

ESG

20 August 2024

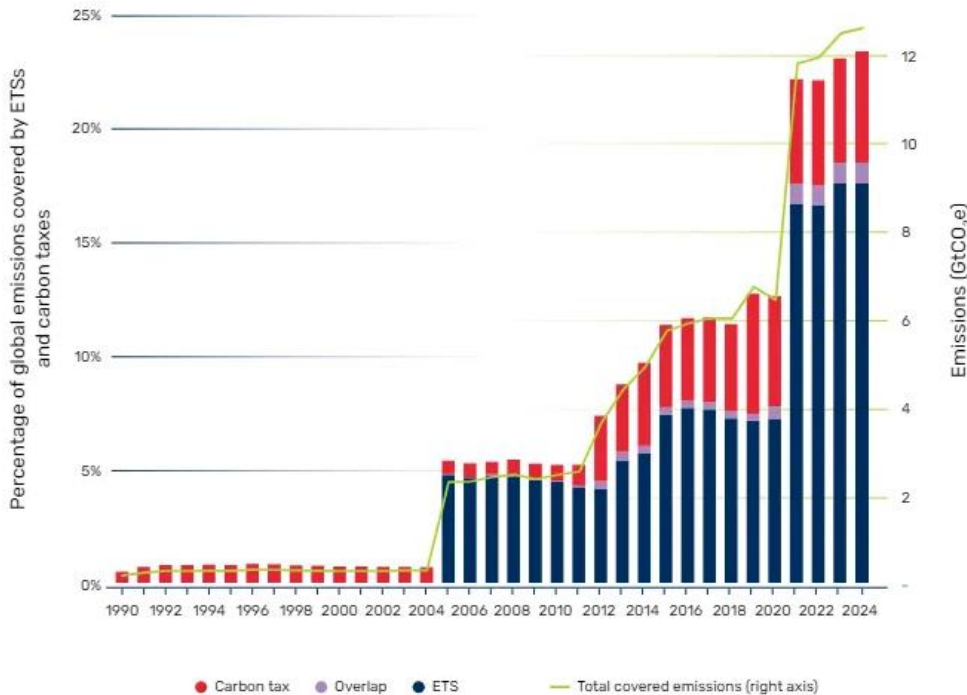
OCBC’s Key Markets: Progress in Carbon Tax Policies

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).

Ong Shu Yi
 ESG Analyst
 +65 6530 7348
ShuyiOng1@ocbc.com

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 ₂ e 2024–2025: S\$25/tco ₂ e 2026–2027: S\$45/tco ₂ e 2028–2030: S\$50-80/tco ₂ e	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/tCO₂e from 2019 to 2023. The carbon tax was raised fivefold to S\$25/tCO₂e in 2024 and will be further raised to S\$45/tCO₂e in 2026 and 2027, with a view to reaching S\$50 – 80/tCO₂e by 2030. The carbon tax is levied on facilities that directly emit at least 25,000 tCO₂e of seven¹ 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 (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆), and Nitrogen Trifluoride (NF₃).

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/tCO₂e (~S\$167.45/tCO₂e) and Switzerland at CHF120/tCO₂e (~S\$182.01/tCO₂e). 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 Agreements² 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.

Macro Research

Selena Ling

Head of Research & Strategy
lingsselena@ocbc.com

Herbert Wong

Hong Kong & Taiwan Economist
herberhtwong@ocbc.com

Jonathan Ng

ASEAN Economist
jonathanng4@ocbc.com

Tommy Xie Dongming

Head of Asia Macro Research
xied@ocbc.com

Lavanya Venkateswaran

Senior ASEAN Economist
lavanyavenkateswaran@ocbc.com

Ong Shu Yi

ESG Analyst
shuyiong1@ocbc.com

Keung Ching (Cindy)

Hong Kong & Macau Economist
cindyckeung@ocbc.com

Ahmad A Enver

ASEAN Economist
ahmad.enver@ocbc.com

FX/Rates Strategy

Frances Cheung, CFA

Head of FX & Rates Strategy
francescheung@ocbc.com

Christopher Wong

FX Strategist
christopherwong@ocbc.com

Credit Research

Andrew Wong

Head of Credit Research
wongvkam@ocbc.com

Ezien Hoo

Credit Research Analyst
ezienhoo@ocbc.com

Wong Hong Wei

Credit Research Analyst
wonghongwei@ocbc.com

Chin Meng Tee

Credit Research Analyst
mengteechin@ocbc.com

This publication is solely for information purposes only and may not be published, circulated, reproduced or distributed in whole or in part to any other person without our prior written consent. This publication should not be construed as an offer or solicitation for the subscription, purchase or sale of the securities/instruments mentioned herein. Any forecast on the economy, stock market, bond market and economic trends of the markets provided is not necessarily indicative of the future or likely performance of the securities/instruments. Whilst the information contained herein has been compiled from sources believed to be reliable and we have taken all reasonable care to ensure that the information contained in this publication is not untrue or misleading at the time of publication, we cannot guarantee and we make no representation as to its accuracy or completeness, and you should not act on it without first independently verifying its contents. The securities/instruments mentioned in this publication may not be suitable for investment by all investors. Any opinion or estimate contained in this report is subject to change without notice. We have not given any consideration to and we have not made any investigation of the investment objectives, financial situation or particular needs of the recipient or any class of persons, and accordingly, no warranty whatsoever is given and no liability whatsoever is accepted for any loss arising whether directly or indirectly as a result of the recipient or any class of persons acting on such information or opinion or estimate. This publication may cover a wide range of topics and is not intended to be a comprehensive study or to provide any recommendation or advice on personal investing or financial planning. Accordingly, they should not be relied on or treated as a substitute for specific advice concerning individual situations. Please seek advice from a financial adviser regarding the suitability of any investment product taking into account your specific investment objectives, financial situation or particular needs before you make a commitment to purchase the investment product. OCBC Bank, its related companies, their respective directors and/or employees (collectively "Related Persons") may or might have in the future interests in the investment products or the issuers mentioned herein. Such interests include effecting transactions in such investment products, and providing broking, investment banking and other financial services to such issuers. OCBC Bank and its Related Persons may also be related to, and receive fees from, providers of such investment products. This report is intended for your sole use and information. By accepting this report, you agree that you shall not share, communicate, distribute, deliver a copy of or otherwise disclose in any way all or any part of this report or any information contained herein (such report, part thereof and information, "Relevant Materials") to any person or entity (including, without limitation, any overseas office, affiliate, parent entity, subsidiary entity or related entity) (any such person or entity, a "Relevant Entity") in breach of any law, rule, regulation, guidance or similar. In particular, you agree not to share, communicate, distribute, deliver or otherwise disclose any Relevant Materials to any Relevant Entity that is subject to the Markets in Financial Instruments Directive (2014/65/EU) ("MiFID") and the EU's Markets in Financial Instruments Regulation (600/2014) ("MiFIR") (together referred to as "MiFID II"), or any part thereof, as implemented in any jurisdiction. No member of the OCBC Group shall be liable or responsible for the compliance by you or any Relevant Entity with any law, rule, regulation, guidance or similar (including, without limitation, MiFID II, as implemented in any jurisdiction).

Co.Reg.no.: 193200032W