. These firms should have a convenient way to provide implementation feedback to the lead agencies without fear of getting penalties. During the early stages of implementation, the government should

be ready to pause or defer tax or cap level adjustments if market prices rise too quickly due to unforeseen economic conditions.

Likewise, strategic communications should not end upon the passage of the law. Monitoring, evaluation, and real-time communication with the public and media all remain crucial as soon as implementation begins. Misinformation must be addressed early and proactively through designated communication teams or spokespersons from DENR, CCC, or the Presidential Communications Office to prevent delays in implementation caused by public backlash. Critics can be redirected to the enhanced CCET framework and annual reports which should show how carbon revenues are spent.

Finally, technical and financial support from international agencies such as the WB, IMF and ADB should be accessed for training implementing agencies, upgrading information technology systems, and engaging with critical stakeholders.

Policy Recommendations and Action Plan

Based on the economic, political, and implementation feasibility analyses, the Philippines may consider adopting a phased hybrid approach to carbon pricing. Beginning with a modest carbon tax is administratively simpler and does not disrupt status quo abruptly. Over time, the system can evolve into a more complex ETS for large emitters, once MRV systems are fully operational.

a. Short-Term Recommendations (2025 to 2028)

During this period, the Philippine government should focus on building the legal, technical, and institutional foundations for carbon pricing, particularly in anticipation of increased policy momentum after the 2028 elections. Since neither a carbon tax nor an ETS can be implemented without enabling legislation, the primary objective from 2025 to 2028 is to complete all preparatory work and generate the necessary public and legislative support for future passage.

DOF should take the lead in drafting the carbon tax bill, while DENR should prepare the ETS bill. CCC should serve as the central policy integrator. These agencies should attempt to resolve any contentious provisions in the draft bills to expedite the bills' transmission to both the House of Representatives and the Senate post-elections. The executive should also start identifying potential climate champions in Congress as early as the 2025 midterm elections.

Public messaging should make it clear that the carbon tax is only a temporary step until an ETS is ready. The DENR and CCC should lead efforts to explain that carbon pricing is mainly about protecting the environment and is already being adopted across the region, including in Singapore, Indonesia, Vietnam, Thailand, and Malaysia. In fact, the Philippines should also consider restarting formal discussions on adopting a net-zero emissions target, as it remains the only Southeast Asian

country without a long-term carbon neutrality commitment, despite its stated ambition to reduce GHG emissions (IEA, 2024). By 2027, media and awareness campaigns should be stepped up to help the public and lawmakers prepare for passage in the next administration.

Development partners like the World Bank and ADB can support lead agencies by helping train staff on modelling tools that estimate how carbon pricing might affect the macroeconomy, emissions levels, and revenue. These estimates should help shape the draft bills and design support programs for low-income households and transport workers.

b. Medium-Term Recommendations (2028 to 2034)

The period after the 2028 national elections presents the most viable window for passing carbon pricing legislation. A new administration with a climate-aligned platform can prioritize the passage of both the carbon tax and ETS laws. The executive branch should arrange technical discussions between the Secretaries and identify champions in Congress who can file the prepared draft bills as early as mid-2028.

Although contingent on the order of passage, ideally the carbon tax should be implemented first. The lead agencies can request the IMF to update their initial study in order to determine a carbon price that would be more practical for a 2028 rollout. DOF through BIR and BOC should be tasked with tax collection, while the CCC and DENR should develop the emissions factors and sectoral benchmarks for tax computation. Collected revenues should be channeled through the national budget but tagged under the CCET system for transparency.

The ETS can begin alongside the carbon tax, starting with a few sectors like power, cement, and possibly steel. It may be helpful to require emissions reporting from the top 100 emitters, based on sector-level data. A digital emissions registry and trading platform should be launched under the supervision of the DENR. An alternative would be giving supervision responsibilities to the Securities and Exchange Commission or other relevant financial regulatory agency, similar to *Otoritas Jasa Keuangan* in Indonesia. Permits can initially be given for free with a declining allocation and the introduction of auctions at a later date.

