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 agenda.

The HKMA has been an early mover in responsible investment. Since 2015, it has been spearheading investments in green and sustainable assets, mandating its external managers to practise active ownership, and integrating environmental, social and governance factors into the management of the Exchange Fund.

Responsible Investment

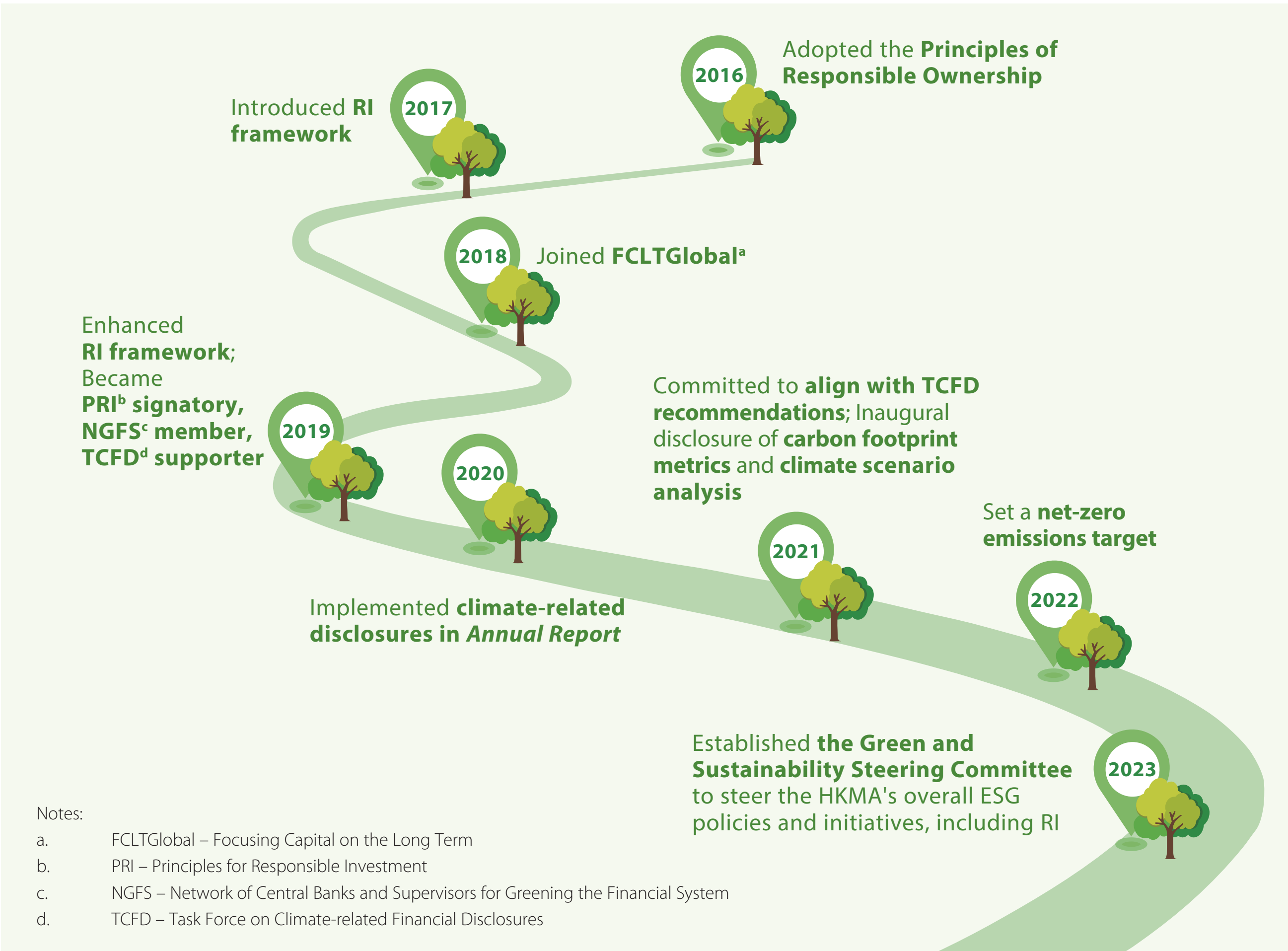
Overview

Investing prudently under the principle of "capital preservation first while maintaining long-term growth",[1] the HKMA believes that giving due attention to environmental, social and governance (ESG) factors can help mitigate the associated risks and unlock the long-term sustainable value of investments.

