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Climate Efforts in South East Asia – An Overview

In mid-September, Thailand’s Excise Department Director-General announced that the country will introduce a [carbon tax](#) to promote a greener economy. The timing and the scope of the tax are still being debated among experts and policymakers.

Admittedly, under the current environment of soaring inflation and global energy crisis, such an announcement came as a pleasant surprise. Developing countries are still putting efforts to decarbonize their economies with new climate initiatives despite the pushback set by the ongoing energy shortages. After having discussed at length in previous publications the [carbon market](#) and climate initiatives of China, we decided to focus this time on the climate efforts of South East Asian countries, commonly referred to as ASEAN countries. Brunei, Cambodia, Laos and Myanmar are excluded from this review due to data unavailability.

The Paris Agreement of 2015 mandates all member countries to report Nationally Determined Contributions (NDC) that are designed to help achieve climate goals. Since 2020, major ASEAN countries have all submitted NDCs, which we believe is a reflection of each country’s economic development stage, technological capabilities and climate ambitions.

ASEAN Countries NDCs Summary

Country	GHG emissions in 2018 MtCO ₂ e	Mitigation type	Mitigation target			Reference point	Target year	Carbon neutral / Net zero target
			Unconditional	Conditional	Total			
Indonesia	1,700	Relative emissions reduction	29%	12%	41%	BAU	2030	Net zero by 2060
Malaysia	390	Carbon intensity reduction (CO ₂ e per ringgit of GDP)	45%	-	45%	2005	2030	Carbon neutral by 2050 at the earliest; no net zero target
Philippines	240	Relative emissions reduction	2.71%	72.29%	75%	BAU (during 2020-2030)	2020-2030	No target
Singapore	70	(a) Absolute emissions peaking	Peak emissions at no higher than 65 MtCO ₂ e around 2030			-	2030	Net zero by/around 2050
		(b) Relative emissions reduction	Halve emissions from its peak to 33 MtCO ₂ e by 2050			Peak emissions	2050	-
Thailand	430	Relative emissions reduction	20%	5%	25%	BAU	2030	Carbon neutral in 2050; net zero by 2065
Vietnam	360	Relative emissions reduction	9%	22%	27%	BAU	2030	Net zero by 2050

Source: CGS-CIMB Research, UNFCCC

Among ASEAN countries, Indonesia stands out as being the single largest greenhouse gas (GHG) emitter by virtue of its large population and land size. Others like Thailand, Malaysia, and Vietnam have broadly similar emission levels at between 360 and 430 MtCO₂e. Despite having the lowest level of GHG in absolute terms due to its small area, the city-state of Singapore is the only country to have an emission target that is set in absolute terms. It also set the most ambitious mitigation targets across the region, both in absolute and relative terms.

It is worth noting that reduction targets presented in the table above may not be fully comparable to each other as different countries chose one of three different reduction measures: 1) relative emissions reductions against “business as usual” (BAU); 2) carbon

intensity and 3) absolute targets. In addition, differences in baseline setting and the composition of unconditional and conditional targets also make direct comparables extremely challenging.

Taking Indonesia as an example of setting a relative emissions reduction target, its target is to reduce its GHG emissions unconditionally by 29% by 2030 relative to the BAU reference point. If Indonesia secures foreign assistance, it may be able to reduce its GHG emissions by a further 12%, for a total reduction of 41% by 2030. Compared to carbon intensity targets set in absolute terms, relative targets are generally less transparent as the projection of BAU is largely discretionary and highly sensitive to underlying assumptions. Put differently, if the BAU projection of emissions growth is very aggressive, a country may claim to have met its NDC targets without actually having reduced absolute emissions by much.

In terms of long-term targets, most ASEAN countries aim to become net zero between 2050 and 2060, while the Philippines stands out as being the only exception with no net zero targets over the long-term. The Philippines' lack of climate ambition is also reflected in its weakest unconditional targets among all ASEAN countries as it plans to only reduce emissions unconditionally by a mere 2.71% against the 2020-2030 BAU.

Carbon tax and Emission Trading Schemes (ETS) are among the most commonly used mechanisms to achieve emissions reduction targets by putting a price on emissions and setting up a market for carbon credit. Despite being in the early stage of their emission reduction journey, some ASEAN countries have already started to employ such mechanisms.

ASEAN Countries Carbon Market Summary

Country	Compliance carbon market initiatives	
	Carbon tax	ETS
Indonesia	Carbon tax of Rp30,000/tCO ₂ e (US\$2) from 2022 proposed for coal-fired power plants, to be expanded to all sectors by 2025	Pilot ETS for coal-fired power plants in Apr-Aug 2021; may be progressed to mandatory ETS in 2024
Malaysia	Under consideration	Under consideration
Philippines	Under consideration	Under consideration
Singapore	Carbon tax of S\$5/tCO ₂ e since 2019; 2024-2025: S\$25; 2026-2027: S\$45; 2028-2030: progressively increased to S\$50-80	Unknown
Thailand	-	Thailand Voluntary Emission Trading Scheme (Thailand V-ETS) (currently a pilot for economy-wide use except power sector)
Vietnam	Carbon Payment for Forest Environmental Services (C-PFES) pilot	Pilot carbon exchange from 2026; full ETS in 2028

Source: CGS-CIMB Research, UNFCCC

Singapore is no doubt the leader in this regard as it has set up a carbon tax regime as early as 2019 with a relatively aggressive price hiking schedule. Its target of increasing carbon tax to S\$50-80 (\$36-57) by the end of the decade will meaningfully close the price gap with more advanced carbon markets such as the European Union but has also spooked concerns within its petrochemical industry.

Indonesia's \$2 (Rp30,000) carbon tax charged against coal-powered generators (representing 26% of the country's GHG emissions) was initially set to commence in April 2022 with potential expansion to other sectors after 2025. Due to the rise in oil prices driven by the Russia-Ukraine war, the tax scheme was unfortunately pushed back to a future unspecified date. In March 2021, Indonesia also launched a voluntary emissions trading scheme for the power sector which is expected to be replaced by a mandatory ETS. The ETS will likely be combined with the carbon tax, although such an arrangement is relatively unusual elsewhere.

Both Thailand and Vietnam have set up pilot programs in this regard. Thailand's V-ETS program kick-started in 2015 and sector-specified guidelines have been developed for the beverage and sugar, textiles, and flat glass industries in 2020. In early 2022, Vietnam issued a decree which sets forth rules for Monitoring, Reporting, and Verification (MRV) systems and includes provisions for developing a national ETS to be launched in 2026.

Compared to climate actions and to the ambitions of developed countries, initiatives of ASEAN countries may seem relatively slow and insignificant. However, as the home to the world's fastest growing populations among emerging markets, the region's climate efforts shall not be easily overlooked. Its rapidly growing population and industrial activities will likely make it a force in combating climate change for decades to come.

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