KPMG

Understanding transfer pricing models of carbon markets in Singapore

Carbon credits: transfer pricing models and considerations

KPMG in Singapore

Contents

Introduction

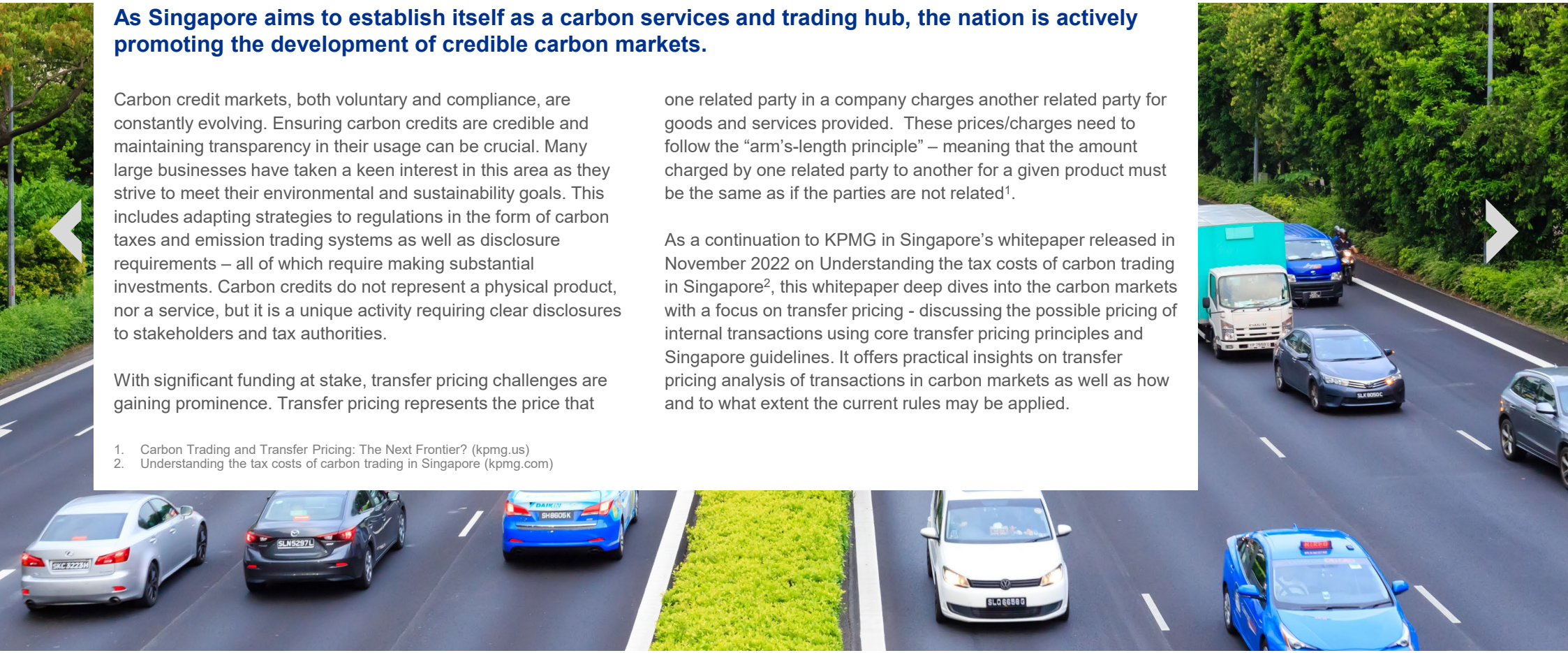
As Singapore aims to establish itself as a carbon services and trading hub, the nation is actively promoting the development of credible carbon markets.

Carbon credit markets, both voluntary and compliance, are constantly evolving. Ensuring carbon credits are credible and maintaining transparency in their usage can be crucial. Many large businesses have taken a keen interest in this area as they strive to meet their environmental and sustainability goals. This includes adapting strategies to regulations in the form of carbon taxes and emission trading systems as well as disclosure requirements – all of which require making substantial investments. Carbon credits do not represent a physical product, nor a service, but it is a unique activity requiring clear disclosures to stakeholders and tax authorities.