A significant portion of carbon pricing revenue should be directed towards the People's Survival Fund or a new carbon revenue fund. Under both carbon pricing mechanisms, the PSF should be expanded to allow earmarked carbon revenue to be reinvested in renewable energy, energy efficiency, and low-carbon technologies. Other portions of the revenues should also be directed towards expanded budget allocations for the temporary subsidy programs and potentially employment programs of the Department of Labor and Employment.

c. Long-Term Recommendations (2035 onwards)

By 2035, the goal is for the country's carbon pricing system to be fully in place and working smoothly. The ETS, which may have started voluntarily with just a few sectors, should be able to expand to include more large emitters and a bigger share of national emissions. Over time, the emissions cap can also be tightened in line with updated NDC targets under the Paris Agreement. The system may be expanded to cover the transport and industrial sectors. The carbon tax may continue to apply to uncovered sectors and serve as a floor price for the ETS, ensuring a minimum cost of emissions even when permit prices fluctuate. Should resistance to the term "tax" remain politically sensitive by this time, an explicit ETS price floor could serve as a practical alternative.

Although currently there is no regional carbon market in ASEAN, the Philippines could start engaging with countries like Vietnam, Indonesia, or Singapore on mutual recognition of carbon credits under Article 6 of the Paris Agreement. This cooperation might open cross-border trading and greater access to climate finance down the line.

It would be helpful to conduct periodic assessments to evaluate the performance of the carbon tax and ETS. The findings can then guide adjustments to the policy if needed. Ideally, by this stage, the public should already view carbon pricing as a standard feature of the country's climate and economic policy.

Conclusion

Carbon pricing is becoming an increasingly necessary policy tool for the Philippines, as the country grapples with the fiscal and environmental pressures. While there is no single model that guarantees achievement of the country's climate targets, the assessment points to a phased carbon tax paired with pilot emissions trading programs as a realistic pathway. Building public support early on will depend on how clearly the policy is explained, whether people see the benefits, and if there are protections in place for those who might be hit hardest. Strong leadership and open communication can help make the transition smoother.

The success of carbon pricing will heavily depend on the country's ability to align legislative action with institutional capacity. With consistent political engagement and well-timed reforms, support from the local NDC-related committees and international organizations, and existing climate policy infrastructure, the Philippines has the enabling conditions to administer an effective carbon pricing framework in order to effectively meet its ambitious climate goals.

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Annex I. Carbon Pricing Mechanisms in Selected Countries

This annex provides case summaries for nine countries that have implemented or are preparing carbon pricing mechanisms. Each country outlines key features, implementation timelines, lead agencies, and relevance to the Philippine context.

1. Brunei Darussalam

Instrument and Features: Brunei has not yet adopted a carbon tax or ETS, but it plans to introduce carbon pricing. The Brunei National Climate Change Policy (BNCCP), launched in 2020, lists carbon pricing as a key strategy. The government is considering a voluntary carbon market, possibly involving credit trading from local emission reductions or forest conservation. The focus is on an incentive-based system rather than a mandatory tax or cap (Brunei Climate Change Secretariat; IMF, 2023).

Timeline: Brunei has set a target to introduce a carbon pricing mechanism by 2025. It has held capacity-building workshops with international partners and is preparing a carbon pricing roadmap. As of late 2023, the roadmap was nearing completion. No official price is in place yet, and more consultations are expected before implementation (ASEAN Centre for Energy, 2023; IMF, 2023).

Lead Agencies: The Brunei Climate Change Secretariat (BCCS), under the Ministry of Development, leads the carbon pricing work. The Ministry of Energy and the Ministry of Finance and Economy are also involved. Final approval would come from the National Council on Climate Change (Brunei Climate Change Secretariat).

