



The Institute of
Internal Auditors
Singapore

GUIDE TO INTERNAL REVIEW OF SUSTAINABILITY REPORT



Contents

Foreword	3
Preface.....	4
Introduction to SGX Sustainability Reporting Requirements.....	5
About This Guide.....	6
The Guide.....	7
The IIA’s Three Lines Model	7
How ESG is embedded across the Three Lines	7
Objectives of Internal Review.....	8
About Sustainability Reporting.....	9
What is a Sustainability Report?.....	9
Publication of a Sustainability Report	9
Primary components of a Sustainability Report	9
Sustainability Reporting Frameworks	10
Principles For Consideration During Internal Review	12
Principle 1: Disclosures should present relevant information.....	12
Principle 2: Disclosures should be specific and complete	12
Principle 3: Disclosures should be clear, balanced, and understandable	13
Principle 4: Disclosures should be consistent over time	14
Principle 5: Disclosures should be comparable among Issuers within a sector, industry, or portfolio	14
Principle 6: Disclosures should be reliable, verifiable, and objective	14
Principle 7: Disclosures should be provided on a timely basis	15
The Internal Review Process	16
Planning.....	16
Scoping.....	17
Determination of focus ESG factors for internal review testing plan	17
Testing Plan	20
Performing the engagement.....	21
Documenting.....	24
Report findings and conclusion.....	25
Key terms	26

Appendices	27
Appendix 1 – Version and Date of publication.....	27
Appendix 2 – List of SGX’s Core ESG Metrics.....	0
1. Environmental	0
2. Social.....	2
3. Governance	4
Appendix 3 – TCFD Recommendations	5
Governance.....	6
Strategy	7
Risk Management	10
Metrics and Targets	13
TCFD Disclosure Timeline	16
Appendix 4 – Phased approach.....	18
Appendix 5 – Other Resources.....	19
About the Contributors and Acknowledgements	21

Foreword

Companies must disclose accurate and complete information, including financial, environmental, social and governance (“ESG”) information, to enable investors to make informed decisions. ESG disclosure informs investors of the company’s business strategy and prospects, as well as how it identifies, monitors and manages ESG risks and opportunities. These are naturally crucial to the sustainability of the business.

Singapore Exchange’s (“SGX”) listing rules require issuers to maintain adequate and effective internal controls including financial, operational, compliance, information technology controls and risks management systems. Since 2022, our rules have expanded to require an internal review of the sustainability reporting process. Issuers must have controls and processes that would guide the end-to-end ESG information flow and ensure the quality of data produced and reported. Internal audit can therefore add value in terms of identifying and establishing a functional ESG control environment.

When SGX consulted the market last year on enhancements to our sustainability reporting rules, concerns were raised that internal auditors are not trained to review ESG issues and have no guidance to do so. The Institute of Internal Auditors Singapore’s (“IIA Singapore”) efforts to produce this guide with Ernst & Young LLP and to explore ESG training for internal auditors are therefore salutary. Both initiatives will aid in raising standards across the market community. We are committed to working with IIA Singapore to provide guidance as and when the need arises.

ESG information must be comparable and reliable if it is to be useful. As is the case with financial information, external assurance of ESG information should ultimately take place. Assurance standards for ESG information are at developmental stage. It is therefore sensible in the meantime for companies to conduct an internal review of their sustainability reporting process. This will also prepare the companies when they progress to assurance by third parties.

Singapore Exchange Regulation (“SGX RegCo”) welcomes the news that the International Auditing and Assurance Standards Board is developing a standard for sustainability reporting assurance and will observe developments in this area.

Mr Tan Boon Gin
Chief Executive Officer
Singapore Exchange Regulation

Preface

Globally, we recognise that Sustainability is gaining traction, with an impetus for increased accountability and responsibility for corporates to take appropriate actions to manage the risks that come with it.

In line with this, SGX has enforced the mandatory conduct of internal review of sustainability reporting processes to ensure the quality of information disclosed by the Issuers¹ in its Sustainability Report. On this basis, clear roles and responsibilities must be established within the organisation, in addition to the formal institution of controls and processes that guide the end-to-end ESG information flow and, ultimately, what is being reported in the Sustainability Report. The guide is intended for the Issuers listed on SGX and can only be effectively applied with a foundation set for its control environment. The governing body should ensure that this fundamental control environment and associated processes are established.

The Guide to Internal Review of a Sustainability Report (the “SR IR Guide”) has been co-developed by the IIA Singapore and EY. We take this opportunity to thank all individuals and organisations for their contributions.

¹ An issuer is a company or other legal person or undertaking some or all of whose securities are the subject of an application for listing on SGX, or have been admitted to listing.

Introduction to SGX Sustainability Reporting Requirements

SGX released a policy statement and a voluntary sustainability reporting guide to encourage its Issuers to report on their sustainability performance in 2011. For the first time, the policy statement sets out SGX's regulatory position that sustainability reporting is an essential aspect of holistic disclosure by its Issuers.

After some extensive engagement with the Issuers and investors to understand their needs and expectations and together with the view of the international advancements in sustainability reporting and the many benefits that sustainability reporting brings to the stakeholders, SGX introduced requirements to elevate sustainability reporting from a voluntary to a mandatory basis, with a description of the prescribed contents on a 'comply or explain' basis in 2016.

In August 2021, SGX continued to engage the stakeholders with two Consultation Papers titled '[Climate and Diversity: The Way Forward](#)' and the '[Starting with a Common Set of Core ESG Metrics](#)'. The former primarily focused on gathering opinions on some proposed amendments to the listing rules concerning the Sustainability Report. At the same time, the latter attempted to gather perspectives on the call for greater harmonisation of standards and taxonomy by ESG practitioners.

SGX published the results of the abovementioned Consultation Papers in December 2021 with the issuance of two corresponding Response Papers, titled '[Responses to Comments on Consultation Paper - Climate and Diversity: The Way Forward](#)' and the '[Responses to Comments on Consultation Paper - Starting with a Common Set of Core ESG Metrics](#)'.

Regarding Question 6 (Assurance) of the [Responses to Comments on Consultation Paper - Climate and Diversity: The Way Forward](#), most respondents agreed that the sustainability reports should be subjected to some assurance. In principle, the respondents agreed that assurance might enhance the credibility of sustainability reports, thereby increasing users' confidence levels in sustainability reports.

On internal assurance, SGX noted the feedback received that the role of the Internal Audit Function is focused on the design of, and compliance with, policies, processes, and internal controls to ensure the quality of the data being produced and reported and that internal assurance is not a substitute for external assurance. If the company has reviewed that all key aspects of the sustainability report has been externally assured, the company can determine that no further internal review on the key aspects of the sustainability report is required under a risk-based approach. Given the feedback, SGX then distinguished between the two by referring to the former as an "internal review".

An internal review by the Internal Audit Function of the sustainability reporting process builds on the Issuer's existing governance structure, buttressed by adequate and effective internal controls and risk management systems. Accordingly, SGX stated that the Issuers should review their processes concerning sustainability reporting, among other risks and control areas. Therefore, SGX expressly requires the Issuer's Internal Audit Function to undertake an internal review of the process in relation to sustainability reporting. This review will provide assurance that both management and Board have oversight over the controls with regards to sustainability reporting.

In relation to the review scope for the first Sustainability Report after the listing rule amendments, the Internal Audit Function should use its risk-based assessment to recommend how the review could be incorporated into its audit cycle and have this approved by the Audit Committee. The Audit Committee

and Internal Audit Function are best placed to determine the review scope and period as the situation and length of audit cycles may differ between companies.

SGX mentioned that this requirement is an extension of [Rule 719 of the Listing Rules](#), which requires Issuers to have adequate and effective systems of internal controls and risk management systems.

Based on the requirement from the SGX, IIA Singapore developed this Guide to provide members with a 'navigating map' in this area of an internal review of the Sustainability Report.

About This Guide

The guide attempts to help IIA Singapore members navigate their internal review on their respective Sustainability Reports. This guide shall not be construed as the definitive manner to conduct the internal review of the Sustainability Report in Singapore.

This guide is fundamentally built on the reporting requirements of the Sustainability Report issued by the SGX in Singapore, with the information incorporated from SGX's [Listing Rule 711A](#), [Listing Rule 711B](#), [Practice Note 7.6 Sustainability Reporting Guide](#) ("the Practice Note") and the guide on [implementing the Recommendations of the Task Force on Climate-related Financial Disclosures \("TCFD"\)](#) (October 2021). Requirements may differ across countries. This guide seeks to also provide easy reference for the users of this guide in preparation for the conduct of the internal review of a Sustainability Report.

It should be noted that climate-related disclosures are one of your Sustainability Report's core components; as such, the related data and information form part of your sustainability reporting process and should be reviewed in tandem with your internal audit plan.

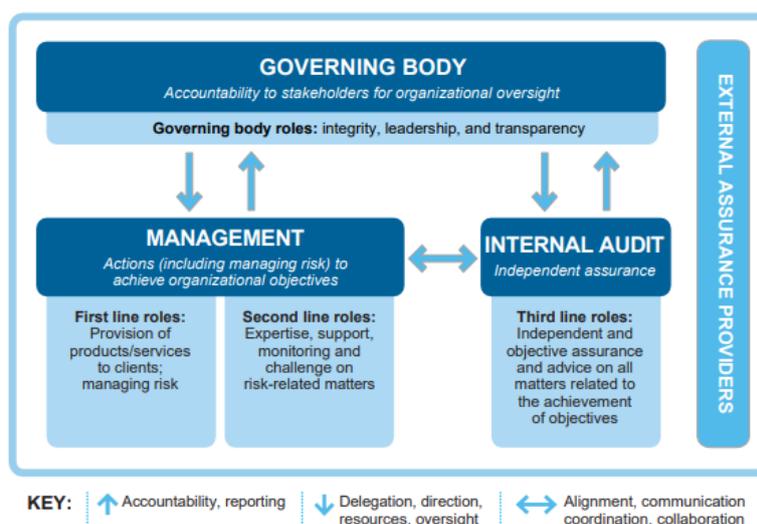
The guide is correct in the version and date stated in [Appendix 1](#). All hyperlinks appended in this document were tested and validated during issuance.

The Guide

The IIA's Three Lines Model

The Issuers should have a governance structure that effectively strengthens the organisation's sustainability governance and management process. Recognising that the Issuers differ considerably in their distribution of responsibilities, the following section aims to provide a reference as to how vital organisational roles can work together to identify, prioritise and assess ESG-related risks and opportunities, to enable an informed decision on the company's sustainability approach and sustainability reporting.