With significant funding at stake, transfer pricing challenges are gaining prominence. Transfer pricing represents the price that one related party in a company charges another related party for goods and services provided. These prices/charges need to follow the "arm's-length principle" – meaning that the amount charged by one related party to another for a given product must be the same as if the parties are not related[1].

As a continuation to KPMG in Singapore's whitepaper released in November 2022 on Understanding the tax costs of carbon trading in Singapore[2], this whitepaper deep dives into the carbon markets with a focus on transfer pricing - discussing the possible pricing of internal transactions using core transfer pricing principles and Singapore guidelines. It offers practical insights on transfer pricing analysis of transactions in carbon markets as well as how and to what extent the current rules may be applied.

1. Carbon Trading and Transfer Pricing: The Next Frontier? (kpmg.us)
2. Understanding the tax costs of carbon trading in Singapore (kpmg.com)



Local and regional carbon trading and transfer pricing references

Amid the current economic landscape, the surge in energy prices and the risk of inflation, businesses in various sectors should closely monitor how governments globally respond to these factors and what measures are introduced based on their sustainability targets. For example, the recent United States Inflation Reduction Act of 2022 (IRA) is a significant stimulus package promoting investment in renewable energy in the country.

In this environment, it is crucial for businesses to actively monitor various regimes when considering potential investments. From a transfer pricing perspective, such measures change the relative value of the projects in the chain of sourcing and trading of carbon credits, which need to be reflected in the respective transfer pricing models.

Singapore businesses should monitor the incentives and tax regimes in Singapore and the broader Southeast Asian region (both carrots and sticks), to ensure that their operations are fully compliant with the new regimes at optimal costs whilst being ultimately tuned for the overall reduction of carbon.

When answering a question on arm's length price of carbon in internal transactions, there can be multiple references across geographies on what can be considered a market price of carbon credits. However, the choice of a particular market reference must be tied to the local carbon market rules whilst being aware of the global landscape amid continuous change. This includes the considerations and complexities associated with pricing carbon credits within the broader context of carbon markets and environmental policies. For example, Singapore allows companies to use high-quality international carbon credits to offset up to 5 percent of their taxable emissions from 2024, while the remaining obligations are paid as carbon tax at a rate fixed by the government. Hence, in most cases, the applicable reference rate would be the one established by the Singapore government. Singapore will regularly review its carbon pricing regime to take into account international developments.

In some geographies, companies have been using carbon credits sourced from the voluntary market. Various standard and integrity councils have put in efforts to create methodologies, frameworks, standards, and protocols to improve the quality and credibility of voluntary offsets. These are designed to provide the market with greater transparency and confidence in the credibility and integrity of the carbon credits on the market. At the same time, governments globally have also introduced limitations on the offset of local carbon requirements by foreign-sourced carbon credits, as well limitations on the exportation of carbon credits produced locally. These limitations dictate how much market prices from such markets can be used in intercompany transactions.

