

CONSULTATION PAPER

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Proposed Guidelines on Environmental Risk Management (Asset Managers)

MAS

Monetary Authority of Singapore

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1 Preface

1.1 The Monetary Authority of Singapore (“MAS”) is proposing to introduce Guidelines on Environmental Risk Management (the “Guidelines”), to enhance financial institutions’ (“FIs”) resilience to and management of environmental risk. The Guidelines will set out sound practices in relation to FIs’ governance, risk management and disclosure of environmental risk. The Guidelines were co-created with FIs and industry associations from the banking, insurance and asset management sectors.

1.2 The Guidelines are tailored to each sector based on its business activities and risk management practices. This consultation paper pertains to the Guidelines for asset managers.

1.3 MAS invites comments from FIs and other interested parties on the Guidelines.

Please note that all submissions received will be published and attributed to the respective respondents unless they expressly request MAS not to do so. As such, if respondents would like:

- (i) their whole submission or part of it (but not their identity), or**
- (ii) their identity along with their whole submission,**

to be kept confidential, please expressly state so in the submission to MAS. MAS will only publish non-anonymous submissions. In addition, MAS reserves the right not to publish any submission received where MAS considers it not in the public interest to do so, such as where the submission appears to be libellous or offensive.

1.4 Please submit your comments to the consultation paper by 7 Aug 2020 at the link below –

Asset managers: <https://eservices.mas.gov.sg/survey/se/ODE6A2EA10103643>

2 MAS' Supervisory Approach to Environmental Risk

2.1 Environmental risk is increasingly recognised as a key global risk, with climate change at the forefront of these concerns. The Intergovernmental Panel on Climate Change ("IPCC") estimates that continued carbon emission, in line with historical rates, would likely lead to global warming of 1.5 °C between 2030 and 2052¹. This would increase the probability of pervasive and irreversible impact for people and ecosystems. Growing environmental pressures are also disrupting economic activities and human well-being. For example, there has been a significant rate of decline in biodiversity worldwide, alongside a significant alteration of three-quarters of the land and more than 60% of the marine environment, which are caused by human actions².

2.2 At the national level, tackling climate change is a key priority, as it poses an existential challenge for Singapore. Singapore is doing its part to support a low-carbon future, including through its enhanced 2030 Nationally Determined Contribution to the Paris Agreement and its Long-Term Low Emissions Development Strategy.

2.3 Environmental risk not only gives rise to reputational concerns, but also bears a financial impact on FIs and the assets they manage on behalf of their customers, through physical and transition risk channels. Physical risk arises from the impact of weather events and long-term or widespread environmental changes. This can impair the collateral value of bank loans and revenue generating assets of investee companies, and lead to significant insurance claims. Transition risk arises from the process of adjustment to an environmentally sustainable economy, including changes in public policies, disruptive technological developments, and shifts in consumer and investor preferences. For example, loans and investments in carbon-intensive sectors can be impaired, as the profitability of these businesses are impacted in the transition to a low-carbon economy. These losses can be compounded by other environmental risks including changes in land use, pollution and loss of biodiversity, which cause more severe impact on the financial system.

¹ IPCC, *Global Warming of 1.5 degrees, Summary for Policymakers*, 2018.

² Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, *Global Assessment Report on Biodiversity and Ecosystem Services*, 2019.

2.4 The financial sector should take concerted action to address the impact of environmental risk and support a smooth transition to an environmentally sustainable economy. It is crucial for FIs to build resilience against the impact of environmental risk as part of their business and risk management strategies. FIs should implement robust environmental risk management policies and processes, and effectively monitor, manage and disclose their exposures to environmental risk. Additionally, FIs can act as a “force for good” in the transition towards an environmentally sustainable economy by channelling capital through their financing, underwriting and investment activities.

2.5 MAS works closely with other financial supervisors at international forums to strengthen the financial system’s resilience to environmental risk. For example, the Central Banks and Supervisors Network for Greening the Financial System (“NGFS”), and the Sustainable Insurance Forum (“SIF”) are developing best practices for supervisors and FIs to manage the impact of environmental risk. The International Organisation of Securities Commissions (“IOSCO”) has also established a Task Force on Sustainable Finance with a similar aim of addressing issues concerning sustainability-related disclosures and investor protection.

2.6 MAS is proposing to issue the Guidelines to enhance FIs’ environmental risk management practices. The Guidelines serve as a call to action for FIs to help drive the transition to an environmentally sustainable economy, by enhancing the integration of environmental risk considerations in FIs’ financing and investment decisions, and promoting new opportunities for green financing.

2.7 FIs’ approaches to manage and disclose environmental risk are expected to mature as the methodologies for assessing, monitoring and reporting this risk evolve. MAS will update these Guidelines as appropriate to reflect the evolving nature and maturity of risk management practices.

3 Applicability of the Guidelines

3.1 MAS proposes to apply the Guidelines to:

- (a) Holders of a capital markets licence for fund management (“LFMC”) and real estate investment trust management (“REIT”); and
- (b) Registered fund management companies (“RFMC”), which are registered under paragraph 5(1)(i) of the Second Schedule to the Securities and Futures (Licensing and Conduct of Business) Regulations (Rg. 10)

(hereinafter collectively referred to as “asset managers”).