Figure 1: The IIA's Three Lines Model



How ESG is embedded across the Three Lines

The governing body (i.e., the Board of Directors) has the ultimate responsibility for the Issuer's sustainability reporting. It is collectively responsible for the long-term success of the Issuer, as stipulated under the Code of Corporate Governance. Thus, there is increased focus for the Board to satisfy itself through close interaction with the management on establishing proper sustainability governance structure and function across different business areas. The Board's role includes setting strategic objectives that incorporate sustainability and in ensuring that the control environment and associated processes support the business' complete and accurate reporting of the relevant sustainability information.

Management's responsibility to achieve the organisation's sustainability objectives comprises first line and second line roles. First line roles are most directly aligned with providing clients products and/or services in compliance with the second line's requirements and expectations. Their roles encompass providing support in embedding ESG considered into the products or services delivered and managing ESG-related risks and their impact on the organisation.

The second line role manages risk, including climate and other sustainability-related risks relevant to the Issuer. Risk management includes but is not limited to compliance with environmental and socio-

economic laws, sustainability disclosure regulations, and internal controls governing the quality and reliability of ESG data. The second line role is also responsible for evaluating the effectiveness and adequacy of such risk management processes.

Overall, the management should assume responsibility for planning and executing ESG-related risk management strategies, creating relevant ESG policies, procedures, and internal controls, identifying appropriate metrics for sustainability reporting, and overseeing the creation of such reports.

The third line refers to internal audit. The Internal Audit Function is essential in providing independent assurance and advisory on ESG governance. It helps companies evaluate opportunities, assess operations and reporting changes, meet regulations and identify areas of improvement for sustainability. This is done by conducting an internal review of the sustainability reporting process. The internal review should be conducted in accordance with the [International Standards for the Professional Practice of Internal Auditing](#) issued by The Institute of Internal Auditors (“IIA”).

SGX provided that the Internal Audit Function may involve other relevant functions, such as risk management, sustainability, or other specialist functions in this internal review process. The Internal Audit Function should place emphasis on the governance framework, strategy, controls, and risk management systems related to sustainability reporting. The opinion of the review should be concluded based on the adequacy of the design of, and compliance with, policies, processes, and internal controls to ensure the quality of the data being produced and reported.

Objectives of Internal Review

The requirements, challenges, and complexity of sustainability reporting are evident. The risks associated with inaccurate disclosures can result in severe repercussions, such as financial and non-financial penalties and/or sanctions for non-compliance with disclosure obligations under the Securities and Futures Act. Therefore, the internal review serves as a safeguard to provide an independent and objective view of the robustness of internal controls on ESG information disclosed by the Issuer. This provides added comfort that the ESG data disclosed are aligned with the Principles identified below.

Referencing International Professional Practices Framework (“IPPF”) Standard 2100 – Nature of Work, the Internal Audit Function shall contribute to improving the Issuer’s governance, risk management, and control processes through the recommendations provided within the audit reports.

About Sustainability Reporting

What is a Sustainability Report?

A Sustainability Report seeks to provide all interested stakeholders with information on an Issuer's financial and non-financial performance from the perspectives of ESG. Financial reports, otherwise commonly known as the Annual Report with the business' financial statements embedded, focuses on economic metrics such as revenue and profit. These measures are one of the perspectives covered in a Sustainability Report. Refer to [Appendix 2](#) – SGX's list of Core ESG Metrics for a set of common ESG metrics for Issuers to adopt as a starting point for sustainability reporting.

Publication of a Sustainability Report

In line with SGX's [Listing Rule 711A](#), Issuers on SGX are required to issue a Sustainability Report for its financial year no later than four months after the end of the financial year or where the Issuer has conducted external assurance on the Sustainability Report, no later than five months after the end of the financial year. It can be issued as a standalone report in the timeline, with a summary included in the Annual Report.

Alternatively, Paragraph 6 <Form and Frequency of Sustainability Reporting> of [the Practice Note](#) states that the sustainability disclosure may be done in the Issuer's Annual Report. Sustainability reports contained within Annual Reports must observe Annual Report deadlines.

An Issuer in its first year of reporting is also allowed to report within 12 months of the end of its financial year. The Sustainability Report should be available on SGXNet and the company website.

Primary components of a Sustainability Report

[The Practice Note](#) and [Listing Rule 711B](#) necessitated the Sustainability Report must describe the sustainability practices with reference to the following primary components:

Primary components	Description
a) Material ESG factors	The Sustainability Report should identify the material ESG factors and describe the reasons for and the selection process.
b) Climate-related disclosures consistent with the recommendations of the TCFD	The Issuer should provide climate-related disclosures, including risks and opportunities likely to impact the Issuer's future financial position and performance, consistent with the TCFD recommendation. Refer to Appendix 3 for more information on TCFD's 11 recommended disclosures and supplemental guidance across four pillars: Governance, Strategy, Risk Management and Metrics and Targets.
c) Policies, practices, and performance	The Sustainability Report should outline the Issuer's policies, practices, and performance concerning the material ESG factors identified. Descriptive and quantitative information on each identified material ESG factor during the reporting period should be provided. Performance should be described in relation to previously disclosed targets.

d) Targets	The Sustainability Report should set out the Issuer's targets concerning each material ESG factor identified for the forthcoming year. Targets should be considered for defined short, medium, and, long-term horizons, consistent with those used for strategic planning and financial reporting. The reasons for the inconsistency should be disclosed.
e) Sustainability reporting framework	The Issuer should adopt a globally recognised sustainability reporting framework appropriate for and suited to its industry and business purposes. For climate-related disclosures, the Issuer should report based on TCFD recommendations, in line with SGX requirements.
f) Board statement and associated governance structure for sustainability practices	The Sustainability Report should contain a statement from the Board that it has considered sustainability issues in the Issuer's business and strategy, determined the material ESG factors and overseen the management and monitoring of the material ESG factors. In addition, the Sustainability Report should describe the roles of the Board and the management in the governance of sustainability issues. The Board has ultimate responsibility for the Issuer's sustainability reporting.

The exclusion of any primary component must be disclosed. The Issuer must disclose the mitigating steps taken in replacement, with reasons for doing so. An Issuer in any of the industries identified in the Disclosure Timeline may **not** exclude the primary components listed in [Practice Note \(4.1\)\(b\)](#).

The internal Audit Function should be satisfied that the Sustainability Report comprises the primary components listed above, and where any of the primary components have been excluded, the Issuer has disclosed the exclusion, described what is performed instead and reasons for doing so.

Sustainability Reporting Frameworks

With reference to SGX's website, as of March 2022, the most widely used international reporting frameworks for sustainability disclosures are the Global Reporting Initiative ("GRI") and SASB.

In March 2022, the International Financial Reporting Standards ("IFRS") Foundation and GRI announced a collaboration agreement to coordinate their work programmes and standard-setting activities to support a comprehensive global baseline for sustainability-related disclosures. The IFRS Foundation Trustees, on 3 November 2021, announced the establishment of a new standard-setting board—the International Sustainability Standards Board ("ISSB") to help meet this demand.

The ISSB has since published two Exposure Drafts IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and S2 Climate-related Disclosures, with plans to release final standards in the first quarter of 2023. Refer to the below table for more information on the respective frameworks/standards:

Reporting frameworks/standards	Description
GRI Standards	GRI Standards are modular and interrelated, designed to help Issuers communicate about the impacts they have on the economy, environment, and society. GRI Standards are designed to universally apply to all Issuers of all types and sectors, large and small, worldwide.
SASB	SASB focuses specifically on developing standards for sustainability information aimed at investors. It enables companies to identify, measure, and manage the subset of ESG topics directly impacting long-term enterprise value creation.
ISSB	ISSB provides a comprehensive global baseline of sustainability-related disclosure standards that provide investors and other capital market participants with information about companies' sustainability-related risks and opportunities to help them make informed decisions.

Principles For Consideration During Internal Review

The Internal Audit Function may apply the guiding principles established by the TCFD during the internal review. These principles are broadly consistent with other internationally accepted frameworks for financial reporting and are generally applicable to most providers of financial disclosures. These guides can also assist the Issuers in providing high-quality disclosures.

Internal Auditors are reminded that the internal review should be conducted per the IPPF Standard issued by the IIA.

Principle 1: Disclosures should present **relevant** information

Information provided should pertain to the actual and potential impact of ESG-related issues, including climate change, on the environment and society, as well as on the impact on the value creation of the Issuer. This information and the accompanying notes are subject to change over time.

Key points of consideration:

- Are sufficient details disclosed to enable users to assess the Issuer's exposure and approach in addressing ESG-related issues?
- Have the disclosures considered the likelihood of occurrence and magnitude of impact over different time horizons (short, medium, and long-term)? For example, the Issuers may experience longer-term shifts in climate patterns, or abrupt and disruptive impacts brought by extreme weather events, which may impact an Issuer differently across different time horizons.
- Are the material ESG factors identified relevant to the company's industry?

Principle 2: Disclosures should be **specific** and **complete**

Disclosures and significant components of the Sustainability Report should conform to that established by the SGX in [the Practice Note](#) and [Listing Rule 711B](#). Disclosures should contain historical and future-oriented data and information, as applicable, for evaluation against commitments set and to assess possible future implications, respectively. Assessment should be made if third parties (e.g., suppliers, distributors, investors) covering both upstream and downstream processes (e.g., product defect response) form an integral part of the business for disclosure purposes. Assumptions adopted in historical and future-oriented data should also be clarified and assessed.

For Issuers with a presence beyond Singapore, the Internal Auditors should be satisfied that the governance, risk management, and control processes that govern the collection and presentation of ESG-related data and information for disclosures are representative of the Issuer's geographic presence. An explanation should be included where there are exclusions or omissions to the data and information presented.

Further to that, as applicable, any forward-looking quantitative disclosures should align with data used by the organisation for investment decision-making and risk management.

As defined in IPPF Standard 2120 – Risk Management, Internal Audit's role is to evaluate the risk exposures regarding the governance, operations, and IT systems. Internal Auditors should be satisfied that all activities of the Issuer, including acquisitions, divestments, or policies, that will impact the disclosure of ESG-related information are considered.

Key points of consideration:

- Have all entities reported in the Financial Statements been included in the reporting boundary of the Sustainability Report?
- Are there persons and processes in the value chain that contributed to the products and/or services?
- Have reasonable assumptions been made on ESG-related information and data, where applicable?

Principle 3: Disclosures should be clear, balanced, and understandable

The disclosures aim to communicate representative ESG-related information free from bias to the stakeholders. Information disclosed should be clear and concise, so wherein users of the report can identify and comprehend the information efficiently. Qualitative and quantitative data should also support the appropriate use of text, numbers and graphical presentations. Where it aids understanding, issuers should consider disaggregating information by categories such as geographic area, business unit, asset, type, upstream and downstream activities, source, and area of vulnerability.