Relevance to the Philippines: Brunei's ongoing work shows that even fossil fuel-reliant countries in ASEAN are preparing for carbon pricing. It highlights the importance of setting clear targets, doing groundwork, and starting with voluntary systems. This approach offers lessons for the Philippines as it develops its own carbon pricing strategy.

2. Indonesia

Instrument and Features: Indonesia is rolling out a hybrid carbon pricing system that combines a carbon tax with an ETS. The carbon tax, set at IDR 30,000 per ton under Law No. 7/2021, is intended to serve as a price floor for the ETS but has been postponed until 2025 (Andriansyah & Hong, 2024). A mandatory ETS pilot began in 2023, initially covering 99 coal-fired power plants responsible for around 80 percent of power generation. The ETS applies an intensity-based cap and distributes about 20 million tons of CO_2 allowances for free, with market prices averaging roughly USD 2 per ton (ICAP, 2023).

Entities that exceed their allocated allowances can either buy additional permits or pay the carbon tax. The Indonesia Stock Exchange Carbon (IDXCarbon) provides the platform for trading, while companies may also use verified domestic offset credits known as *Sertifikat Pengurangan Emisi Gas Rumah Kaca* (SPE-GRK), or the Indonesia Certificate of Emission Reduction, sourced from renewable energy or energy efficiency projects (Chandra, 2024). Emissions monitoring is integrated into Indonesia's National Registry System for GHG, and covered entities must report annually for compliance. Facility-level emissions caps are determined and approved by the Ministry of Environment and Forestry known as *Kementerian Lingkungan Hidup dan Kehutanan* (KLHK) as *Persetujuan Teknis Batas Atas Emisi Pelaku Usaha* (PTBAE) or Technical Approval for Emission Limits of Business Actors (ICAP).

Timeline: The carbon tax was formally legislated in 2021 through the Law on Harmonizing Tax Regulations but has seen two rollout delays due to inflation concerns and to allow for ETS pilot testing (Andriansyah & Hong, 2024). The ETS pilot officially launched in 2023 and was supported by Presidential Regulation No. 98/2021 and *Kementerian Energi dan Sumber Daya Mineral* (KESDM) Regulation No. 16/2022. The initial focus is on coal-fired plants, with plans to expand to oil and gas sectors by 2025. As of early 2024, the government is reviewing pilot outcomes to finalize broader implementation plans (ICAP, 2023).

Lead Agency: Kementerian Keuangan, the country's finance ministry, is responsible for tax policy and administration. KESDM, its energy and mineral resource ministry, oversees the ETS implementation in the power sector, while the KLHK sets MRV and emissions cap rules. The *Otoritas Jasa Keuangan* (OJK) regulates IDXCarbon (Chandra, 2024; ICAP).

Relevance to the Philippines: Indonesia shows the value of starting with a low carbon price and phasing in coverage. Its hybrid model and pilot allowed regulators to build capacity and ease industry compliance. (Andriansyah & Hong, 2024). Given the Philippines' deregulated energy sector and distinct institutional setup, a simpler approach may work best. Indonesia's emphasis on legal mandates, MRV investments, and financial regulators in carbon governance should be considered. (Chandra, 2024; ICAP, 2023).

3. Japan

Instrument and Features: Japan employs a mixed carbon pricing strategy that combines a modest national carbon tax with several emissions trading initiatives. The national "Tax for Climate Change Mitigation" was introduced in 2012 and is levied upstream on fossil fuel importers and wholesalers at JPY 289 per ton CO_2. It is integrated into existing fuel taxes (Ministry of the Environment, Japan, 2023). Although the tax rate is relatively low, it provides stable funding of around JPY 80 billion annually for renewable energy and energy efficiency programs (Schmittmann, 2023). In parallel, the Tokyo Metropolitan Government operates a cap-and-trade

system for large buildings and factories, achieving more than 25 percent emissions reductions in its first decade (Friedmann & Mavandad, 2023). At the national level, the voluntary "GX ETS" (Green Transformation ETS) was launched in 2023. It uses a baseline-and-credit approach and will transition into a mandatory cap-and-trade system starting in 2026. Allowance auctions are scheduled to begin by 2033 (Asia Society Policy Institute, 2024).