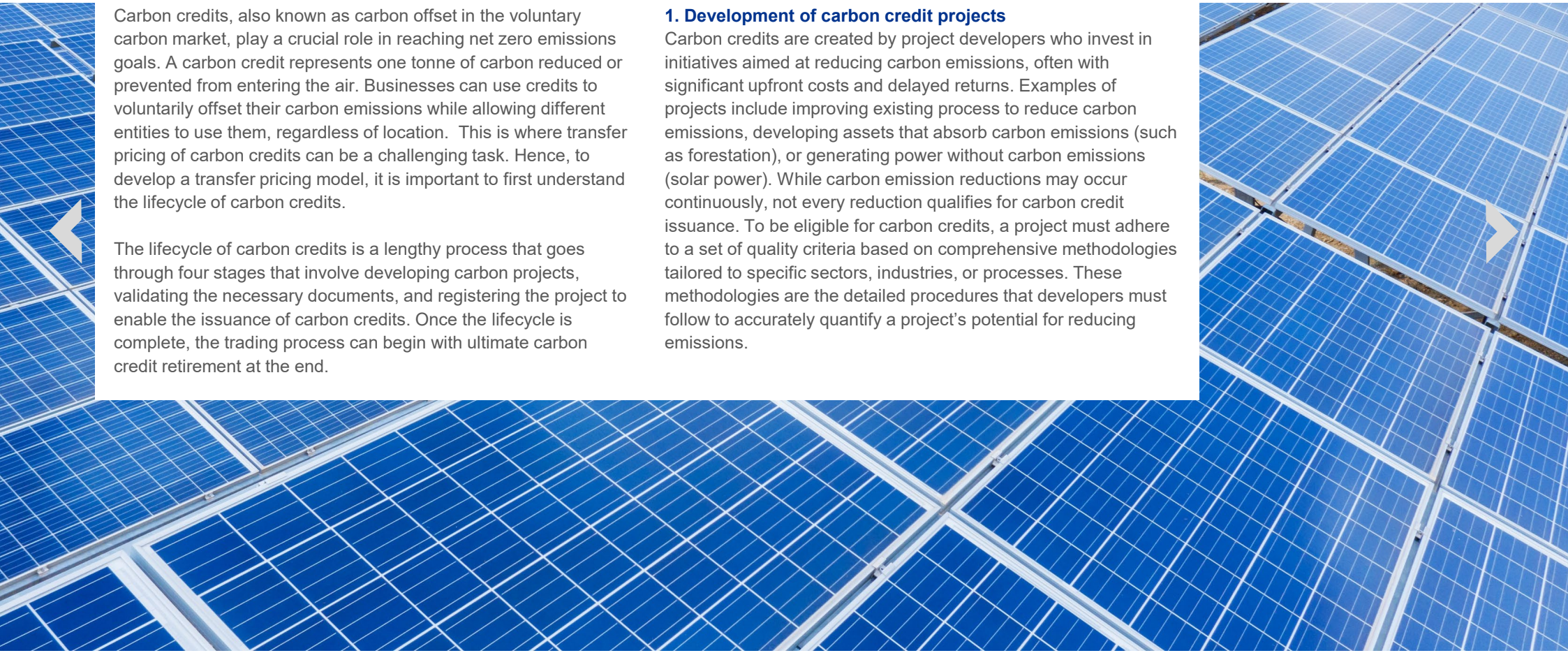
The lifecycle of carbon credits

Carbon credits, also known as carbon offset in the voluntary carbon market, play a crucial role in reaching net zero emissions goals. A carbon credit represents one tonne of carbon reduced or prevented from entering the air. Businesses can use credits to voluntarily offset their carbon emissions while allowing different entities to use them, regardless of location. This is where transfer pricing of carbon credits can be a challenging task. Hence, to develop a transfer pricing model, it is important to first understand the lifecycle of carbon credits.

The lifecycle of carbon credits is a lengthy process that goes through four stages that involve developing carbon projects, validating the necessary documents, and registering the project to enable the issuance of carbon credits. Once the lifecycle is complete, the trading process can begin with ultimate carbon credit retirement at the end.

1. Development of carbon credit projects

Carbon credits are created by project developers who invest in initiatives aimed at reducing carbon emissions, often with significant upfront costs and delayed returns. Examples of projects include improving existing process to reduce carbon emissions, developing assets that absorb carbon emissions (such as forestation), or generating power without carbon emissions (solar power). While carbon emission reductions may occur continuously, not every reduction qualifies for carbon credit issuance. To be eligible for carbon credits, a project must adhere to a set of quality criteria based on comprehensive methodologies tailored to specific sectors, industries, or processes. These methodologies are the detailed procedures that developers must follow to accurately quantify a project's potential for reducing emissions.