Narratives and explanations should reinforce any quantitative data presented or provide insights on expected developments or changes between reporting periods for example changes in reporting boundaries and scope.

During the internal review, Internal Auditors should be satisfied that the sustainability metrics, and associated narratives, have been integrated with an Issuer's other disclosures to provide a coherent set of information on the Issuer's ESG-related risks & opportunities and actual & potential impacts. This may include financial effects, where available.

Key points of consideration:

- Does the disclosed information showcase both the risk and opportunity perspectives?
- Is information or data presented in ways that allow users to quickly understand the impact of ESG matters on the respective operations of the Issuer?
- Is the calculation methodology clearly stated to prevent ambiguity when interpreting the data presented?

Principle 4: Disclosures should be **consistent** over time

Consistency is the key. Disclosures over time should be consistent for the readers to understand the development and/or evolution of the impact of ESG-related issues on the Issuer's business.

All sustainability disclosures should be presented using consistent formats, language, and metrics, with reference to adopted reporting frameworks from period to period to allow for inter-period comparisons.

Any changes in the disclosures and related approaches or formats (e.g., materiality re-assessment, the evolution of risk practices, governance, measurement methodologies, or accounting practices) should be explained.

Key points of consideration:

- Were there significant changes to the Issuer's operations or developments during the year that may affect the sustainability report's reporting scope and boundaries?
- How have changes to the reporting scope and boundaries been disclosed?

Principle 5: Disclosures should be **comparable** among Issuers within a sector, industry, or portfolio

Disclosures should allow for meaningful comparisons of strategy, business activities, risks, and performance across Issuers and within sectors and jurisdictions. This also allows tracking of the Issuer's progress against set ESG-related goals or commitments over the years.

The level of detail provided in disclosures should enable comparison and benchmark of risks across sectors and at the portfolio level, where appropriate.

Key points of consideration:

- Can ESG metrics disclosed be effectively benchmarked?
- Do the quantitative disclosures include multi-year performance?
- How do omissions of data coverage affect the benchmarking exercise?

Principle 6: Disclosures should be **reliable, verifiable, and objective**

Checks should be performed to provide the assurance that disclosures are accurate and verifiable. Quantitative data disclosures should be based on objective data that can be traced back to the source or prepared using best-in-class measurement methodologies that align with standard industry practice and are supported by explained assumptions, as necessary.

Internal Auditors should assess the adequacy and effectiveness of governance, risk management, and control processes that govern the collection and presentation of climate-related data for disclosures (IPPF Standard 1220.A1).

Where ESG-related metrics are presented in financial terms, disclosures should clarify how such metrics reconcile with financial accounting standards and explain any differences.

Key points of consideration:

- Do the business units maintain a trail of supporting documentation and records?
- Is there a standard governance process to ensure data preparation is adequately managed in case data/process owner changes?
- How often are the roles and responsibilities of data/process owners reviewed?

Principle 7: Disclosures should be provided on a **timely basis**

SGX requires listed Issuers to issue a yearly report on sustainability and climate-related disclosures. Refer to Publication of a Sustainability Report for more information on the timeline per SGX requirements.

Key points of consideration:

- Which industry is the Issuer in, and do the mandatory climate-related disclosures apply to the Industry that the Issuer is in?
- Is this the Issuer's first year of reporting? In line with SGX, an issuer in its first year of reporting may report within 12 months of the end of its financial year.
- Has external assurance been conducted? If the Issuer has conducted external assurance on the sustainability report, the Issuer can publish the report within five months of the end of the financial year. If external assurance is not sought, the Issuer will be required to publish the report within four months of the end of the financial year.

The Internal Review Process

The Internal Audit Function may decide if the internal review should be conducted along with the timeline where the Issuer is preparing for the Sustainability Report or adopt a continuous auditing (review) approach where the review can be performed during the year with periodic feedback on the areas of improvement/observations.

According to paragraph 5.3 of SGX's [Practice Note](#), the internal review should be conducted in accordance with the [International Standards for the Professional Practice of Internal Auditing](#) issued by the IIA. Notwithstanding that IIA Singapore does not dictate a definitive approach to conducting the internal review of the Sustainability Report, it is also essential to recognise that the process should be tailored to fit the industry and objectives of the Issuer in undertaking the review. The internal audit is subject to the maturity of the Issuer's governance processes.

The guide is organised around the following processes that are commonly used for internal audit reviews:

Planning	Performing the engagement	Report findings and conclusion
<ul style="list-style-type: none"> • Scoping • Determination of focus ESG factors for internal review testing plan • Testing plan 	<ul style="list-style-type: none"> • Identifying • Analysing and evaluating • Documenting 	<ul style="list-style-type: none"> • Scope, including the time period to which opinion pertains • Scope limitations • Consideration of all related projects, including reliance on the external assurance • Summary of the information that supports the opinion • Risk or control framework or other criteria used as a basis for the overall opinion • Overall opinion, judgement or conclusion reached

Planning

When planning an internal review and preparing a testing plan, the Internal Audit Function shall ensure that it is designed to identify potential gaps against regulatory and internal requirements/expectations and that compliance requirements are fully met.

Additionally, an assurance programme should consider testing processes or controls integrated across the first and second line roles. Clear responsibilities should also be defined across business process owners, risk management functions, and internal audit.

Testing should utilise various approaches, including tests of controls, analytical procedures and substantive testing.

A risk-based assessment should ensure that there is appropriate assurance coverage. This could incorporate targeted reviews, rotational audits and business-as-usual second line conformance testing.

Scoping

In line with SGX's phased approach to reporting – material ESG factors would depend on current business strategy, market conditions, and stakeholder concerns. Therefore, the number of material ESG factors may vary year-on-year. Moreover, as approved by the Audit Committee, the review may take place over an audit cycle or a few years, in accordance with risk-based planning. The expectations of the Board, management, and other stakeholders should be considered as part of the prioritisation.

It is further noted concerning paragraph 5.3 of SGX's [Practice Note](#) that the identified processes relating to sustainability reporting should be incorporated into the internal audit plan, covering key aspects of the Sustainability Report.

Notwithstanding that IIA Singapore does not dictate a definitive approach on how to conduct the internal review of the Sustainability Report, it is recommended that the Internal Audit Function, apart from checking compliance against local regulatory reporting requirements, to scope in the internal review of processes and associated controls for the six primary components of Sustainability Report during the first year, except for the material ESG factors component where the Internal Audit Function can accordingly assess and determine areas to focus on as part of their multi-year internal audit plan. Subject to new developments in the organisation and reporting requirements, the Internal Audit Function should assess the need and extent of review of the primary components of the Sustainability Report in the subsequent years.

Determination of focus ESG factors for internal review testing plan

Based on the identified material ESG factors disclosed in the Sustainability Report, the Internal Audit Function should assess and determine the critical material ESG factors to be scoped in for internal review, which forms their internal audit testing plan. This can be done by performing a risk assessment on the likelihood of misstatement (factual and projected) and the impact of misstatement if it is disclosed (e.g., reputational and regulatory compliance). Other factors to consider during the internal review scoping exercise include the coverage of geographical locations of entities, assets (e.g., properties owned), etc.

The Internal Audit Function may use the following process: Identify – Rate – Prioritise – Validate to determine top areas for review as part of its internal audit plan.

- (a) **Step 1: Identify.** Based on the pre-identified and validated material ESG factors disclosed in the Sustainability Report, the Internal Audit Function should assess the relevance of the material ESG factors to the business that have been validated by leadership.

Illustrative example: Examples of material ESG factors that can be reported in a Sustainability Report

Examples of material ESG factors that can be reported in a Sustainability Report

- Environment Pillar: Water and waste management, Energy and emissions
- Social Pillar: Employee well-being, Talent attraction and retention, Product/service quality and responsibility, Occupational health and safety
- Governance Pillar: Ethics and integrity, Cyber security and data protection

(b) **Step 2: Rate.** The Internal Audit Function should then assess the likelihood of misstatement and impact, identifying key material ESG factors to focus on in their internal review. Below is an illustrative example of how the risk rating criteria can be developed for the Internal Audit Function to assess and rate factors for prioritisation in Step 3.

Illustrative example: ESG risk rating

Below is an illustrative example of risk rating that can be used to assess material ESG factors identified by the organisation. Depending on an organisation's risk tolerance level and nature of business, the scores and categories can be adjusted accordingly. Based on the likelihood and impact, the risk significance level of each material ESG topic (High, Moderate or Low) can be determined and ranked relative to each other.

Score	Likelihood Category		
	Frequency of Historical Misstatements	Probability of Error	Magnitude of Factual Misstatement
Unlikely (1)	Event may only occur in exceptional circumstance (No historical misstatements)	Errors may only occur in exceptional circumstance (e.g., Data is obtained via a data management tool)	< 5% of information reported exposed to factual misstatements
Likely (2)	Event has occurred 1 – 2 time(s) (1-2 historical misstatements)	Errors sometimes occur (e.g., Data is obtained via a spreadsheet maintained on excel)	5 - 20% of information reported exposed to factual misstatements
Almost Certain (3)	Event has occurred > 3 times (> 3 historical misstatements)	Errors frequently occur (e.g., Data is obtained from third party vendors and manually recorded)	> 20% of information reported exposed to factual misstatements

Impact Category	Impact Category		
	Insignificant (1)	Moderate (2)	Major (3)
Damage to Reputation	No loss of confidence in product quality/service capabilities	Significant loss in confidence in product quality/service capabilities	Major loss in confidence in product quality/service capabilities resulting in boycott of company
Loss of Credentials/Certifications	No impact on credentials/certifications	Maintains credentials and certifications upon engagement with assessment agency	Loss of credentials and certification awarded
Loss of Partnership/Investors	No impact to partnership/investors	5 – 10% decrease in partnerships/investors	> 10% decrease in partnerships/investors
Regulatory Impacts	No breach in regulations	Breach in regulations resulting in warning letter from authorities	Breach in regulations resulting in monetary penalties and/or suspension of license to operate

