Carbon Market Opportunities for Hong Kong

Preliminary Feasibility Assessment

March 2022

Green and Sustainable Finance Cross-Agency Steering Group
Carbon Market Workstream

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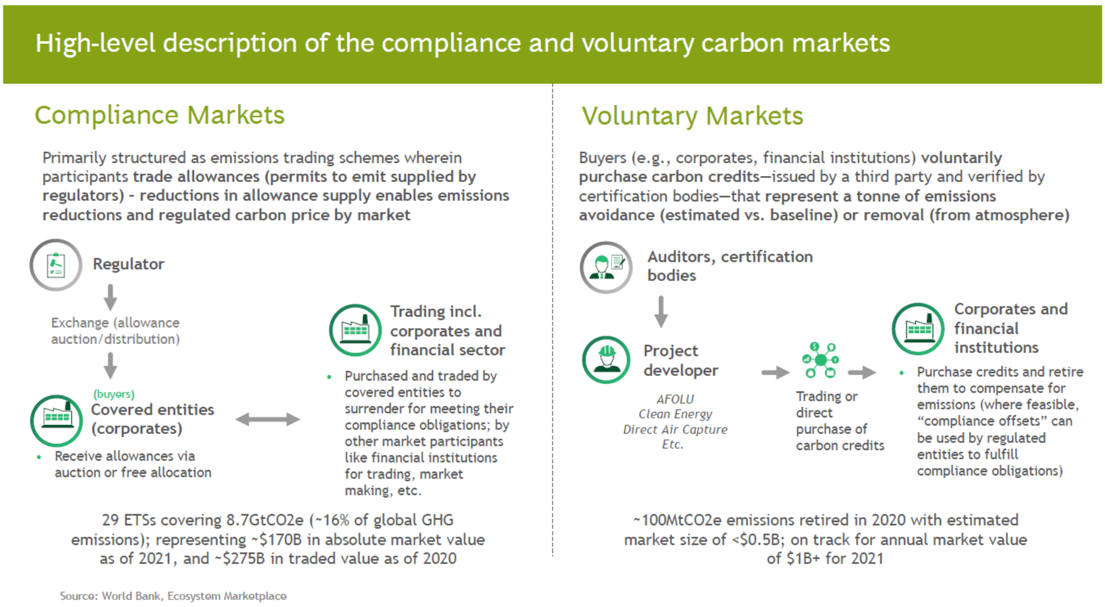
1. This paper prepared by the Carbon Market Workstream[1] of the Green and Sustainable Finance Cross-Agency Steering Group (CASG) provides a preliminary assessment of feasibility for Hong Kong to pursue carbon market opportunities. The paper discusses why Hong Kong's strengths as an international financial centre, the gateway to Mainland China, and a regional certification hub can potentially add value to carbon market development. In addition, the paper makes recommendations to CASG on the way forward, and highlights the need for Hong Kong to develop market structure and regulatory models to link up international investors with the Mainland's carbon markets.

Overview of Carbon Markets

2. **There are two key types of carbon markets: voluntary and compliance.** Voluntary carbon markets (VCMs) comprise buyers (usually corporates) that voluntarily purchase carbon credits generated by projects that avoid or remove greenhouse gas (GHG) emissions to neutralise or compensate for their emissions. Each carbon credit is usually issued by self-regulated organisations and represents a tonne of emissions avoidance or removal.

3. On the other hand, compliance markets, such as the European Union Emissions Trading System (EU ETS),[2] provide a regulated mechanism for market participants to trade allowances, each representing a permit issued by regulators to emit a tonne of carbon emissions. Decreases in allowance supply enable emissions reductions as market participants seek to lower their emissions to minimise the cost of purchasing allowances.[3]

4. Coverage of total global emissions under ETSs is only about 16% in 2021. **For corporates that are uncovered, the VCM can act as a starting point** for them to neutralise their emissions while they pursue emission reduction, and help channel capital to underlying projects that generate carbon credits.[4]