2. Validation, verification and registration

The second stage of carbon credit issuance involves undergoing validation, verification, and registration processes. Two responsible parties participate in getting project emission reduction claims verified - a third-party auditor verifying the credit and a registrar. These auditors ensure the integrity and accuracy of the data and information published by the developers on the project.

Various programmes, such as the Verra Verified Carbon Standard (VCS), and the Gold Standard offset programme, define the standard and maintain registers.

Once the project has been validated, verified, and registered, carbon credits can be traded in the carbon market for use by other companies.

3. Trading of carbon credits

Carbon credits are bought from the project sponsor by two parties – speculative investors or traders, and end buyers.

End buyers include individuals, corporations, and the government. They can buy carbon credits to offset against their emissions to comply with local legislation or targets set by companies or groups on voluntary basis. Speculative investors, traders or brokers purchase carbon credits, contributing to the rapid growth seen in carbon credit markets today.
Although some exchanges trade carbon credits, low liquidity and lack of standardisation often result in over-the-counter (OTC) trades. However, many markets in the Asia Pacific (ASPAC) region are competing to open carbon trading exchanges, including Singapore, Malaysia, and Hong Kong (SAR), China Ilustrating future prospects of the market.

Furthermore, derivatives now play a role in carbon markets. Commonly traded types of carbon derivatives include futures, options, and swaps. For example, futures are tied to the price of underlying carbon credits and allow speculative trading or hedging of prices without buying the carbon credits.

4. Retirement

Once a carbon credit is purchased by an end-user with the intention to offset its emissions, the carbon credit is considered retired. When a carbon credit is retired, it is recorded in a register as used and can no longer be traded. The vintage year of a carbon credit is important, and the retirement of each carbon credit will need to be aligned to the year for credibility and relevance.

The importance of transfer pricing for carbon trading

The rapid acceleration of corporate net-zero commitments has led many multinational corporations (MNCs) to invest in significant amounts to meet sustainability goals. This includes the adaptation of business model transformation which may involve investment or development of carbon-credit related projects, reduction of their current emissions, or the purchase of carbon credits.

To effectively execute this strategy and meet the targets on a company-by-company level, MNCs look to transfer their carbon credits between related entities. This activity is also known as carbon trading (CT) and such transactions are governed by transfer pricing principles. The pricing principle calls for the amount charged between related companies to be the same as if the parties were not related. With the industry practice still in its nascent stage of development, there might be opposing views on how this principle may be applied to carbon trading within MNCs.

While the Inland Revenue Authority of Singapore (IRAS) has not issued any specific guidelines on the transfer pricing of carbon credit-related products in Singapore, the analysis has to rely on existing industry practice as well as the local transfer pricing guidelines. For example the Transfer Pricing Guideline (Sixth Edition)[3], Commodity Marketing and Trading Activities Guidelines and Centralised Activities in Multinational Enterprise Groups Guidelines[4].

Increasingly, many MNCs are setting up their internal carbon pricing policies (ICP). This practise involves assigning a precise monetary value to carbon generated in its business operations to manage carbon footprint exposure and promote the MNC's ESG targets. At some MNCs, the ICP is designed taking into account the arm's length principles, but more often the principles behind ICPs are mostly operationally driven and not precise, or the reference prices are not regularly updated. Hence, while ideally transfer pricing of CT operations and ICP should be aligned, careful consideration is required when such a comparison is made as the systems may follow different principles and objectives.