Overall Risk Level = Likelihood x Impact

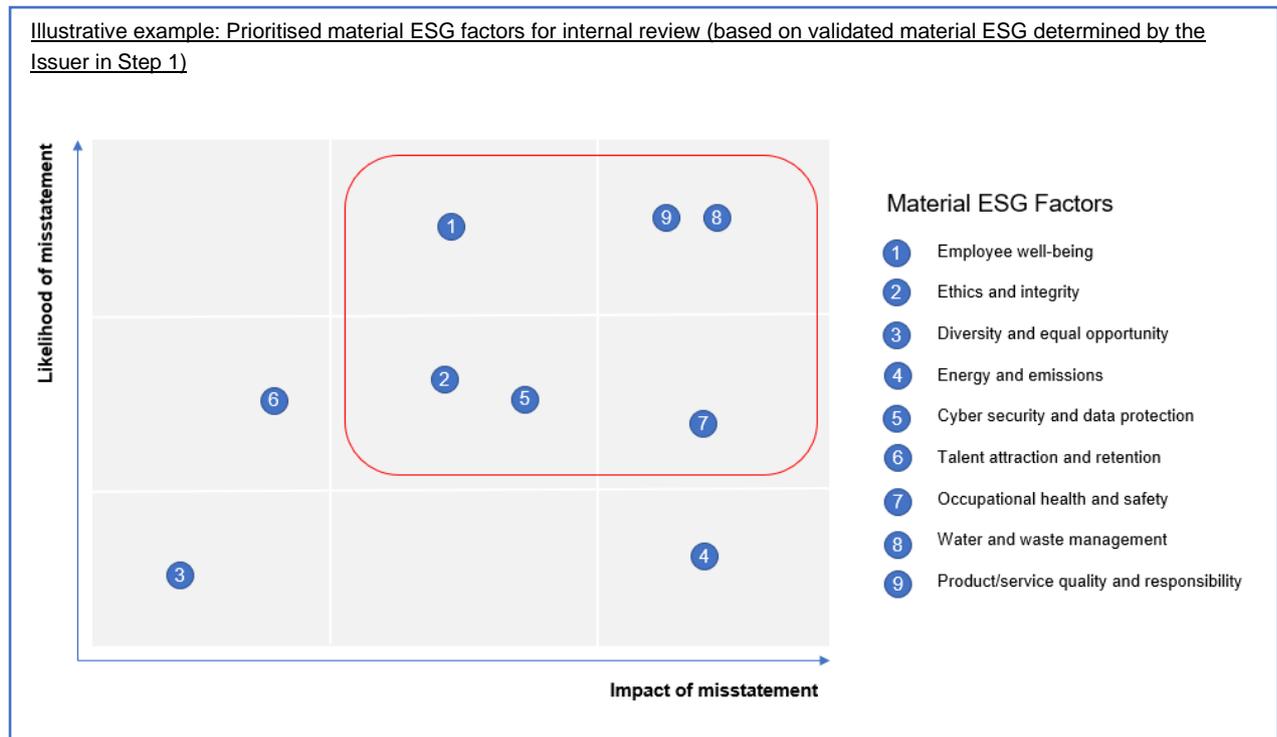
Risk Matrix		Impact		
		Insignificant (1)	Moderate (2)	Major (3)
Likelihood	Almost Certain (3)	Medium (3)	High (6)	High (9)
	Likely (2)	Low (2)	Medium (4)	High (6)
	Unlikely (1)	Low (1)	Low (2)	Medium (3)

Overall Score	Risk Level
1 – 2	Low Risk
3 – 4	Medium Risk
6 – 9	High Risk

Example of rating of likelihood and impact of a material ESG factor: "Water and Waste Management" for a REIT in Singapore.

Score	Likelihood	Impact	Risk Level
	3	3	High
Rating Elaboration	<ul style="list-style-type: none"> Information is obtained from waste vendor as a physical ticket, information is manually recorded into excel spreadsheet 	<ul style="list-style-type: none"> Increase in scrutiny of environmental data from investors and stakeholders, major loss in confidence would be expected. 	

(c) **Step 3: Prioritise.** Upon rating each ESG factor, the Internal Audit Function can prioritise the material ESG factors to be scoped in for internal review.



(d) **Step 4: Validate.** Once the Internal Audit Function has completed the prioritisation, they need to be internally validated and agreed upon with the Management. These validated and prioritised focus areas will then form a scope to be covered for the internal review period.

Testing Plan

Before performing the internal audit engagement, a clear testing plan should be developed and documented to contextualise the internal review objectives.

1. Sustainability regulatory compliance

A testing plan should be designed to ensure potential regulatory and internal requirements/expectations gaps are identified and compliance requirements are fully met.

2. Define responsibilities across the Three Lines

Clear responsibilities should be defined across risk-taking functions, risk management functions, and internal audit. Defined roles will aid assessment of each function's ability to perform its roles and assessment of the presence of segregation of duties.

3. Testing methodology

Testing should utilise a range of approaches, including interviews with relevant stakeholders and test controls against reporting protocols instituted for the sustainability reporting processes. This begins first with the identification of material ESG factors in-scope for review, applicable IT systems, as well as significant sustainability-related disclosure processes.

4. Risk-based testing plan

A risk-based assessment should ensure that appropriate audit coverage is achieved. This could incorporate targeted reviews, rotational audits, and business as usual (“BAU”) second line conformance testing.

Performing the engagement

With the testing plan established, the Internal Audit Function should integrate the following aspects in performing its review:

Identifying supporting documents

Internal auditors must identify sufficient, reliable, relevant, and helpful information to achieve the engagement’s objectives. Information used would vary according to the material topics identified and frameworks selected for the Sustainability Report.

The list below contains some examples of information, data, and documentation (otherwise referred to as “audit evidence”) that can be obtained to facilitate the assessment of reporting accuracy and categorised according to the ESG factors:

Review scope*	Potential risks to be focused	Examples of supporting documents/audit evidence (not deemed to be exhaustive)
Governance		
Ethical behaviour	<ul style="list-style-type: none"> • Risk of corruption and fraud • Risk of reputational damage and loss in market share (attributed to the loss of confidence by stakeholders) 	<ul style="list-style-type: none"> • Policies and systems • Process of reporting non-compliance/concerns
Compliance with laws and regulations	<ul style="list-style-type: none"> • Risk of environmental non-compliance • Inaccuracy in the number of financial and non-monetary penalties and/or sanctions • Lack of corrective actions to resolve environmental non-compliance • Risk of reputational damage and loss in market share (attributed to the loss of confidence by stakeholders) 	<ul style="list-style-type: none"> • Policies and practices to monitor compliance and address cases of non-compliance; to determine how a case can be substantiated • List of non-compliance cases with remediate measures
Social		
Employment	<ul style="list-style-type: none"> • Inaccuracy of employee data reported • Risk of employee information not being timely updated and maintained 	<ul style="list-style-type: none"> • Policies and systems • Employee listing for the reporting period with a list of new and resigned employees during the reporting period • User Access Report for Human Resource System; System Change Log with evidence of review • Employment records
Occupational health and safety	<ul style="list-style-type: none"> • Risk of non-compliance with relevant regulations 	<ul style="list-style-type: none"> • Policies and practices to monitor compliance and changes to regulatory requirements

	<ul style="list-style-type: none"> • Recurrence of workplace accidents resulting in injuries and fatalities 	<ul style="list-style-type: none"> • Measures to ensure workplace safety and health (e.g., list of health and safety workshops conducted, periodic site visits/audit) • Incident and investigation reports, with remediate measures
Training and development	<ul style="list-style-type: none"> • Lack of established policies for employee professional development • Insufficient continuous training and development process to ensure all employees are kept abreast of the latest practical developments and skills required to execute work 	<ul style="list-style-type: none"> • Policies and systems • List of training programmes and associated hours for the period • Attendance records or certificate of completion for training programs
Environment		
Energy consumption & associated emissions	<ul style="list-style-type: none"> • Inaccuracy in energy and emissions data reported • Wrong classifications of emission scope and categories (as applicable for scope 3) • Expired certifications for green assets (e.g., for BCA green mark certified buildings) 	<ul style="list-style-type: none"> • Energy purchase agreements • Electricity invoices • Electricity consumption report • Valid green certificates
Waste generation	<ul style="list-style-type: none"> • Inaccuracy in waste data reported • Waste type incorrectly categorised 	<ul style="list-style-type: none"> • Waste collection records from third-party suppliers
Water consumption	<ul style="list-style-type: none"> • Inaccuracy in water consumption data reported 	<ul style="list-style-type: none"> • Water purchase agreement • Water invoices • Water consumption report

+ Indicative topics made with reference to SGX's Core ESG Metrics

In addition to the above audit evidence, the internal auditor should conduct, as necessary, live walkthroughs to better understand the ongoing design and assess the operational effectiveness critical of key controls where automated data management systems are involved.

Analysing and evaluating

Internal auditors must base conclusions and engagement results on appropriate analyses and evaluations. Key focus areas would include assessing processes and controls, identifying process gaps and data quality issues, and assessing defined tolerance thresholds for data accuracy.

In the case of using models in calculations, it is essential to ensure that the models have been calibrated accurately, as well as ensure that material classes have been identified and that back-testing results and data feeds are accurate.

Listed below are general guidelines and considerations when conducting the internal reviews on the primary components of the Sustainability Report:

Primary components	Considerations when conducting the internal reviews
a) Material ESG factors	<p>Are there established criteria (e.g., double materiality and process by which the Management has made its selection concerning how these ESG factors have been identified as material to the business)? For instance:</p> <ul style="list-style-type: none"> • Whether the Issuer’s significant economic, environmental and social impacts have been considered; and • How these material ESG factors may influence the decision of stakeholders <p>When performing the internal review of the materiality assessment process undertaken, the Internal Audit should also consider whether the following aspects have been factored into the deliberation process:</p> <ul style="list-style-type: none"> • Have stakeholders (internal and external) been engaged in the determination of material ESG factors on which it reports? • Have reasons for the inclusion of the determined material ESG factors for reporting been documented, including omissions, as applicable? <p>Additionally, corruption is a factor on which many investors require reassurance. Where corruption has been addressed in the Corporate Governance Report, the Issuer may refer to that report. If corruption is not assessed as a material ESG factor, the policy and safeguards on the Issuer’s website should be mentioned in the Sustainability Report.</p> <p>Gender, skills, and experience are material diversity indicators of business sustainability. Determine if a ready framework exists to collect the data, monitor, and report the progress. References can be made when data are sufficiently addressed in other sections of the Annual Report².</p> <p>Did the Management consider the persons and processes in the value chain that contributed to the products and/or services? Third-party and their upstream and downstream processes can constitute an integral part of the business and may need to be included in the Sustainability Report.</p> <p>Internal Auditors may refer to the Core ESG Metrics proposed by SGX as a guide for other factors to be considered³.</p>
b) Climate-related disclosures consistent with the recommendations of the TCFD	<p>The Issuer should provide climate-related disclosures consistent with the TCFD recommendations. The industry identified by the TCFD (see TCFD Disclosure Timelines) as most affected by climate change and the transition to a lower-carbon economy will be prioritised to provide mandatory climate-related disclosures, consistent with the TCFD recommendations. The TCFD disclosure requirements are detailed in Appendix 3 of this Guide. These industries identified by the TCFD cannot exclude this disclosure from the it of the Sustainability Report.</p>

² As part of SGX’s Listing Rule 710A, an Issuer is required to maintain a board diversity policy. This accordingly needs to be disclosed in the Annual Report, including its targets to achieve diversity on its board, and its plans, timelines and progress towards achieving those targets. A description of how the combination of skills, talents, experience and diversity of its directors serves the needs and plans of the Issuer should also be disclosed.