3.2 MAS recognises that the scale, scope and business models of asset managers and the investment strategies that they employ can be different. An asset manager should implement these Guidelines in a way that is commensurate with the size and nature of its activities, including the investment focus and strategy of its funds (including REITs) and segregated mandates (hereinafter collectively referred to as “funds/mandates”).

3.3 MAS is cognisant that asset managers may be appointed different roles (for instance as an investment manager, sub-manager or advisor) in the management of a fund/mandate. The Guidelines would generally be applicable to asset managers that have discretionary authority over the investments of the funds/mandates that they are managing. Conversely, for asset managers that do not have discretionary authority over the investments of the funds/mandates, the Guidelines would not apply.

3.4 For the avoidance of doubt, the Guidelines are not intended to prohibit or restrict asset managers from complying with and discharging their fiduciary duties and other legal obligations to their customers.

<p>Question 1. MAS seeks comments on the entities and business activities that are in the proposed scope of the Guidelines.</p>
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4 Proposed Guidelines

Governance and Strategy

4.1 The Board and senior management play critical roles in determining the asset manager's strategies, business plans and product offerings. Regulations 13(B)(1)(a) and 54A of the SF(LCB)R require all LFMCS and RFMCS, respectively, to put in place a risk management framework to identify, address and monitor the risks associated with customers' assets that they manage, which is appropriate to the nature, scale and complexity of the assets. Regulation 13 of the SF(LCB)R also requires REIT managers to identify, address and monitor the risks associated with its business activities in a manner that is commensurate with their nature, scale and complexity. Such risks include environmental risk, to the extent that it is material to the assets managed.

4.2 The Guidelines set out MAS' expectations on the Board and senior management to oversee the integration of environmental considerations into the asset manager's strategies, business plans and products. The proposed responsibilities of the Board include approving an environmental risk management framework and policies, and setting clear roles and responsibilities of the Board and senior management. The proposed responsibilities of senior management include developing an environmental risk management framework and policies, regularly reviewing their effectiveness, and allocating adequate resources to manage environmental risk of the assets managed.

4.3 MAS proposes that where environmental risk is deemed material to the funds/mandates managed, asset managers should designate a senior management member or a committee to oversee environmental risk. This would promote clarity in individual accountability over environmental risk management, to ensure such issues are reviewed at a sufficiently senior level.

Question 2.	MAS seeks comments on the proposed responsibilities of the Board in overseeing environmental risk management, including its role in approving the environmental risk management framework and policies.
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Question 3.	MAS seeks comments on the proposed responsibilities of senior management in overseeing environmental risk management, including its role in developing an environmental risk management framework and policies, regularly reviewing their effectiveness, and allocating
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adequate resources to manage environmental risk of the assets managed.

Question 4. MAS seeks comments on the proposal for asset managers to designate a senior management member or a committee to oversee environmental risk, where such risk is material.

Research and Portfolio Construction

4.4 Asset managers in Singapore are currently at different stages in their implementation of environmental risk management practices. While a number of asset managers have made good progress in integrating environmental risk considerations into their investment approach, there are others that are only starting to assess the merits of doing so. It is important for asset managers to develop a risk management framework, and put in place robust policies and processes to manage environmental risk. In this regard, asset managers should identify, assess, monitor and mitigate material environmental risk at both an individual investment and/or portfolio level.

4.5 MAS expects asset managers to evaluate the potential impact of material environmental risk on an investment's return potential when carrying out research and portfolio construction. To inform the asset manager's assessment, the asset manager should apply appropriate tools and metrics to identify sectors with higher environmental risk. For such sectors, asset managers should develop sector-specific guidance to aid its investment personnel in understanding their attendant environmental issues. For portfolio construction, MAS expects asset managers to measure and manage environmental risk factors that are present in a portfolio on an aggregate basis, where material.

4.6 To assist asset managers in incorporating environmental risk considerations in their investment approach, examples of how asset managers can consider environment risk for different asset classes and investment strategies are included in the Guidelines.

Question 5. MAS seeks feedback on the examples of tools and metrics that may be used by asset managers to assess the impact of environmental risk at both the individual investment and portfolio level.

Portfolio Risk Management

4.7 Developments, such as the occurrence of natural disasters and changes in regulations, could materially affect the operations and financials of an investee company. As such, MAS proposes that asset managers put in place appropriate processes and systems to monitor, assess and manage the potential and actual impact of material environmental risk on individual investments and portfolios on an ongoing basis. This would allow the asset manager to make an informed decision on whether to continue with the investment, make adjustments to the composition of the portfolio, or put in place other mitigating measures to better manage the environmental risk in the investment or portfolio.

4.8 MAS also proposes that asset managers develop capabilities in scenario analysis to evaluate portfolio resilience and valuation under different environmental risk scenarios. These scenarios should incorporate forward-looking information to complement historical data, as the latter might systemically underestimate potential risks, in view of the uncertainties and long-term horizon associated with changes in the environment.