3. etaxguide_cit_transfer-pricing-guidelines_6th.pdf (iras.gov.sg)
4. etaxguide---tp-for-headquarters-(19-mar-2021)-docx.pdf (iras.gov.sg)

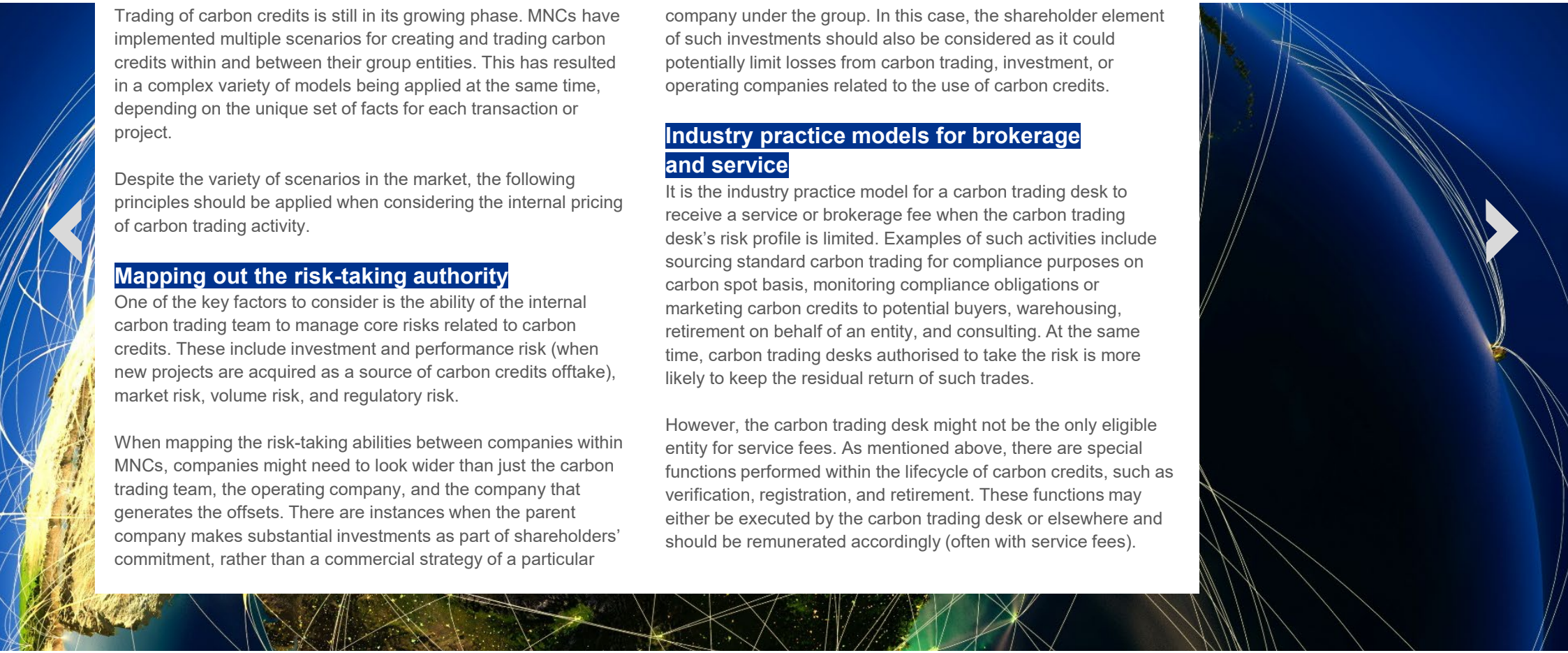
Why is it topical in Singapore?

Singapore is well-positioned to become a carbon services and trading hub. The nation can leverage pre-existing advantages to provide carbon management services, for example being a regional hub for commodity trading and financial services. This presents opportunities to co-locate commodity and carbon trading desks and support financing toward decarbonisation. Furthermore, as an international aviation and shipping hub, Singapore is an attractive carbon credits trading destination for international sectoral schemes such as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

The Singapore government is also scaling up its efforts to develop an international carbon marketplace and services ecosystem to support international decarbonisation initiatives. This is evident by IRAS' recent clarification of goods and services tax (GST) treatment on carbon trading in Singapore in November 2022.

