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OCBC's Key Markets: Progress in Carbon Tax Policies

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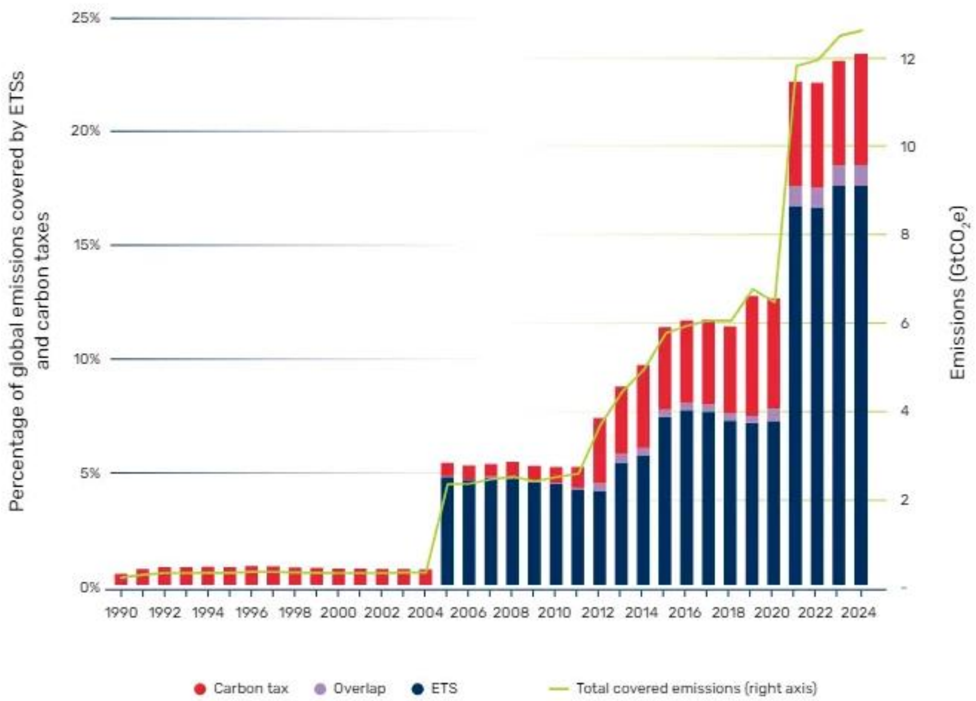
1. Introduction

Carbon pricing policies such as carbon taxes and emissions trading systems (ETS) are effective policy instruments if priced and enforced effectively. According to the World Bank, there are 75 carbon pricing instruments in operation globally, and carbon pricing revenues in 2023 reached US$104bn. Carbon taxes and ETS accounted for less than 10% of global emissions around a decade ago, but this has risen to 24% in 2024 (*Figure 1*).

Figure 1: Global GHG emissions covered by carbon taxes and ETS



Source: World Bank

However, carbon pricing policies can be challenging to implement because of the burden on industries and downstream impact on households. Between carbon taxes and ETS, the former has practical advantages due to ease of administration and price certainty. While the momentum for carbon pricing is increasing globally, there are large differences in sector coverage and tax rates. This report will cover the progress that OCBC's key markets have made in carbon tax policies, the challenges faced and what can be expected moving forward.

2. Carbon tax as a decarbonisation tool

Implementing carbon taxes can be an effective tool to reduce emissions from business-as-usual scenarios by promoting green investments, thereby accelerating the low-carbon transition. It encourages companies to adopt sustainable practices that reduce emissions so that their payable taxes are reduced. Sweden was among the first few countries to implement a carbon tax, and it was found that emissions in Swedish manufacturing would have been higher if not for the implementation of its carbon tax. This underscores the importance of effective carbon tax policies to reduce global greenhouse gas emissions.

The revenue from carbon taxes is often used to fund carbon mitigation programmes, reduce income taxes or supplement government budgets. For example, one third of carbon tax revenues in Switzerland mostly go towards funding energy efficiency measures in buildings. Japan's Tax for Climate Change Mitigation is also largely earmarked for energy efficiency and renewable energy programmes. While carbon pricing policies are an important element of decarbonisation strategies, they can be more effective when implemented in tandem with other measures such as government incentives and capability building initiatives.

3. Progress in implementing carbon tax in OCBC's key markets

Carbon pricing is gaining momentum in Asian economies, including in OCBC's key markets of Singapore, Malaysia, Indonesia and China. These key markets have set net-zero targets, with carbon-related initiatives at different stages of progress for the different markets (*Table 1*).