³ Issuers may also refer to the ISSB’s Appendix B of the Climate-related Disclosures Exposure Draft for industry-based disclosure requirements which have been derived from SASB standards for reporting consideration.

	<p>SGX, however, does allow Issuers to adopt a phased approach for Issuers in the nascent stage of reporting. See Appendix 4 for more information.</p>
c) Policies, practices, and performance	<p>Are policies and processes devised to adequately and effectively manage the risks associated with the identified material ESG factors? Key features of the mitigation should be adequately described. Clear objectives should be established to compare performance over time and across entities. Processes to collect, measure and provide feedback on performance should be established to be effective. Assess if recommended corrective actions were duly followed and recommendations documented.</p> <p>Sustainability risks and opportunities should be aligned with strategy and other organisational risk performance measurements and incentives to be meaningful.</p> <p>The Sustainability Report should clearly describe the substantive response to ESG risks and opportunities, focusing on policies, practices and performance against targets.</p>
d) Targets	<p>Targets for the forthcoming year should be set for each material ESG factor. Targets should also include qualitative and quantitative targets covering short to medium-term horizons, where feasible, and aligned with the Issuer's sustainability ambitions and commitments.</p> <p>Policies and procedures should be established to ensure an adequate collection, measurement, and assessment of the data collected. These data are measured against the targets set for each ESG factor identified. Similar to that described above, targets should be clear and consistent to compare over time.</p> <p>Any changes to the targets should be adequately disclosed.</p>
e) Sustainability reporting framework	<p>Entities should provide disclosures consistent with a globally-recognised sustainability reporting framework and the TCFD recommendations for climate-related disclosures.</p> <p>More than one sustainability reporting framework may be chosen as relevant to the businesses. The internal review should assess if the sustainability reporting framework(s) selected are appropriate and suited to its industry and business model and comply with the regulations. The Sustainability Report should name the framework(s) referenced and explain the reason for selection.</p>
f) Board statement and associated governance structure for sustainability practices	<p>As the ultimate responsibility of the Sustainability Report lies with the Board, they should consider sustainability issues in the issuer's business and strategy, determine the material ESG factors and oversee the management and monitoring of the material ESG factors.</p> <p>The roles of the Board and the management in the governance of sustainability issues should also be clearly defined.</p>

Documenting

Working papers record audit evidence obtained during an internal review. The information documented within the working paper demonstrates the work completed and provides the link between the agreed scope of work, the audit programme, and the report. Internal auditors must document reliable, relevant, and valuable information to support the engagement results and conclusions.

Report findings and conclusion

An internal review report serves as a document to present the auditor’s opinion on the areas reviewed and to make recommendations for improvements, where appropriate.

Auditors should clarify the findings with process owners upon identifying the issues during the review process. This allows the auditor to understand the root cause of issues identified and provide recommendations to address gaps. For a start, results can be categorised under three main categories (Policy, Process, or People) to allow an analysis of common gaps. The following table seeks to provide examples of root cause categories, findings and their root cause analysis:

Illustrative root cause category	Description of category	Illustrative examples	
		Findings	Root cause analysis
People	Issues arise from human errors that result from oversight.	The variance between electricity consumption values recorded in the master spreadsheet template and values from third-party electricity invoices.	Transcription errors of the electricity consumption values were transferred into the spreadsheet for the months of August and March for the reporting year.
Process	Issues arise from the lack of proper processes in place.	Two months of waste data were not captured in the total waste data calculation as third-party waste collection records were not retained.	Lack of documented process to inform process owner to retain waste collection records received from third party suppliers and to record data into spreadsheet regularly.
Policy	Issues arise from the lack of policy in place.	Error in employee turnover data due to unauthorised changes to employee “Official last day of service” within the human resource management system.	Lack of IT Access Control and User Access Management Policy details the delegation of roles and responsibilities of users and restricts access to unauthorised users.

Any significant gaps and/or issues shall be reported to the management. In case of issues identified, remediation action plans shall be defined by the process owners specifying the timelines for completion and the people responsible for remediation action. Any improvement opportunities should also be reported highlighting the benefits of the improvement.

In summary, the report should seek to cover the following areas:

- Detailed audit observations and findings
- Root cause analysis on findings classified into three categories (People, Process, or Policy)
- Effect of misstatements identified
- Risk rating
- Management comments that cover the agreed-upon action plan
- Person responsible for carrying out the agreed-upon plan
- Date of implementation

Upon finalising the report content with management, the report should be presented to the Audit Committee and the Board.

Key terms

Double materiality	Double materiality, as defined by the European Financial Reporting Advisory Group (“EFRAG”) provides a criterion for determining whether a sustainability topic or information must be included in the undertaking’s Sustainability Report. Double materiality is the union (in mathematical terms, i.e., union of two sets, not intersection) of impact materiality and financial materiality. A sustainability topic or information meets the criteria of double materiality if it is material from the impact perspective or financial perspective or both of these two perspectives.
Financial materiality	As defined by EFRAG in the context of sustainability reporting, financial materiality is a characteristic of a sustainability topic or information related to an undertaking, a particular sector or all sectors. A sustainability topic is a material from a financial perspective if it triggers financial effects on undertakings, i.e., generates risks or opportunities that influence or are likely to influence the future cash flows and therefore the enterprise value of the undertaking in the short, medium, or long term but are not captured by financial reporting at the reporting date. These risks and opportunities may derive from past events or future events and may have effects on future cash flows in relation to the following: <ul style="list-style-type: none"> (i) assets and liabilities already recognised in financial reporting or that may be recognised as a result of future events or (ii) factors of enterprise value creation that do not meet the accounting definition of assets (liabilities) and/or the related recognition criteria but contribute to the creation/maintenance of enterprise value.
Impact materiality	Impact materiality, as defined by EFRAG, is a characteristic of a sustainability topic or information in relation to an undertaking in a particular sector or all sectors. A sustainability topic or information is material from an impact perspective if the undertaking is connected to actual or potentially significant impacts on people or the environment and is related to the sustainability topic over the short, medium, or long term. This includes impacts directly caused or contributed to by the undertaking and impacts which are otherwise directly linked to the undertaking’s upstream and downstream value chain.
Independence	Independence is the freedom from conditions that threaten the ability of the internal audit activity to carry out internal audit responsibilities unbiasedly. To achieve the degree of independence necessary to carry out the responsibilities of the internal audit activity effectively, the chief audit executive has direct and unrestricted access to senior management and the board.
Materiality	In relation to ESG factors, the most critical ESG risks and opportunities will act as barriers or enablers to achieving business goals in the short, medium, and long term. The omission or misstatement of these risks or opportunities could influence investors’ decisions.
Objectivity	Objectivity is an unbiased mental attitude that allows internal auditors to perform engagements in such a manner that they believe in their work product and that no quality compromises are made. Objectivity requires that internal auditors do not subordinate their judgment on audit matters to others.

Appendices

Appendix 1 – Version and Date of publication

Version	Date of publication
2022	4 November 2022

Appendix 2 – List of SGX’s Core ESG Metrics

SGX recommends a list of 27 core ESG metrics (“Core ESG Metrics”) for Issuers to use as a starting point for sustainability reporting. These Core ESG Metrics are intended as a common and standardised set of ESG metrics, which will help better align users and reporters of ESG information. The 27 core ESG metrics identified by SGX are as follows:

1. Environmental

Topic	Metric	Unit	Framework Alignment	Description
Greenhouse Gas Emissions (“GHG”)	Absolute emissions by: (a) Total; (b) Scope 1, Scope 2; and (c) Scope 3, if appropriate	tCO ₂ e	GRI 305-1, GRI 305-2, GRI 305-3, TCFD, SASB 110, WEF core metrics	Metric tons of carbon dioxide equivalent (tCO ₂ e) of relevant GHG emissions. Report the Total, Scope 1, and Scope 2 GHG emissions and, if appropriate, Scope 3 GHG emissions. GHG emissions should be calculated in line with internationally recognised methodologies (e.g., GHG Protocol).
	Emission intensities by: (a) Total; (b) Scope 1, Scope 2; and (c) Scope 3, if appropriate	tCO ₂ e/organisation-specific metrics	GRI 305-4, TCFD, SASB 110	Emission intensity ratios in GHG emissions (tCO ₂ e) per unit of organisation-specific metrics (e.g., revenue, units of production, floor space, number of employees, number of passengers). This is calculated from the absolute emissions reported. Denominators should be clearly defined and disclosed.
Energy Consumption	Total energy consumption	MWhs or GJ	GRI 302-1, TCFD, SASB 130	The organization has total energy consumption in megawatt hours or gigajoules (MWhs or GJ).
	Energy intensity consumption	MWhs or GJ organisation-specific metric	GRI 302-3, TCFD	Energy intensity ratios in energy consumed (MWhs or GJ) per unit of organisation-specific metrics (e.g., revenue, units of production, floor space, number of employees, number of passengers). This is calculated from the total energy consumption reported. Denominators should be clearly defined and disclosed.
Water Consumption	Total water consumption	ML or m ³	GRI 303-5, SASB 140, TCFD, WEF core metrics	All operations have total water consumption in metres or cubic metres (ML or m ³).
	Water consumption intensity	ML or m ³ /organisation-specific metrics	TCFD, SASB IF-RE-140a.1	Water intensity ratios in water consumed (ML or m ³) per unit of organisation-specific metrics (e.g., revenue, production units, floor space, number of employees, number of passengers). This is calculated from the total water consumption reported. Denominators should be clearly defined and disclosed.