Timeline: Japan's carbon tax took effect in 2012 and reached its full rate of JPY 289 by 2016. The Tokyo ETS began in 2010 and is currently in its third compliance phase. The J-Credit program, which consolidated earlier schemes, was introduced in 2013. The Joint Crediting Mechanism (JCM), launched in 2014, supports international offset projects. The GX ETS began pilot operations in April 2023 and is scheduled to become mandatory in 2026 to help meet Japan's 2030 emissions target (Asia Society Policy Institute, 2024). Despite Japan's cautious approach in the past, the GX framework marks a shift toward more comprehensive national carbon pricing.

Lead Agencies: The carbon tax is managed by the Ministry of Finance (MOF), while the Ministry of the Environment (MOE) oversees the allocation of revenues to green programs (Ministry of the Environment, Japan, 2023). The Tokyo ETS is administered by the Tokyo Metropolitan Government. The GX ETS is jointly supervised by MOE and the Ministry of Economy, Trade and Industry (METI), with support from the Tokyo Stock Exchange and a national emissions registry (Friedmann & Mavandad, 2025). The JCM is led by MOE and METI in partnership with 17 countries, including the Philippines.

Relevance to the Philippines: Japan's approach offers several lessons for the Philippines. Introducing a low carbon tax can help build institutional capacity and policy momentum, although the emissions impact may be limited without a clear pathway for increasing the rate over time (Schmittmann, 2023). Tokyo's ETS shows that subnational trading systems can achieve significant reductions. This could be explored in Metro Manila or other urban areas in the Philippines. Japan also highlights the benefits of integrating offsets and engaging in international cooperation, such as the JCM, which the Philippines already participates in. While Japan's system is fragmented, its step-by-step evolution demonstrates how a developing economy like the Philippines can gradually adopt carbon pricing as part of a broader climate policy framework.

4. Malaysia

Instrument and Features: Malaysia has not yet adopted a national carbon tax or ETS but is preparing both. A carbon tax is scheduled to begin in 2026, initially targeting high-emission sectors like power and steel. Rates and design are still being finalized, but the tax is expected to be modest to avoid harming competitiveness. In parallel, the Bursa Carbon Exchange (BCX) was launched in 2022 as a voluntary carbon market to allow companies to trade verified carbon credits. This platform aims to build market familiarity and offset emissions ahead of a mandatory regime (Bursa Malaysia, n.d.).

Timeline: Malaysia announced plans to explore carbon pricing in Budget 2022. The BCX began operations in December 2022 and held its first auction in March 2023. Since 2021, a World Bank-supported study has guided the design of the carbon tax and a potential ETS. A carbon tax is expected in 2026, and a national ETS may follow under the forthcoming Climate Change Bill. Some states, like Sarawak, have passed their own carbon laws, indicating subnational momentum (ICAP, 2024).

Lead Agencies: The Ministry of Natural Resources, Environment and Climate Change (NRES) leads the development of Malaysia's carbon pricing instruments, while the Ministry of Finance co-develops the carbon tax. Bursa Malaysia operates the voluntary carbon exchange and may provide trading infrastructure for a future ETS. The federal approach is supported by state-level efforts, such as Sarawak's local carbon regulation (Reccessary, 2025).

Relevance to the Philippines: Malaysia's phased strategy highlights how voluntary markets can prepare institutions and businesses for carbon pricing. Its planned 2026 carbon tax offers a timeline the Philippines can reference. The integration of carbon pricing into national development and collaboration with international partners shows a model for aligning fiscal and climate goals while preparing for regional climate cooperation.

