

2022

SUSTAINABILITY REPORT



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Chief Executive's Message

Climate change is affecting all aspects of life and there is a role for everyone to play in mitigating its impact. At the HKMA, we have been devoting significant effort in supporting Hong Kong's climate goal and contributing to a more climate resilient and sustainable world. This year, the HKMA is issuing its first standalone *Sustainability Report 2022*, following the inaugural report published as an integral part of the *Annual Report 2021*. Through this report, I hope readers can gain a more in-depth understanding of our strategy and priorities, from strengthening the climate-resilience of Hong Kong's banking system and growing the green finance ecosystem, to being a responsible investor and a sustainable organisation.

During the year, we have made notable progress in promoting sustainability across the HKMA's key functions. While you will read about our specific measures and initiatives in the rest of the report, let me highlight a few key developments below.

Strengthening climate resilience

Banks are exposed to climate risks in their day-to-day operations. As a bank supervisor, the HKMA has taken concrete steps to strengthen banks' climate resilience. In 2022, we developed a two-year plan to embed climate risk considerations into our supervisory processes, and looked to harnessing the power of technology to help banks assess the impact of physical risks. As banks' green and sustainable product offerings continued to grow, we also shared with the industry examples of good practices for managing these products to facilitate banks to build up their climate risk management capability.

The HKMA actively participates in various collaborative efforts in tackling climate risks and mainstreaming sustainable finance. Locally, we have been working with other financial regulators through the Green and Sustainable Finance Cross-Agency Steering Group (CASG)¹ on a local green classification framework that will increase transparency across financial markets and enable consistent policy making on green finance. Internationally, we are actively involved in several groupings and networks to contribute to policy dialogues on addressing climate change and its impact on financial stability.

Solidifying Hong Kong's position as a regional green and sustainable finance hub

Hong Kong is well-positioned to support the Asian region's green and sustainable financing needs. In 2022, despite a difficult year for the global bond market, Hong Kong continued to see a strong growth in green and sustainable debt issuance, rising by 42% to US\$80.5 billion, and was the largest centre² for arranging Asian international green and sustainable bond issuances. Among the issuers were the Shenzhen Municipal People's Government and the People's Government of Hainan Province, which reaffirmed Hong Kong's unique role in facilitating green and sustainable capital flows between the Mainland and the rest of the world.

This vibrancy of the green bond market in Hong Kong is also attributable to the Government Green Bond Programme. Since 2019, the HKMA has assisted the Government in issuing nearly US\$16 billion worth of green bonds, with the proceeds allocated to over 40 green Government projects, including green buildings, waste management and resource recovery, energy efficiency and conservation. We have also assisted the Government in achieving two "firsts". The Government's HK\$20 billion inaugural retail green bond issued in May 2022 was the world's largest retail green bond at issuance. In another first, the Government's inaugural tokenised green bond issued in February 2023 was the first tokenised green bond issued by a government globally. It also marked an important milestone in combining the bond market, green and sustainable finance as well as fintech.

For the healthy development of the climate finance ecosystem as a whole, standards, data and talent are all indispensable elements. The development of these multiple elements require co-ordinated efforts, and the HKMA has been joining hands with other authorities, regulators, academia and the financial sector, mainly through the co-ordination of the CASG. Besides the development of a local green classification framework as mentioned above, the

¹ The CASG is co-chaired by the HKMA and the Securities and Futures Commission. Other CASG members are stated in the *Green and Sustainable Finance* chapter on page 13.

² According to "The Asian International Bond Markets: Development and Trends" Report of the International Capital Market Association.

Chief Executive's Message

CASG is also advancing work on capacity building and data availability, notably through the establishment of the Centre for Green and Sustainable Finance. In addition, the CASG is also making progress in other areas, including mandatory climate-related disclosures and carbon market opportunities.

Investing responsibly

In 2022, the HKMA further stepped up the Exchange Fund's responsible investment momentum, notably by setting a 2050 net-zero emissions target for the Exchange Fund's Investment Portfolio. At the same time, we refined our risk management efforts with an aim to bolster the Exchange Fund's climate resilience and long-term risk-adjusted returns. Also recognising the opportunities that climate change can bring about, we made significant efforts to expand the Exchange Fund's sustainable investments, targeting opportunities that support climate transition and mitigate climate change, which can in turn enhance long-term portfolio returns.

As at the end of 2021, the weighted average carbon intensity of the Exchange Fund's public equities portfolios was reduced by 43% compared to the 2017 level. In fact, the Exchange Fund's exposure to carbon-intensive assets is persistently lower than that of the broader market. Through stepping up our ongoing efforts on integration, active ownership and collaboration, with a clear focus on portfolio decarbonisation and transition, we will continue the positive momentum in achieving the net-zero target.

Sustainable HKMA

Within our organisation, the Corporate Social Responsibility and Sustainability Committee, which I chair, steers the HKMA's sustainability strategies. Our approach is underpinned by the three pillars of environment, people and social responsibility. In this respect, we aspire to promote a green workplace and advocate greener solutions in society; nurture a healthy and inclusive workplace as a responsible and caring employer; and give back to society, in addition to advocating financial literacy and financial inclusion.

In 2022, we achieved double-digit reduction on a per-capita basis across our greenhouse gas emissions, total energy consumption and total paper consumption, compared with the 2015 level when we started to track our carbon footprint. More importantly, we have drawn up a roadmap to reach the target of net-zero by 2050. In the nearer term, we aim to eliminate Scope 1 emissions completely and reduce Scope 2 emissions by 63% by 2030, using 2015 as the base year.

HKMA's sustainability path forward

Undoubtedly, combatting climate change and promoting sustainability require consistent and collaborative effort. The HKMA is acutely aware of the need to lead by example, and will carry on our work with like-minded peers and international organisations on this important global agenda. The next section provides an overview of our near-term plans and priorities across our key functions.

Achieving net-zero emissions by 2050 is a daunting task and we are determined to do our very best. We are confident that together with our colleagues, the financial sector and the community, we are well placed to meet the climate challenges ahead.



Eddie Yue
Chief Executive

Priorities for 2023 and Beyond

In 2023, the HKMA will continue its efforts in promoting a more sustainable financial sector in Hong Kong, while carrying out its own duties as a responsible investor and sustainable organisation. By participating in international and regional forums, the HKMA will also look to contribute to promoting the developments and best practices in green and sustainable finance more broadly.

As a banking supervisor, we will work to strengthen the climate resilience of the banking sector and enhance the financial ecosystem in support of the green transition by banks. Specifically, the HKMA will engage with banks to understand their progress in implementing the supervisory requirements on climate risk management, incorporate climate considerations into its supervisory review process, and revamp the common assessment framework on the “greenness baseline” of banks. The HKMA will support banks in their efforts to strengthen their climate resilience and risk management capabilities, for example by exploring initiatives and technological solutions for identifying, measuring and monitoring climate risk exposures. The HKMA will also engage with banks to conduct the next round of the climate risk stress test (CRST), as part of the supervisor-driven stress testing exercise running between 2023 and 2024. Participating banks will be asked to assess their resilience under the enhanced CRST framework, which includes multiple stress scenarios featuring both extreme climate situations and adverse economic environments.

To foster healthy growth of banks’ green and sustainable investment product offerings, the HKMA will keep abreast of local and international market and regulatory developments, engage with the industry and provide guidance on the selling process as appropriate. It will also conduct an off-site thematic review to gain comprehensive insights on banks’ green and sustainable investment products.

Meanwhile, in relation to our efforts to enhance the ecosystem to support the green transition by the financial industry, the HKMA is planning to consult the industry on developing the structure and core elements of a local green classification framework.

On the market development front, in promoting Hong Kong as a hub for green and sustainable finance, the HKMA will assist the Government in expanding the size of green bond issuances under the Government Green Bond Programme with an expanded mandate to cover sustainable finance projects, and look to attract more green financing activities to Hong Kong through the Green and Sustainable Finance Grant Scheme. The HKMA will also help implement the Government-funded Pilot Green and Sustainable Finance Capacity Building Scheme to expand Hong Kong’s green finance talent pool. The HKMA will also continue to encourage more Mainland local governments, institutions and corporates to raise green funding through Hong Kong, and explore potential synergies between green finance and technology. Meanwhile, we will continue to collaborate with other agencies under the Green and Sustainable Finance Cross-Agency Steering Group on cross-sectoral issues such as capacity building, data availability, taxonomies, climate-related disclosures and sustainability reporting, and carbon market opportunities.

Through the Alliance for Green Commercial Banks, the HKMA and the International Finance Corporation will jointly launch targeted initiatives in the Asia region, including undertaking green finance research, providing unique market insights, tailoring capacity building and training support, and providing practical guidance to help banks develop their own roadmaps to mainstream green finance as their core business. Looking ahead, the Alliance will work closely with its Cornerstone Members and its Global and Knowledge Partners to expand its reach in the region by launching a membership programme. It will also step up its efforts to promote capacity building and knowledge sharing, while spearheading new thought leadership initiatives.



Priorities for 2023 and Beyond

As a responsible investor, the HKMA has set a target for the Investment Portfolio of the Exchange Fund of achieving net-zero emissions by 2050 as part of its commitment to a climate-resilient economy and alignment with recommendations of the Taskforce on Climate-related Financial Disclosures. Going forward, the HKMA will continue to incorporate environmental, social and governance factors into its investment processes and work towards the net-zero target, and contribute to international efforts in support of the global climate agenda.

As a responsible and sustainable organisation, the HKMA cares for its staff, the wider community and the environment. It has drawn up an environmental sustainability roadmap and set climate targets for its own operations as part of its wider commitment to a low-carbon and climate-resilient economy. The HKMA will continue to make reducing emissions a priority, and enlist the full support of its staff to save energy and reduce waste. In addition, staff will be given more guidance on how to integrate sustainability principles into the procurement process.

To implement digital transformation and enhance its business agility, the HKMA will look for ways to modernise its internal systems and applications to further improve efficiency while minimising potential risks during the course of its digital transformation journey.



Building a Sustainable Financial System

Climate change presents an important source of risk to the financial system. The HKMA has been prioritising its efforts in strengthening Hong Kong's financial system to build a greener and more sustainable future, contributing to Hong Kong's climate goal and global agenda on sustainability.



Building a Sustainable Financial System

Banking supervisor

Banks, through their day-to-day activities, are exposed to the impact of different sustainability and climate-related issues. To continue to play their important role in the financial system and channel more capital to green and sustainable activities, it is crucial for banks to proactively manage climate risks. As a banking supervisor, the HKMA focuses on building banks' resilience against climate risks and climate risk management capabilities, and accelerating their efforts in supporting the transition to a low-carbon economy. The HKMA also supports the ability of banks to detect environmental crimes, and has supported the recent publication of Hong Kong's Money Laundering and Terrorist Financing Risk Assessment which includes, for example, environmental crimes and illegal wildlife trafficking.

Building climate resilience

Enhancing the supervisory framework

During 2022, the Basel Committee on Banking Supervision (Basel Committee)¹ published principles for the effective management and supervision of climate-related financial risks. It also issued responses to frequently asked questions to clarify how such risks may be captured in the existing Basel Framework. Taking into account these international developments, the HKMA has been working to incorporate climate-related considerations into the supervisory framework.

Following the issuance of the Supervisory Policy Manual (SPM) module GS-1 on "*Climate Risk Management*" in 2021, the HKMA has also been engaging with banks to exchange views about expectations, progress and challenges in implementing these supervisory requirements.

¹ The Basel Committee is the primary global standard setter for the prudential regulation of banks and provides a forum for co-operation on banking supervisory matters.

Building a Sustainable Financial System

Embedding climate risk considerations in the supervisory process

With a view to further stepping up its supervision of climate risk management of banks, the HKMA developed a two-year plan to embed climate risk considerations into its banking supervisory processes. The two-year plan, which was communicated to the industry in June, encompassed six key initiatives, namely:



Including climate risk management as a standing item of prudential meetings



Updating the HKMA's risk assessment framework for banks to incorporate climate risk considerations



Conducting thematic examinations on selected areas of climate risk management



Integrating climate risk stress test into supervisor-driven stress testing framework



Enhancing the HKMA's "greenness" assessment framework for banks



Keeping the capital framework under review

As part of the implementation of the two-year plan, the HKMA issued a revised SPM module SA-1 on "*Risk-based Supervisory Approach*" and enhanced the CAMEL² assessment framework by incorporating climate risk into its risk-based supervisory processes. In parallel, the HKMA took steps to enhance the scenarios and assessment framework for climate risk stress test (CRST) having regard to the experience gained from the pilot exercise conducted in 2021. The HKMA also developed a plan to integrate the next round of the CRST into its regular supervisor-driven stress test with the aim of conducting a more comprehensive assessment of the banking sector's resilience under extreme climate scenarios.

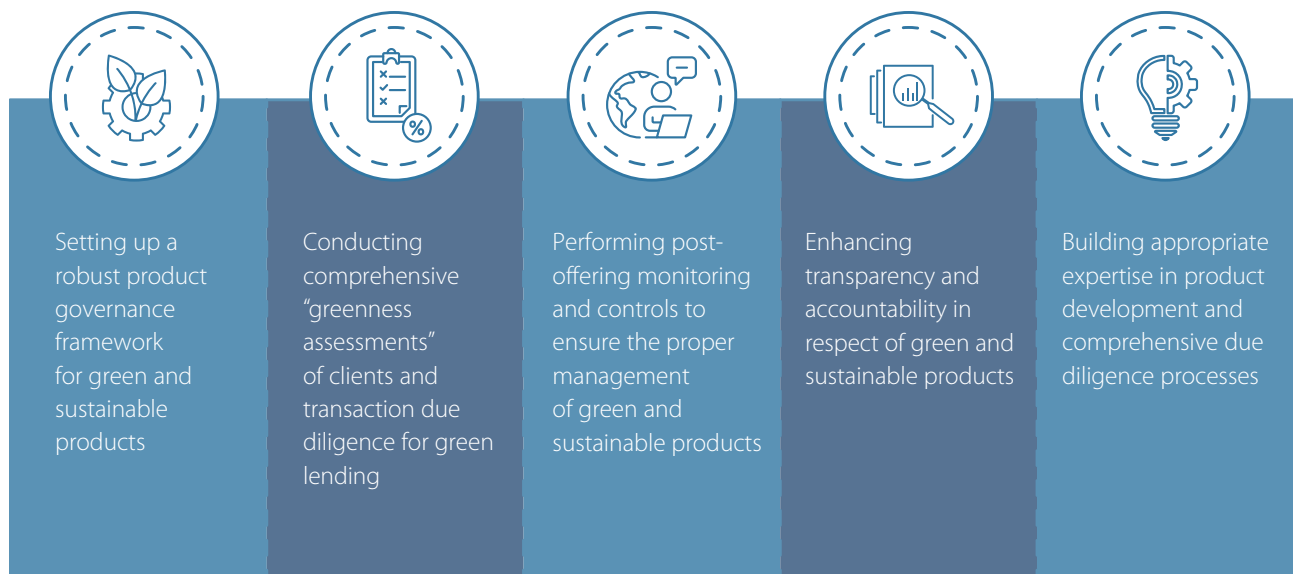
Under the two-year plan, the HKMA has also been enhancing the "greenness" assessment framework for banks to reflect the latest developments in relation to sustainability issues including the management of climate risks and transition planning. Meanwhile, the HKMA has been reviewing the Supervisory Review Process conducted for the purposes of evaluating and monitoring the capital adequacy of a bank and determining its Pillar 2 capital requirement, with a view to incentivising banks to enhance their risk management framework to address risks related to climate change and transition to carbon neutrality.

² CAMEL is an internationally recognised framework for assessing the **C**apital adequacy, **A**sset quality, **M**anagement, **E**arnings and **L**iquidity of banks. It can help identify banks whose weaknesses in financial condition, compliance with laws and regulations, risk management systems and overall operating soundness require special supervisory attention.