[1] The Carbon Market Workstream is co-chaired by the Securities and Futures Commission (SFC) and Hong Kong Exchanges and Clearing Limited (HKEX). Members include the Environment Bureau (ENB), the Financial Services and the Treasury Bureau (FSTB) and the Hong Kong Monetary Authority (HKMA).
[2] In Asia, the China national ETS currently covers the power sector. The Korea ETS also covers industry, buildings, transportation, and waste in addition to the power sector.
[3] Unlocking the Potential of Carbon Markets to Achieve Global Net Zero, Global Financial Markets Association-Boston Consulting Group publication (October 2021).
[4] Ibid.

5. In addition, derivatives structured around carbon credits and allowances play an essential role in hedging emissions costs and enhancing market transparency.[5] Multiple types of standardised carbon derivatives are being offered at major overseas exchanges in the US and Europe.[6]

Market Demand and Drivers

6. **Investment demand in carbon credits as an asset class is expected to grow. Globally, market interest in VCMs has grown significantly, driven by the threat of an EU carbon tax on imported goods, corporate social responsibility, and the surge in the number of companies and countries setting carbon neutrality goals.** Over 200 companies have committed to The Climate Pledge as of March 2022, which involves implementing decarbonisation strategies and neutralising any remaining emissions with carbon credits.[7] Furthermore, at least one fifth (21%) of the world's 2,000 largest public companies whose sales revenue together accounted for US$14 trillion and 220 global asset managers with US$57 trillion in assets under management have committed to meet net-zero targets,[8] and will drive demand for carbon credits to neutralise unabated emissions. Other markets are also taking steps to become leading carbon credit trading hubs.

7. HKEX's Net-Zero Guide and enhanced ESG reporting requirements are also expected to drive HKEX-listed companies, including A/H share companies, to decarbonise. These will likely boost demand for carbon credits to neutralise unabated emissions.

8. On the compliance market front, momentum to strengthen existing ETSs and foster global cooperation on emission reductions will continue to be driven by the Mainland's "Dual Carbon" goals[9] and outcomes from the 26th United Nations Climate Change Conference (COP26). Under the official policy document endorsed by the State Council on Providing Financial Support for the Development of the Guangdong-Hong Kong-Macao Greater Bay Area (GBA) (the Opinion)[10] and major policies from the People's Government of Guangdong Province, **there is a need to build a GBA platform for emission rights trading and financial services, and to enable further participation from qualified foreign investors.**

Potential Carbon Market Opportunities for Hong Kong

9. Members of the Carbon Market Workstream have engaged with Mainland financial and environmental authorities as well as market stakeholders to discuss the feasibility of the following carbon market opportunities:

   (i) Develop an on-exchange VCM for high quality carbon credits to target local, Mainland and international investors;

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[5] Role of Derivatives in Carbon Markets, ISDA (September 2021).

[6] In the Mainland, the trading of carbon derivatives is nascent, and authorities have not announced the launch of any related products.

[7] Co-founded by Amazon and Global Optimism, The Climate Pledge is a cross-sector community of companies, organisations, individuals and partners that collaborate on tackling the climate crisis. Current signatories include Verizon, PepsiCo, Best Buy, Visa, Microsoft, Twitter, Reckitt Benckiser, Unilever, JetBlue Airways, Uber, Salesforce, HP, Procter & Gamble, and more.

[8] Taking Stock: A global assessment of net zero targets, the Energy & Climate Intelligence Unit and Oxford Net Zero (March 2021); The Net Zero Asset Managers Initiative.

[9] The "Dual Carbon" goals refer to China aims to peak carbon emissions before 2030 and achieve carbon neutrality before 2060.

[10] The Opinion was endorsed by the State Council and jointly announced by the People's Bank of China (PBOC), the China Banking and Insurance Regulatory Commission (CBIRC), the China Securities Regulatory Commission (CSRC) and the State Administration of Foreign Exchange (SAFE) in May 2020.