As one of the first central banks to become a signatory of the Principles for Responsible Investment (PRI) and to set a 2050 net-zero emissions target[2] for its Investment Portfolio (IP), the HKMA is dedicated to continuously advancing its responsible investment (RI) momentum. It places a strong emphasis on sustainability, particularly the pressing issue of climate change, with an aim to bolster resilience and enhance long-term risk-adjusted returns of the Exchange Fund.

As a responsible investor, the HKMA takes part in building a robust ecosystem for green and sustainable finance. It works together with like-minded investors, regulators and international organisations to develop industry-wide practices and promote adoption of RI across the financial and central banking sectors. Through its stewardship and collaborative initiatives, the HKMA strives to contribute to a future where finance and sustainability can go hand in hand.

Figure 1 The Exchange Fund's journey of responsible investment



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

[1] Refer to the *Reserves Management* chapter of the *Annual Report 2023* for more details.
[2] Carbon emissions according to the Greenhouse Gas Protocol (https://ghgprotocol.org/).

Responsible Investment

Comprehensive and reliable ESG information is central to the integration of sustainability and planning for a credible climate transition towards the net-zero target. In fulfilling its commitments to supporting the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) Glasgow Declaration[3] and the Green and Sustainable Finance Cross-Agency Steering Group's strategic plan, the HKMA leads by example to align this chapter on RI of the Exchange Fund with recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

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 has underpinned an RI approach that dovetails with the investment objectives of the Exchange Fund.

The Exchange Fund's guiding principle of RI:

Priority will generally be given to ESG investments if the long-term risk-adjusted return is comparable to other investments.

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 implementation through reporting by the EFIO's Sustainable Investing (SI) team at each meeting.

As illustrated in Figure 2, the EFIO ESG Committee, chaired by the Chief Strategy Officer (CSO), coordinates and oversees all ESG-related efforts within the EFIO. Initiatives and progress discussed at the quarterly EFIO ESG Committee meetings are reported to the Chief Executive Officer (CEO) of the EFIO.

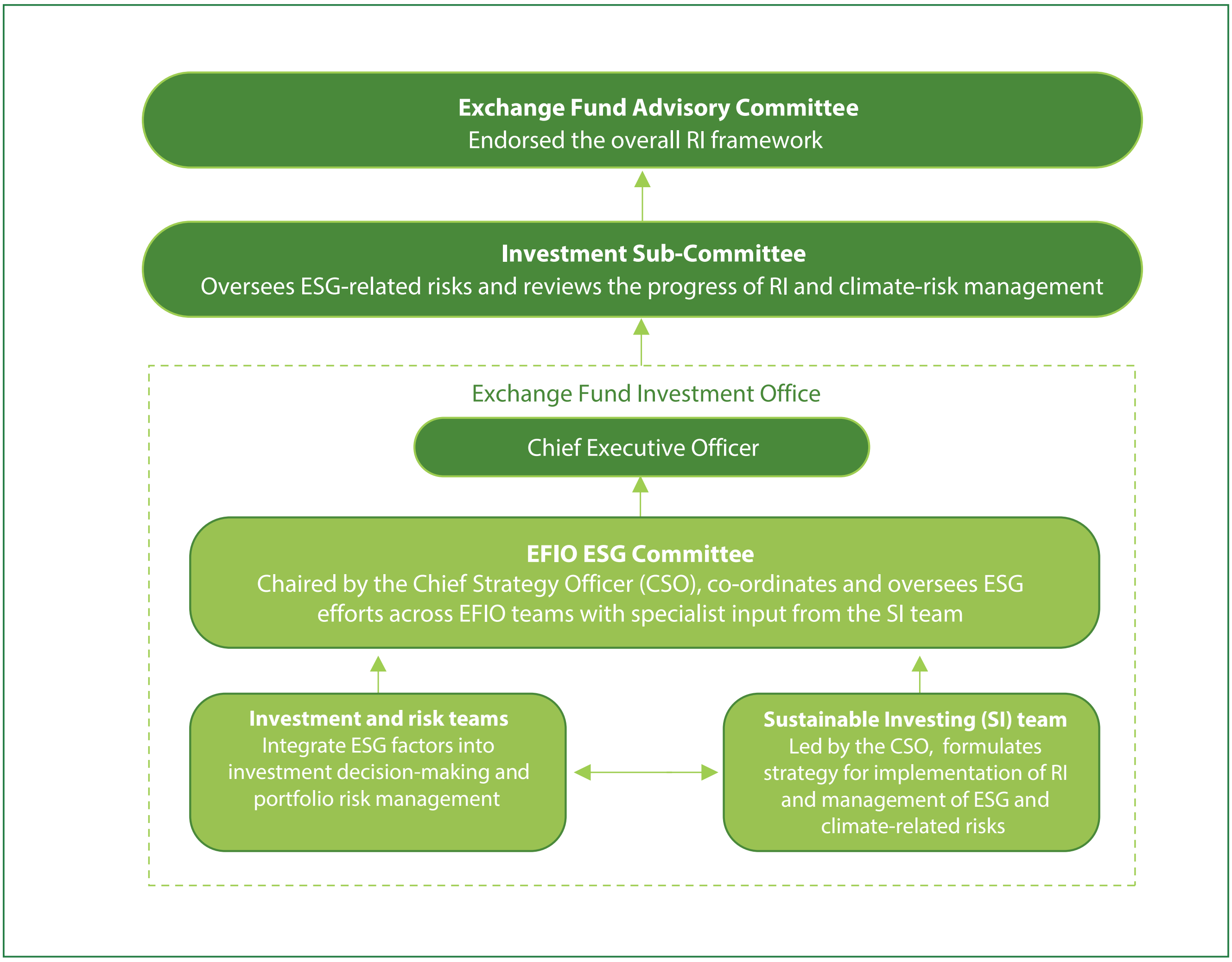
Furthermore, the Green and Sustainability Steering Committee, chaired by the Chief Executive of the HKMA and attended by the CEO and CSO of the EFIO, convenes semi-annually to provide guidance on the HKMA's ESG policies and initiatives across various functions, including those of the EFIO, in alignment with the HKMA's overall ESG goals.