Building a Sustainable Financial System

Sharing good practices in the development and management of green and sustainable products

In view of the growth in banks' green and sustainable product offerings, the HKMA undertook a round of thematic examinations focused on banks' development and ongoing management of these products. The HKMA identified some good practices over the course of the examinations and issued a circular in December to share with the industry the good practices to facilitate banks to build up their climate risk management capability. These good practices are grouped under five, high-level, principles:



Applying technology in managing risks and enabling sustainable practices

The use of technology can improve data availability and build up banks' capacity in managing climate risks. The HKMA has started developing a common platform for banks to assess the impact of physical risks on real estate. In addition, the HKMA has, in collaboration with other central banks and supervisors, completed a project under the Bank for International Settlements (BIS) Innovation Network to explore how technological solutions can be deployed to assist with physical risk assessments.

The HKMA also prioritises the enabling of sustainable, globally leading anti-money laundering practices, powered by advanced analytical and regulatory technology (Regtech) capabilities supported by fully automated regulatory data collection. In particular, regulatory data collection for anti-money laundering has been streamlined in the last 12 months to reduce manpower burden and paper consumption for banks.

Supporting transition

Developing a green classification framework to facilitate green finance flows

To increase the transparency across financial markets and enable consistent policy making on green finance, the HKMA has been working with other financial regulators to develop a local green classification framework. A green classification framework, commonly known as green taxonomy, classifies economic activities as being green or sustainable and could be used as a reference by authorities and market participants in determining whether an activity or its related product is truly green or sustainable. As part of this effort, the HKMA has been engaging with the industry and other relevant stakeholders to better understand the features and challenges of the framework, and is working towards a consultation on its proposed structure and core elements in the first half of 2023.

Building a Sustainable Financial System

Financial and monetary stability

Cognisant of the potential risks that climate change may pose to the financial system, the HKMA incorporates a broader range of climate related considerations and scenarios into its analysis of financial risks and research studies to enhance its ongoing surveillance efforts.

Integrating climate-related risks into financial stability monitoring

The HKMA takes into account climate change in its ongoing monitoring of financial stability risks, and incorporates analyses of climate-related risks in various financial stability reports. Through its active participation in the Workstream on Scenario Design and Analysis under the Network of Central Banks and Supervisors for Greening the Financial System (NGFS), the HKMA contributes to further enriching climate scenarios for central banks and supervisors in understanding the macroeconomic and financial impacts of climate change.

On the research front, in 2022 the HKMA conducted applied research projects that look deeper into two key topics, namely greenwashing in the corporate green bond markets³; and the role of disclosure in mitigating climate risk exposure⁴.

The findings from these research projects inform the development of policies and regulatory measures in addressing impacts of climate risks on financial stability. Locally, these studies support the HKMA's ongoing monitoring and assessment of financial stability impacts of climate risks. Outside of the HKMA, these findings have also been shared with a wide range of stakeholders via various channels, including international central bank research conferences and the HKMA's *Half-Yearly Monetary and Financial Stability Report*.

Embedding sustainability considerations in the Liquidity Facilities Framework

The HKMA's Liquidity Facilities Framework serves as a collateral-based backstop source providing timely liquidity support to banks in case of need. The HKMA is working on embedding sustainability considerations in evaluating eligible collaterals under this framework.

³ Leung, Wan and Wong (2022) "Greenwashing in the corporate green bond markets", *HKMA Research Memorandum 08/2022*. (<https://www.hkma.gov.hk/media/eng/publication-and-research/research/research-memorandums/2022/RM08-2022.pdf>)

⁴ Leung and Wan (2023) "The role of disclosure in mitigating climate risk exposure", *Hong Kong Institute for Monetary and Financial Research paper*, forthcoming.

Building a Sustainable Financial System

International collaboration

The HKMA plays an active role in international and regional discussions on tackling climate risk and mainstreaming sustainable finance. Through such participation, the HKMA contributes to international and regional policy dialogues in addressing climate change and its impact on financial stability, while gaining insights on strengthening the climate resilience of Hong Kong's financial system.

Central Banks and Supervisors Network for Greening the Financial System

The HKMA is a member of the NGFS, which aims to share best practices and contribute to the development of climate and nature-related risk management in the financial sector, and to mobilise mainstream finance to support the transition towards a sustainable economy. The HKMA participates in NGFS workstreams and task forces relating to supervision, scenario design and analysis, net zero for central banks, and nature-related risks.

Basel Committee on Banking Supervision

The HKMA participates in the work of the Basel Committee's Task Force on Climate-related Financial Risks in developing principles for the effective management and supervision of climate-related financial risks.

Bank for International Settlements Innovation Network

The HKMA participates in the BIS Innovation Network, which explores technological solutions that help banks identify, measure and monitor their exposures to climate risks.

International Platform on Sustainable Finance

Jointly with the Securities and Futures Commission, the HKMA represents Hong Kong in the International Platform on Sustainable Finance, which has introduced the Common Ground Taxonomy and has been working to promote transition finance.

Financial Stability Board

The HKMA actively participates in the work of the Financial Stability Board (FSB) on climate risk management, including promoting climate-related disclosures and reviewing regulatory and supervisory approaches to addressing climate risk.

The HKMA is a member of the FSB's Climate Vulnerabilities and Data Working Group, which has been analysing and developing tools for monitoring climate-related vulnerabilities at cross-sector and cross-jurisdiction levels.

Executives' Meeting of East Asia-Pacific Central Banks

The HKMA is a member of Executives' Meeting of East Asia-Pacific Central Banks (EMEAP), which focuses on sustainable finance as one of its strategic priorities. The HKMA is the Champion of the Interest Group on Sustainable Finance of EMEAP's Working Group on Banking Supervision, and leads studies that aim to promote information sharing on various aspects of climate risk management, such as green classifications and climate risk stress testing.

The HKMA also chairs EMEAP's Working Group on Financial Markets, which recently finalised a project to promote investment in green bonds through the Asian Bond Fund initiative.

International forums on climate-related issues

The HKMA contributes to international discussion on climate-related issues in various forums including the Committee on the Global Financial System's Workshop on "Climate Risks and Asset Prices" and the 14th Annual Workshop of the Asian Research Network co-hosted by the BIS and the Bank of Korea.

Green and Sustainable Finance

To solidify Hong Kong's position as a regional green and sustainable finance hub, the HKMA has been stepping up its efforts in promoting market awareness and participation, providing the necessary infrastructure and catalysts, and supporting international initiatives and alignment with global standards.



Green and Sustainable Finance

Green and Sustainable Finance Cross-Agency Steering Group: a champion of green and sustainable finance market developments

The Green and Sustainable Finance Cross-Agency Steering Group (CASG), which is co-chaired by the HKMA and the Securities and Futures Commission (SFC), co-ordinates the management of climate and environmental risks to the financial sector, accelerates the growth of green and sustainable finance in Hong Kong and supports the Government's climate strategies.¹ The CASG's work mainly follows a strategic plan which sets out six key focus areas and five action points for strengthening Hong Kong's financial ecosystem to support a greener and more sustainable future (Figure 1).

Figure 1

The CASG's key focuses and actions



Risk management

Strengthen the management of climate-related financial risks to consolidate Hong Kong's position as a global risk management centre



Disclosure

Promote the flow of climate-related information at all levels to facilitate risk management, capital allocation and investor protection



Capacity building

Enhance capabilities of market participants and raise awareness among the general public



Innovation

Encourage innovation and explore initiatives to facilitate capital flows towards green and sustainable causes



Mainland opportunities

Capitalise on the opportunities presented by the Mainland to develop Hong Kong into a green finance centre in the GBA^a



Collaboration

Strengthen regional and international collaboration

Actions to date to advance Hong Kong's sustainable finance development:

- Establishing the **Centre for Green and Sustainable Finance** to act as a focal point for cross-sectoral capacity building and a repository of data resources
- Developing local green classification framework in line with mainstream taxonomy frameworks including the International Platform on Sustainable Finance's **Common Ground Taxonomy**
- **Mandatory TCFD^b-aligned disclosures** across all relevant sectors no later than 2025
- Evaluating the potential adoption in Hong Kong of the IFRS^c Foundation's **Sustainability Disclosure Standards**
- Exploring **carbon market** opportunities

Notes:

- a. GBA – Guangdong–Hong Kong–Macao Greater Bay Area
- b. TCFD – Task Force on Climate-related Financial Disclosures
- c. IFRS – International Financial Reporting Standards

¹ Co-initiated by the HKMA and the SFC, the CASG was established in May 2020. The other CASG members are the Environment and Ecology Bureau, the Financial Services and the Treasury Bureau, Hong Kong Exchanges and Clearing Limited, the Insurance Authority and the Mandatory Provident Fund Schemes Authority.

Green and Sustainable Finance

The CASG has been making good progress since its establishment. The current focus areas of the CASG's work include capacity building and data availability under the Centre for Green and Sustainable Finance (see below), taxonomies (see *Developing a green classification framework to facilitate green finance flows* in *Building a Sustainable Financial System* chapter on page 9), climate-related disclosures and sustainability reporting, and carbon market opportunities. Specifically, a preliminary feasibility assessment of carbon market opportunities for Hong Kong was published in March, and the CASG will support the development of Hong Kong into a regional carbon trading centre, including the development of a global high-quality voluntary carbon market, in addition to the related opportunities arising from the Guangdong–Hong Kong–Macao Greater Bay Area (GBA) co-operation.

In December, the CASG announced collaboration with CDP² to enhance data availability and sustainability reporting in Hong Kong. As part of the collaboration, a Climate and Environmental Risk Questionnaire for non-listed companies and small and medium-sized enterprises (SMEs) was released to aid their sustainability reporting and facilitate financial institutions' collection and assessment of company-level data for risk assessment and relevant business decisions. This is a key step in broadening the CASG's data effort to include SMEs, an important and previously hard-to-reach segment of the economy.

Centre for Green and Sustainable Finance: a cross-sector platform to help fill capacity, talent and data gaps

The CASG launched the Centre for Green and Sustainable Finance in July 2021 to co-ordinate efforts of financial regulators, Government agencies, industry stakeholders and academia in capacity building and policy development, and

to serve as a resource and data repository. In the first half of 2022, the Centre launched three repositories on data sources, training information and internship opportunities to support the financial and other relevant sectors in locating useful data and learning resources on green and sustainable finance.



To support capacity building for the industry, the Centre helped the Government to launch in December the Pilot Green and Sustainable Finance Capacity Building Support Scheme, which provides subsidies to market practitioners, students and graduates in taking up green and sustainable finance-related training and capacity building opportunities. Other measures to enhance capacity building include launching the Sustainable Finance Internship Initiative to create more internship opportunities for students, and developing a new module on Green and Sustainable Finance under the HKMA's Enhanced Competency Framework (ECF) for Banking Practitioners³.



Pilot Green and Sustainable Finance Capacity Building Support Scheme

² CDP is an international non-profit organisation that runs the global environmental disclosure system for companies.

³ The ECF for Banking Practitioners is developed in collaboration with the banking industry and relevant professional bodies, providing a set of common and transparent competency standards required of the relevant professional areas in the banking sector. The ECF also provides a qualification framework for recognition of those practitioners who have completed the necessary training and assessment, and who have acquired relevant working experience.

Green and Sustainable Finance

Alliance for Green Commercial Banks: an initiative supporting regional green and sustainable finance development

The HKMA has also been actively supporting regional green and sustainable finance development. In November 2020, the International Finance Corporation (IFC) and the HKMA launched the Alliance for Green Commercial Banks⁴ to bring together financial institutions, banking industry associations, research institutions and innovative technology providers in the region to develop a community of green commercial banks.

Why launch the Alliance for Green Commercial Banks?

The Alliance aims to unleash the potential of commercial banks and other financial institutions to mainstream green finance as a core business and to promote the involvement of the financial sector in global climate change activities.



How does it work?



Acting as a knowledge hub and deploying advisory support

Creating a one-stop shop and peer-to-peer learning platform for financial institutions to acquire knowledge, tools and information to develop their own green finance roadmaps and transform into credible green financial institutions



Forging a community of practice and innovation

Bringing together the leaders in green finance to develop a community of green financial institutions across emerging markets



Promoting investment for green business opportunities

Facilitating dialogue and providing thought leadership to advance the green finance agenda globally, unlocking the trillions of dollars available in green and climate-related investment opportunities

⁴ The HKMA is the founding member and first regional anchor for the Asia Chapter.

Green and Sustainable Finance

In June, five of the world's leading financial institutions⁵ have become cornerstone members of the Alliance, working closely with the IFC and the HKMA to advocate client adaptation to green strategies, promote best practices in green products and services, and unlock new business opportunities that will enable the green transition of economies. Also in 2022, three global partners and a knowledge partner⁶ have committed to contribute their climate expertise from innovation and standardisation to academic points of view.

More information about the Alliance and its membership structure can be found on its webpage:



Cornerstone members, IFC and HKMA, sign a Memorandum of Understanding

Meanwhile, the Alliance has hosted 18 training and roundtable sessions since March 2021, reaching over 6,000 participants globally across Asia Pacific, Europe, the Middle East, Africa, and the Americas. The Alliance's first thought leadership paper, *Climate Risk: Definitions, Measurement, Current Practices and Regulatory Oversight*, prepared in collaboration with the Hong Kong Institute for Monetary and Financial Research (HKIMR)⁷, was also published in June 2022.

Green finance solutions: channelling capital to green the real economy

The HKMA has been promoting the issuance of green and sustainable debt and cultivating the local professional service ecosystem. In 2022, Hong Kong witnessed a 42% increase in green and sustainable debt (including bonds and loans) issuance, reaching a total of US\$80.5 billion.

+42%

Green and sustainable debt issuance
(US\$80.5 billion)

⁵ They are Bank of China (Hong Kong), Citi, Crédit Agricole CIB, HSBC and Standard Chartered.

⁶ The three global partners are The Carbon Trust, The Institute of Public and Environmental Affairs, and the Resource and Environment Branch of the China National Institute of Standardization, and the knowledge partner is the University of Chicago.

⁷ HKIMR is the research arm of the Hong Kong Academy of Finance which is set up with full collaboration amongst the HKMA, the SFC, the Insurance Authority and the Mandatory Provident Fund Schemes Authority. The Academy aims to bring together the strengths of the academia, the industry, professional training institutes and the regulatory community to develop financial leadership and promote research collaboration.

Green and Sustainable Finance

Green and sustainable bonds

To demonstrate the Government's determination to combat climate change, and the commitment to promoting green finance and developing Hong Kong into a more sustainable and liveable city, the Government Green Bond Programme was launched in 2018. The HKMA assists in implementing green bond issuance under the Programme.

A total of close to US\$16 billion equivalent of green bonds, comprising institutional and retail bonds, have been issued so far with the proceeds allocated to over 40 green Government projects, such as green buildings, waste management and resource recovery, energy efficiency and conservation.

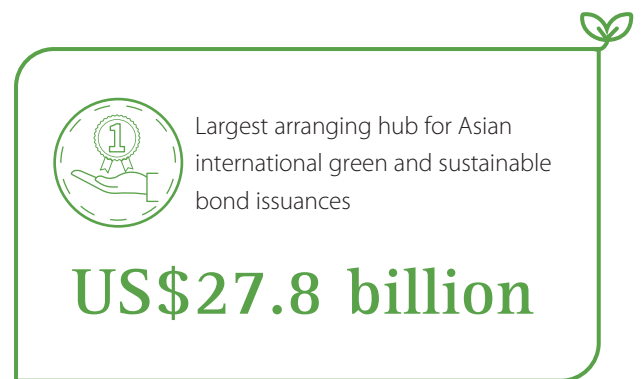
To enhance transparency and accountability of the Programme, annual Green Bond Reports have been published, with details on the allocation of the green bond proceeds and expected environmental benefits.

Retail green bonds were issued for the first time in May, to enable the public to participate in and share the fruit of Hong Kong's sustainable development through investment. The HK\$20 billion inaugural retail green bond was well received by the public and was the world's largest retail green bond at issuance. The bond has also broadened the variety of green and sustainable financial products in Hong Kong, reinforcing the city's position as a premier green finance hub both regionally and internationally.