As the carbon trading landscape grows globally, many MNCs choose to have a centralised carbon trading team. This team is strategically positioned to help identify opportunities for carbon credit optimisation. Many MNCs have set up their regional or global carbon trading desks in Singapore, in view that the nation is enhancing its position as a carbon trading hub.

Transfer pricing principles and carbon trading models



Trading of carbon credits is still in its growing phase. MNCs have implemented multiple scenarios for creating and trading carbon credits within and between their group entities. This has resulted in a complex variety of models being applied at the same time, depending on the unique set of facts for each transaction or project.

Despite the variety of scenarios in the market, the following principles should be applied when considering the internal pricing of carbon trading activity.

Mapping out the risk-taking authority

One of the key factors to consider is the ability of the internal carbon trading team to manage core risks related to carbon credits. These include investment and performance risk (when new projects are acquired as a source of carbon credits offtake), market risk, volume risk, and regulatory risk.

When mapping the risk-taking abilities between companies within MNCs, companies might need to look wider than just the carbon trading team, the operating company, and the company that generates the offsets. There are instances when the parent company makes substantial investments as part of shareholders' commitment, rather than a commercial strategy of a particular company under the group. In this case, the shareholder element of such investments should also be considered as it could potentially limit losses from carbon trading, investment, or operating companies related to the use of carbon credits.

Industry practice models for brokerage and service

It is the industry practice model for a carbon trading desk to receive a service or brokerage fee when the carbon trading desk's risk profile is limited. Examples of such activities include sourcing standard carbon trading for compliance purposes on carbon spot basis, monitoring compliance obligations or marketing carbon credits to potential buyers, warehousing, retirement on behalf of an entity, and consulting. At the same time, carbon trading desks authorised to take the risk is more likely to keep the residual return of such trades.

However, the carbon trading desk might not be the only eligible entity for service fees. As mentioned above, there are special functions performed within the lifecycle of carbon credits, such as verification, registration, and retirement. These functions may either be executed by the carbon trading desk or elsewhere and should be remunerated accordingly (often with service fees).

Type of carbon markets and how carbon credits are used

In some markets, it is a regulatory requirement for carbon credits to be purchased from the authorities or government – these are called compliance markets. The regulation framework is stricter for compliance markets as there are often price references on the market. This limits the potential for trading and optimisation of carbon credits as well as the functional and risk profile of the carbon trading desk team.

On the other hand, for voluntary markets, carbon credits are purchased voluntarily by companies to offset their carbon footprints. Voluntary credits often have more potential for optimisation. Hence, the functions of the carbon trading desks may be much wider and is more likely to act as a principal.

Type of carbon projects generating credits

While the industry has introduced several standards for carbon emission projects, the quality of various projects may be different and may have an impact on the price of the particular instrument. Among the criteria to be considered include the register where the instrument is included, the publicity around the project, and the standards applied.

The tenor of the contract may also drive the pricing. Current market references are most applicable for spot markets. This makes pricing of long-term offtake agreements more difficult as the forward market is normally limited to three years. Often, the price seen on the market beyond 12 months represents an estimate of the market rather than actual deals concluded.

Available market references

Similar to transfer pricing of any commodity trading, defence and implementation of the intercompany models are simpler. There is a reliable and readily accessible reference price that matches the terms of the commodity being bought or sold intra group.

For compliance markets, in most cases, there are readily available and reliable reference prices accessible via the requisite exchange or publications. However, there may still be optionality over the selection of the most applicable rate.

As for voluntary markets, there are various reference rates available due to the presence of several exchanges. The choice of the right reference point will require careful analysis of the most relevant market as well as features of the instruments traded within the MNC.

Intercompany carbon fees

The structure of the carbon credit fees is closely tied to the industry practices and value chain within each organisation, which require separate analysis. When the charges are implemented without the involvement of the tax department, these principles may be ignored or misinterpreted, and the charges may later be challenged by tax authorities.