5. Mexico

Instrument and Features: Mexico uses a hybrid carbon pricing system that combines a carbon tax with an emerging ETS. The carbon tax, introduced in 2014, applies to fossil fuel sales and imports, with a base rate of around MXN 70 per ton of CO_2. However, it is only levied on emissions exceeding the carbon intensity of natural gas, effectively exempting gas to protect industrial competitiveness. Companies can offset their tax obligations using Certified Emission Reduction (CER) credits from domestic Clean Development Mechanism (CDM) projects, linking the tax to project-based reductions (SEMARNAT).

Mexico's ETS, the first in Latin America, targets large emitters in the power and industrial sectors with emissions of 100,000 tons CO_2 or more per year. The pilot phase uses historical emissions for free allowance allocation and imposes no financial penalties, allowing covered firms to familiarize themselves with cap-and-trade operations before full enforcement begins (ICAP, 2024).

Timeline: The carbon tax came into effect in January 2014 as part of a broader fiscal reform and remains active. In 2018, amendments to the General Climate Change Law authorized the development of an ETS. The ETS pilot began in January 2020 and was originally planned to end in 2022. However, it has been extended into a transition phase through 2024, with five annual rounds of free allowance allocations completed so far. Full operational launch is now anticipated around 2025, following additional regulatory and technical preparations (SEMARNAT; ICAP, 2024).

Lead Agencies: The Ministry of Environment and Natural Resources (SEMARNAT) leads the implementation of the ETS. It manages the National Emissions Registry (RENE), convenes the ETS Consultative Committee, and is drafting the regulations for the ETS operational phase. The Ministry of Finance administers the carbon tax and coordinates with SEMARNAT on the use of offsets.

Relevance to the Philippines: The Philippines could consider a similar strategy: rolling out a low-rate carbon tax in the short term, while developing a sector-specific ETS in parallel. Mexico's use of legal mandates and gradual enforcement helped build industry trust and technical capacity. Integrating offsets into both the tax and trading systems can support compliance (ICAP, 2024; SEMARNAT).

6. Singapore

Instrument and Features: Singapore implements a carbon tax under the Carbon Pricing Act 2018 that targets facilities emitting at least 25,000 tCO_2e annually. The tax applies to major sectors including power generation and manufacturing which covers about 80 percent of national emissions (NCCS). It began at SGD 5 per ton in 2019 and excludes emissions trading with announced future rate increases. (Kua & Aravindan, 2022). From 2024, firms may offset up to five percent of their taxable emissions using approved international carbon credits. A Transition Framework also provides temporary free allowances for emissions-intensive, trade-exposed industries.

Timeline: The carbon tax was announced in 2017, legislated in 2018, and took effect in 2019 at SGD 5 per ton. A review in 2022 announced planned rate hikes to SGD 25 in 2024, SGD 45 in 2026, and up to SGD 80 by 2030 to align with Singapore's net-zero climate goal. The gradual increases give firms time to adapt. The Carbon Pricing Act enables periodic policy adjustments as needed (NCCS; Kua & Aravindan, 2022).

Lead Agency: The National Environment Agency administers the tax and oversees emissions reporting. The Ministry of Finance manages rate setting and revenue allocation. Overall climate policy and alignment with mitigation targets are coordinated by the National Climate Change Secretariat under the Prime Minister's Office.

Relevance to the Philippines: Singapore's model shows that clear legal foundation, gradual price increases, and monitoring can expedite institutionalizing a carbon pricing system. While the Philippines has a different economic, energy, and governance structure, it can follow Singapore's strategy of starting with a low rate, earmarking revenues for climate goals, and integrating offset mechanisms.

7. South Africa

Instrument and Features: South Africa's carbon tax, enacted through the Carbon Tax Act No. 15 of 2019, targets direct emissions from fuel combustion, industrial processes, and fugitive sources. The tax began at ZAR 120 per ton CO_2e and increases annually by inflation. During Phase 1, firms received generous tax-free allowances of up to 95 percent of emissions through a combination of a general 60% basic allowance and sector-specific exemptions. Entities may also reduce liabilities by up to 10 percent using verified offsets from domestic emission reduction projects (Carbon Tax Act, 2019; IMF, 2023).