The Government also continued with its regular institutional green bond issuances in the 2022-23 financial year, issuing US\$5.75 billion equivalent of green bonds in January 2023. The triple-currency issuance covered US dollar, euro and renminbi tranches in multiple tenors ranging from two to 30 years, continuing to provide important benchmarks for potential issuers in Hong Kong and the region. The green bonds were well received by the global investment community, drawing new investors who had not participated in previous green bond issuances, affirming investors' confidence in Hong Kong's credit strengths and economic fundamentals in the long term. In particular, the renminbi tranches were doubled to a total size of RMB10 billion to cater for strong investor demand, and has attracted increased participation of international investors as well as Mainland investors through Southbound Bond Connect, demonstrating Hong Kong's position as the leading offshore renminbi hub and further consolidating Hong Kong's leading role as an international finance centre.

The HKMA also assisted the Government to issue a tokenised institutional green bond in February 2023 to test out the use of distributed ledger technology in bond issuance and settlement. This is the first tokenised green bond issued by a government globally. The primary issuance was settled on a T+1 basis across a private blockchain network. Processes of the bond lifecycle, including coupon payment, settlement of secondary trading and maturity redemption, will also be digitalised. The Government's issuance provides a guide for similar future issuances by market participants.

To provide the industry with credible and handy market information, the HKMA continues to collaborate with the Climate Bonds Initiative and the International Capital Market Association (ICMA) respectively, to release annual reports featuring the Hong Kong and regional green debt markets. The ICMA report shows that Hong Kong was the largest centre for arranging international green and sustainable bond issuances in Asia, with a total issuance volume of US\$27.8 billion in 2022, equivalent to over one-third of the regional total.



Following its inaugural issuance in 2021, the Shenzhen Municipal People's Government issued another RMB5 billion of offshore municipal government bonds in Hong Kong in November 2022, including RMB2.6 billion of green and blue bonds⁸. In the same month, the People's Government of Hainan Province also conducted its inaugural issuance of RMB5 billion offshore bonds in Hong Kong, comprising blue and sustainable bonds. These issuances reaffirmed Hong Kong's unique role in facilitating green and sustainable capital flows between the Mainland and the rest of the world, and its long-standing status as the premier fund-raising platform in the region.

⁸ The proceeds of the blue bonds will mainly be used for maritime economy and marine protection projects.

Green and Sustainable Finance

Green and Sustainable Finance Grant Scheme

The HKMA continues to promote and administer the Green and Sustainable Finance Grant Scheme launched in 2021, and leverages the scheme to attract related professional service providers including financial institutions, green advisors and external reviewers to establish or expand their presence in Hong Kong. The Scheme has been well received by the industry. As of end-2022, the Scheme has covered the issuers' external review expenses – for pre-issuance, post-issuance, or both – of over 180 green and sustainable debt instruments, in support of their efforts to ensure and demonstrate adherence to market best practices and international standards.

Since March, the Scheme has been enhanced through lowering the minimum loan size threshold in respect of external review subsidy from HK\$200 million to HK\$100 million. This is to facilitate smaller-sized corporates in obtaining green financing.

Greentech

Following the successful proof of concept on the tokenisation of retail green bonds under Project Genesis in 2021, the HKMA collaborated with the Bank for International Settlements Innovation Hub Hong Kong Centre again under Genesis 2.0 to explore the technical feasibility to digitise carbon forwards, also known as mitigation outcome interests (MOIs), to enhance the transparency, objectivity, and environmental integrity of the green bond market. The project was completed in October 2022, with two prototypes developed to track, deliver and transfer digitised MOIs through the use of blockchain and other related technologies.

Green and Sustainable Finance Grant Scheme

To support the issuance of green and sustainable debt instruments in Hong Kong

Track 1 General Bond Issuance Costs	Track 2 External Review Costs
<p>Grant</p> <p>50% of eligible expenses, up to HK\$3.5 million per instrument</p>	<p>100% of eligible expenses, up to HK\$100,000 per instrument</p>
<p>Eligible Applicants</p> <ul style="list-style-type: none"> ✓ First-time green and sustainable bond issuer 	<ul style="list-style-type: none"> ✓ Any green and sustainable bond issuer (first-time or repeated) OR ✓ Any green and sustainable bond borrower (first-time or repeated)
<p>Eligible Expenses</p> <ul style="list-style-type: none"> ✓ Professional service fees to arrangers, legal advisers, auditors, rating agencies, etc. ✓ Listing fees ✓ DNU fees 	<ul style="list-style-type: none"> ✓ Pre-issuance framework development, SPO, certification, etc. ✓ Post-issuance certification, verification, reporting, etc.
<p>Key eligibility criteria</p> <ul style="list-style-type: none"> • Issued in Hong Kong (if held by arrangers/issuers being HK listed); • Listed in Hong Kong or lodged with CBU; and • Pre-issuance external review services by an external reviewer that is on HKMA's Recognised External Reviewer List 	
<p>Application Process</p> <p>Pre-application consultation → Formal Application → Result Notification → Reimbursement</p>	
<p>For detailed Guidelines, please scan:</p>	

The three-year Green and Sustainable Finance Grant Scheme began operating in 2021

Responsible Investment

As a major global asset owner and manager, the HKMA plays a pivotal role in fostering green and sustainable finance development, in support of the global climate change agenda. The HKMA has been an early mover in responsible investment. Since 2015, it has been spearheading investments in green and sustainable assets, requiring its external managers to adopt the *Principles of Responsible Ownership* promulgated by the Securities and Futures Commission, and integrating environmental, social and governance factors into the management of the Exchange Fund.



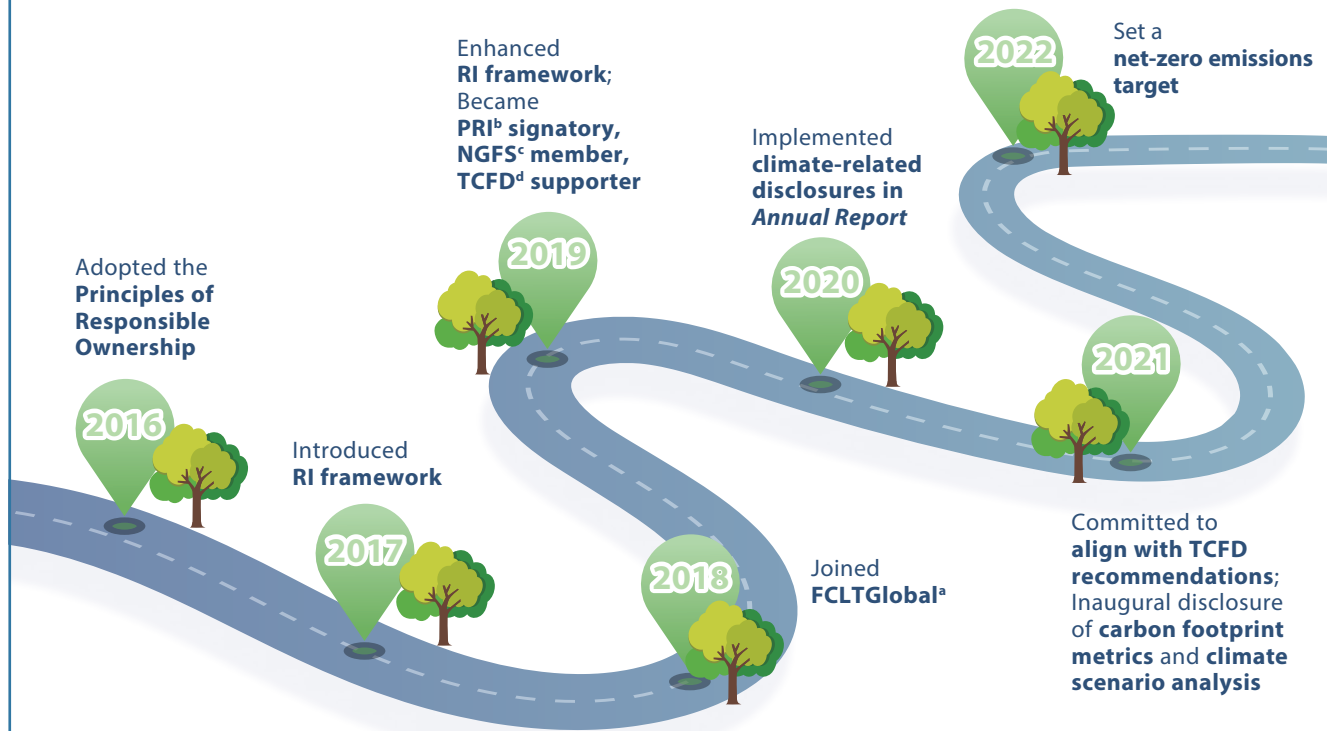
Responsible Investment

Overview

Investing prudently under the principle of “capital preservation first while maintaining long-term growth”, the HKMA believes that giving due attention to environmental, social and governance (ESG) factors can unlock the long-term sustainable value and mitigate the associated risks of an investment. In the face of mounting challenges posed by climate change, the HKMA continues to step up its responsible investment (RI) momentum, notably by setting a 2050 net-zero emissions target in 2022, and refining its associated risk management efforts with an aim to bolster portfolio resilience and enhance long-term risk-adjusted returns for the Exchange Fund.

The HKMA also actively participates in building the ecosystem for green and sustainable finance. It partners with like-minded investors and regulators to promote RI and collaborates with international organisations to develop ESG standards in investment. Transparency of climate-related information is central to the management of climate risks. Fulfilling its commitments to supporting the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) Glasgow Declaration at the 2021 United Nations Climate Change Conference and greening the global financial system, the HKMA aligns its climate-related disclosure for the Exchange Fund with recommendations of the Financial Stability Board’s Task Force on Climate-related Financial Disclosures (TCFD).

The Exchange Fund’s journey of responsible investment



Notes:

- FCLTGlobal – Focusing Capital on the Long Term
- PRI – Principles for Responsible Investment
- NGFS – Network of Central Banks and Supervisors for Greening the Financial System
- TCFD – Task Force on Climate-related Financial Disclosures

¹ Refer to the *Reserves Management* chapter of the *Annual Report 2022* for more details.

Responsible Investment

Governance

The Exchange Fund Advisory Committee (EFAC), chaired by the Financial Secretary, endorsed the RI framework and the guiding principle for implementation by the Exchange Fund Investment Office (EFIO) in managing the Exchange Fund. The overarching guiding principle that prioritises ESG investments with comparable long-term risk-adjusted returns, has underpinned an RI approach that dovetails with the investment objectives of the Exchange Fund.

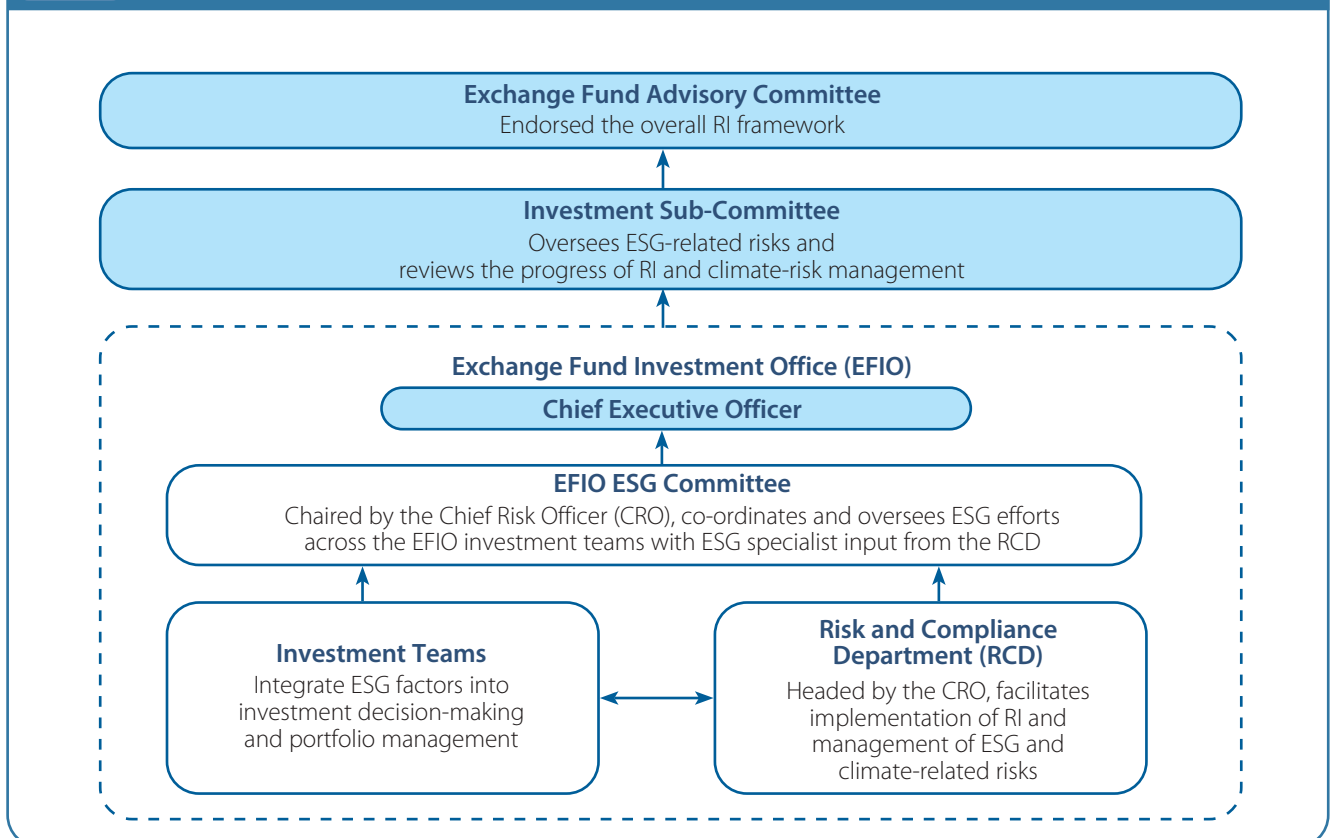
More details about the HKMA’s RI framework are available on the HKMA website:



The oversight of ESG and climate-related risks associated with the Exchange Fund’s investments is exercised by the EFAC’s Investment Sub-Committee (ISC) chaired by the Chief Executive of the HKMA. The ISC reviews the RI framework and risk management approach, and monitors the progress of ESG integration and the Exchange Fund’s ESG profile through reporting by the EFIO’s Risk and Compliance Department (RCD) at each meeting.

As illustrated in Figure 1, the EFIO ESG Committee, chaired by the Chief Risk Officer (CRO), is tasked to co-ordinate, oversee and monitor all ESG efforts within the EFIO. Initiatives and progress discussed at each EFIO ESG Committee meeting are reported to the Chief Executive Officer (CEO) of the EFIO.

Figure 1 The oversight and governance structure for RI



Responsible Investment

Dedicated teams of the RCD work closely with the EFIO's investment teams on ESG integration, and assist the EFIO's senior management in managing ESG and climate-related risks and opportunities in a broad range of investments:

- **Public investments** – The Credit, Rules and Compliance Committee, composed of the EFIO's senior management, monitors the ESG profile of fixed income portfolios based on regular reports provided by the RCD. In addition, the RCD participates in the selection, appointment and monitoring of external managers of public equities portfolios from an ESG perspective (see *Pursuing active ownership* under *Risk management* section on page 27).
- **Private investments** – The Investment Committee, chaired by the Chief Executive of the HKMA, takes into consideration the RCD's and the private market investment team's assessments of ESG-related issues for each prospective investment.

Strategies

Deepening climate risk assessment

Empirical evidence² continues to suggest that the impacts of climate change and associated risks are material. According to the latest report of the United Nations Framework Convention on Climate Change (UNFCCC)³, even assuming full implementation of the Nationally Determined Contributions announced by various jurisdictions, the estimated global temperature rise will peak at 2.1–2.4°C by 2100, falling behind the Paris Agreement's goal to limit global temperature rise to well below 2°C above pre-industrial levels. Should jurisdictions take more ambitious policy actions to address the temperature gap, asset valuations could face heightened pressure due to the transition risks⁴ and market repricing of assets resulting from expectation of future trends, not to mention the inherent physical risks.