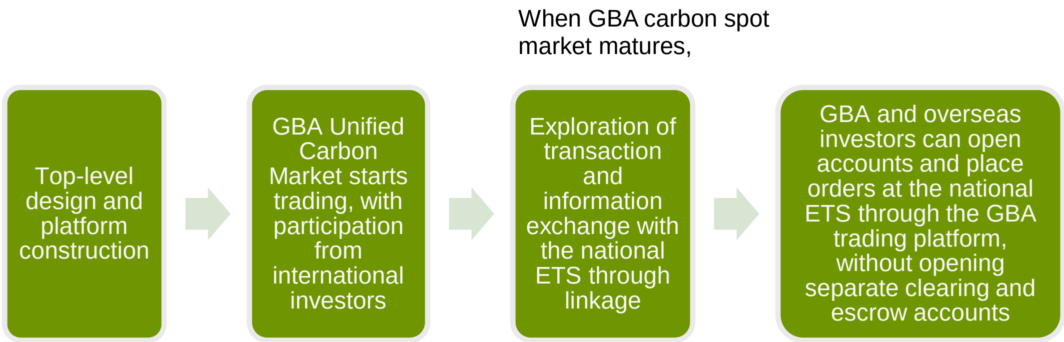
(ii) Establish a GBA Unified Carbon Market;

(iii) Explore international participation in the GBA Unified Carbon Market and potential linkage between the GBA Unified Carbon Market and the national ETS; and

(iv) Develop Hong Kong into the Mainland's offshore risk management centre for carbon market development, in line with the policy objective to strengthen Hong Kong as a global risk management centre. In 2021, HKEX invested in and signed a cooperation agreement with the Guangzhou Futures Exchange.[11]

10. In addition, it is believed that Hong Kong may take up further roles, such as compiling carbon trading indices and developing carbon-themed ETF products.

Vision for a GBA Unified Carbon Market



Benefits and Potential Issues

11. The Carbon Market Workstream focused on identifying the benefits and potential issues of pursuing opportunities set out in (i), (ii) and (iii) in paragraph 9 alone which are entirely new to Hong Kong.

Benefits and potential issues in developing an on-exchange VCM in Hong Kong:

12. There are existing channels for entities to purchase carbon credits, such as by direct purchase from project owners, the Gold Standard and Verra which are standard setters that also issue carbon credits, or local consultants and brokers. As such, these **transactions are mostly made over the counter and are non-standardised, resulting in a lack of transparency and scalability**.

13. VCMs face challenges to the quality and credibility of carbon credits, including a scepticism in their emissions impact. In addition, VCMs are highly fragmented and comprise a wide range of programmes, protocols and standards that differ significantly. Buyers may find it hard to navigate these differences or to conduct due diligence of projects underpinning these credits.

14. The Taskforce on Scaling Voluntary Carbon Markets (TSVCM)[12] has therefore proposed to develop threshold quality criteria for the supply of carbon credits (Core Carbon Principles), a set of credit eligibility guidelines and reference contracts that

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[11] HKEX signs MOU with Guangzhou Futures Exchange, HKEX (August 2021).

[12] TSVCM is a private sector-led initiative with the goal to scale a transparent, verifiable, and robust VCM to help meet the goals of the Paris Agreement. It comprises over 250 member institutions, representing buyers and sellers of carbon credits, standard setters (such as the Gold Standard and Verra), the financial sector, market infrastructure providers, etc. TSVCM has formed the Integrity Council for Voluntary Carbon Markets to take forward its work.

are standardised to allow trading at scale and provision of clear pricing signals.

15. **Hong Kong can leverage the TSVCM work and financial expertise to develop a centralised and on-exchange VCM, so that buyers of carbon credits from Hong Kong, Mainland and overseas can have an additional and transparent purchase channel.**

16. **With its internationally reputable green certification services and familiarity with both Mainland and international standards, Hong Kong can be a bridge to the world for Mainland China's carbon credits (CCERs) and the underlying projects that generate them under the China GHG Voluntary Emission Reduction Programme administered by the Ministry of Ecology and Environment**.