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

[3] Made at the 2021 United Nations Climate Change Conference.

Responsible Investment

Figure 2 The governance structure for RI of the EFIO



Strategic repositioning of the Sustainable Investing team

As illustrated by Figure 1, the EFIO embarked on a remarkable RI journey in 2016 with an initial focus on managing ESG risks that could impact the financial performance of the Exchange Fund.

Over the years, as sustainability has rapidly evolved and extended beyond risk considerations to become a key strategic priority of major institutions worldwide, the EFIO has reviewed its approach to RI. July 2023 marked another milestone with the establishment of a new Business Strategy function led by the CSO to coordinate and steer the EFIO's strategic developments. The dedicated team for RI – now the SI team – previously housed under the Risk and Compliance Department was realigned under the Business Strategy function. This strategic repositioning reflects the HKMA's devotion to elevate the RI focus from primarily risk-oriented to a more proactive, forward-thinking stance to address sustainability matters in investments.

Responsible Investment

The SI team works closely with different teams within the EFIO on ESG integration, and assists the EFIO's senior executives in managing ESG, especially 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 executives, reviews the incorporation of ESG factors into the credit risk model with the SI team's input, and monitors the ESG profile of fixed income portfolios based on regular reporting by the Risk and Compliance Department. In addition, the SI team participates in the selection, appointment and monitoring of external managers by bringing in an ESG perspective (see *Advocating active ownership* under *Risk management* section on page 40).

- **Private investments** – The Investment Committee, chaired by the Chief Executive of the HKMA, takes into consideration the assessments of ESG-related issues provided by the private market investment and the risk teams for each prospective investment.

Strategies

The HKMA recognises that the physical and transition risks[4] from climate change, along with related opportunities, can affect the long-term financial performance and value of the Exchange Fund's investments.

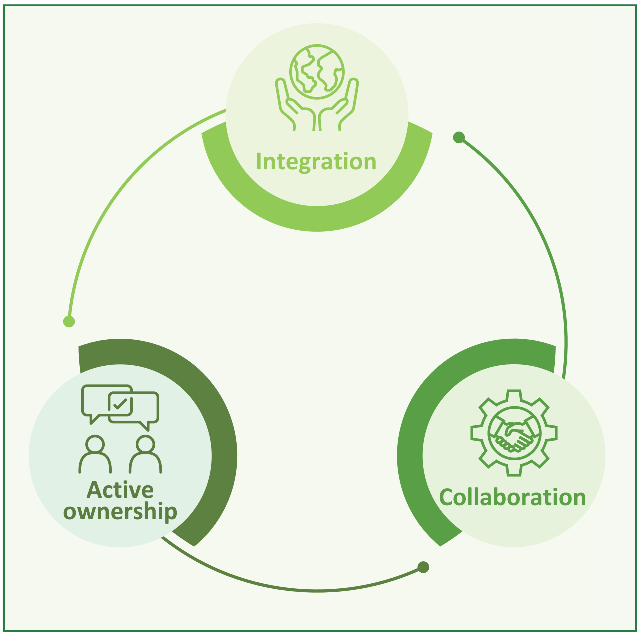
The Emissions Gap Report 2023[5] by the UN Environment Programme (UNEP) projected a global average temperature rise of 2.5-2.9°C above pre-industrial levels unless jurisdictions worldwide deliver deeper cuts in greenhouse gas (GHG) emissions before 2030. The urgent need for more ambitious policies, technology developments or behavioural changes to address the temperature rise could amplify transition risks such as diminished asset valuations or stranded asset shocks. Simultaneously, the increasing occurrence and severity of extreme weather events have become evident, posing additional physical risks to investments.