In light of the updated global warming trajectory and modelling assumptions, the HKMA leveraged the expertise of an external consultant to further assess the resilience of the Exchange Fund's Investment Portfolio (IP) under a Rapid Transition scenario (Figure 2) in addition to the scenarios assessed in 2021. The Rapid Transition scenario, incorporating higher transition risks over the short, medium and long term, assumes that policy and technology developments would come together to deliver a rapid reduction in emissions and a sudden divestment across multiple assets would materialise to maintain an average temperature increase of 1.5°C by 2100. This is broadly in line with the NGFS-recommended disorderly scenarios for forward-looking climate impact assessment.

² Intergovernmental Panel on Climate Change, 2021. *Sixth Assessment Report*.

³ UNFCCC, 2022. *Nationally determined contributions under the Paris Agreement. Synthesis report by the secretariat*.

⁴ Climate risks are widely defined by two dimensions: (i) physical risks, including acute impacts from extreme weather events, causing business disruption and physical damage of assets; and chronic changes of climate patterns that affect operations and productivity; and (ii) transition risks involving possible abrupt devaluation of assets due to the shift towards a low-carbon economy.

Responsible Investment

Figure 2

Under a Rapid Transition scenario



- The IP remains resilient over the medium to long term due to a larger allocation to sovereign bonds which are less sensitive to the transition impact.



- Sector exposure is vital. Low carbon electricity and renewable energy assets stand to benefit from the transition.



- A shock to performance may happen especially on public equities in the short term as transition risks and repricing of assets materialise.
- The portfolio will generally face an increasing impact from physical risks that will manifest over time.
- Energy and conventional utilities continue to be the most vulnerable sectors.

Similar to other modelling methodologies, climate scenario analysis also has limitations. The analysis based on sector allocation of market benchmarks at the strategic asset allocation (SAA) level has not considered the effect of active selection of specific securities within a sector. A more in-depth study revealed that the IP's investments in general are better positioned for – or less impacted by – the transition shock than the SAA market benchmarks. This reaffirmed that the HKMA's implementation of RI emphasising on climate change could enhance portfolio resilience.

The climate trajectory remains uncertain and scenario methodologies continue to evolve alongside data quality improvement and policy developments. The HKMA will regularly review the scenarios and enhance its assessment to better ascertain the Exchange Fund's resilience to climate change.

Responsible Investment

Growing ESG and green assets

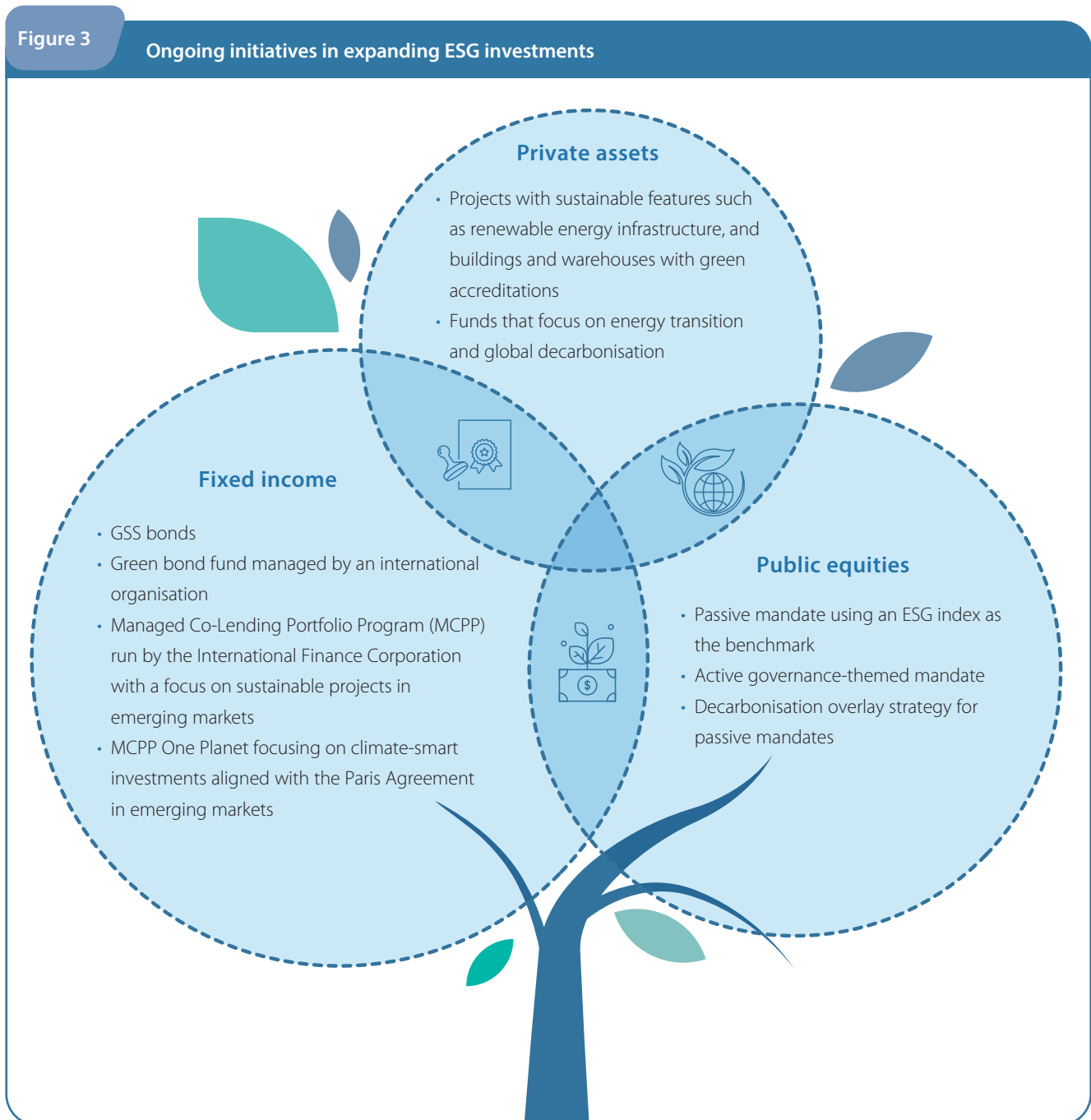
As a long-term investor, the HKMA fully recognises the risks and opportunities that climate change can bring about. The HKMA seeks to further expand its sustainable investments and capture opportunities that target climate transition, mitigate climate risks and enhance long-term portfolio returns.

During 2022, the HKMA continued the positive momentum and increased its holdings of green, social and sustainability

(GSS) bonds by an additional 50%. For public equities investments, it has funded a governance-themed active equities mandate and embarked on a decarbonisation overlay strategy for passive equities mandates, where the portfolios will be tilted in favour of lower carbon-emitting companies. Further, the HKMA is exploring with general partners (GPs) of the Exchange Fund's Long Term Growth Portfolio (LTGP) on establishing dedicated private equities mandates to promote green and sustainable development in the Asian region (Figure 3).

Figure 3

Ongoing initiatives in expanding ESG investments



Responsible Investment

Exercising responsible investment in private market investments



Infrastructure project embracing nature conservation

The HKMA has an investment in a pan-African wind farm operator, which accords high priority to social and biodiversity considerations, in addition to producing clean energy. Prior to the arrival of wind farms, local villagers used toxic food traps to deter predators from harming their livestock, but this had inadvertently killed off certain endangered species of vultures.



To help local villagers protect their livestock, which represent a significant portion of their wealth, the investee company builds livestock shelters as an extension of the wind farm installation, protecting livestock from falling prey to natural predators. Further, the wind farm operator engages an on-site bird monitoring team to warn of any appearance of vultures attracted by the occasional carcasses left over by predators, such that the wind turbines can be shut down to avoid striking the vultures.

The minimisation of livestock being killed by predators creates a win-win situation: preserving the villagers' livelihood, and at the same time reducing vulture deaths caused by the wind turbines, which in turn preserves an endangered species.



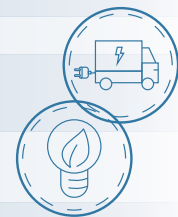
ESG improvements throughout the supply chain

Good ESG practices can expand revenue sources of corporations by creating more business opportunities as illustrated by this example involving a supply chain operation. An investee company, which is a Mainland integrated logistics warehouse operator dedicated to cold chain, medical, chemical and high-end consumer sectors, faces increasing demand for higher ESG operational standards. The growing ESG requirements emanate mainly from calls by multinational corporations (MNC) for their service providers to meet higher decarbonisation targets in line with the Paris Agreement. In response, the company has engaged an external ESG consultant to help devise a three-year ESG plan to reduce its carbon emissions intensity by 50% by 2030.



The comprehensive decarbonisation plan led to major achievements, which in 2021 alone included:

- (a) adoption of 17 new energy trucks;
- (b) increased usage of biomass diesel to approximately 12%;
- (c) mileage savings of 10 million kilometres annually through application of an intelligent route planning system;
- (d) avoidance of 150 tons of paper upon migration to electronic delivery processes and new freight recognition technologies; and
- (e) annual savings of 29,000 kWh electricity upon application of light-emitting diode (LED) lights in warehouses.



These ESG initiatives have earned the company a "Low Carbon and Green Management Case Award" from the China Federation of Logistics and Procurement. Given the achievements and recognition, the investee company is able to win new business opportunities from many consumers and chemical MNCs that accord priority to ESG practices.

Responsible Investment

Building the ecosystem

The growth of ESG investments goes hand in hand with the development of the green and sustainable finance ecosystem. The HKMA proactively engages with like-minded investors and counterparties to promote RI and build capacity for the industry. In 2022, the HKMA successfully hosted its fourth annual ESG Workshop with nine participating private market institutions comprising GPs, limited partners and corporates, sharing good ESG practices and promoting sustainable investment opportunities in the Asia Pacific and the Guangdong-Hong Kong-Macao Greater Bay Area. In respect of the public market, the HKMA has urged its counterparties, primarily investment banks, to expand their ESG manpower and research capabilities, especially in Hong Kong.



Mr Howard Lee, CEO of EFIO, delivers opening remarks at the HKMA ESG Workshop 2022

Collaborating with international organisations

Internationally, the HKMA plays an active role in formulating industry-wide ESG investment standards and practices:

- As one of the earliest central bank signatories of the *Principles for Responsible Investment* (PRI), the HKMA participated in joint signatories' efforts co-ordinated by the PRI to develop the standard RI due diligence questionnaire (DDQ) for private equities and venture capital investments^{5,6}, helping private market investors conduct ESG assessment of GPs and prospective investments.
- The HKMA has served as members of numerous working groups supporting the FCLTGlobal's research work that aims to identify market leading practices for long-term investment mandates, decarbonising of private equity assets, and its application to long-term investors⁷.
- Demonstrating its commitment to good ESG practices as a member of the NGFS and a supporter of the TCFD, the HKMA contributed to the NGFS' *Guide on climate-related disclosure for central banks*⁸. It is also leading a sub-working group under the NGFS' workstream of "Net Zero for Central Bank" tasked to formulate sustainable and responsible investment approach for the central banking community.
- The HKMA continued to participate in various industry forums and speaking engagements to share insights on RI and climate change strategies.



Ms Grace Lau (middle), CRO of EFIO, speaks at a sharing session on ESG investment opportunities

⁵ PRI, 2021. *Responsible Investment DDQ for Private Equities Limited Partners*. (<https://www.unpri.org/private-equity/responsible-investment-ddq-for-private-equity-limited-partners/8730.article#downloads>)

⁶ PRI, 2022. *Responsible Investment DDQ for Venture Capital Limited Partners*. (<https://www.unpri.org/private-equity/responsible-investment-ddq-for-venture-capital-limited-partners/10635.article#downloads>)

⁷ FCLTGlobal, 2021. *Ripples of Responsibility: How Long-term Investors Navigate Uncertainty with Purpose*. (<https://www.fcltglobal.org/resource/ripples-of-responsibility>)

⁸ NGFS, 2021. *Guide on climate-related disclosure for central banks*. (<https://www.ngfs.net/en/guide-climate-related-disclosure-central-banks>)

Responsible Investment

Strengthening internal capacity

Building internal capacity is essential to moving ahead on the ESG journey. Apart from encouraging staff to take sustainability-related courses and obtain relevant certifications, the HKMA has also gained knowledge and practical experiences from the 2021 external consultancy exercise that advised on leading industry practices of portfolio climate transition. In another initiative, the HKMA has extended the use of ESG data from a reputable external data provider to supplement its ongoing portfolio analysis, in order to help build a more ESG-resilient Exchange Fund going forward.

The HKMA seeks to upgrade its research efforts further and interact with fellow investors, industry-leading experts and international organisations to keep abreast of ESG developments. Meanwhile, to facilitate internal knowledge sharing, ESG news and recent developments are discussed as a standing agenda item at every EFIO ESG Committee meeting (see *Governance* section on page 21).

Risk management

Integrating ESG factors in credit analysis

To preserve long-term portfolio value, climate risk management has been an integral part of the HKMA's investment processes for all asset classes. For instance, ESG factors are incorporated in the credit risk model for fixed income portfolios, with regular monitoring of portfolio ESG scores based on external ratings assessed by reputable data providers.

Pursuing active ownership

The HKMA attaches high importance to good ESG integration and stewardship practices for its public equities investments. ESG considerations are embedded in the selection, appointment and monitoring of its suite of external managers, who are expected to discharge active ownership responsibilities and exercise shareholder rights in underlying companies on the HKMA's behalf, with a view to enhancing the long-term sustainable value of its investments.

Since the adoption of the *Principles of Responsible Ownership*⁹ in 2016, the HKMA has seen advancement in its managers' ESG integration practices. To keep up with the development, the HKMA is refining its manager engagement focus from general ESG control-centric to a risk-based approach that addresses assets and portfolios in the Exchange Fund which are exposed to higher ESG and climate risks.

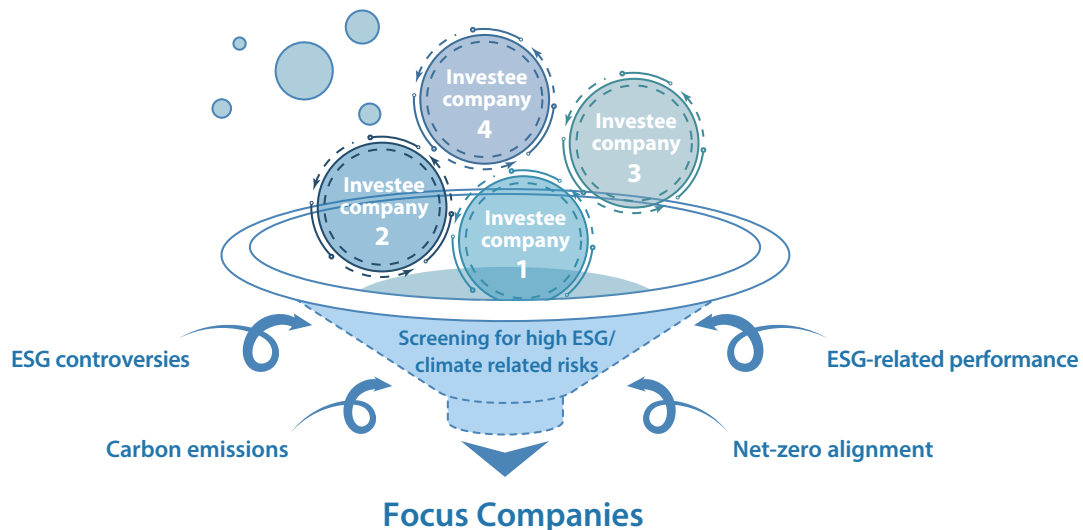
⁹ These voluntary principles, promulgated by the Securities and Futures Commission, aim to provide guidance to assist investors to determine how best to meet their ownership responsibilities.