Waste Generation	Total waste generated	Tonne (t)	GRI 306-3, SASB 150, TCFD, WEF expanded metrics	Total weight of waste generated, in metric tons (t), within the organisation, and where possible, to include relevant waste composition information (e.g., hazardous vs. non-hazardous, recycled vs. non-recycled).
------------------	-----------------------	-----------	---	---

2. Social

Topic	Metric	Unit	Framework Alignment	Description
Gender Diversity	Current employees by gender	Percentage (%)	GRI 405-1, SASB 330, WEF core metrics	Percentage of existing employees by gender.
	New hires and turnover by gender	Percentage (%)	GRI 401-1, WEF core metrics	Percentage of new employee hires and employee turnover during the reporting period by gender.
Age-Based Diversity	Current employees by age groups	Percentage (%)	GRI 405-1, WEF core metrics	Percentage of existing employees by age group. GRI's employee age group categories include: (a) under 30 years old, (b) 30-50 years old, and (c) over 50 years old.
	New hires and turnover by age groups	Percentage (%)	GRI 401-1, WEF core metrics	Percentage of new employee hires and employee turnover during the reporting period by age group. GRI's employee age group categories include: (a) under 30 years old, (b) 30-50 years old, and (c) over 50 years old.
Employment	Total turnover	Number and Percentage (%)	GRI 401-1, SASB 310, WEF core metrics	Total number and rate of employee turnover during the reporting period. The scope of reporting (i.e., subsidiaries included or not) should be clearly defined and disclosed.
	Total number of employees	Number	Commonly reported metric by SGX Issuers	The total number of employees at the end of the reporting per the scope of reporting (i.e., subsidiaries included or not) should be clearly defined and disclosed.
Development & Training	Average training hours per employee	Hours/No. of employees	GRI 404-1, WEF core metrics	Average training hours per employee during the reporting period (total number of hours of training provided to employees over the total number of employees).
	Average training hours per employee by gender	Hours/No. of employees	GRI 404-1, WEF core metrics	Average training hours per employee during the reporting period by gender (total number of hours of training provided to employees in each category over a number of employees per category).
Occupational Health & Safety	Fatalities	Number of cases	GRI 403-9, WEF core metrics, MOM (Singapore), SASB 320	Number of fatalities due to work-related injury during reporting period across the organisation. The report's scope should include employees and workers who are not employees but whose work and/or workplace is controlled by the organisation.

	High-consequence injuries	Number of cases	GRI 403-9, WEF core metrics, MOM (Singapore)	A number of high-consequence work-related injuries (an injury that results in a fatality from which the worker cannot recover fully to pre-injury health status within six months), excluding deaths during the reporting period. The report's scope should include employees and workers who are not employees but whose work and/or workplace is controlled by the organisation.
	Recordable injuries	Number of cases	GRI 403-9, WEF core metrics, MOM (Singapore), SASB 320	Number of recordable work-related injuries during the reporting period. The report's scope should include employees and workers who are not employees but whose work and/or workplace is controlled by the organisation.
	Recordable work-related ill health cases	Number of cases	GRI 403-10, WEF expanded metrics, MOM (Singapore)	A number of recordable work-related illnesses or health conditions arising from exposure to hazards at work during the reporting period. The report's scope should include employees and workers who are not employees but whose work and/or workplace is controlled by the organisation.

3. Governance

Topic	Metric	Unit	Source	Description
Board Composition	Board independence	Percentage (%)	GRI 102-22, WEF core metrics	The number of independent board directors as a percentage of all directors.
	Women on the board	Percentage (%)	GRI 102-22, GRI 405-1, WEF core metrics	The number of female board directors as a percentage of all directors.
Management Diversity	Women in the management team	Percentage (%)	GRI 102-22, GRI 405-1, WEF core metrics, SASB 330	The number of female senior management as a percentage of senior management. Each organisation defines which employees are part of its senior management team.
Ethical Behaviour	Anti-corruption disclosures	Discussion and number of standards	GRI 205-1, GRI 205-2 and GRI 205-3	Disclosures based on GRI's anti-corruption standards of 205-1, 205-2 and 205-3.
	Anti-corruption training for employees	Number and Percentage (%)	GRI 205-2, WEF core metrics	Number and percentage of employees that received anti-corruption training during the reporting period.
Certifications	List of relevant certifications	List	Commonly reported metric by SGX Issuers	List all sustainability or ESG-related certification (e.g., ISO 45000 family, BCA Green Building, LEED, ENERGY STAR). Each organisation defines which certifications are relevant to be reported.
Alignment with Frameworks	Alignment with Frameworks and disclosure practices	GRI/TCFD/SASB/SDGs/others	SGX-ST Listing Rules (Mainboard) 711A and 711B, Practice Note 7.6; SGX-ST Listing Rules (Catalist) 711A and 711B, Practice Note 7F	The Issuer needs to give priority to using globally-recognised frameworks and disclosure practices to guide its sustainability reporting. Where the Issuer is applying a portion of a particular framework, the Issuer should provide a general description of the extent of the Issuer's application of the framework.
Assurance	Assurance of Sustainability Report	Internal/External/None	SGX-ST Listing Rules (Mainboard) 711A and 711B, Practice Note 7.6; SGX-ST Listing Rules (Catalist) 711A and 711B, Practice Note 7F	Disclose whether the Sustainability Report has undertaken: (a) external independent assurance, (b) internal assurance or (c) no assurance. Provide scope of assurance if the organisation has undertaken external or internal assurance.

Appendix 3 – TCFD Recommendations

The four recommendations or pillars are supported by specific disclosures that Organisations should include in financial filings or other reports to provide decision-useful information to investors and other stakeholders.

SGX mandated that an Issuer in any of the industries identified in the [Disclosure Timeline](#) must report climate-related disclosures consistent with the recommendations of the TCFD.

Further reading on the implementation guide can be found in the <[Implementing the Recommendations of the TCFD](#)> (October 2021). TCFD has issued guidance on implementing the TCFD recommendations, which are as follows:

TCFD Recommendations and Supporting Recommended Disclosures

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the company's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the company's businesses, strategy, and financial planning where such information is material.	Disclose how the company identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the company has identified over the short, medium, and long term.	a) Describe the company's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the company to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the company's businesses, strategy, and financial planning.	b) Describe the company's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c) Describe the resilience of the company's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the company's overall risk management.	c) Describe the targets used by the company to manage climate-related risks and opportunities and performance against targets.

In each recommendation/pillar, TCFD developed guidance to support Organisation in developing climate-related financial disclosures consistent with its recommendations and recommended disclosures.

Below are some suggested disclosures by the TCFD in the respective recommendation. Each of the recommendation can serve as a guide to the Internal Auditor when conducting the internal review of the Sustainability Report.

Governance

An Organisation’s Board’s role in overseeing climate-related issues, and Management’s role in assessing and managing those issues. Such information supports evaluations of whether material climate-related issues receive appropriate Board and Management attention.

Disclose the Organisation’s governance around climate-related risks and opportunities.

<p>Recommended Disclosure (a)</p> <p style="text-align: center;">Describe the Board’s oversight of climate-related risks and opportunities.</p>
<p>Guidance for All Sectors</p> <p>In describing the Board’s oversight of climate-related issues, Organisations should consider including a discussion of the following:</p> <ul style="list-style-type: none"> • processes and frequency by which the Board and/or Board Committees (e.g., audit, risk, or other committees) are informed about climate-related issues; • whether the Board and/or Board Committees consider climate-related issues when reviewing and guiding strategy, major plans of action, risk management policies, annual budgets, and business plans as well as setting the Organisation’s performance objectives, monitoring implementation and performance, and overseeing major capital expenditures, acquisitions, and divestitures; and • how the Board monitors and oversees progress against goals and targets for addressing climate-related issues.
<p>Recommended Disclosure (b)</p> <p style="text-align: center;">Describe Management’s role in assessing and managing climate-related risks and opportunities.</p>
<p>Guidance for All Sectors</p> <p>In describing Management’s role related to the assessment and management of climate-related issues, Organisations should consider including the following information:</p> <ul style="list-style-type: none"> • whether the Organisation has assigned climate-related responsibilities to management-level positions or committees; and, if so, whether such management positions or committees report to the Board or a Committee of the Board and whether those responsibilities include assessing and/or managing climate-related issues; • a description of the associated Organisational structure(s); • processes by which management is informed about climate-related issues; and • how Management (through specific positions and/or Management Committees) monitors climate-related issues.

Strategy

Information on how climate-related issues may affect an Organisation's businesses, strategy, and financial planning over the short-, medium-, and long-term serve to manage expectations about the future performance of an Organisation.

Disclose the actual and potential impacts of climate-related risks and opportunities on the Organisation's businesses, strategy, and financial planning where such information is material.

Recommended Disclosure (a)

Describe the climate-related risks and opportunities the Organisation has identified over the short-, medium-, and long-term.

Guidance for All Sectors

Organisations should provide the following:

- define the relevant short-, medium-, and long-term time horizons, taking into consideration the useful life of the Organisation's assets or infrastructure and the fact that climate-related issues often manifest themselves over the medium and longer terms;
- a description of the specific climate-related issues potentially arising in each time horizon (short-, medium-, and long-term) that could have a material financial impact on the Organisation; and
- a description of the process(es) used to determine which risks and opportunities could have a material financial impact on the Organisation. Organisations should consider appropriately describing their risks and opportunities by sector and/or geography.

Supplemental Guidance for Banks

Banks should describe significant concentrations of credit exposure to carbon-related assets. Additionally, banks should consider disclosing their climate-related risks (transition and physical) in their lending and other financial intermediary business activities.

Recommended Disclosure (b)

Describe the impact of climate-related risks and opportunities on the Organisation's businesses, strategy, and financial planning

Guidance for All Sectors

Building on recommended disclosure (a), Organisations should discuss how identified climate-related issues have affected their businesses, strategy, and financial planning.

Organisations should consider including the impact on their businesses, strategies, and financial planning in the following areas:

- Products and services
- Supply chain and/or value chain
- Adaptation and mitigation activities
- Investment in research and development
- Operations (including types of operations and location of facilities)
- Acquisitions or divestments
- Access to capital

Organisations should describe how climate-related issues contribute to their financial planning process, the time period(s) used, and how these risks and opportunities are prioritised.

Organisations' disclosures should reflect a holistic picture of the interdependencies among the factors that affect their ability to create value over time.

Organisations should describe the impact of climate-related issues on their financial performance (e.g., revenues, costs) and financial position (e.g., assets, liabilities).

Such scenarios should be described if climate-related scenarios were used to inform the Organisation's strategy and financial planning.

Organisations that have made GHG emissions reduction commitments, operate in jurisdictions that have made such commitments, or have agreed to meet investor expectations regarding GHG emissions reductions should describe their plans for transitioning to a low-carbon economy, which could include GHG emissions targets and specific activities intended to reduce GHG emissions in their operations and value chain or to support the transition otherwise.

Supplemental Guidance for Non-Financial Groups

Organisations should consider discussing how climate-related risks and opportunities are integrated into their (1) current decision-making and (2) strategy formulation, including planning assumptions and objectives around climate change mitigation, adaptation, or opportunities such as:

- Research and development and adoption of new technology.
- Existing and committed future activities such as investments, restructuring, write downs, or impairment of assets.
- Critical planning assumptions around legacy assets include strategies to lower carbon-, energy-, and/or water-intensive operations.
- How GHG emissions, energy, water and other physical risk exposures, if applicable, are considered in capital planning and allocation; this could include a discussion of significant acquisitions and divestments, joint ventures, and investments in technology, innovation, and new business areas in light of changing climate-related risks and opportunities.
- The Organisation's flexibility in positioning/repositioning capital to address emerging climate-related risks and opportunities.