Emphasis on climate change for responsible investment

Believing that investing for a green future dovetails with the investment objectives of the Exchange Fund, the HKMA has placed particular emphasis on climate-related factors for ESG integration. In 2022, the HKMA set a target of achieving net-zero emissions by 2050 for the IP of the Exchange Fund, further demonstrating its commitment to the global climate agenda.

The HKMA continues to step up its ongoing efforts under a three-pronged approach, with a clear focus on decarbonisation and transition. More details will be covered in the ensuing sections.

Figure 3 The HKMA's three-pronged approach to RI



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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.

5 UNEP, 2023. *Emissions Gap Report 2023: Broken Record – Temperatures hit new highs, yet world fails to cut emissions (again)* (https://www.unep.org/resources/emissions-gap-report-2023).

Responsible Investment

To progress towards the net-zero target, the HKMA prioritises proactive engagement instead of exclusion or divestment from its permissible investments.

- First, maintaining a diversified and resilient portfolio is crucial to achieving the primary investment objectives of the Exchange Fund. Outright exclusion of sectors or industries could shrink the investible universe, potentially impacting investment risks and returns. By taking an inclusive approach, the HKMA can capture opportunities to invest in companies undergoing transition, including those from heavy-emitting industries, which have strong technology and governance to navigate through the evolving global climate trend.

- Second, addressing climate change requires the transition of core "brown" industries. Excluding and divesting from these industries alone would not solve the carbon emissions problem. Instead, the HKMA supports these industries through strategic capital and active ownership to drive their implementation of sustainable and low-carbon practices, resulting in positive changes both for themselves and the world.

In the light of evolving market developments, the HKMA is refining its net-zero investment strategy to incorporate a holistic approach in pursuing transition outcomes supporting both the Exchange Fund and global net-zero goals, while adhering to its RI guiding principle.

Pursuing ESG and green investments

Through integration of ESG factors into investment decisions, the HKMA continues to seek sustainable investments and opportunities that can promote the climate transition while enhancing the long-term portfolio resilience of the Exchange Fund (Figure 4).

The HKMA maintained the positive RI momentum in 2023. For the public market, it launched a new active global public equities mandate managed by external managers, which focused on sustainability and climate transition themes, and extended the application of bespoke low-carbon equity indices to another externally managed portfolio. In addition, the performance of green, social and sustainability bonds, which the HKMA prioritises for investment, surpassed the investment benchmark, exemplifying the notion that one can do well alongside doing good.

In the private market, the HKMA takes proactive steps to construct a resilient Long-Term Growth Portfolio (LTGP). It seizes investment opportunities that are expected to benefit from secular tailwinds in the long run, such as climate and energy transition themes. For instance, the HKMA has anchored two dedicated Asia-centric transition investment funds. These investments also align with the HKMA's commitment to addressing the climate transition need in Asia.