17. There may be comments that VCMs offer a licence to pollute and questioned its effectiveness in carbon reduction. Notwithstanding its limitations, VCMs do offer corporates a way to use carbon credits to neutralise unabated emissions. VCMs are by no means a substitute for technology for carbon removal nor policy and regulatory actions.

Benefits and potential issues associated with the GBA Unified Carbon Market:

18. **Existing ETS pilots in the GBA[13] currently allow limited participation by international financial institutions, but incentives to do so are limited due to higher entry thresholds and transaction costs, and complications in opening non-resident bank accounts and remitting trading profits outside of China.**

19. **Hong Kong is the gateway between the Mainland and international markets and has unique institutional advantages in facilitating international capital flows into the Mainland.** As reflected in the CASG's Strategic Plan,[14] Hong Kong should leverage its strengths to proactively assist and integrate into national and GBA developments, which are moving towards a comprehensive green transformation.

20. **Potential obstacles arising from differences in the economic structure and emissions standards across GBA cities will need to be overcome by closer cooperation and dialogue.** The building of the GBA Unified Carbon Market (ETS and/or VCM), sectors and thresholds, mode of participation (mandatory and/or opt in), trading rules and the system for measurement, reporting and verification can be made by relevant GBA authorities together with the assistance of market experts and stakeholders.

Regulations and standards:

21. VCMs are largely unregulated. If Hong Kong decides to develop a VCM, one fundamental issue to consider is whether to and if so, how it should be regulated.

22. Emission allowances and their derivatives are regulated in mature markets such as the EU. To reinforce the integrity and safeguard the efficient functioning of the EU ETS, the European Commission has brought EU emission allowances fully within the scope of the Markets in Financial Instruments Directive II (MIFID II),[15]

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[13] Mainland China has launched regional carbon market pilots in eight cities and provinces, including Guangdong and Shenzhen. On 24 March 2022, HKEX signed a Memorandum of Understanding with the China Emissions Exchange (Guangzhou) to explore GBA and international carbon opportunities.

[14] The CASG's Strategic Plan issued in December 2020 proposed advancing financial cooperation with the Mainland to facilitate the national transition to a green, low-emission and climate-resilient economy, strengthening collaboration with GBA authorities to create a vibrant green and sustainable finance ecosystem in the area, and exploring the development of a carbon market in the GBA.

[15] MiFID II is an EU legislation for investment firms that provide certain services linked to financial instruments (e.g. shares, bonds, derivatives).

which aims to provide a secure and transparent financial system and impose stricter regulations on financial markets to curb price speculation and any market misconduct.

23. Carbon credits and emission allowances, as well as the dealing in these products, are currently not regulated in Hong Kong. Carbon derivatives on the other hand may potentially fall within the SFC's regulatory remit, depending on the details of a derivative and its underlying asset.

24. Provisions of carbon credits, emission allowances and carbon derivatives may potentially be included in the legislation e.g. the Securities and Futures Ordinance (SFO). The Financial Secretary has the power under section 392 of the SFO to prescribe, either generally or in a particular case that any interests, rights or property are to be regarded as securities, futures contracts, structured products or over-the-counter derivatives products, by notice published in the Gazette. Alternatively, a separate regime may be set up for carbon products. Further studies on which is a more appropriate legislative solution are required.

25. From an accounting perspective, international accounting bodies such as the International Accounting Standards Board have yet to develop a robust framework that establishes guidance for corporates pertaining to recording carbon credits and emission allowances in their financial statements. This lack of standardisation may hamper interest in carbon trading as it makes it hard for businesses to present themselves to the market, and for the market to understand the financial consequences of emissions on companies' balance sheets. A recent survey of companies participating in the EU ETS shows the use of several different methods for recording allowances on their financial statements.[16]

Job creation:

26. Banks and capital market players provide trading platform for customers to access carbon markets, and act as market makers for carbon products, advisors for market participants, and financing provider and facilitator for developers of underlying projects that generate carbon credits. Other service providers, such as verifiers and auditors, legal and advisory professionals, and technology experts, also help facilitate trades.