Timeline: The carbon tax began in June 2019 following a decade of consultation and policy development. Phase 1 (2019–2022) served as a transitional period with low effective tax rates and broad exemptions. Phase 2 began in 2023 and is intended to gradually increase the carbon price signal. By 2024, the tax rate was raised to ZAR 190 per ton and is expected to reach ZAR 440 to 600 by 2030. Phase 2 will also reduce allowable exemptions and tighten offset eligibility (National Treasury, 2024; IMF, 2023).

Lead Agency: The National Treasury oversees the carbon tax framework which includes policy design and rate setting. The South African Revenue Service (SARS) administers tax collection. Emissions data are reported by covered entities in compliance with Department of Forestry, Fisheries and the Environment (DFFE) guidelines, which support enforcement and verify claims for allowances or offsets (Carbon Tax Act, 2019; IMF, 2023).

Relevance to the Philippines: South Africa's experience highlights the feasibility of carbon pricing in a developing economy through a phased approach. Its use of transitional allowances and domestic offsets helped mitigate resistance while establishing necessary infrastructure. (IMF, 2023; National Treasury, 2024). For the Philippines, starting with modest tax levels and limited coverage, then scaling up as data, institutional capacity, and stakeholder support grow can be modeled.

8. Thailand

Instrument and Features: Thailand is developing a hybrid carbon pricing approach that includes both voluntary and regulatory measures. The Thailand Greenhouse Gas Management Organization (TGO) began piloting a Voluntary Emissions Trading Scheme (V-ETS) in 2013 and has since expanded to a pilot ETS in the Eastern Economic Corridor. In 2025, Thailand introduced a THB 200 per ton carbon tax on gasoline and jet fuel producers, signaling an initial step toward mandatory pricing. A draft Climate Change Act outlines plans for a national ETS, carbon crediting, and a broader carbon tax framework (ICAP, 2024).

Timeline: Thailand's carbon market development began with voluntary programs in 2013. The carbon crediting program (T-VER) and V-ETS helped test systems for monitoring and trading. A pilot ETS followed in 2021. In early 2025, Thailand approved a targeted carbon tax. The Climate Change Act, currently under final review, is expected to be passed by 2025 and take effect by 2027, laying the legal foundation for a national ETS and broader pricing mechanisms (Reccessary, 2024).

Lead Agencies: TGO leads carbon market pilots and manages the T-VER offset program. The forthcoming Department of Climate Change and Environment (DCCE) will take over ETS implementation under the new law. The Ministry of Finance is expected to oversee carbon tax collection, especially for fuel-related taxes (ICAP, 2024).

Relevance to the Philippines: Thailand is drafting climate legislation that includes provisions for an ETS and carbon tax. The government aims to pass the Climate Change Act by 2025, with implementation expected by 2027.

9. Vietnam

Instrument and Features: Vietnam is developing a cap-and-trade system under its 2020 Law on Environmental Protection, with no planned carbon tax. The ETS will pilot 150 large emitters, who will receive free allowances and may use domestic or international carbon offsets for up to 20 percent of their obligations (MONRE, 2024). The Hanoi Stock Exchange will operate the trading platform. Over time, the system may shift to auctions and stricter caps (ICAP, 2025).

Timeline: The legal foundation was laid in 2020, followed by Decree 06/2022. A market simulation was held in 2023, and a pilot ETS will launch from 2025 to 2028. Full implementation is expected in 2029 with potential international linkage after 2030 (Vietnam News, 2024).

Lead Agency: The Ministry of Natural Resources and Environment (MONRE) leads the ETS design, including MRV systems and cap setting. The Ministry of Finance and Ministry of Industry and Trade support policy and market infrastructure, while the Hanoi Stock Exchange manages trading operations (MONRE, 2024).

Relevance to the Philippines: Vietnam's phased rollout highlights the value of legal groundwork, early data systems, and pilot testing.

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