Responsible Investment

Enhancing the engagement framework

In 2022, the HKMA enhanced its engagement framework for external managers by adopting a risk-based approach, focusing on a manager's justification for investing in companies associated with high ESG or climate-related risks, as well as its engagement work and voting records on these "focus companies". Recognising that the engagement with portfolio companies requires multi-year efforts, the HKMA will monitor managers' active ownership efforts towards the focus companies over time, as successful engagement and positive outcomes may only materialise with continued and determined efforts.

Identifying "focus companies" associated with high ESG or climate-related risks



Pilot engagement

A pilot engagement was conducted using the enhanced framework on selected managers of equities portfolios in emerging markets. Some useful observations and takeaway points were noted:



In general, active managers conducted bottom-up fundamental analysis, including an ESG assessment prior to investing. They also considered the value accretion opportunities from investing in "ESG improvers", i.e. companies with attractive valuation where potential return would get a boost from expected ESG improvement. More importantly, ESG incorporation did not mean compromising on investment return. As demonstrated by one of the active managers, by selecting quality companies during the investment decision-making process, a portfolio's investment return could outperform by more than 10% in 2021, and achieve a better ESG profile over the performance benchmark.



As reported by some active managers, public ESG data for emerging markets could be outdated, and the low availability and poor quality of ESG data highlighted the importance of engagement with companies in these markets. In order to conduct informed ESG assessments of "focus companies" operating in the emerging markets, conversations to better understand the company fundamentals were essential and could not be replaced by the use of public ESG data alone. Active managers also found engagement to be useful for encouraging companies to adopt better ESG practices.

Responsible Investment

Advocating transparency for private investments

The HKMA examines GPs' ESG policies and practices, as a mandatory part of its due diligence work for every investment mandate of the LTGP. Green accreditation is also a predominant factor in real estate investments. On an ongoing basis, the HKMA incorporates ESG integration clauses in the legal documentation and requires GPs to report ESG information, such as climate risk assessment and relevant metrics (including carbon emissions of underlying investments), to promote transparency in the private market sector and facilitate continuous risk monitoring.

Target and metrics

Targeting net-zero emissions

The HKMA believes that investing in a greener future can preserve the portfolio value and enhance the long-term risk-adjusted returns of the Exchange Fund. To reinforce its commitments to supporting the global climate agenda and bolstering portfolio resilience while navigating the transition towards a low-carbon economy, the HKMA has set a target of net-zero emissions by 2050 for the IP of the Exchange Fund. This target marks a key milestone on the HKMA's RI journey and upholds its commitment to align with the TCFD framework.

Guided by the RI framework, the HKMA is stepping up its ongoing efforts on three fronts – integration, active ownership and collaboration, with a clear focus on portfolio decarbonisation and transition. Specific actions include:

- actively seeking opportunities to invest in green and sustainable assets that support the whole-of-economy transition, in line with the guiding principle of RI;
- deepening ESG integration by incorporating climate-related metrics into investment analysis for both public and private market investments;
- appointing external managers and GPs with credible objectives and targets aligned with a net-zero emissions pathway;
- exercising active ownership via external managers to exert influence on investee companies' decarbonisation and transition plans; and
- collaborating with market stakeholders to promote climate-related information reporting.

Practising investment stewardship

In fulfilling the net-zero target, the HKMA prefers a stewardship approach based on engagement and voting over divestment or exclusion in its range of permissible investments.

From an asset manager's lens, the HKMA seeks an investment efficient frontier through a diversified portfolio to achieve the primary investment objectives of the Exchange Fund. Outright exclusion could shrink the investible universe, constraining diversification, and adversely impacting investment risks and returns.

From an active investor's lens, the transitioning of core "brown" industries is essential to meeting the goals of the Paris Agreement. Exclusion and divestment would not solve the carbon emissions problem in the real economy. Rather, it would pass the ownership to another investor who might not prioritise climate risk management, or it might disincentivise businesses in need of strategic capital for implementing transition. Moreover, investors should be able to invest in good performers of different, especially brown, sectors whereby the companies with better technology and corporate governance could not only enhance portfolio returns, but also be influenced through exercising active ownership to make positive changes both for themselves and the world.

Responsible Investment

Measuring carbon emissions

Quantitative measurement is useful for the HKMA's continuous risk monitoring and assessment of measures taken. For climate change, measuring carbon emissions enables the HKMA to understand the climate risk profile of its portfolios, monitor decarbonisation progress and identify the carbon-intensive areas that require further action.

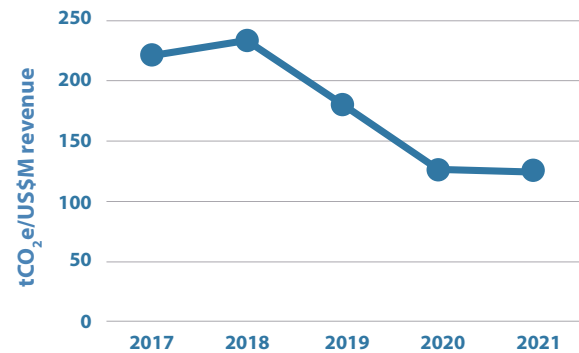
The HKMA continues to measure the weighted average carbon intensity (WACI)¹⁰, expressed as tCO₂e¹¹/US\$ million revenue, for the Exchange Fund's portfolios in line with industry practice. Scope 3 emissions¹² are excluded due to the high data uncertainty and lack of a consistent methodology for measurement, rendering them prone to double or even multiple counting.

Monitoring of emissions from public equities portfolios is given priority due to the more consistent measurement and disclosure practices in the market. In addition, based on the results of the abovementioned climate scenario analysis, public equities are more susceptible to climate risks than other asset classes of the Exchange Fund.

In Chart 1, the HKMA presents the WACI of the Exchange Fund's public equities portfolios from 2017 to 2021, using methodologies and tools developed by an external data provider. Where reported data were not available, the data provider estimated carbon emissions using its proprietary model. The reported and estimated data together covered more than 97% of the asset values of the assessed portfolios.

Chart 1

WACI of the Exchange Fund's public equities portfolios



Sources: MSCI^a and HKMA calculations

a. Note on use of information on the HKMA website (<https://www.hkma.gov.hk/eng/key-functions/reserves-management/responsible-investment/climate-risk>).

¹⁰ WACI is a metric recommended by the TCFD and NGFS. It measures a portfolio's exposure based on Scope 1 and 2 emissions relative to gross revenues of underlying investments, weighted by their relative sizes in the portfolio. Scope 1 emissions refer to direct emissions from sources owned or controlled by an organisation. Scope 2 emissions refer to indirect emissions generated from purchased electricity, steam, heating or cooling consumed by an organisation.

¹¹ tCO₂e refers to tonnes of carbon dioxide equivalent.

¹² Scope 3 emissions refer to all other indirect emissions that result from the activities of an organisation.

Responsible Investment

The WACI of the public equities portfolios as at the end of 2021 was 126 tCO₂e/US\$ million revenue, representing a reduction of 2% compared to 2020 and an overall 43% reduction compared to the 2017 level. This figure is persistently lower than the market investment benchmark, an indication of the Exchange Fund's lower exposure to carbon-intensive assets when compared to the broader market.

The pathway to net-zero is, however, non-linear. Portfolio decarbonisation of the Exchange Fund is subject to short-term fluctuations driven by multiple factors other than emissions, such as changes in portfolio asset mix and strategies in response to market developments, in addition to fluctuations in underlying asset valuations. For instance, the small reduction of WACI during 2021 was affected by post-COVID rebound of global emissions.

While the WACI is widely adopted for assessing portfolios' carbon exposure, its measurement is based on companies' disclosures, which are inherently backward-looking and do not account for companies' future decarbonisation or transition potential. The HKMA envisages that its approach to engage with external managers for long-term changes and transition of portfolio companies, rather than divestment, will result in short-term increases in the WACI before the positive outcomes are materialised. The HKMA believes that, by continuing investment in companies which adopt good ESG practices to align with a credible net-zero pathway, the emissions reduction will pick up in the years to come.

As new disclosure standards promulgated by different jurisdictions and related collaborative efforts continue to enhance emissions measurement methodologies, data availability and quality, the HKMA will continue to closely monitor these developments with the aim of exploring suitable metrics for advancing its climate exposure monitoring and reporting.

Sustainable HKMA

As an organisation, the HKMA is committed to reducing its own environmental footprint, targeting to become net-zero by 2050, in support of Hong Kong's broader climate goals. The HKMA's efforts to promote environmental sustainability sit alongside its pledge to advocate staff well-being, financial inclusion and social responsibility.



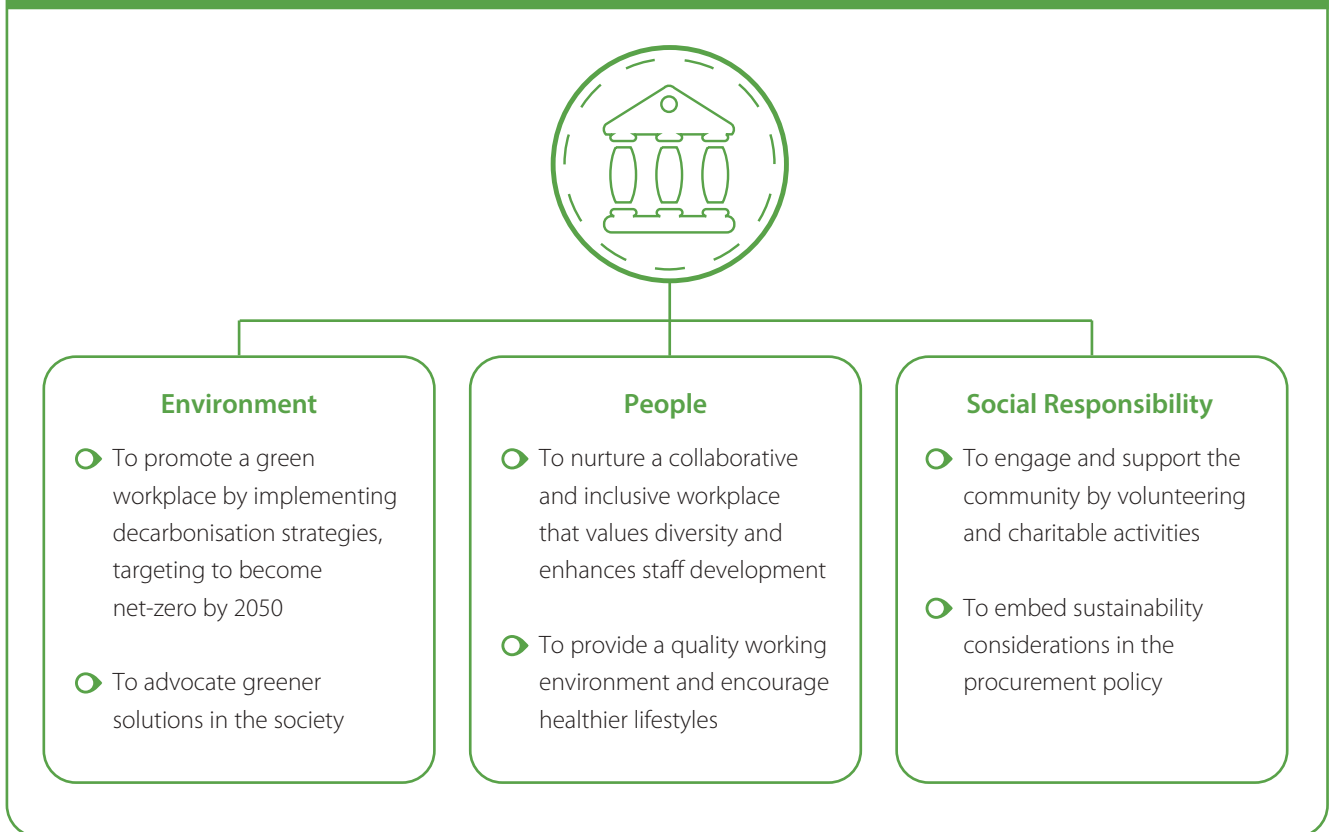
Sustainable HKMA

The three pillars

The HKMA strives to run its operations in a responsible and sustainable manner. To this end, the HKMA has structured its sustainability aspirations around three pillars: Environment, People and Social Responsibility (Figure 1).

Figure 1

The three pillars



Sustainable HKMA

Governance

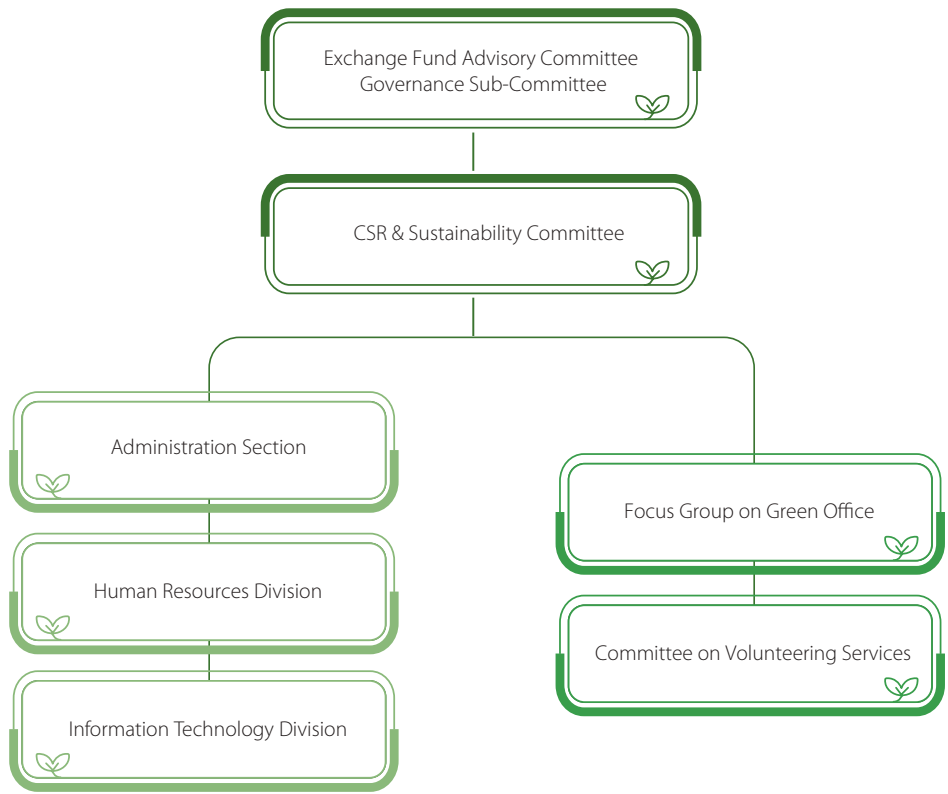
The Corporate Social Responsibility and Sustainability Committee (CSC) steers the formulation and implementation of the HKMA’s sustainability strategies. It is chaired by the Chief Executive of the HKMA, and includes the three Deputy Chief Executives and representatives from the Risk and Compliance Department and the Corporate Services Department as members. Regular reports are made to the Exchange Fund Advisory Committee’s Governance Sub-Committee. Under the CSC’s guidance, different teams and working groups are responsible for planning and carrying out initiatives within their specific areas.

In 2022, the CSC approved the climate targets for corporate operations and reviewed the transition pathway to net-zero by 2050. Throughout the year, the CSC continued to review progress in various green initiatives, including proposed enhancements to the HKMA’s sustainable procurement policy, procedures and practices.