27. There are already some carbon market experts and related service providers in Hong Kong to establish the market initially. As the carbon market grows, further promotion and training are needed to cultivate a local talent pool and develop carbon finance[17] industry in Hong Kong.

Green economy, technology, and innovation:

28. VCMs channel funding for projects that generate carbon credits by avoiding, reducing, or removing GHG emissions. Most of these underlying projects will likely be in other GBA cities, Mainland China or overseas due to limited land supply in Hong Kong. A GBA Unified Carbon Market can help promote opportunities mentioned in the Hong Kong's Climate Action Plan 2050, such as innovation, technological development and re-industrialisation, and facilitate the application of decarbonisation technologies and green research and development. Overall, these can bring opportunities to support sustainable development and enhance the competitiveness of Hong Kong, the GBA and the broader Mainland China.

29. **Carbon markets can support Fintech development in Hong Kong.** Blockchain

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[16] Emissions trading systems: The opportunities ahead, PwC, 2021.

[17] Refers to investments in GHG emission reduction companies and projects, and the creation of financial instruments that effectively put a price on carbon emissions.

technology could be leveraged to enhance the transparency of carbon market transactions (both trading and post trade). Robust trading infrastructure is needed for the listing and trading of carbon-related products, registries for post-trade services, data infrastructure for information collection and dissemination, and connectivity for access by the participant base. A digital platform which utilises smart contracts for the automated generation and trading of carbon credits could be considered. The platform may also utilise distributed ledger technology to digitalise the full carbon credit lifecycle to optimise operational efficiency, as well as to maintain the registry to enhance transparency and traceability.[18] On the payment side, fiat money, stable coins or Central Bank Digital Currencies could be used as appropriate.

Recommendations on the Way Forward

30. Based on the analysis above, the Carbon Market Workstream is of the view that the carbon market opportunities set out in paragraph 9 alone are preliminarily feasible, subject to the overcoming of the potential obstacles and risks by applying experiences from successful carbon markets and working in close cooperation with relevant authorities and stakeholders. Hong Kong cannot possibly develop a sizable carbon market without establishing linkage with the Mainland markets given Hong Kong's small local market size, economic structure and limited natural resources. **Hong Kong's success factor in adding value to global carbon markets therefore lies in our close links with the Mainland, which enables us to facilitate global capital flows into the Mainland's carbon markets. In addition, Hong Kong's internationally reputable green certification services and familiarity with both Mainland and international standards will enable us to serve as a bridge to the world for China which in turn, will enhance the quality of its carbon markets.** Notably, Hong Kong should explore opportunities to link up international investors with the Mainland's carbon markets if we can develop the appropriate market structure and regulatory models.

31. The Carbon Market Workstream therefore intends to proceed with the following next steps in parallel with a view to developing Hong Kong into a regional carbon trading centre:

    - **Develop Hong Kong into a global, high quality VCM,** leveraging Hong Kong's status as a champion of international standards, a facilitator to channel global capital into the Mainland, and an international financial centre with a stable and mature regulatory system;
    - Collaborate with relevant authorities and stakeholders to **work towards establishing the GBA Unified Carbon Market** in line with Mainland policies to strengthen GBA cooperation;
    - **Explore opportunities to link up international investors with the GBA Unified Carbon Market and potentially the national ETS**; and
    - **Strengthen cooperation with the Guangzhou Futures Exchange** on carbon market development to enable Hong Kong to act as the Mainland's offshore risk management centre.

32. The CASG endorsed the proposals set out above which are by no means exhaustive. The Carbon Market Workstream will consider which market and regulatory model would be the most appropriate, and will prepare a detailed roadmap, implementation plan and indicative timeline after consulting with market experts and relevant authorities.

[18] This can leverage common blockchain protocols including Ethereum, R3 or Hyperledger.