4.9 To assist asset managers in conducting scenario analysis, the Guidelines contain examples of possible metrics that asset managers could use to assess the potential impact of physical risk and transition risk on the assets in the portfolios.

Question 6. MAS seeks feedback on the examples of tools and metrics that may be used by asset managers to conduct portfolio risk management.

Stewardship

4.10 Asset managers, acting as agents on behalf of their customers, are well-positioned to influence the actions of investee companies. MAS expects asset managers to exercise sound stewardship to help shape positive corporate behaviour and manage environmental risk associated with investee companies through engagement, proxy voting and sector collaboration. This includes supporting investee companies' efforts in the transition towards more sustainable business practices over time.

4.11 MAS proposes that asset managers maintain proper documentation to support their engagement efforts and report on their stewardship initiatives.

Question 7. MAS seeks comments on the expectation for assets managers to engage investee companies to manage the impact of environmental risk and support their transition towards sustainable business practices.

Disclosure

4.12 Meaningful disclosure of an asset manager’s environmental risk information improves the ability of stakeholders to evaluate the potential impact of environmental risk on the asset manager’s strategies, business plans and product offerings. This facilitates market discipline and contributes to a more efficient allocation of capital over time.

4.13 MAS proposes that an asset manager disclose its approach to managing environmental risk and the potential impact of material environmental risk on the assets it manages. The latter includes quantitative metrics such as exposures to sectors with higher environmental risk. An asset manager’s disclosure may be consolidated at the group³ or head office level.

4.14 MAS also proposes that asset managers take reference from international reporting frameworks, including the Financial Stability Board’s Task Force on Climate-related Financial Disclosures (“TCFD”), to guide their environmental risk disclosures. The TCFD recommendations provide a useful framework for the disclosure of climate-related risks.

Question 8. MAS seeks comments on the proposed form of disclosure of environmental risk by an asset manager.

³ Group refers to the ultimate holding company, its subsidiaries and any other company or entity treated as part of the ultimate holding company’s group of companies according to the Accounting Standards.

General

4.15 In addition to the areas highlighted above, MAS welcomes comments on other aspects of the Guidelines.

Question 9. MAS seeks comments on any aspects of the Guidelines that have not been covered in earlier questions.

5 Implementation Approach

5.1 MAS has included examples of sound practices in relation to asset managers' governance, risk management and disclosure of environmental risk in the Guidelines, to facilitate implementation. The examples are meant to be illustrative and are not exhaustive. MAS welcomes suggestions of other examples of environmental risk management practices currently implemented by asset managers which would meet the expectations in the Guidelines. The examples, if incorporated in the Guidelines, will not be attributed to any individual FI.

5.2 MAS is cognisant that the maturity of environmental risk management practices vary among asset managers. Some asset managers may face initial challenges in implementing the Guidelines, including in relation to the availability of data and expertise for environmental risk management. Hence, MAS proposes to provide a transition period of 12 months after the Guidelines are issued, for asset managers to assess and implement the Guidelines as appropriate.

Question 10. MAS requests for examples of sound risk management practices currently implemented by asset managers, which would meet the expectations in the Guidelines.

Question 11. MAS seeks comments on the proposed implementation approach, including the proposed transition period of 12 months.

Annex A

LIST OF QUESTIONS

Question 1. MAS seeks comments on the entities and business activities that are in the proposed scope of the Guidelines.6

Question 2. MAS seeks comments on the proposed responsibilities of the Board in overseeing environmental risk management, including its role in approving the environmental risk management framework and policies.....7

Question 3. MAS seeks comments on the proposed responsibilities of senior management in overseeing environmental risk management, including its role in developing an environmental risk management framework and policies, regularly reviewing their effectiveness, and allocating adequate resources to manage environmental risk of the assets managed.....7

Question 4. MAS seeks comments on the proposal for asset managers to designate a senior management member or a committee to oversee environmental risk, where such risk is material.8

Question 5. MAS seeks feedback on the examples of tools and metrics that may be used by asset managers to assess the impact of environmental risk at both the individual investment and portfolio level.....8

Question 6. MAS seeks feedback on the examples of tools and metrics that may be used by asset managers to conduct portfolio risk management.9

Question 7. MAS seeks comments on the expectation for assets managers to engage investee companies to manage the impact of environmental risk and support their transition towards sustainable business practices.10

Question 8. MAS seeks comments on the proposed form of disclosure of environmental risk by an asset manager.....10

Question 9. MAS seeks comments on any aspects of the Guidelines that have not been covered in earlier questions.11

Question 10. MAS requests for examples of sound risk management practices currently implemented by asset managers, which would meet the expectations in the Guidelines..... 11

Question 11. MAS seeks comments on the proposed implementation approach,
including the proposed transition period of 12 months.11

Annex B

**PROPOSED GUIDELINES ON
ENVIRONMENTAL RISK MANAGEMENT (ASSET MANAGERS)**

1 INTRODUCTION

1.1 These Guidelines apply to all holders of a capital markets licence for fund management (“LFMC”) and real estate investment trust (“REIT”) management, and to fund management companies registered (“RFMC”) under paragraph 5(1)(i) of the Second Schedule to the Securities and Futures (Licensing and Conduct of Business) Regulations (Rg.10) [“SF(LCB)R”] (hereinafter collectively referred to as “asset managers”). The Guidelines aim to enhance the resilience of funds (including REITs) and segregated mandates (hereinafter collectively referred to as “funds/mandates”) that are managed by asset managers, by setting out sound environmental risk management practices that asset managers can adopt.