Responsible Investment

Figure 4 Ongoing initiatives in pursuing ESG investments

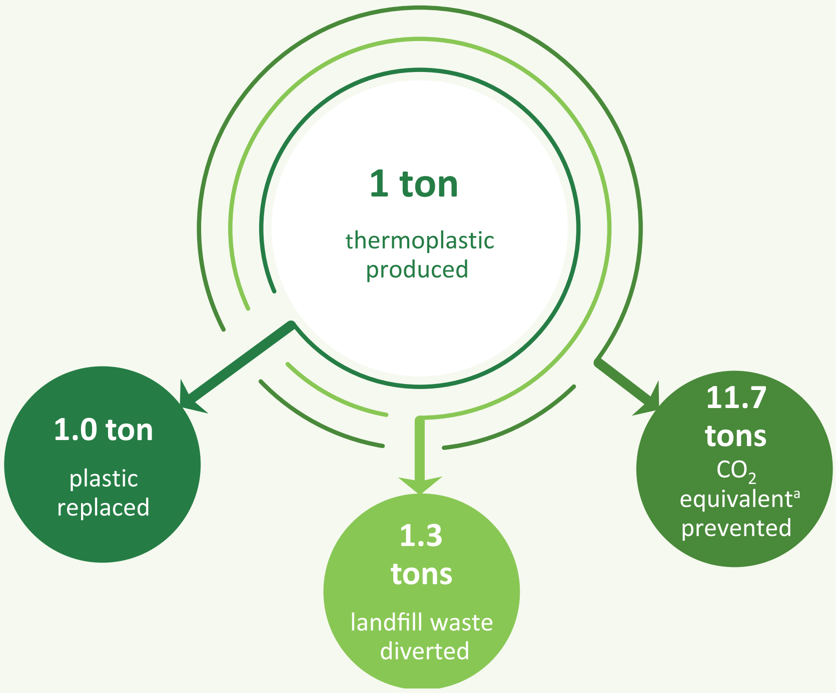
Responsible Investment

Exercising responsible investment in private market investments

CASE Circular economy: from unsorted waste to thermoplastic

The HKMA has invested in a company specialising in producing an eco-friendly thermoplastic material from unsorted household waste, including organic materials such as food waste, as well as unrecyclable materials. Unlike conventional chemical recycling systems that rely on energy-intensive high temperatures to produce plastic, the company has pioneered a low-temperature production method powered entirely by its solar array. The plastic material, 100% derived from waste, offers a sustainable and versatile alternative to oil-based resins commonly used in industries ranging from retail to consumer durables. It is also compatible with existing standard manufacturing processes and cutting-edge technologies such as 3D printing.

The company is a steadfast supporter of the circular economy. The diagram below illustrates the positive environmental outcomes achieved by its state-of-the-art plastic production process:



Note a: CO_2 equivalent – carbon dioxide equivalent

Responsible Investment

Supporting sustainability in emerging markets

The MCPP of the IFC is an innovative initiative that combines institutional investor contributions with the IFC's own funds to scale up sustainable financing for private companies in emerging markets.

The HKMA committed two tranches of US$1 billion each to the MCPP in 2017 and 2019, and further partnered with the IFC in 2021 to create MCPP One Planet – a new global platform for climate-smart investments, and the world's first cross-sectoral portfolio of emerging-market loans aligned with the Paris Agreement.

Through the MCPP programmes, the HKMA has committed to finance 80 sustainable projects in 38 developing countries across 19 sectors, including infrastructure, agribusiness, real estate and manufacturing.

The IFC has collected data about the impact of MCPP financing. According to IFC, the HKMA's loan commitments supported the emerging markets and developing countries on various aspects, from economic transformation to human capital development. Notably, committed projects of the HKMA are projected to achieve annual reductions of approximately 5.6 million tons of CO_2e in GHG emissions. This is equivalent to GHG emissions from an average gasoline-powered passenger vehicle driving 14 billion miles.

Figure 5 Projected average annual impacts of the HKMA's loan commitments in the MCPP since 2020[6]

Generated over 860 gigawatt hours of electricity to 170,000 customers

Reached +135,000 students

Supported +184,000 jobs

Reduced 5.6 million tons of CO_2e in GHG emissions

Reached +24,000 farmers

[6] Development impact data reported by the IFC.

Responsible Investment

Building the ecosystem

The green and sustainable finance ecosystem is the cornerstone of future global sustainability. The HKMA proactively collaborates with like-minded investors and counterparties to promote RI and strengthen the industry's capacity.

In 2023, the HKMA successfully hosted its fifth annual ESG Workshop, which brought together nine private market institutions, including general partners and limited partners, to drive market discussions on incorporation of sustainability considerations in real asset investments.

Mr Howard Lee, CEO of the EFIO, delivers remarks at the HKMA ESG Workshop 2023

Collaborating with international organisations

Internationally, the HKMA remained at the forefront of promoting industry-wide ESG investment standards and practices in 2023:

- The HKMA actively contributed to FCLTGlobal's research work that aims to identify market-leading practices on decarbonising private equity assets.[7]
- Demonstrating its commitment to good ESG practices as a dedicated member of the NGFS, the HKMA led a study under the NGFS' workstream of "Net Zero for Central Banks" to review the adoption of sustainable and responsible investment in the central bank community.
- The HKMA continued to participate in various industry forums, speaking engagements and framework consultations to promote good ESG practices, fostering the development of a sustainable finance ecosystem.