Table 1: Net-zero targets and carbon-related initiatives in OCBC's key markets

	Singapore	Malaysia	Indonesia	China
Net-zero Target	Net zero emissions by 2050	Net zero emissions by 2050	Net zero emissions by 2060 or sooner	Net zero emissions by 2060
Carbon Tax	2019–2023: S$5/$tco_2e$ 2024–2025: S$25/$tco_2e$ 2026–2027: S$45/$tco_2e$ 2028–2030: S$50-80/$tco_2e$	In progress: Exploring potential for a carbon tax and domestic ETS	In progress: Delayed but set to launch in 2025	-
Emissions Trading Scheme	-	-	National ETS for coal-fired power plants	National ETS for power sector, set to expand to other sectors like cement
Voluntary Carbon Marketplace and Exchange	Climate Impact X, AirCarbon Exchange	Bursa Carbon Exchange	Indonesia Carbon Exchange	China Certified Emission Reduction

Singapore was the first country in Southeast Asia to implement a carbon tax, set at an initial rate of S$5/$tCO_2e$ from 2019 to 2023. The carbon tax was raised fivefold to S$25/$tCO_2e$ in 2024 and will be further raised to S$45/$tCO_2e$ in 2026 and 2027, with a view to reaching S$50 – 80/$tCO_2e$ by 2030. The carbon tax is levied on facilities that directly emit at least 25,000 tCO_2e of seven[1] greenhouse gas emissions (Scope 1 emissions) annually. This covers approximately 80% of Singapore's total

[1] Singapore's carbon tax covers seven greenhouse gas emissions, namely carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6), and Nitrogen Trifluoride (NF_3).

greenhouse gas emissions from around 50 facilities in the manufacturing, power, waste and water sectors.

In comparison, Malaysia, Indonesia and China have yet to implement a carbon tax. Nonetheless, it was highlighted in Malaysia's 'New Industrial Master Plan 2030' that there are plans to implement a carbon tax system in Malaysia. Similar to Singapore, there are plans to start with an initial tax rate and a pathway for a gradual increase in tax rate over a set number of years. Malaysia is also considering introducing a carbon tax just for the iron and steel sector, that can set the pathway for the introduction of carbon pricing in other hard-to-abate sectors in the country. Indonesia's national carbon tax was previously set to be rolled out in Apr 2022, but was delayed to support companies through the challenging macroeconomic environment amidst inflation and volatile energy prices. The government is drafting three pieces of legislation that will serve as the foundation for the delayed carbon tax, likely to be rolled out in 2025. While it is unclear if China plans to implement a carbon tax system, its national ETS came into operation in 2021 and currently only covers the power sector. There are plans to expand the ETS to cover other emissions-intensive sectors soon, especially those covered under the EU's Carbon Border Adjustment Mechanism, like cement, aluminium, iron and steel.

A carbon tax needs to be appropriately priced to urge businesses to reduce emissions and accelerate their low-carbon transition. On a global level, countries with the highest carbon tax include Sweden at SEK1,330/tCO_2e (~S$167.45/$tCo_2e$) and Switzerland at CHF120/tCO_2e (~S$182.01/$tCO_2e$). Carbon taxes implemented in Asia are still relatively low and in the transitory stages, with room for a gradual increase.

Carbon taxes often form part of a suite of decarbonisation strategies, complemented by other initiatives such as government grants and platforms to enable the carbon market ecosystem. OCBC's key markets have their respective voluntary carbon market (VCM) platforms and are accelerating efforts to provide high-quality carbon credits to the market. Singapore has also launched the Singapore Carbon Market Alliance to foster a vibrant VCM, and the hope is to see more Implementation Agreements[2] being signed between Singapore and various host nations to encourage further activity in carbon markets. While the VCM is currently fractured and plagued by quality concerns, there are increasingly more integrity initiatives to enable a transparent VCM that delivers high-quality carbon credits.

4. Barriers to implementing a carbon tax

Policymakers face several challenges in implementing a carbon tax strategy that aims to strike a balance between economic growth and climate commitments. There may be opposition from carbon tax-liable companies because of increased operating costs, as well as from households if businesses pass on the carbon tax costs to consumers. There is also the risk of carbon leakage where companies may

[2] An Implementation Agreement (IA) sets out the bilateral framework for the international transfer of correspondingly adjusted carbon credits (i.e. mitigation outcomes) between host countries and Singapore. Singapore has signed IAs with Ghana and Papua Guinea to collaborate on carbon credits.

shift their operations to other countries with less stringent environmental policies. Other challenges in Southeast Asian markets like Indonesia and Malaysia include (i) heavy reliance on coal for power generation, (ii) continued subsidisation of fossil fuels and (iii) the lack of a robust measurement, reporting and verification framework for greenhouse gas emissions.

5. Moving forward

Moving forward, countries are anticipated to continue seeking complementarity between carbon tax policies and carbon markets. For example, carbon tax-liable companies in Singapore are allowed to use high-quality carbon credits to offset up to 5% of their taxable emissions. This aims to catalyse the development of a transparent carbon market that delivers high-quality carbon credits while cushioning the impact of the carbon tax, especially for companies in hard-to-abate sectors.

Despite the challenges associated with implementing carbon taxes, the momentum behind carbon pricing policies remains strong. It is seen as an important policy tool as part of a broader decarbonisation strategy. As countries seek appropriate pricing and coverage of carbon taxes over time, transitory measures are important to ensure that companies remain competitive while transitioning to a low-carbon future. This can come in the form of a carbon tax pilot, grants for emissions reduction projects or allowances provided to carbon tax-liable companies.

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