Corporate Social Responsibility (CSR) and Sustainability Committee

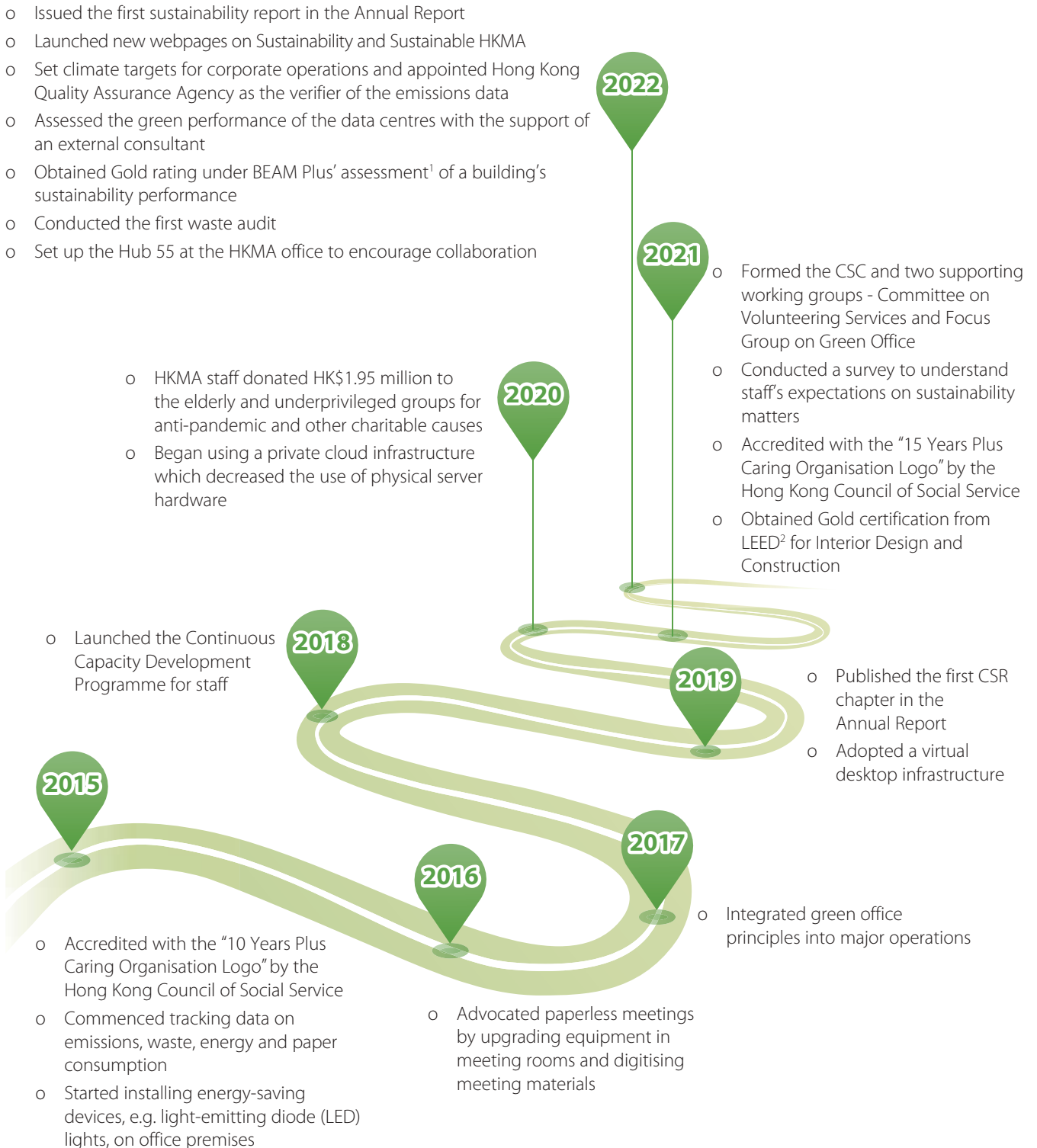
- Guiding the development of vision, strategies and policies concerning social responsibility and corporate sustainability matters
- Oversee the execution of CSR and sustainability initiatives and set targets to measure the attainment of the initiatives
- Evaluate the effectiveness of the CSR and sustainability work

Sustainability governance structure



Sustainable HKMA

A snapshot of the HKMA’s corporate sustainability developments



¹ BEAM Plus is the Hong Kong Green Building Council’s initiative to independently assess a building’s sustainability performance.

² LEED (Leadership in Energy and Environmental Design) is a widely used green building certification system developed by the United States Green Building Council.

Sustainable HKMA

Environmental sustainability roadmap

Strategy

Seeking to lead by example and in support of the Government's carbon neutrality goals, the HKMA has since 2021 begun a study targeting the full decarbonisation of its operations – of becoming net-zero by 2050. The HKMA's strategies cover operating green buildings and data centres, achieving green mobility, adopting energy-saving measures and eco-friendly business practices, in addition to promoting a green culture within the organisation (see pages 37 to 42 for more details).

Alongside these environmental commitments, the HKMA continues to advocate an environmentally friendly and operationally efficient marketplace.

Risk management

The HKMA's corporate operations are exposed to risks from both the physical effects of climate change (physical risks) and the transition to a net-zero economy (transition risks).

For example, physical risks arising from an increase in severe weather events could affect the maintenance of the HKMA's office premises and disrupt staff travel. To minimise loss and enhance its adaptability to physical risks, the HKMA has devised extreme weather contingency arrangements.

On the other hand, transition risks could impact the HKMA's energy usage and air travel through fluctuations in energy prices, whilst legislative changes may affect its waste management. The HKMA has been monitoring its exposure to transition risks by tracking its greenhouse gas (GHG) emissions, waste generation data, and energy and paper consumption. Apart from adopting energy efficiency and water conservation measures, the HKMA promotes the four 'R' principles of refuse, reduce, reuse and recycle to cut paper footprint and minimise waste.

Metrics and targets³

The HKMA aims to achieve net-zero in Scope 1, Scope 2 and Scope 3 (business air travel) GHG emissions⁴ across all areas of its corporate operations by 2050 or earlier.

As its near-term emissions reduction targets, the HKMA plans to eliminate Scope 1 emissions completely through transitioning all existing HKMA-owned cars to electric vehicles; and by implementing decarbonisation strategies and through energy-saving measures and procuring renewable energy certificates, to reduce Scope 2 emissions by 63% by 2030, using 2015 as the base year.

Whilst there are challenges in determining Scope 3 emissions, the HKMA will endeavour to minimise GHG emissions as far as practicable from various sources included within Scope 3 emissions, such as paper consumption, waste and business air travel. Travel emissions will be removed or offset, where appropriate, from 2023 onwards.

The HKMA has appointed Hong Kong Quality Assurance Agency to verify its target setting approach, and its emissions, energy, paper consumption and waste data⁵. The scope and basis of the verification are set out in the *Verification Statements* contained in this report.

³ The long-term and near-term emissions reduction targets are set with reference to the Science Based Targets initiative methodology.

⁴ Scope 1 emissions refer to direct emissions from sources owned or controlled by an organisation. Scope 2 emissions refer to indirect emissions generated from purchased electricity, steam, heating or cooling consumed by an organisation. Scope 3 emissions refer to all other indirect emissions that result from the activities of an organisation.

⁵ Unless otherwise specified, data disclosed for the period from 2015 to 2022 cover the HKMA's operations in Hong Kong only. The HKMA's operations in relation to its New York office is excluded from this report due to their relatively small environmental footprint. The reporting period of environmental data is by calendar year (i.e. 1 January to 31 December).

Sustainable HKMA

HKMA as a Caring Organisation (2006 – 2022)

In recognition of the HKMA's commitment to caring for the environment, employees and community, the Hong Kong Council of Social Service awarded the "15 Years Plus Caring Organisation Logo" to the HKMA for the 16th consecutive year.



Environment

Championing a green workplace

The HKMA is mindful of its own environmental footprint as an organisation. It has established an internal protocol, *A Guide to Green Office*, to manage the environmental impact of its operations.

Green buildings

The HKMA has incorporated environmental factors in the interior design, operation and maintenance of its office premises. In 2022, BEAM Plus awarded a gold rating to the HKMA in respect of certain renovated office spaces. This was the second green building accreditation after receiving a gold certification from LEED in 2021.



Gold rating under BEAM Plus BI V1.0

Sustainable HKMA

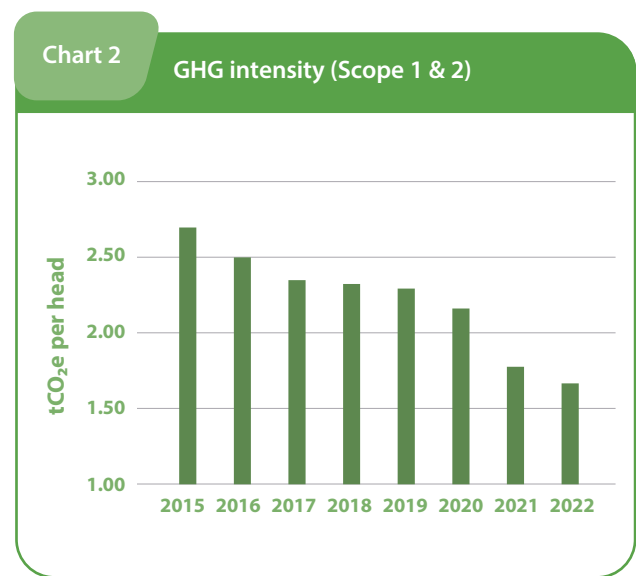
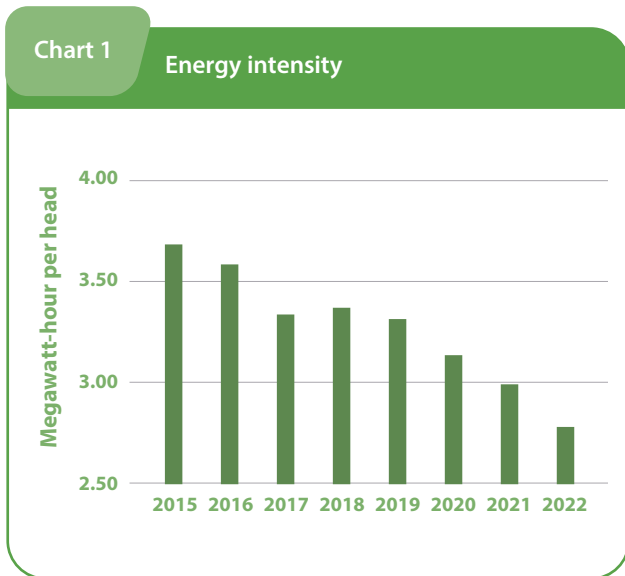
Energy savings

The HKMA has been deploying various energy-saving measures, including:

- installing LED lighting, motion sensors and auto timers for the entire office premises;
- setting indoor air-conditioned temperature at 25°C;
- exploring and adopting environmentally friendly equipment and solutions as far as possible; and
- setting office equipment in power-saving mode.

The total energy consumption⁶ was 4,996.4 megawatt hour in 2022, or 2.8 megawatt-hour per head⁷, which represents a reduction of 24.4% compared to the 2015 level (Chart 1).

In 2022, the Scope 1 and Scope 2 GHG emissions⁸ amounted to 2,996.4 tonnes of carbon dioxide (CO₂) equivalent (tCO₂e), or 1.7 tCO₂e per head, which represents a reduction of 38.2% compared to the 2015 level (Chart 2).



⁶ Energy consumption data was based on the amount of purchased electricity and fuels consumed.

⁷ Beginning with 2022, the intensity calculations for GHG emissions, waste generated, energy and paper consumption are based on the numbers of employees and contractors on site. For comparison purposes, similar adjustments have been made to the figures in previous years.

⁸ The HKMA's GHG emissions are primarily indirect GHG emissions arising from electricity consumption. The figures were calculated based on the reporting requirements of the *GHG Protocol Corporate Accounting and Reporting Standard (GHG Protocol)* issued by the World Resources Institute and the World Business Council for Sustainable Development, and the *Practical Guide on Carbon Audit and Management – Guide to Low Carbon Offices* issued by the Environmental Protection Department in Hong Kong. Scope 1 direct emissions cover carbon dioxide, methane, and nitrous oxide. Hydrofluorocarbons are insignificant in the HKMA's operations while perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride are not applicable. Scope 2 indirect emissions were calculated by the market-based method as defined by the *GHG Protocol*. The emission factor applied is for each respective year with reference to information published by the energy companies in Hong Kong.

Sustainable HKMA

Digital and paperless office

The HKMA has been advocating a “paperless” approach within the organisation, including:

- conducting “paperless meetings” by modernising conference facilities and digitising meeting materials;
- equipping all staff with mobile devices;
- upgrading collaboration and communication tools to facilitate discussions, messaging and sharing of documents;
- switching to e-fax for receipt and dispatch of documents;
- using automation and electronic processes for organisational matters, including pay slips, training enrolments, leave applications and conference room bookings; and
- mainly using email for written communications with external parties.

Furthermore, the HKMA has implemented a printing management system, which requires staff to log in to the printer to confirm each print job, to help reduce unnecessary printouts and toner usage. Where printing is necessary, double-sided printing in black and white is encouraged. The HKMA is also preparing for the implementation of an organisation-wide electronic record keeping system.

Paper consumption at the HKMA

In 2022, the total paper consumption was 20.5 tonnes, or 0.0114 tonnes per head, which represents a reduction of 65.3% compared to the 2015 level (Chart A).

Chart A: Paper consumption intensity



Sustainable HKMA

Waste management

The HKMA continued to follow the four 'R' principles in its waste management and avoidance efforts, including:

- setting up recycling collection points at multiple locations for paper, cans, plastic waste, batteries, compact discs, fluorescent tubes and ink cartridges;
- reusing one-sided paper and envelopes;
- eliminating consumption of single-use disposable items at pantries, meetings and official events;
- providing reusable utensils and lunch boxes for staff to store food and calling on all staff to avoid single-use items; and
- donating old office computers and clothing collected from staff to charities.

Apart from traditional waste, the HKMA has also been cutting down on electronic waste through adopting technology solutions, such as server virtualisation and private cloud infrastructure.

In 2022, for the first time, the HKMA engaged an external firm to perform a waste audit to analyse the composition of wastes generated at the office premises. The audit found that food waste accounted for a significant proportion of the total waste. A food waste recycling programme was then launched (see *Stepping up waste management* on page 41).

The non-hazardous waste generated in 2022, including general waste and recyclable waste, totalled 242.0 tonnes, or 0.135 tonnes per head, which represents a reduction of 4.8% compared to the 2015 level (Chart 3). The trend fluctuation was attributed largely to work-from-home arrangements at the height of the COVID-19 pandemic and subsequent resumption of office activities post the fifth-wave local epidemic.

Chart 3

Non-hazardous waste intensity



Stepping up waste management

One of the HKMA's priorities is to first avoid waste at source, otherwise, reduction, reuse and recycling practices are adopted.

For the first time, in 2022, the HKMA commissioned a firm to perform a waste audit to better understand the composition of wastes (plastic, paper, metals, glass, wood, electronics, etc.) in its daily operations, and provide suggestions for reducing waste generated.

Inspired by the audit findings, a food waste recycling programme was launched in November. Collection bins for food waste are now placed in all pantries at the HKMA office. Every day, the collected food waste is delivered to an organic resources recovery centre in Hong Kong, for conversion into renewable energy for electricity generation. The residues from the conversion process can also be produced as compost for landscaping and agricultural use.

In addition, recycling bins are now provided conveniently at multiple locations across the office premises. Recycling tips are shared with staff, with an increasing focus on further improving the separation of recyclables at source, and the key do's and don'ts when recycling items such as carton boxes, food containers and beverage bottles. Ongoing activities are also organised to raise staff's environmental awareness, explain waste management policies and encourage them to make good use of the recycling facilities in the offices.



Collected food waste is sent to an organic resources recovery centre daily



Plastic recycling

Sustainable HKMA

Green data centres

The HKMA runs two data centres (production and backup) which are major sources of its energy consumption. To save energy, the HKMA has applied a number of green designs and measures, such as in-row cooling system, LED lighting, and round-the-clock monitoring of power usage efficiency. Following the completion of the 2022 consultancy study on the green performance of these data centres, the HKMA is taking forward the suggestions to boost their overall energy efficiency. Preparation work for obtaining accreditation as green data centres has also commenced.

Green culture

The HKMA recognised the importance of building a culture of sustainability. Regular programmes and activities are organised to educate, motivate and upskill staff to adopt sustainability-friendly habits and a green and digital way of working. Green tips along with annual statistics on office-wide energy and paper consumption are shared with staff to remind them to address environmental issues at the individual level. Staff are also encouraged to make suggestions on sustainability matters.