Mr Leong Cheung, CSO of the EFIO, speaks at the Asia Pacific Business Forum 2023

[7] FCLTGlobal, 2023. *Grey to Green: The Opportunity for Private Equity to Decarbonize Assets* (https://www.fcltglobal.org/wp-content/uploads/Grey_to_Green_FCLTGlobal.pdf).

Responsible Investment

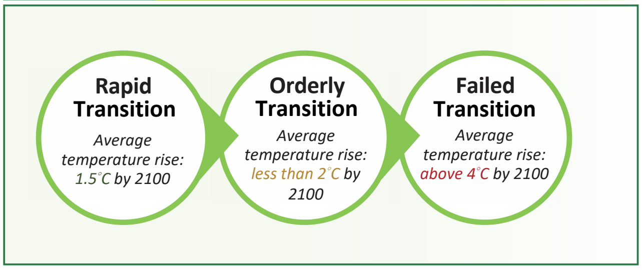
Assessing portfolio climate resilience

The HKMA utilised three scenarios (see Figure 6) developed by an external consultant to assess the resilience of the Exchange Fund's IP under different states of climate change. The analysis presented in the *Sustainability Report 2022* remains relevant, as there have been no substantial updates to the longer-term market assumptions.

Recapitulating the findings, the IP has demonstrated resilience, as evidenced by the minimal impact on returns across all analysed scenarios over the medium to long term. The analysis results further underscored the importance of the HKMA's ongoing RI efforts in mitigating the risks associated with a failed transition scenario, which could be challenging for the IP.

The pace of transition towards a global net-zero is highly uncertain. Methodologies and assumptions for scenario analysis will also evolve as the global economy moves along the transition pathway. The HKMA will keep in view the developments and enhance its assessment to bolster the Exchange Fund's resilience to climate change.

Figure 6 Applying a range of scenarios for analysing climate risks



Strengthening internal capacity

Developing internal capacity is crucial for furthering the HKMA's pursuit of its ESG agenda. The HKMA seeks to enhance its research efforts further and interact with fellow investors, industry-leading experts and international organisations to keep abreast of the latest ESG developments.

Apart from encouraging staff to undertake sustainability-related courses and acquire relevant certifications, during 2023 the HKMA actively participated in conferences organised by esteemed international organisations such as the PRI, the NGFS and fellow central banks. The events provided opportunities for the HKMA to engage with international investors, exchanging insights and best practices on ESG implementation.

To facilitate internal knowledge sharing, ESG news and the market landscape are discussed as a standing agenda item at every EFIO ESG Committee meeting (see *Governance* section above). Furthermore, sustainability and green finance-related topics were frequently featured in the HKMA's internal training programmes, aiming to equip staff members with the necessary knowledge to navigate the complexities of ESG considerations.

Responsible Investment

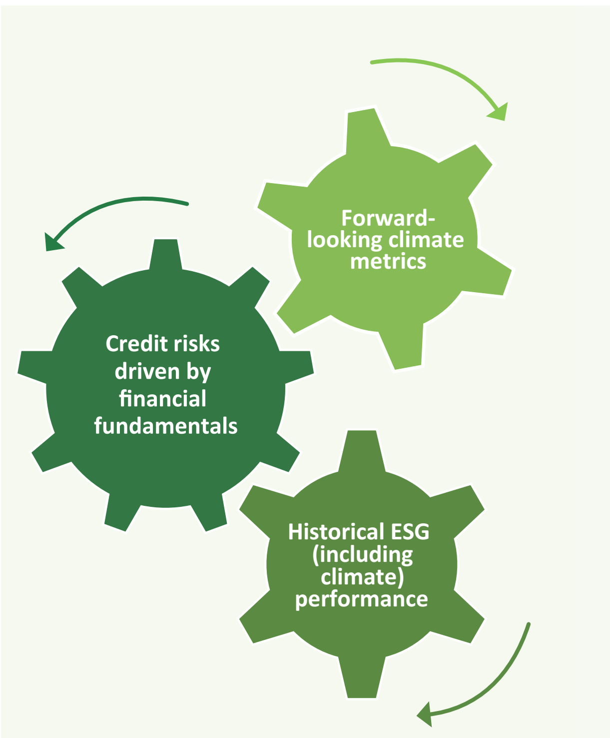
Risk management

Integrating ESG factors in credit analysis

To ensure long-term portfolio resilience, climate risk management is an integral part of the HKMA's investment processes for all asset classes. Specifically, ESG factors have been incorporated in the credit risk model for fixed income portfolios of the Exchange Fund since 2017, with regular monitoring of portfolio ESG profiles.