1.2 MAS recognises that the scale, scope and business models of asset managers and the investment strategies that they employ can be different. MAS expects an asset manager’s approach to managing and disclosing environmental risk to mature as the methodologies for assessing, monitoring and reporting such risk evolve. An asset manager should implement these Guidelines in a way that is commensurate with the size and nature of its activities, including the investment focus and strategy of its funds/mandates. For avoidance of doubt, the Guidelines shall not prohibit or restrict an asset manager from complying with and discharging its fiduciary duties and other legal obligations to its customers.

1.3 MAS will update these Guidelines as appropriate to reflect the evolving nature and maturity of risk management practices. The examples of environmental risk management practices featured in these Guidelines are meant to be illustrative, and neither prescriptive nor exhaustive.

1.4 MAS is cognisant that asset managers may be appointed different roles (for instance as an investment manager, sub-manager or advisor) in the management of a fund/mandate. The Guidelines would generally be applicable to asset managers that have

discretionary authority over the investments of the funds/mandates that they are managing. Conversely, for asset managers that do not have discretionary authority over the investments of the funds/mandates, the Guidelines would not apply.

1.5 Where asset managers delegate the investment management to sub-managers or advisors, asset managers still retain overall responsibility for environmental risk management and should convey their expectations on environmental risk management to the sub-managers or advisors. Asset managers should put in place appropriate processes and procedures to assess and monitor the sub-managers' or sub-advisors' compliance with the expectations set.

2 SCOPE

2.1 Environmental risk arises from the potential adverse impact of changes in the environment on economic activities and human well-being¹. Environmental issues that are of concern include climate change, loss of biodiversity, pollution and changes in land use. These environmental challenges call for urgent collective actions to address environmental risk. Climate change stands at the forefront of these concerns, with the Intergovernmental Panel on Climate Change (“IPCC”) estimating that continued carbon emissions in line with historical rates would likely lead to global warming of 1.5 °C between 2030 and 2052². There has also been a significant rate of decline in biodiversity worldwide, alongside a significant alteration of three-quarters of the land and more than 60% of the marine environment, which are caused by human actions³.

2.2 Environmental risk poses potential financial impact to funds/mandates managed by asset managers (refer to Diagram A for an illustration), through physical and transition risk channels⁴.

- a. Physical risk arises from the impact of weather events and long-term or widespread environmental changes. For instance, rising frequency and severity of extreme weather events can impair the value of assets held by companies, or indirectly impact supply chains affecting companies’ operations and profitability, and potentially, their viability. Water risk (e.g. water scarcity, pollution and droughts) may increase the operating cost of companies in

¹ Based on the concept of natural capital, nature comprises of a stock of resources (e.g. water, forest, air), which provides ecosystem services (e.g. food, coastal protection, absorption of pollution) that underpin economic activities and human well-being. Drivers of environmental changes can adversely impact natural capital and disrupt the provision of ecosystem services, leading to reduced flow of benefits to the economy and people.

² IPCC, *Global Warming of 1.5 degrees, Summary for Policymakers*, 2018.

³ Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, *Global Assessment Report on Biodiversity and Ecosystem Services*, 2019.

⁴ These channels are more commonly associated with climate change given the current focus on transition to a low-carbon economy. Where applicable, asset managers should also consider physical and transition risk channels in relation to other aspects of environmental risk beyond climate change, as methodologies for managing and disclosing such risks continue to evolve.

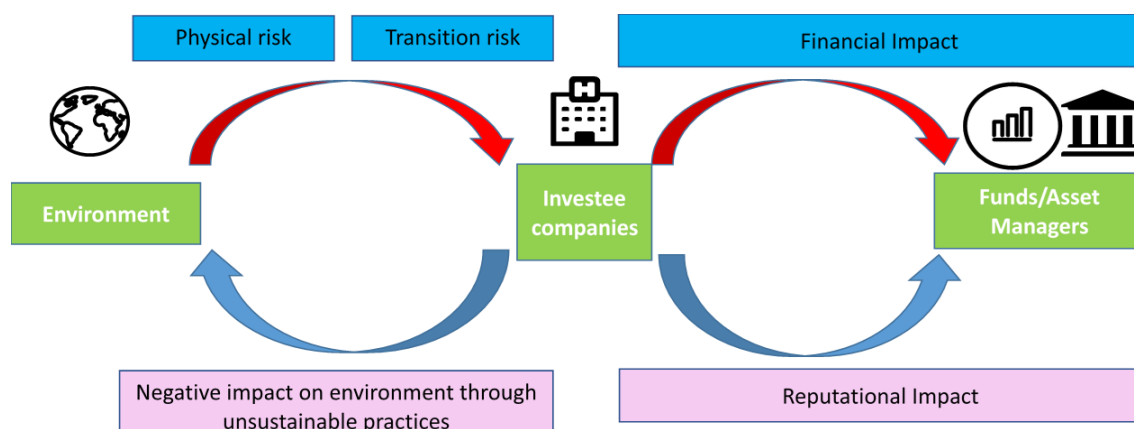
water-intensive sectors. Investments into these companies can therefore be impaired.