Focus Group on Green Office

Headed by Senior Manager, Administration, staff from different units across the organisation come together to brainstorm ideas and initiatives to champion a green workplace. Members of the Group also act as ambassadors when new green practices are launched.

Supporting the marketplace to go green

The HKMA advocates greener solutions in the broad community. In this respect, it has introduced measures to enhance operational efficiency and minimise resource consumption for the HKMA, the financial industry and the economy.

Electronic communication channels with banks

The HKMA's online system, Submission Through Electronic Transmission, is a one-stop platform for banks to make electronic submissions to the HKMA, encompassing various types of regular reports that are required on a weekly, monthly, quarterly or yearly basis. Another system, e-Delivery, enables the HKMA to disseminate information such as circulars and guidelines to the banks through a secure electronic communication channel. Both systems help to save hundreds of thousands of sheets of paper annually.

In respect of the HKMA's handling of banking complaints and enforcement work, the HKMA has taken steps to support paperless document submission via electronic channels and online forms for banking customer complaints, and is developing a new generation management information system for processing banking complaints and moving from paper-based to digital records.

Green initiatives of the Central Moneymarkets Unit

To reduce the use of paper, the Central Moneymarkets Unit (CMU)⁹ started adopting digital signatures in its day-to-day correspondence with CMU participants, including the issuance of circulars, letters for account opening and termination, and replies for audit confirmation. Looking ahead, the CMU will continue to explore more green initiatives including adopting automation and electronic processes for communication with internal and external counterparts.

⁹ The CMU, operated by the HKMA, is a central securities depository providing clearing, settlement and custodian services for debt securities.

Sustainable HKMA

Electronic payments and lai sees

The HKMA supports increased adoption of electronic payments as an alternative to cash and paper cheques by promoting the use of the Faster Payment System (FPS) and stored value facilities (SVFs). More information on FPS and SVFs can be found in the *International Financial Centre* chapter of the *Annual Report 2022*.

Giving electronic lai sees (e-laisees) is not only simple and convenient, it also contributes to promoting the sustainable development of Hong Kong by reducing the usage of physical red packets and banknotes. For this reason, the HKMA continued to run a publicity campaign via different social and traditional media to encourage the public to use electronic channels, including the FPS available via online or mobile banking, or other e-wallet services, to give out e-laisees during the Chinese New Year.

Major banks and electronic payment operators also launched programmes to promote e-laisees, such as showing festive themes in the user interface, introducing user-friendly enhancements and rolling out lucky draws or cash rebates.



The HKMA promotes e-laisees on social media

Good-as-new banknotes

For members of the public who prefer to distribute physical red packets during the Chinese New Year, the HKMA continued to encourage the public to use good-as-new banknotes, i.e. used banknotes which are in good condition, rather than new banknotes for the purpose. Good-as-new banknotes can reduce the need for printing new banknotes, in turn reducing the environmental footprint. Feedback from the note-issuing banks showed a positive trend over the years in this regard.

Coin collection programme

The Coin Collection Programme spearheads the HKMA's efforts in the recycling of coins. The coins collected are recirculated to meet public demand, making circulation more efficient, and at the same time reducing the need for minting new coins. The two Coin Carts have so far served over one million people and collected more than 800 million coins with a total face value of approximately HK\$1.3 billion. In 2022, 78% of users chose to digitalise some or all of their coin values by topping up their SVF accounts.

On an ongoing basis, the HKMA collaborates with the Hong Kong Council of Social Service to deploy the Coin Carts to collect coins on flag days for non-governmental organisations, as a way to showcase the HKMA's support to community services.



Coin counting machine on a Coin Cart

Sustainable HKMA

Coin carts move around the city

Introduced in 2014, the Coin Collection Programme is the world's first structured coin collection scheme based on the concept of a mobile truck and has, over the years, won local and international awards in recognition of its innovative and green approach. Two Coin Carts, each equipped with two high-speed coin counting machines, collect coins from the public, who are given the choice of exchanging their coins for banknotes, topping up their accounts managed by SVFs, such as Octopus cards or e-wallets, or donating to the Community Chest charity.

Apart from collecting coins, the Coin Carts are assigned to various educational events and functions (e.g. visits by school children) from time to time.

Information about the Coin Collection Programme, including the service schedule, is available on a designated page of the HKMA website (coincollection.hkma.gov.hk). Since December, the spatial data of the two Coin Carts has also been updated to the Government's Common Spatial Data Infrastructure, from which the public may download the service schedule and parking location of the two Coin Carts. This initiative echoes the Smart City Blueprint released by the Government, in support of the smart city development in Hong Kong.



The Coin Carts visit all 18 districts of Hong Kong on a rotational basis



School children visit the Coin Cart to experience coin recycling

Sustainable HKMA

People

Staff are the HKMA's valuable assets. Promoting health in body and mind enhances staff well-being. As a further step to encourage bonding between colleagues, Hub 55 – a spacious common and social area, has been made available since mid-2022 (see *Staff Connect: Hub 55* below).

Staff Connect: Hub 55

Located on the 55th floor of the HKMA's office at the International Finance Centre, Hub 55 is a popular social area where staff can chat, collaborate and connect.

Hub 55's interior design incorporates environmental factors and flexibility, such as plant stations, movable partitions to subdivide the space into smaller sections, and a multi-purpose bar table which can be turned into a booth for serving drinks when needed.

Since its opening in mid-2022, staff have come together at Hub 55 to relax and participate in various engagement activities. One of the highlights was the Sharing Circles on Fridays campaign, during which interest classes, sharing sessions, talent shows, and craft workshops were organised to foster collaboration and a sense of belonging among colleagues across the organisation.

What is more, staff can enjoy healthy refreshments and pop-up lunch services offered by three social enterprises, namely Hong Chi Association, Fu Hong Society and The Nesbitt Centre.



Hong Chi Association's students run a pop-up kiosk inside Hub 55



Fu Hong Society delivers lunch in recyclable boxes on alternate Wednesdays



Popular interest class at Hub 55

Sustainable HKMA

Wellness office

The HKMA provides a workplace featuring an open layout and workstations are equipped with height-adjustable desks and ergonomic chairs to help improve staff health and productivity. The LCD monitors include eye protection features to lessen strain on the eyes. Where there is an operational need, staff are provided with two or more LCD monitors for use.

Office hygiene is maintained at a high standard, with office sanitisation being carried out frequently. Touchless lift buttons and faucet sensors are now in place, and door sensors are installed to enable contactless access to toilet facilities. Disinfectant coating treatment is also applied on surfaces that staff or visitors may touch often, in particular, door handles and meeting room areas.

The HKMA has been highly supportive of the Government's effort to encourage COVID-19 vaccinations and a very high percentage of its staff have been vaccinated. During the peak of the COVID-19 epidemic in 2022, the HKMA introduced special arrangements, such as split-team operations and work-from-home arrangements, to safeguard the health of all its staff. The HKMA has also been distributing face masks and alcohol wipes to its staff since 2020.

Staff well-being

Occupational health management at the HKMA is aimed at maintaining the well-being of its staff, and a broad range of preventive measures is offered to staff including medical check-ups, flu vaccinations and fitness exercises. Staff can also attend seminars on healthy lifestyle, stress management and workplace safety, as well as diverse sports activities. To promote mental wellness, staff and their immediate family members have access to external counselling services sponsored by the HKMA. These services offer professional and confidential counselling support via a consultation hotline, a face-to-face interview or a clinical psychology service.

Equal opportunities policy

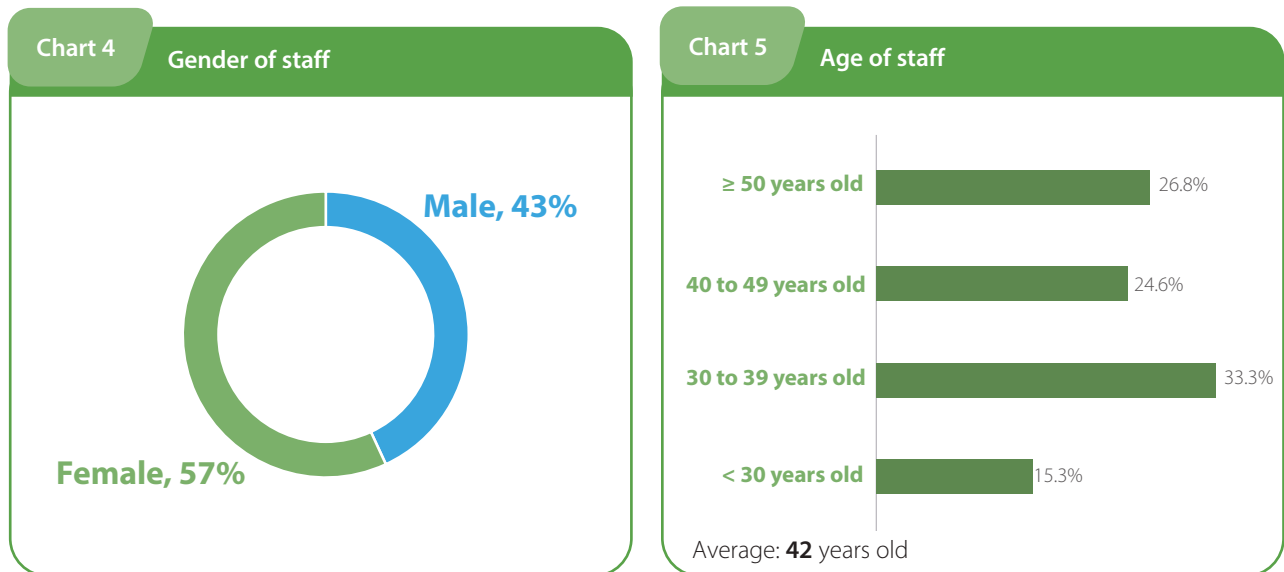
The HKMA believes that everyone should be able to work in an environment free of discrimination, harassment, vilification and victimisation. The HKMA's equal opportunities policy applies to job advertisements, recruitment, terms and conditions of employment, performance assessments, promotions, transfers, training opportunities, dismissals, grievance procedures and general conduct.

Sustainable HKMA

Diversity

The HKMA values diversity in its workforce, which has a balanced gender representation and covers a spectrum of different age groups. Female representation at the rank of Executive Director or above was 33.3% as of January 2023.

Human capital key statistics as of 1 January 2023



More details about the HKMA's remuneration policies and staff development initiatives can be found in the *Corporate Functions* chapter of the *Annual Report 2022*.

Sustainable HKMA

Communications with staff

The HKMA emphasises effective communication within the organisation. Two staff consultative committees have been formed to facilitate open and productive dialogue between the staff and the management. First, the HKMA Staff Consultative Committee consults staff on policy matters and subjects of common interest. Secondly, as its name implies, the Consultative Committee on Provident Fund Schemes for Staff of the HKMA focuses on retirement fund issues, including the performance of the fund managers. Both committees comprise representatives from different departments and ranks and meet regularly.

In addition to utilising the intranet and internal circulars, there are regular town hall meetings for the Chief Executive and the three Deputy Chief Executives to keep staff apprised of important organisational matters, the latest regulatory developments and current priorities. The HKMA values every employee's opinion. Staff can offer their advice and express concerns through the staff suggestion box and periodic surveys which cover topics ranging from bonding activities to expectations on sustainability matters.



Staff joining the town hall meeting in May

Sustainable HKMA

Bonding activities in 2022



Staff enjoying games at the Christmas fun day



Interbank Basketball Competition



Interbank Soccer Competition



DIY aroma products



Tennis team playing at the 30th Dr Henry Fok Corporate Patron League 2022



Sharing Circles on Fridays:
Coffee Workshop at Hub 55

Sustainable HKMA

Social responsibility

The HKMA is committed to fulfilling its CSR. It looks beyond its immediate corporate boundaries to upstream and downstream sectors to broaden impacts. It advocates procuring goods and services from suppliers that uphold sustainability values. To support the wider community, it takes part in volunteer and charitable activities and adopts measures to address the needs of special groups. The HKMA is also making ongoing efforts to promote financial literacy and inclusion. Amid the COVID-19 pandemic, the HKMA has been rolling out measures to support individuals and businesses in need to help Hong Kong's economy during these difficult times.

Sustainable procurement

The HKMA's procurement process embeds environmental, social and economic considerations, covering electrical appliances, printing paper, equipment, building services and products for interior use. A high emphasis is placed on supply chain risk management. The HKMA assesses a supplier's profile and product, including its business ethics and labour practices. It also seeks to engage with social enterprises, by including them on its list of local vendors, with an aim to empower people with different abilities and advance social inclusion.

Volunteer services and charitable activities

The HKMA is committed to giving back to society by partnering with social enterprises to pursue meaningful causes and encouraging staff and their family members to participate in volunteer work. Staff also support community services through donations and participation in fundraising events. In 2022, HKMA staff spent a total of 379 hours volunteering. The four staff members with the highest annual volunteering hours are given awards in appreciation for their dedication to bringing positive impact to the community.



Ms Shirley Wong (left), the chairperson of Committee on Volunteering Services, receives Volunteer Recognition Award from Mr Eddie Yue (right), Chief Executive of HKMA

Passion for community services

The Committee on Volunteering Services (CVS), established in 2021, aims to encourage a culture of volunteerism by organising activities for the staff and their family members.

The CVS is chaired by Ms Shirley Wong, who was among the group of enthusiastic HKMA volunteers that had been involved in community services since 2013. Since the CVS was put in place, these volunteers have expanded the scope of their community service and charitable activities. Within the first year of its formation, the CVS successfully organised over 30 events and attracted over 700 participants. It was heartening that some of these activities were even oversubscribed.

Shirley explained that the majority of staff had chosen the elderly as the most preferred target for community services. As such, many of the CVS events in 2021–2022 had an “elderly focus”. In 2022, the Christian Family Service Centre presented a certificate of appreciation to the HKMA, which was a shot in the arm to the CVS in keeping up the momentum.



The HKMA receives a certificate of appreciation from The Christian Family Service Centre



Staff volunteers pack hot food for the elderly

In 2022, Shirley contributed the highest number of volunteering hours. She derives great satisfaction from helping the needy, and the memorable experiences make it worthwhile for her to sacrifice some personal time on the weekends. As an experienced volunteer, she feels the ability to connect with others is important in volunteering work. For example, at the Ginkgo House’s free meal service, staff volunteers worked as a tight-knit team packing food boxes and handling registration for the meal recipients, and greeted the recipients with big smiles when handing out the hot meals. This interaction has made a big difference for the volunteering experience.

At present, there are over 30 active CVS members, Shirley is keen to expand this core group to 100. She will invite members to bring along their family members and friends too. In her view volunteering activities are great opportunities for colleagues to spend quality time with their families while working together for a meaningful cause.

In 2023, while the CVS will re-run previously popular activities, Shirley aspires to reach out to a variety of disadvantaged groups via activities which have a long-term impact. Post pandemic, she hopes the CVS can also coach children and youth of low-income families. Shirley believes that kids who receive help will be more willing to help others after growing up. In this way, HKMA volunteers are able to pass on their spirit of volunteering to the next generation.

Sustainable HKMA

Volunteering and charitable activities in 2022

Activity

Contributions

Free meal distribution

Staff volunteers and family members distributed nutritious lunch boxes to the elderly and underprivileged families with Banyan Services Association eight times throughout the year.



Blood Donation Day

Staff donors supported the Hong Kong Red Cross' call for blood donation.



Flag Days

Staff volunteers sold flags on four occasions organised, by Po Leung Kuk, Christian Family Service Centre, RainLily and Society for the Welfare of the Autistic Persons respectively.

Home visits for elderly

Staff volunteers distributed fortune bags to the elderly living in Sham Shui Po, organised by The Neighbourhood Advice-Action Council, on two occasions.

Donation of anti-pandemic supplies

The HKMA donated over 59,000 pieces of face masks and 200,000 pieces of alcohol wipes to the Hong Kong Society for the Aged and 6,800 pieces of face masks to Light and Love Home, for the elderly and underprivileged families.

Free meal distribution

Staff volunteers and their family members packed food boxes and distributed hot meals to the elderly, grassroots families and homeless people six times at different locations in Hong Kong with Gingko House.