For example, some companies invest into green projects to get low costing carbon credits but end up with compliance issues and reputational risks. To avoid facing such risk, proper due diligence in every project is very important to ensure that the carbon credits meet the standards applied in the industry. More importantly, companies should ensure projects do not carry any other risks, such as disruption of local biodiversity.

Over the years, businesses have evolved their intercompany carbon fees. The optimal tax and transfer pricing models are those which can scale and adapt to the growth of the business and maturing of carbon markets. The models which were considered practical two years ago can now carry substantial tax and transfer pricing risks, because of how the carbon markets have developed and how the legislation has changed (both concerning carbon tax and the tax treatment of carbon-related activities).

Carbon tax regimes in Asia Pacific

Singapore was among the first Asian countries to implement an economy-wide carbon tax. In Budget 2022, Singapore announced that the carbon tax would be increased fivefold to S$25 per tonne in 2024 and in view to raise to S$80 per tonne by 2030 to meet its net-zero emissions target by 2050.

Here is a look at some of the carbon emissions trading systems in a few Asian countries aimed at reducing greenhouse gas emissions.

- Korea launched East Asia's first nationwide cap-and-trade programme "Korea ETS (K-ETS)". The carbon price remains (relatively) low, at 11,950 won (S$12.4) per tonne of carbon dioxide equivalent as of 7 June 2023 (local time in Korea). Only 10 percent of allocated carbon credits will be auctioned between 2021 and 2025 while the rest will be given out to companies for free.
- Australia has a target of net-zero emissions by 2050 and a 43 percent reduction from 2005 levels by 2030 and net zero emissions by 2050. These targets will be legislated to increase policy certainty and stability.
- Thailand launched its first carbon credit exchange, called FTIX, and will be operated by the Federation of Thai Industries, which comprises about 12,000 private companies across 45 sectors. Its supporting platform will allow firms and government agencies to buy and sell carbon credits and track their emissions on an online dashboard.
- Japan was the first Asian country to impose a national carbon tax, set at 289 yen (S$2.17) per ton of CO2-equivalent. In 2022, Japan created a Green Transformation (GX) League with 440 companies, which is a framework for companies aiming to introduce a carbon emission trading scheme.
- Indonesia has introduced new rules on carbon trading to set up a market mechanism to help achieve the country's greenhouse gas reduction targets by 2030. The tax is set at 30,000 rupiah (S$2.09) per tonne of CO2e for coal-fired power plants and is currently on hold.

How can KPMG help?

KPMG has seen large multinational corporations (MNC) applying a variety of different transfer pricing models[5], some of which are described in this whitepaper. Among the most common models include the brokerage model, service fee (cost base) model, principal-based model (with multiple principals involved), and combinations of the above.

The variety of different scenarios of function allocations and types of carbon credits traded may create a substantial variety of transfer pricing models. While these various models can be implemented by MNCs or agreed upon between carbon credit desk traders on a case-by-case basis, it may result in a significant administrative burden and inconsistency. This may also be scrutinised by the Inland Revenue Authority of Singapore and other tax authorities. From a practical perspective, it may be a challenge for MNCs to run all variations of the models in parallel.

The tax teams at KPMG in Singapore have helped multiple companies to streamline their carbon trading transfer pricing models, finding a balance between technical argumentation and the practicality of implementation.

Please reach out to any of the key contacts listed below to discuss how KPMG can help optimise tax and transfer pricing models related to carbon trading for your group of companies.

5. Carbon Trading and Transfer Pricing: The Next Frontier? (kpmg.us)

Authors

Denis Philippov
Partner
Transfer Pricing
KPMG in Singapore
T: denisphilippov@kpmg.com.sg
E: +65 6213 2866

Mark Addy
Partner
Energy & Natural Resources
Telecommunications, Media &
Technology, Tax
T: markaddy@kpmg.com.sg
E: +65 6508 5502

Jade Feinberg
Director
KPMG ESG
KPMG in Singapore
T: jadefeinberg@kpmg.com.sg
E: +65 6213 3388

www.kpmg.com.sg