- b. Transition risk arises from the process of adjustment to an environmentally sustainable economy, including changes in public policies, disruptive technological developments, and shifts in consumer and investor preferences. For instance, the transition to a low-carbon economy can impair the profitability of companies in carbon-intensive businesses. Punitive actions taken against companies that pollute the environment (e.g. revocation of operational permits for companies involved in open burning practices) can have a material impact on the valuation of companies in these sectors and result in stranded assets⁵. Investment portfolios managed by asset managers may also be exposed to volatility and downside risk where business models are disrupted by changes in market or consumer demands to address environmental impact.

2.3 Reputational risk can arise when asset managers make investments into companies that carry on business activities, which have a negative impact on the environment. Negative perception of asset managers' business practices can adversely affect their abilities to maintain or grow their assets under management.

⁵ Defined by the International Energy Agency to refer to "investments which are made but which, at some time prior to the end of their economic life (as assumed at the investment decision point), are no longer able to earn an economic return, as a result of changes in the market and regulatory environment brought about by climate policy".

Diagram A: Potential financial and reputational impact of environmental risk on funds and asset managers



2.4 Environmental risk can vary by sector, geography and time horizon. As such, the extent of its relevance and materiality will vary depending on the investment horizon, focus, and strategy of the funds/mandates. For instance, environmental risk can be more significant in sectors that consume more natural resources and produce more greenhouse gas (“GHG”) emissions. In terms of geography, certain countries can be more exposed to extreme weather events arising from climate change compared to others. Environmental risk, in particular physical risk, is likely to materialise over a longer time horizon. Hence, perceived future risk can be underestimated in the short term, and current asset valuations may hence be exposed to unexpected adjustments in years to come.

2.5 It is crucial for asset managers to ensure the resilience of their customers’ assets against the impact of environmental risk. Besides implementing robust environmental risk management policies and processes, asset managers can play a key role in the transition towards an environmentally sustainable economy by channelling capital through their green investment activities. A gradual and smooth transition would alleviate physical and transition risks, by reducing the probability of a “too little, too late” scenario, where physical costs of environmental changes may be exacerbated, and policymakers would need to implement mitigation measures in a belated and disruptive manner. Engaging in green investment activities would also mitigate reputational risk for asset managers. Asset managers can also contribute to global collective action by engaging with stakeholders such as regulators, rating agencies, academia and civil society, to promote mutual understanding on environmental issues across sectors and geographies.

3 GOVERNANCE AND STRATEGY

3.1 The Board of Directors (“Board”) and senior management play critical roles in determining the asset manager’s strategies, business plans and product offerings. These include identifying environmental risks and opportunities over the short and long term, and evaluating the actual and potential impact of these risks and opportunities on the asset manager’s strategies, business plans and products. In this regard, the Board and senior management should set the tone and articulate the asset manager’s approach on environmental risk management for the different asset classes it invests in and investment strategies that it employs.

3.2 Regulations 13(B)(1)(a) and 54A of the SF(LCB)R require all LFCs and RFCs, respectively, to put in place a risk management framework to identify, address and monitor the risks associated with customers’ assets that they manage, which is appropriate to the nature, scale and complexity of the assets. Regulation 13 of the SF(LCB)R also requires REIT managers to identify, address and monitor the risks associated with its business activities in a manner that is commensurate with their nature, scale and complexity. Such risks include environmental risk, to the extent that it is material to the assets managed.

3.3 The Board and senior management of asset managers should oversee the integration of environment risk into the company’s investment risk management framework. The Board and senior management are expected to periodically review the adequacy and effectiveness of the asset manager’s environmental risk management framework. Where environmental risk is deemed material to the assets managed, asset managers should designate a senior management member or a committee to oversee environmental risk, to ensure that such issues are reviewed at a sufficiently senior level.

3.4 The Board, or a committee delegated by it, is responsible for:

- a. approving an environmental risk management framework and policies to assess and manage the environmental risk of the assets managed, taking into consideration the asset manager’s fiduciary role and other legal obligations vis-à-vis its customers;

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- b. setting clear roles and responsibilities of the Board and senior management, including personnel who are responsible for oversight of environmental risk of the assets managed; and
 - c. ensuring adequate management expertise and resources for managing environmental risk, including through training and capacity building.