Supplemental Guidance for Insurance Companies

Insurance companies should describe the potential impacts of climate-related risks and opportunities as well as provide supporting quantitative information, where available, on their core businesses, products, and services, including:

- information at the business division, sector, or geography levels;
- how the potential impacts influence client or broker selection; and
- whether specific climate-related products or competencies are under development, such as insurance of green infrastructure, specialty climate-related risk advisory services, and climate-related client engagement.

Supplemental Guidance for Asset Owners

Asset owners should describe how climate-related risks and opportunities are factored into relevant investment strategies. This could be described from the perspective of the total fund, investment strategy, or individual investment strategies for various asset classes.

Supplemental Guidance for Asset Managers

Asset managers should describe how climate-related risks and opportunities are factored into relevant products or investment strategies.

Asset managers should also describe how each product or investment strategy might be affected by the transition to a low-carbon economy.

Recommended Disclosure (c)

Describe the resilience of the Organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Guidance for All Sectors

Organisations should describe how resilient their strategies are to climate-related risks and opportunities, considering a transition to a low-carbon economy consistent with a 2°C or lower scenario and, where relevant to the Organisation, scenarios consistent with increased physical climate-related risks.

Organisations should consider discussing the following:

- where they believe their strategies may be affected by climate-related risks and opportunities;
- how their strategies might change to address such potential risks and opportunities;
- the potential impact of climate-related issues on financial performance (e.g., revenues, costs) and financial position (e.g., assets, liabilities). These impacts may be described in qualitative, quantitative, or a combination of qualitative and quantitative terms. Recommended to include quantitative information, where data and methodologies allow; and
- the climate-related scenarios and associated time horizon(s) considered.

Supplemental Guidance for Non-Financial Groups

Organisations with more than one billion U.S. dollar equivalent (USDE) in annual revenue should consider conducting a more robust scenario analysis to assess the resilience of their strategies against a range of climate-related scenarios, including a 2°C or lower scenario and, where relevant to the Organisation, scenarios consistent with increased physical climate-related risks.

Organisations should consider discussing the implications of different policy assumptions, macroeconomic trends, energy pathways, and technology assumptions used in publicly available climate-related scenarios to assess the resilience of their strategies.

For the climate-related scenarios used, Organisations should consider providing information on the following factors to allow investors and others to understand how conclusions were drawn from scenario analysis:

- Critical input parameters, assumptions, and analytical choices for the climate-related scenarios used, particularly as they relate to key areas such as policy assumptions, energy deployment pathways, technology pathways, and related timing assumptions.
- Potential qualitative or quantitative financial implications of the climate-related scenarios, if any.

Supplemental Guidance for Insurance Companies

Insurance companies that perform climate-related scenario analysis on their underwriting activities should provide the following information:

- description of the climate-related scenarios used, including the critical input parameters, assumptions and considerations, and analytical choices. In addition to a 2°C scenario, insurance companies with substantial exposure to weather-related perils should consider using a greater than 2°C scenario to account for the physical effects of climate change and
- time frames used for the climate-related scenarios, including short-, medium-, and long-term milestones.

Supplemental Guidance for Asset Owners

Asset owners that perform scenario analysis should consider discussing how climate-related scenarios are used to inform investments in specific assets.

Risk Management

TCFD framed the discussion of risk management processes using a well-recognised, international risk management framework. TCFD uses the Enterprise Risk Management (ERM) framework by the Committee of Sponsoring Organisations of the Treadway Commission (COSO) – (“COSO ERM”) as the foundation for topics of risk management discussion. This framework should be very familiar to many Internal Auditors.

The COSO ERM framework is fundamentally built around a five-component concept that guides the Organisation’s risk management. The “performance” component of the COSO ERM framework provides the basic guidance which aligns with TCFD’s recommendation on Risk Management disclosures.

While the COSO ERM framework is fundamental in TCFD’s discussion around risk management, using other risk management frameworks (e.g., ISO 31000 or company-specific risk management frameworks) is also permissible.

Risk Taxonomy

Internal Auditors should observe that the Organisation is operating with a set of consistently defined risk categories (and sub-categories) that assist in the risk management process, i.e., identification, assessment, and management of the identified risks (risk responses). Whether the climate-related risk(s) can be integrated into the existing risk management processes may depend on how the risk categories are defined. Internal Auditors should be satisfied that there is a process that maps climate-related risks to the Organisation’s existing risk categories. Following are some samples demonstrating the mapping between climate-related risks to the Organisation’s risk categories:

Risk Category	Sub-category	Climate-Related Risks
Financial	<ul style="list-style-type: none"> • Credit Risk • Liquidity Risk • Tax Strategy 	<ul style="list-style-type: none"> • Creditworthiness is eroded, and interest rates rise as lenders consider escalating business risks related to climate change • Costs increase from taxes or fees on carbon emissions
Operational	<ul style="list-style-type: none"> • Supply Chain • Raw Material Availability • Business Continuity 	<ul style="list-style-type: none"> • Supply chain disruptions occur because of droughts or extreme weather impacts in supplier regions • Costs increase on raw materials due to sustainable forestry practice requirements • Changing weather patterns and increased natural disasters disrupt operations
Strategic	<ul style="list-style-type: none"> • Competition • Changing Customers Preferences 	<ul style="list-style-type: none"> • Shift in customer preferences toward products that are produced with lower emissions or that produce lower emissions

TCFD recommended the below disclosures on how the Organisation identifies, assesses, and manages climate-related risks.

<p>Recommended Disclosure (a)</p> <p>Describe the Organisation’s processes for identifying and assessing climate-related risks.</p>
<p>Guidance for All Sectors</p> <p>Organisations should describe their risk management processes for identifying and assessing climate-related risks. An important aspect of this description is how Organisations determine the relative significance of climate-related risks concerning other risks.</p> <p>Organisations should describe whether they consider existing and emerging regulatory requirements related to climate change (e.g., limits on emissions) and other relevant factors.</p> <p>Organisations should also consider disclosing the following:</p> <ul style="list-style-type: none"> • processes for assessing the potential size and scope of identified climate-related risks and • definitions of risk terminology or references to existing risk classification frameworks. <p>Supplemental Guidance for Banks</p> <p>Banks should consider characterising their climate-related risks in traditional banking industry risk categories such as credit risk, market risk, liquidity risk, and operational risk.</p> <p>Banks should also consider describing any risk classification frameworks used (e.g., the Enhanced Disclosure Task Force’s framework for defining “Top and Emerging Risks”).</p> <p>Supplemental Guidance for Insurance Companies</p> <p>Insurance companies should describe the processes for identifying and assessing climate-related risks on re-/insurance portfolios by geography, business division, or product segments, including the following risks:</p> <ul style="list-style-type: none"> • physical risks from changing frequencies and intensities of weather-related perils; • transition risks resulting from a reduction in insurable interest due to a decline in value, changing energy costs, or implementation of carbon regulation; and • liability risks that could intensify due to a possible increase in litigation. <p>Supplemental Guidance for Asset Owners</p> <p>Asset owners should describe, where appropriate, engagement activity with investee companies to encourage better disclosure and practices related to climate-related risks to improve data availability and asset owners’ ability to assess climate-related risks.</p> <p>Supplemental Guidance for Asset Managers</p> <p>Where appropriate, asset managers should describe engagement activity with investee companies to encourage better disclosure and practices related to climate-related risks to improve data availability and asset managers’ ability to assess climate-related risks.</p> <p>Asset managers should also describe how they identify and assess material climate-related risks for each product or investment strategy. This might include a description of the resources and tools used in the process.</p>
<p>Recommended Disclosure (b)</p> <p>Describe the Organisation’s processes for managing climate-related risks.</p>
<p>Guidance for All Sectors</p> <p>Organisations should describe their processes for managing climate-related risks, including how they make decisions to mitigate, transfer, accept, or control those risks. In addition, Organisations should describe their processes for prioritising climate-related risks, including how materiality determinations are made within their Organisations.</p>

Supplemental Guidance for Insurance Companies

Insurance companies should describe key tools or instruments, such as risk models, used to manage climate-related risks concerning product development and pricing.

Insurance companies should also describe the range of climate-related events and how the risks generated by such events' rising propensity and severity are managed.

Supplemental Guidance for Asset Owners

Asset owners should describe how they consider the positioning of their total portfolio concerning the transition to a low-carbon energy supply, production, and use. This could include explaining how asset owners actively manage their portfolios' positioning concerning this transition.

Supplemental Guidance for Asset Managers

Asset managers should describe how they manage material climate-related risks for each product or investment strategy.

Recommended Disclosure (c)

Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the Organisation's overall risk management.

Guidance for All Sectors

Organisations should describe how their processes for identifying, assessing, and managing climate-related risks are integrated into their overall risk management.

Mapping to the TCFD recommendations

Some Organisations provide tables and charts that map sections of their reports to the TCFD's recommendations.

Further reading on Risk Management disclosure can be found in the publication by TCFD's <[Guidance on Risk Management Integration and Disclosure \(Oct 2020\)](#)>



Metrics and Targets

Metrics disclosed/applied should reinforce the other disclosures (pillars) provided by the Organisation.

Governance: Climate-related metrics enable an Organisation's Board and Management to more effectively direct the business by measuring and describing the impacts of climate-related risks and opportunities on the Organisation.

Strategy: Climate-related metrics are critical to measuring and describing the impact of climate-related risks and opportunities on the Organisation's businesses, strategy, and financial planning.

Risk Management: Climate-related metrics support the measurement of risk exposures and levels as part of an Organisation's broader risk management processes. In conjunction with risk tolerances and thresholds, climate-related metrics inform the degree of risk the Organisation is prepared to accept and its risk responses.

Issuers should consider the followings:

Types of measurements used, including whether the information comes from direct measures, estimates, proxy indicators, or financial and management accounting processes.

Methodologies and definitions used, including the scope of application, data sources, critical factors or parameters, assumptions, and methodology limitations. Issuers should also provide context if they adjust the methodology or definition of particular metrics.

Trend data allows for consideration of how metrics have changed in absolute and relative amounts over time, including whether acquisitions, divestments, or policies have affected results.

Demonstrate **how results are connected** with business units, company strategy, financial performance, and position.

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

Recommended Disclosure (a)

Disclose the metrics used by the Organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

Guidance for All Sectors

Organisations should provide the key metrics used to measure and manage climate-related risks and opportunities and metrics consistent with the cross-industry, climate-related metric categories. Organisations should consider including metrics on climate-related risks associated with water, energy, land use, and waste management where relevant and applicable.