Shoreline clean-up

Co-organised with the Environmental Protection Department, staff volunteers helped clean up a beach at Sheung Sze Wan, Clearwater Bay.



Virtual charity walk

Staff volunteers walked a minimum of 80,000 steps per person in two months to raise funds for Youth Outreach.

The New Territories Walk for Millions 2022

Staff volunteers and their family members walked on the Cross Bay Link, Tseung Kwan O, to raise funds for family and child welfare services supported by The Community Chest.

Love Teeth Day

Staff bought packs of oral care products and donated monies to enhance The Community Chest's oral health services for the needy.

Sustainable HKMA

Addressing the needs of special groups Accessibility of Hong Kong banknotes

The HKMA is committed to helping the visually impaired differentiate among different denominations of Hong Kong banknotes. Accessibility features, including Braille, tactile lines and high-tactility numerals are incorporated in banknotes. In addition, the HKMA has sponsored the Hong Kong Society for the Blind to develop a mobile note-scanning app; and, together with the three note-issuing banks, sponsored the production of note-measuring templates to help the visually impaired identify the denominations of Hong Kong banknotes. Both the mobile app and the note-measuring templates are available free of charge.

Accessibility of public information

The HKMA continues to promote equal opportunities, and endeavours to make its services accessible to all members of the public. The HKMA website has a clear navigation structure to help users search for content easily. A dedicated webpage on "Information in Other Languages" under the "Smart Consumers" section provides useful information on banking services in languages (other than Chinese and English) which are commonly used in Hong Kong. These

languages include Bahasa Indonesia, Hindi, Nepali, Punjabi, Tagalog, Thai, Urdu and Vietnamese. Moreover, the HKMA aims to ensure that its website and online publications conform to the World Wide Web Consortium's Web Content Accessibility Guidelines 2.0 Level AA standard to the maximum extent possible in order to help people with special needs access its online information.

Promoting financial consumer education

The HKMA proactively engages the community through different channels to promote smart and responsible use of banking and financial services. The HKMA also seeks to help the public, particularly the younger generation, learn more about developments and career opportunities in the financial sector in Hong Kong.

Sustainable HKMA

Campaign highlights

Themes

Education initiatives

Green habits

Ran a publicity campaign to encourage the public to give out e-laisees, and consider using good-as-new banknotes for physical lai sees during Chinese New Year



Giving out lai sees digitally

Green and sustainable investments

Aired videos during the inaugural retail green bond offering to enhance understanding of the responsible investment product



"Bond with a Green Future" videos

Designated "green and sustainable finance" as the theme for the Hong Kong Financial Literacy Championship, an online quiz-cum-design thinking competition targeting secondary school students



Students presenting creative solutions with green and sustainability elements to address personal financial management needs

Scams and fraud

Rolled out a new cross-media awareness campaign to reiterate the importance of guarding against fraudulent hyperlinks embedded in SMS messages and emails purportedly from banks, and to beware of other types of scams (such as deposits and credit cards), riding on the success of the 2021 campaign



Short videos themed "Protect your Personal Digital Keys; Beware of Fraudulent Links!"

Sustainable HKMA

Smart financial consumers

Apart from publishing smart tips on the HKMA website and social media platforms, launched promotion on the technological advancement in financial services (e.g. FPS App-to-App and Web-to-App payment functions, Open Application Programming Interface adopted in banking services), issues to note when using online shopping and payment services (including “Buy Now, Pay Later” products), and other topics such as the Linked Exchange Rate System and financial technology (fintech)



Animation videos on different areas of the HKMA's work

Taught kindergarten and primary school students basic concepts of money management, and financial and payment services, through online parenting workshops and educational materials



Kids learning money management concepts and skills online

Building a talent pipeline

Released new interview videos on the HKMA's Manager Trainee (MT) Programme to enhance the young generation's understanding of the HKMA's talent development work



MT graduates sharing their personal experiences in preparing for the recruitment exercise

Sustainable HKMA

Advocating financial inclusion

In collaboration with the banking industry, the HKMA has made sustained efforts to enhance the general public and legitimate businesses' access to basic banking services for daily and operational needs. It also actively engages relevant stakeholders to address the needs of special care groups and customers in need. The HKMA endeavours to work towards the following priority areas to promote financial inclusion in Hong Kong.



Sustainable HKMA

Highlights

Barrier-free banking services

- Essentially all retail bank branches are now accessible by wheelchairs, except for a very small number which are constrained by their building structures.
- All retail bank branches are equipped with assisted listening systems.
- More than 2,000 automated teller machines (ATMs) in operation are at a height suitable for wheelchair users.
- More than 1,600 voice navigation ATMs are in operation.
- All voice navigation ATMs displayed the hotline number in raised numbers and Braille.
- All retail bank branches have adopted the policy that guide dogs are welcome.
- Online channels are made available by retail banks to help persons with hearing impairment report lost credit cards and use live chat services to report unauthorised transactions.



Cash withdrawal service for the elderly

- Outlets of convenience store chains: over 380
- Hongkong Post Offices and Mobile Post Offices: over 160



Locations served by mobile bank branches

30



Simple Bank Accounts¹⁰ opened

More than 12,700

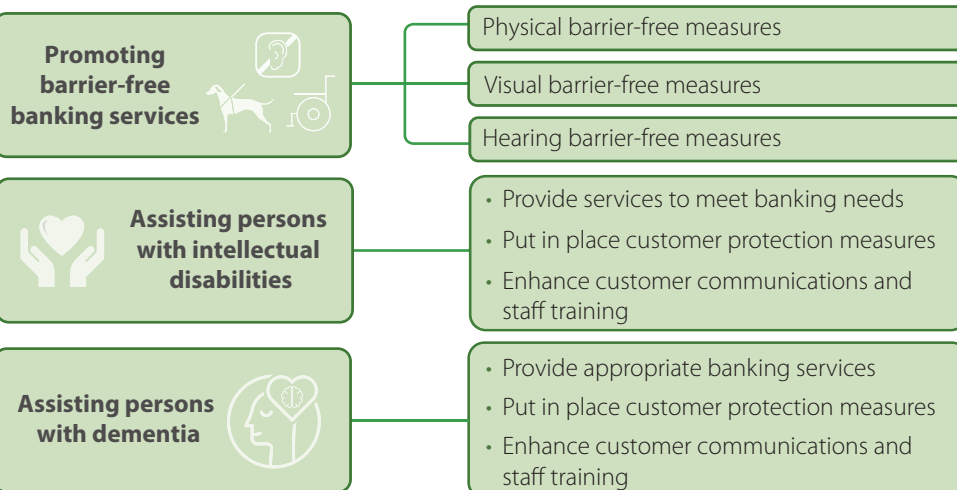


Virtual bank licences granted

8

Guiding banks to serve customers in need

To enhance access to banking services by customers requiring special care, the HKMA has worked closely with the banking industry to develop guidelines which set out relevant principles and recommended good practices. Three sets of guidelines have been promulgated in recent years. To date, retail banks have completed their implementation of these guidelines.



¹⁰

Simple Bank Accounts offer a narrower set of banking services, and correspondingly, require less extensive customer due diligence measures to be carried out at account opening.

Sustainable HKMA

Multi-pronged support for the community amid the COVID-19 pandemic

The HKMA, together with the banking sector, has been rolling out a series of support measures to help small and medium-sized enterprises (SMEs) and personal customers in need during these difficult times. Details of the support measures are available on a dedicated webpage on the HKMA website:



How has the HKMA helped banks to support their customers?

Enhanced support for customers facing liquidity stress

Facilitated banks' support of the economy through the Banking Sector SME Lending Coordination Mechanism

Corporate customers

Launched the Pre-approved Principal Payment Holiday Scheme in May 2020 and extended it six times; the new expiry date is now end-July 2023, with over 100 participating banks

Set up dedicated channels to address queries from corporate borrowers; handled over 1,150 cases since its inception to end-2022

>108,000 applications for payment holidays and other relief measures totalling **HK\$1.1 trillion** approved by banks up to end-2022

More flexible in handling new loan applications for upgrading commercial vehicles and extended maximum loan tenor for new commercial vehicle loans

>58,000 applications for the Special 100% Loan Guarantee under the SME Financing Guarantee Scheme approved up to end-2022, totalling **over HK\$115 billion**

Individual customers

>81,000 applications for relief measures granted up to end-2022, totalling **HK\$65 billion**

Banks are encouraged to offer principal payment holidays for residential mortgages and commercial vehicle loans taken out by personal customers

Sustainable HKMA

Supporting smaller firms under the SME Financing Guarantee Scheme

Operated by HKMC Insurance Limited (HKMCI)¹¹, the SME Financing Guarantee Scheme (SFGS) covers the 80% and 90% Guarantee Products, as well as the Special 100% Loan Guarantee, which have provided crucial support to SMEs during the pandemic, enabling them to carry on their businesses and keep the jobs of their employees.

To further alleviate the cash-flow pressure on SMEs, a number of enhancements have been made to the SFGS. The application period of the scheme has been extended, and the maximum principal moratorium period has been extended to a total of 42 months. In addition, under the Special 100% Loan Guarantee, the maximum loan amount per enterprise has been raised to the total amount of employee wages and rents for 27 months, with the ceiling increased to HK\$9 million and the maximum repayment period extended to 10 years.

In 2022, over 16,000 applications for the SFGS were approved, involving a total loan amount of about HK\$48.3 billion.

Enhancing the 100% Personal Loan Guarantee Scheme

The HKMCI also operated the 100% Personal Loan Guarantee Scheme (PLGS) which was launched in 2021 to provide a supplementary financing option to individuals suffering from cessation of main recurrent incomes from employment in Hong Kong during the pandemic. The PLGS introduced enhancement measures in 2022, including a higher maximum loan amount per borrower being nine times the average monthly income during employment, subject to a ceiling of HK\$100,000, as well as an extended maximum repayment period of 10 years and an extended principal moratorium arrangement.

In 2022, around 25,000 applications for the PLGS were approved, amounting to about HK\$1.7 billion.

Inaugural social bond issuance

In October, the HKMC successfully issued its inaugural HK\$8 billion two-year and RMB3 billion three-year social bonds in the institutional market under its newly-established Social, Green and Sustainability Financing Framework and the US\$30 billion Medium Term Note Programme. The transaction marked the world's first social bond issuance in dual-tranche denominated in both Hong Kong dollar and renminbi. The net proceeds from the issuance were mainly used to finance or refinance the loans under the Special 100% Loan Guarantee of the SFGS, creating a positive social impact for society.

¹¹ The Hong Kong Mortgage Corporation Limited (HKMC) is wholly owned by the Government through the Exchange Fund. HKMCI is a wholly owned subsidiary of the HKMC.

Abbreviations

Basel Committee	Basel Committee on Banking Supervision
BIS	Bank for International Settlements
CASG	Green and Sustainable Finance Cross-Agency Steering Group
CEO	Chief Executive Officer
CMU	Central Moneymarkets Unit
COVID-19	Coronavirus disease 2019
CRO	Chief Risk Officer
CSC	Corporate Social Responsibility and Sustainability Committee
CSR	Corporate Social Responsibility
e-laisees	Electronic laisees
EFIO	Exchange Fund Investment Office
ESG	Environmental, social and governance
FCLTGlobal	Focusing Capital on the Long Term
FPS	Faster Payment System
GHG	Greenhouse gas
GPs	General partners
HKMA	Hong Kong Monetary Authority
IFC	International Finance Corporation
IP	Investment Portfolio
kWh	Kilowatt-hours
LED	Light-emitting diode
LTGP	Long Term Growth Portfolio
NGFS	Network of Central Banks and Supervisors for Greening the Financial System
PRI	Principles for Responsible Investment
RCD	Risk and Compliance Department
RI	Responsible investment
SFC	Securities and Futures Commission
SMEs	Small and medium-sized enterprises
SPM	Supervisory Policy Manual
SVFs	Stored value facilities
TCFD	Task Force on Climate-related Financial Disclosures
tCO₂e	Tonnes of carbon dioxide equivalent
WACI	Weighted average carbon intensity

Verification Statements



VERIFICATION STATEMENT

Scope and Objectives

Hong Kong Quality Assurance Agency (“HKQAA”) conducted an independent verification of the climate targets (“Climate Targets”) of the Hong Kong Monetary Authority (“HKMA”). The Climate Targets are developed with reference to the SBTi Corporate Manual (“SBTi Corporate Manual”).

The objective is to review the referencing of the SBTi Corporate Manual in the development of the Climate Targets.

Level of Assurance and Methodology

We conducted our assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised), *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information*, issued by the International Auditing and Assurance Standards Board. The verification procedure was designed for devising opinions and conclusions to obtain a reasonable level of assurance. The extent of this verification process undertaken covered the criteria specified in the SBTi Corporate Manual.

Independence

The HKMA is responsible for the collection and presentation of the information. Our verification activities are independent and impartial.

Conclusion

Based on the verification results, HKQAA has obtained reasonable assurance and is of the opinion that:

- The Climate Targets are developed with reference to the SBTi Corporate Manual.

Signed on behalf of Hong Kong Quality Assurance Agency

A handwritten signature in black ink, appearing to read 'Connie Sham', is written over a faint, light-colored circular stamp or watermark.

Connie Sham
Head of Audit
Hong Kong Quality Assurance Agency
March 2023

Verification Statements



Verification Statement

Scope and Objectives

Hong Kong Quality Assurance Agency (“HKQAA”) conducted an independent verification of the environmental data in 2022 (“The 2022 Data”) of the Hong Kong Monetary Authority (“HKMA”). The 2022 Data include the total energy consumption, the intensities of scope 1 and scope 2 greenhouse gas (“GHG”) emissions, paper consumption and non-hazardous waste generated, and the recycling rate, for the year of 2022, as well as their changes compared to the 2015 levels. The GHG emissions data of the HKMA are prepared in accordance with the Greenhouse Gas Protocol (“GHG Protocol”) jointly issued by the World Resources Institute and the World Business Council for Sustainable Development. The verification covers the corresponding data for the period from 1st January 2022 to 31st December 2022 and the relevant data for the period from 1st January 2015 to 31st December 2015 for annual performance comparisons.

The verification scope includes six offices and warehouse assets, which are the four offices at 1) Two International Finance Centre Office, 2) Hopewell Centre, 3) One Pacific Place, 4) Kowloon Commerce Centre, and the two warehouses at 5) Roxy Industrial Centre and 6) Sunley Centre, located at Kwai Chung and Tsuen Wan respectively.

The aims of this verification are to provide a reasonable assurance on the accuracy and reliability of the 2022 Data and to confirm the adequacy of the HKMA’s data collection mechanism.

Level of Assurance and Methodology

Within the verification scope, HKQAA reviewed the activity data and supporting evidence of the selected samples out of the six assets. The verification process was conducted according to International Standard on Assurance Engagements (ISAE) 3000 (Revised) – “*Assurance Engagements Other Than Audits or Reviews of Historical Financial Information*” issued by the International Auditing and Assurance Standards Board. The verification procedure was designed for devising opinions and conclusions to obtain a reasonable level of assurance. The extent of this verification process undertaken covered the requirements specified in the GHG Protocol.

Integrity and accuracy of the aggregated data were tested by tracing the selected sample data back to their sources. The underlying processes for data collection, aggregation, estimation, calculation and internal checking were reviewed and subject to a reliability test. The process also included reviewing internal data collection and management mechanism, interviewing with personnel responsible for preparing the 2022 Data, and checking the raw activity data and supporting evidence of the selected data samples.

Independence

The HKMA is responsible for the collection and presentation of the information. Our verification activities are independent and impartial. HKQAA’s verification team did not partake in the 2022 Data preparation process.

Conclusion

Based on the verification results, HKQAA has obtained reasonable assurance and is of the opinion that:

- The 2022 Data are materially accurate and reliable; and
- The overall data collection mechanism of the HKMA is adequate.

Signed on behalf of Hong Kong Quality Assurance Agency

Connie Sham
Head of Audit
Hong Kong Quality Assurance Agency
March 2023

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