Recognising the multifaceted nature of climate change and the importance of the future transition potential of investment assets, the HKMA has been studying the application of forward-looking metrics to complement historical ESG data for more comprehensive analysis of the risks and opportunities. In 2023, the HKMA refined its credit risk model by incorporating forward-looking climate factors, placing additional emphasis on climate-related commitments and transition plans of counterparties and fixed income issuers.

Figure 7 **Factors in credit risk analysis**



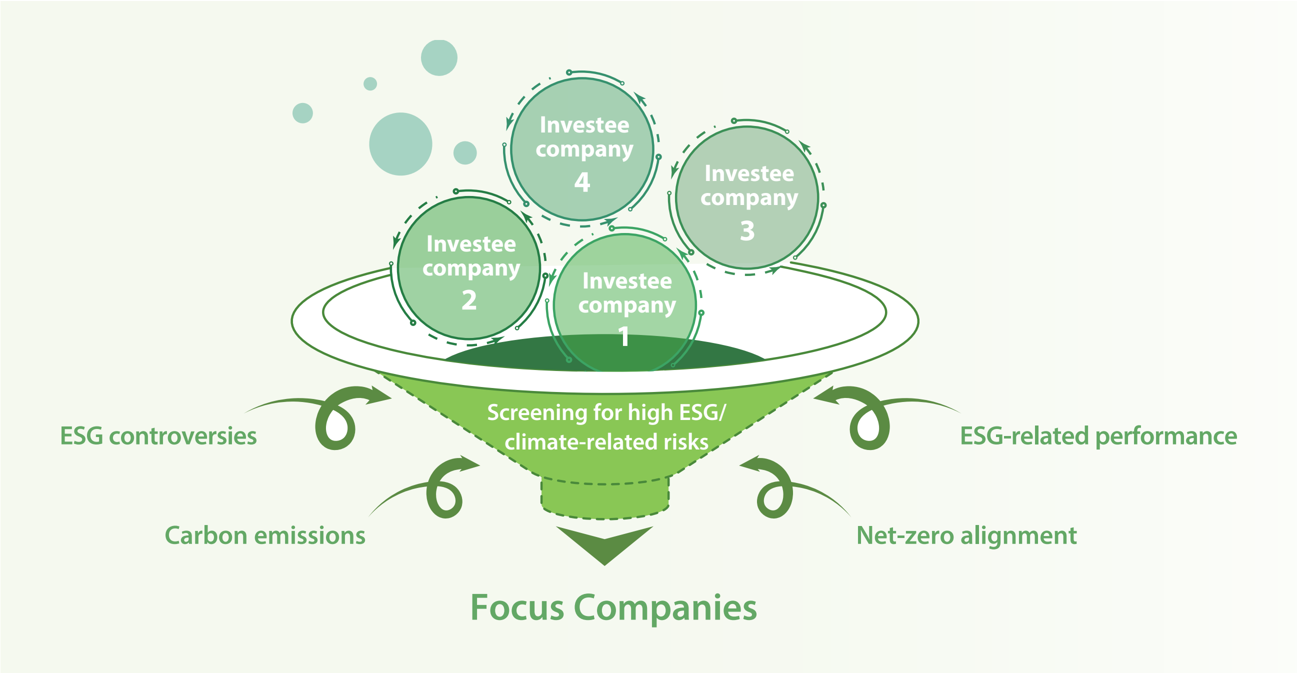
Advocating active ownership

The HKMA believes in enhancing the long-term sustainable value of investments through stewardship and continuous engagement. It attaches high importance to the ESG and stewardship practices of its suite of external managers, who are entrusted with discharging active ownership responsibilities and exercising shareholder rights on behalf of the HKMA. ESG considerations are integrated into the external manager selection, appointment and monitoring processes to align with the HKMA's commitments.

The HKMA employs a risk-based approach to engage with its external managers, targeting assets and portfolios in the Exchange Fund that are exposed to higher ESG and climate risks. Specifically, the HKMA examines a manager's rationale for investing in companies associated with elevated ESG or climate-related risks, as well as its engagement efforts and voting records concerning these "focus companies".