3.5 Senior management is responsible for:

- a. developing and implementing an environmental risk management framework and policies, as well as tools and metrics to monitor exposures to environmental risk, including both actual and potential impact, and resilience of the funds/mandates managed by the company to different environmental scenarios. The framework should include how the asset manager incorporates environmental risk considerations in its investment research, portfolio construction, risk management and stewardship practices across different asset classes and investment strategies;
- b. reviewing regularly the effectiveness of the framework, policies, tools and metrics and making appropriate revisions, taking into account changes in the asset manager's business, size and complexity as well as risk environment;
- c. establishing an internal escalation process for managing environmental risk (including material environmental risk exposures and exceptions to the environmental risk management framework or policies) and ensuring that appropriate and timely actions are taken to address the risk; and
- d. allocating adequate resources with appropriate expertise to manage the environmental risk of the assets managed.

3.6 Senior management should also update the Board on material environmental risk issues in a timely manner. For asset managers where the Board and senior management are one and the same, both the Board and senior management would be jointly responsible for the expectations set out in paragraphs 3.4 and 3.5.

4 RESEARCH AND PORTFOLIO CONSTRUCTION

4.1 Asset managers should embed relevant environmental risk considerations in their research and portfolio construction processes if they have assessed them to be material. In addition to considering the investment horizon, risk and return profile of an investment and fundamental factors, such as economic conditions, central bank policy, sector trends and geopolitical risks, asset managers should also evaluate the potential impact of relevant environmental risk on an investment's return potential.

4.2 In assessing environmental risk, asset managers should consider both transition and physical risks on an individual asset and/or portfolio level and take reference from international standards and frameworks⁶.

4.3 Asset managers should apply risk criteria to identify sectors with higher environmental risk. The risk criteria may include the level of GHG emissions, vulnerability to extreme weather events, and linkages to unsustainable energy practices, deforestation and pollution. For sectors with higher environmental risk, asset managers should develop sector-specific guidance internally to aid its investment personnel in understanding the environmental issues pertinent to such sectors. Where appropriate, the guidance could take into account internationally recognised sustainability standards and certification schemes⁷, as well as the investee company's strategy to manage its environmental risk.

4.4 In considering the materiality of environmental risk with respect to the different asset classes (such as public equity, fixed income, private equity, real estate/infrastructure), asset managers can take reference from the following examples:

- a. For fixed income investments, asset managers should consider a variety of key environmental indicators from the issuers, as well as external environmental data providers, to achieve an impartial and holistic view of the environmental risk associated with a specific credit investment. Where the credit investment

⁶ These include the Global Reporting Initiative, CDP (formerly the Carbon Disclosure Project), the Sustainable Accounting Standards Board and Task-Force on Climate-related Financial Disclosure.

⁷ For example, the International Finance Corporation Performance Standards and the Roundtable on Sustainable Palm Oil.

is used to finance a specific project, asset managers should consider the environmental risk profile of the project as well.

Asset managers should also consider the seniority (senior/subordinated/junior subordinated) as well as the maturity of the credit investment when assessing the relevance and materiality of environmental risk. The level of seniority and maturity of the credit will expose investors to varying degrees of financial impact from the issuer's exposure to environmental risk. Asset managers should therefore carefully assess the pricing (yield/coupon level) of such credits against the risks involved.

- b. For direct real estate investments, asset managers should consider a variety of operational indicators (in areas such as GHG emissions, energy management, waste and water management), as well as the possible impact from climate change and extreme weather events. Asset managers should also consider the extent to which the operational indicators and environmental events may affect potential tenant demand.

In considering the environmental impact of investments across different asset classes, asset managers may consider procuring asset class-specific research from external third parties, where appropriate, to supplement its own internal assessment.

4.5 Asset managers should also be mindful of internal aggregate limits that their customers have set for specific sectors or types of activities, such as sector limits on companies in the fossil fuel industry, or caps on carbon emissions in the portfolio.

4.6 Asset managers' approach to managing environmental risk could be influenced by the investment objective and strategy (active versus passive) of the fund/mandate that they manage. Given that passive managers have limited leeway in their research and portfolio construction processes beyond benchmark selection, stewardship is a key lever to manage environmental risk. Similarly, active managers may be constrained in the extent to which they can deviate from a reference benchmark or index. Where such contractual constraints exist, asset managers can still manage and mitigate environmental risk in their portfolios by influencing their investee companies to have sound environmental risk mitigation measures. Asset managers should therefore incorporate environmental risk considerations into their stewardship frameworks (please refer to section 6).

4.7 For portfolio construction, asset managers should include measurement and management of the various environmental risk factors that are present in a portfolio on an aggregate basis, where material. For example, an asset manager can monitor the total GHG emissions of a portfolio, with reference to a benchmark of a comparator group⁸.

5 PORTFOLIO RISK MANAGEMENT

Ongoing Monitoring

5.1 Asset managers should put in place appropriate processes and systems to monitor, assess and manage the potential and actual impact of environmental risk on individual investments and portfolios on an ongoing basis, where material. Should there be developments (such as occurrence of natural disasters and changes in regulations) that could materially affect the operations and financials of an investee company, an asset manager should re-assess the risk and return profile of the investment or portfolio. This would allow the asset manager to make an informed decision on whether to continue with the investment, make adjustments to the composition of the portfolio, or put in place other mitigating measures to better manage the environmental risk in the investment or portfolio. The asset manager should also escalate these material environmental risk exposures and exceptions in accordance with its internal escalation process to ensure appropriate and timely actions are taken to address the risk.

Scenario Analysis

5.2 Asset managers should develop capabilities in scenario analysis⁹ to evaluate portfolio resilience and valuation under different environmental risk scenarios, where relevant.

⁸ Asset managers can draw on the work by UN Global Compact, the Principles for Responsible Investment and the CDP to aid them in developing guidance in this area.

⁹ While scenario analysis is more commonly conducted for climate risk where methodologies are better established, it may also apply to other aspects of environmental risk, as generally accepted measurement practices and methodologies emerge. Asset managers should keep abreast of good practices in this evolving area, e.g. the Task Force on Climate-related Financial Disclosures' *Technical Supplement: The Use of Scenario Analysis in Disclosure of Climate-related Risks and Opportunities*, 2017.

5.3 Asset managers should include, where relevant, short-term and long-term environmental scenarios (using conservative and regularly reviewed assumptions) into its scenario analysis for strategic planning and risk management purposes. The analysis may incorporate an assessment of physical and transition risks across a range of climate-related scenarios, including increases in global temperature, and whether the transition to a low-carbon economy occurs in an orderly or disorderly fashion. For example, on physical risk, an asset manager could assess the impact on revenue and profitability of investee companies that are more exposed to sea level rise (such as companies owning seafront properties) or extreme weather events (such as agriculture companies). On transition risk, asset managers could assess the level of sensitivity of an investee company's cost of doing business to higher carbon price; whether higher costs could be partially offset by increasing prices and its impact on consumer demand. These scenarios should also incorporate forward-looking information, as an assessment that relies solely on historical data might systemically underestimate potential risks, in view of the uncertainties and long-term horizon associated with changes in the environment¹⁰.

5.4 Where data may be limited, asset managers should consider qualitative assessments and engage investee companies to adopt global practices and framework of disclosure that best identifies the risks and opportunities most relevant to their businesses.

5.5 Asset managers should use the results of its scenario analysis when reviewing their environmental risk management policies and practices.

5.6 Asset managers should also maintain proper documentation of the key features of the scenario analysis, including the choice of scenarios, reasonableness of assumptions, assessment of scenario analysis results, considerations on the need to take actions, and actions taken to address the risk.

¹⁰ Central Banks and Supervisors Network for Greening the Financial System, *Technical Supplement: Macroeconomic and financial stability: Implications of climate change*, 2019.

Capacity Building

5.7 Asset managers should provide training and equip its staff with adequate knowledge to assess, manage and monitor environmental risk in a rigorous, timely and efficient manner. The asset manager should regularly review such capacity building programmes to incorporate emerging issues relating to environmental risk management.

6 STEWARDSHIP

6.1. Asset managers are expected to exercise sound stewardship to help shape the corporate behaviour of investee companies positively through engagement, proxy voting and sector collaboration¹¹. This includes supporting investee companies' efforts in the transition towards more sustainable business practices over time, while maintaining their risk management standards. Asset managers should establish a process to prioritise issues and companies for engagement that is consistent with the interests of its customers and aligned with the asset manager's investment objective and strategy. Asset managers should also maintain proper documentation to support its engagement efforts, and report on their stewardship initiatives. Engagement outcomes should feed into the research and portfolio construction, and risk management processes outlined in Sections 4 and 5.

- 6.2. Topics for engagement with investee companies may include but are not limited to:
- a. raising of environmental issues with investee companies to increase their awareness of environmental risks and opportunities;
 - b. influencing the behaviour of investee companies to better manage and mitigate environmental risk;

¹¹ Asset managers should consider aligning their stewardship initiatives to the Singapore Stewardship Principles and draw on international resources, such as the International Corporate Governance Network Stewardship Principles and Principles for Responsible Investment for guidelines on active ownership.

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- c. gathering information to supplement existing environmental risk disclosures from investee companies; and
 - d. encouraging investee companies to provide relevant and timely environmental risk data and/or clearer disclosures to improve data availability and consistency¹².

6.3 Asset managers should consider collaborative engagements with other asset managers/investors for efficiency, enhanced influence and legitimacy when engaging investee companies, and to build knowledge and skills¹³.

7 DISCLOSURE

7.1. Asset managers should disclose their approach to managing environmental risk in a manner that is clear and meaningful to their stakeholders, including existing and potential customers. Asset managers are encouraged to disclose the potential impact of material environmental risk to customers, including quantitative metrics such as exposures to sectors with higher environmental risk. An asset manager's disclosure may be consolidated at the group¹⁴ or head office level.

7.2. Asset managers should take reference from international reporting frameworks¹⁵, including recommendations by the Financial Stability Board's Task-Force on Climate-related Financial Disclosures ("TCFD"), to guide their environmental risk disclosure. The TCFD recommendations provide a useful framework for the disclosure of climate-related risks as follows¹⁶:

¹² Asset managers may wish to take reference from the Global Reporting Initiative in their engagement with investee companies.

¹³ Asset managers can draw on resources made available as part of the Principles for Responsible Investment (PRI), including the Introductory Guide to Collaborative Engagement and the PRI Collaboration Platform.