Responsible Investment

Figure 8 Factors for identifying "focus companies" associated with high ESG or climate-related risks



Through its engagement activities, the HKMA discovered that its external managers would invest in companies with substandard ESG ratings if they perceived the potential to enhance company valuation through their influence on improving ESG performance (such as better corporate governance structure and decarbonisation in operations). Divestment would have precluded these impactful engagement actions. In addition to influencing the companies' ESG practices, external managers' engagement efforts also enabled them to obtain proprietary views on the companies' ESG status complementing the outdated ESG data in investment analysis.

Promoting transparency for private investments

The HKMA examines the ESG policies and practices of general partners (GPs) as a mandatory part of its due diligence work for every investment mandate of the LTGP. The assessment is conducted using the HKMA's ESG due diligence questionnaire, which is recognised by the PRI and the Institutional Limited Partners Association as the industry standard[8]. For real estate investments, green accreditation is also a predominant factor in the assessment.

On an ongoing basis, the HKMA incorporates ESG integration clauses in the legal documentation and requires GPs to report ESG information, including climate risk assessment and metrics like carbon emissions of underlying investments, to promote transparency in the private market sector and facilitate its risk monitoring. To further address the current challenge of ESG data availability and quality, the HKMA is exploring initiatives to support the standardisation of ESG data within the private market.

8 PRI, *Limited Partners' Private Equity Responsible Investment Due Diligence Questionnaire* (https://www.unpri.org/download?ac=15124)

Responsible Investment

Target and metrics

Targeting net-zero emissions

The HKMA has set a target of net-zero emissions by 2050 for the IP of the Exchange Fund. This target marks a significant milestone in the HKMA's RI journey.

Guided by the RI framework and approaches described in the *Strategies* section above, the HKMA continues its steadfast RI efforts, as illustrated in Figure 9, to drive portfolio decarbonisation and transition.

Figure 9 Taking actions to achieve the net-zero target

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, track progress in decarbonisation and identify carbon-intensive areas that require further action.

The HKMA continues to measure the weighted average carbon intensity (WACI),[9] expressed as tCO_2e[10]/US$ million revenue, for the Exchange Fund's portfolios in line with industry practice. Scope 3 emissions[11] are excluded due to the high data uncertainty and lack of a standardised methodology for measurement, rendering them prone to potential double or multiple counting.

Monitoring of emissions from public equities portfolios takes precedence due to the more reliable measurement and disclosure practices in the market. Moreover, based on results of the HKMA's climate scenario analysis, public equities are more susceptible to climate risks compared to other asset classes of the Exchange Fund.

Chart 1 presents the WACI of the Exchange Fund's public equities portfolios from 2017 to 2022, 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.

[9] 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.

[10] tCO_2e refers to tons of carbon dioxide equivalent.

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

Responsible Investment

Chart 1 WACI of the Exchange Fund's public equities portfolios

Sources: MSCI[a] and HKMA calculations.
Note a: Note on use of information on the HKMA website (https://www.hkma.gov.hk/eng/key-functions/reserves-management/responsible-investment/climate-risk).

The WACI of the public equities portfolios as at the end of 2022 stood at 119 tCO_2e/US$ million revenue, representing a reduction of 6% compared to 2021 and an overall 46% 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. The decarbonisation of the Exchange Fund's portfolios is subject to short-term fluctuations influenced by various factors beyond emissions alone, such as changes in the portfolio asset mix and strategies in response to market developments, as well as fluctuations in underlying asset valuations.

It is important to note that the HKMA's net zero philosophy does not rely on simply walking away from heavy emitters, but to support a whole-of-economy transition by engaging with companies and funding solutions that facilitate the transition. Therefore, short-term increases in the WACI may occur before the positive climate outcomes are realised in the longer run.

While the WACI is widely adopted for assessing carbon exposure of investment portfolios, its measurement is based on investee companies' disclosures, which are inherently backward-looking and do not account for companies' future potential for decarbonisation or transition. To complement its portfolio analysis, the HKMA has included several forward-looking metrics for internal monitoring. It is observed that a majority of companies in which the Exchange Fund has invested already have emission reduction targets, and there is a growing trend for them to implement climate transition plans.

As new disclosure standards introduced by jurisdictions and collaborative efforts continue to enhance emissions measurement methodologies as well as data availability and quality, the HKMA will remain vigilant in monitoring these developments in order to explore suitable metrics for further enhancing its climate exposure monitoring and reporting.