¹⁴ "Group" refers to the ultimate holding company, its subsidiaries and any other company or entity treated as part of the ultimate holding company's group of companies according to the Accounting Standards.

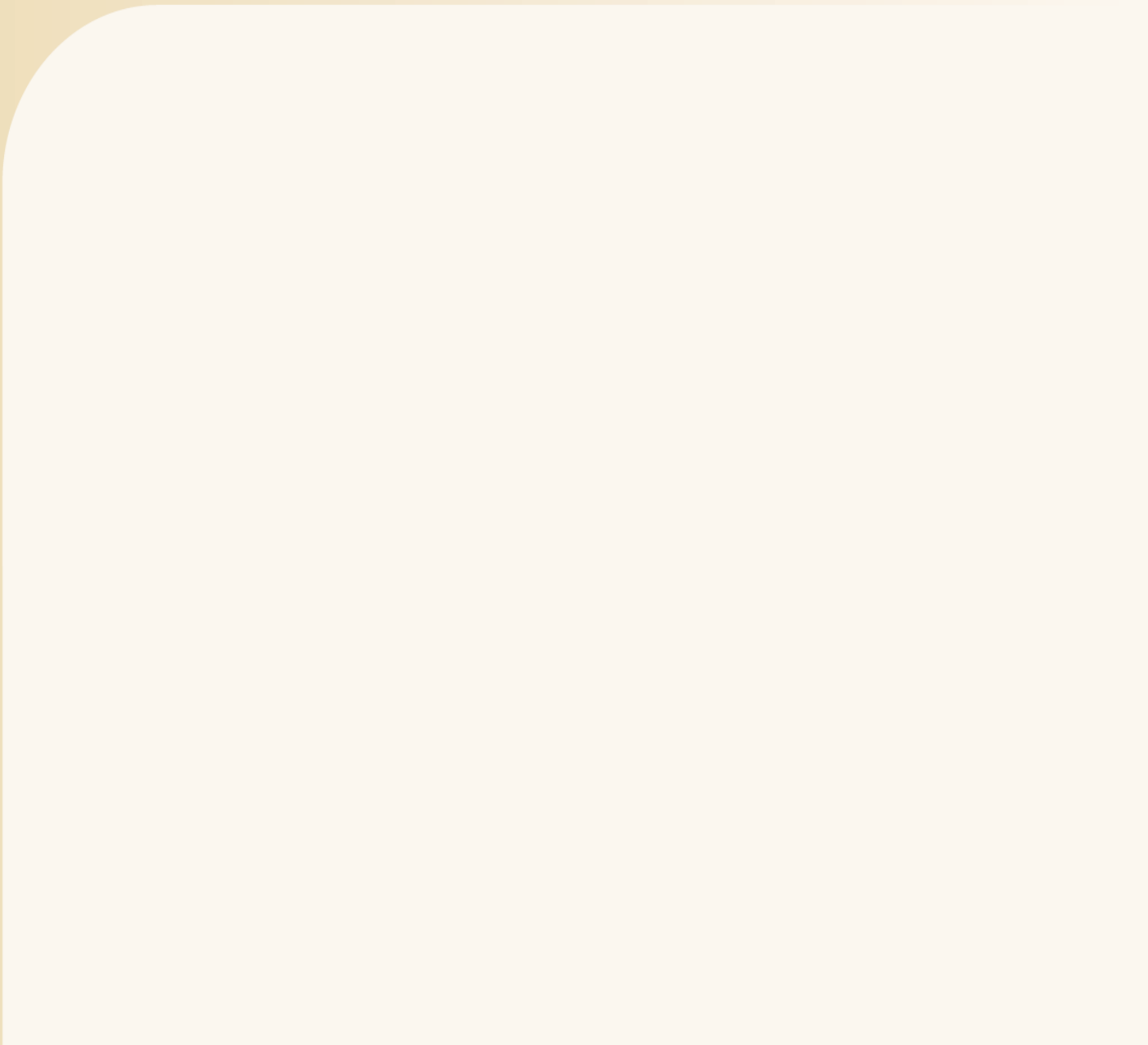
¹⁵ These include standards and frameworks set by the Global Reporting Initiative, Sustainability Accounting Standards Board, and Climate Disclosure Standards Board.

¹⁶ TCFD, *Recommendations of the Task Force on Climate-related Financial Disclosures*, 2017.

- a. Governance, including the Board's oversight and management's role in assessing and managing climate-related risks and opportunities;
- b. Strategy, in relation to how climate-related risks and opportunities are factored into relevant products or investment strategies, where such information is material;
- c. Risk management, with regard to how the asset manager identifies, assesses, and manages climate-related risks (including through engagement with investee companies); and
- d. Metrics and targets, to assess and manage relevant climate-related risks and opportunities where such information is material¹⁷.

7.3 Asset managers should review their disclosures regularly to improve their comprehensiveness, clarity and relevance, taking into account generally accepted measurement practices and methodologies.

¹⁷ For example, TCFD recommends the disclosure of Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks. Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in Scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.



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