Where climate-related issues are material, Organisations should consider describing whether and how related performance metrics are incorporated into remuneration policies.

Where relevant, Organisations should provide their internal carbon prices and climate-related opportunity metrics, such as revenue from products and services designed for a low-carbon economy.

Metrics should be provided for historical periods to allow for trend analysis. Where appropriate, Organisations should consider providing forward-looking metrics for the cross-industry, climate-related metric categories consistent with their business or strategic planning time horizons. In

addition, it was not apparent, Organisations should describe the methodologies used to calculate or estimate climate-related metrics.

Supplemental Guidance for Non-Financial Groups

For all relevant metrics, Organisations should consider providing historical trends and forward-looking projections (by relevant country and/or jurisdiction, business line, or asset type). Organisations should also consider disclosing metrics that support their scenario analysis and strategic planning process and are used to monitor the Organisation's business environment from a strategic and risk management perspective.

Organisations should consider providing key metrics related to GHG emissions, energy, water, and other physical risk exposures, land use, and, if relevant, investments in climate adaptation and mitigation that address potential financial aspects of shifting demand, expenditures, asset valuation, and cost of financing.

Supplemental Guidance for Banks

Banks should provide the metrics used to assess the impact of (transition and physical) climate-related risks on their lending and other financial intermediary business activities in the short-, medium-, and long term. Metrics provided may relate to credit exposure, equity, and debt holdings, or trading positions, broken down by:

- Industry
- Geography
- Credit quality (e.g., investment grade or non-investment grade, internal rating system)
- Average tenor

Banks should also provide the amount and percentage of carbon-related assets relative to total assets and the amount of lending and other financing connected with climate-related opportunities. Banks should describe the extent to which their lending and other financial intermediary business activities, where relevant, are aligned with well below two °C scenarios, using whichever approach or metrics best suit their Organisational context or capabilities. Banks should also indicate which financial intermediary business activities (e.g., loans to specific sectors or industries) are included.

Supplemental Guidance for Insurance Companies

Insurance companies should provide aggregated risk exposure to weather-related catastrophes of their property business (i.e., annual aggregated expected losses from weather-related catastrophes) by the relevant jurisdiction.

Insurance companies should describe the extent to which their insurance underwriting activities, where relevant, are aligned with a well below two °C scenario, using whichever approach or metrics best suit their Organisational context or capabilities. Insurance companies should also indicate which insurance underwriting activities (e.g., lines of business) are included.

Supplemental Guidance for Asset Owners

Asset owners should describe metrics to assess climate-related risks and opportunities in each fund or investment strategy. Where relevant, asset owners should also describe how these metrics have changed over time.

Where appropriate, asset owners should provide metrics considered in investment decisions and monitoring.

Asset owners should describe the extent to which assets they own and their funds and investment strategies, where relevant, are aligned with a well below 2°C scenario, using whichever approach or metrics best suit their Organisational context or capabilities. Asset owners should also indicate which asset classes are included.

Supplemental Guidance for Asset Managers

Asset managers should describe metrics to assess climate-related risks and opportunities in each product or investment strategy. Where relevant, asset managers should also describe how these metrics have changed over time.

Recommended Disclosure (b)

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.

Guidance for All Sectors

Organisations should provide their Scope 1 and Scope 2 GHG emissions independent of a materiality assessment and, if appropriate, Scope 3 GHG emissions and the related risks. All Organisations should consider disclosing Scope 3 GHG emissions.

GHG emissions should be calculated in line with the GHG Protocol methodology to allow for aggregation and comparability across Organisations and jurisdictions. Organisations should consider providing related, generally accepted industry-specific GHG efficiency ratios.

GHG emissions and associated metrics should be provided for historical periods to allow for trend analysis. In addition, it was not apparent, Organisations should describe the methodologies used to calculate or estimate the metrics.

Supplemental Guidance for Banks

Banks should disclose GHG emissions for their lending and other financial intermediary business activities where data and methodologies allow. These emissions should be calculated in line with the Global GHG Accounting and Reporting Standard for the Financial Industry developed by the Partnership for Carbon Accounting Financials (PCAF Standard) or a comparable methodology.

Supplemental Guidance for Insurance Companies

Insurance companies should disclose weighted average carbon intensity or GHG emissions associated with commercial property and specialty lines of business where data and methodologies allow.

Supplemental Guidance for Asset Owners

Asset owners should disclose GHG emissions for their assets and the weighted average carbon intensity (WACI) for each fund or investment strategy, where data and methodologies allow. These emissions should be calculated in line with the Global GHG Accounting and Reporting Standard for the Financial Industry developed by the Partnership for Carbon Accounting Financials (PCAF Standard) or a comparable methodology.

In addition to WACI, asset owners should consider providing other carbon foot printing metrics they believe are useful for decision-making.

Supplemental Guidance for Asset Managers

Asset managers should disclose GHG emissions for their assets under management and the weighted average carbon intensity (WACI) for each product or investment strategy, where data and methodologies allow. These emissions should be calculated in line with the Global GHG Accounting and Reporting Standard for the Financial Industry developed by the Partnership for Carbon Accounting Financials (PCAF Standard) or a comparable methodology.

In addition to WACI, asset managers should consider providing other carbon foot printing metrics they believe are useful for decision-making.

Recommended Disclosure (c)

Describe the targets used by the Organisation to manage climate-related risks and opportunities and performance against targets.

Guidance for All Sectors

Organisations should describe their key climate-related targets, such as those related to GHG emissions, water usage, energy usage, etc. Other goals may include efficiency or financial goals, financial loss tolerances, avoided GHG emissions through the entire product life cycle, or net revenue goals for products and services designed for a low-carbon economy.

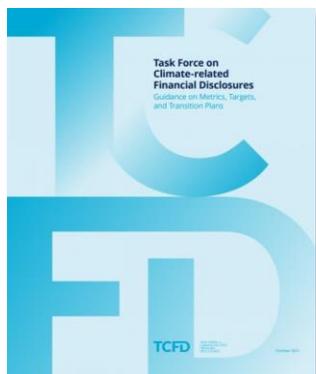
In describing their targets, Organisations should consider including the following:

- whether the target is absolute or intensity based;
- time frames over which the target applies;
- base year from which progress is measured; and
- key performance indicators used to assess progress against targets.

Organisations disclosing medium-term or long-term targets should also disclose associated interim targets in aggregate or by business line, where available.

Where not apparent, Organisations should describe the methodologies used to calculate targets and measures.

Further reading on Metrics and Targets disclosures can be found in the publication by TCFD's <[Guidance on Metrics, Targets, and Transition Plans \(Oct 2021\)](#)>



TCFD Disclosure Timeline

The Issuer should provide climate-related disclosures consistent with the Task Force on Climate-related Financial Disclosures (“TCFD”) recommendations. An Issuer in any of the following industries identified by the TCFD as most affected by climate change and the transition to a lower-carbon economy will be prioritised to provide mandatory climate-related disclosures consistent with the TCFD recommendations.

From FY2022, Issuers from all sectors to make disclosures based on the Task Force on Climate-related Financial Disclosures (TCFD) recommendations on a ‘comply or explain’ basis (i.e., reports published in the calendar year 2023). ‘Comply and Explain’ implies that Issuers must comply with all TCFD

recommendations. However, if the Issuer is unable to provide the information requested, an explanation will need to be provided (i.e., unable to obtain the information, adopting a phased approach, etc.)

Mandatory climate-related reporting will commence from the financial year commencing 2023, with Issuers in any of the following industries identified by the TCFD as most affected by climate change prioritised. An Issuer can determine their industry by mapping from the SGX’s [Stock Screener webpage](#).

The table below illustrates the timeline of mandatory disclosure:

For All Financial Years Commencing	Industry (as identified by TCFD)
1 January 2023 (i.e., reports published in the calendar year 2024)	Financial Agriculture, Food, and Forest Products Energy
1 January 2024 (i.e., reports published in the calendar year 2025)	Materials and Buildings Transportation

Compliance with the TCFD recommendations may also progressively occur through a phased approach. The table below provides further elaboration on the phased approach:

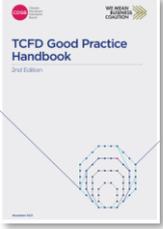
Year 1	Year 2	Year 3
Described the governance structures, including Board oversight and management’s role	Metrics used for assessment Impacts in more quantitative terms	Scenario analysis with more quantitative outcomes Targets in quantitative terms
Identified the climate-related risks and opportunities	Scope 3 GHG emissions Targets in qualitative terms	
Described the processes for identifying and managing climate-related risks	Conducted qualitative scenario analysis	
Impacts in qualitative terms		
Scope 1 and Scope 2 GHG emissions		

Appendix 4 – Phased approach

[Practice Note 7.6 Sustainability Reporting Guide](#), section 7 Phased approach, details an illustrative example of how an Issuer may consider phasing out the coverage and extent of disclosures of its Sustainability Report, as follows:

Primary Components	Adoption		
	Year 1	Year 2	Year 3
Material ESG factors	Addressed most critical factors	Reviewed factor assessment and added factors which have become material and removed existing factors which are no longer material	Reviewed factor assessment and added factors which have become material and removed existing factors which are no longer material
	<i>Material ESG factors would be dependent on current business strategy, market conditions, stakeholder concerns etc., therefore the number of material ESG factors may vary year-on-year.</i>		
Climate-related disclosures consistent with the TCFD recommendations	<p>Described the governance structures, including Board oversight and management's role</p> <p>Identified the climate-related risks and opportunities</p> <p>Described the processes for identifying and managing climate-related risks</p> <p>Impacts in qualitative terms</p> <p>Scope 1 and Scope 2 GHG emissions</p>	<p>Metrics used for assessment</p> <p>Impacts in more quantitative terms</p> <p>Scope 3 GHG emissions</p> <p>Targets in qualitative terms</p> <p>Conducted qualitative scenario analysis</p>	<p>Scenario analysis with more quantitative outcomes</p> <p>Targets in quantitative terms</p>
Policies, practices and performance	<p>Minimal description of how issuer manages material factors</p> <p>No previous targets for comparison of performance</p> <p>One metric per factor</p> <p>Plans for improved reporting in future</p>	<p>Description includes specific policies, practices per material factor</p> <p>More quantitative metrics and qualitative description per factor</p> <p>Comparison against previously disclosed qualitative commitments and targets with explanation of overachievement and shortfall</p>	<p>Description includes specific policies, practices per material factor</p> <p>Qualitative and quantitative description per factor</p> <p>Comparison against previously disclosed targets and commitments with explanation of overachievement and shortfall</p>
Targets	Qualitative commitments if no quantitative targets	Short and long term qualitative targets and some quantitative targets	<p>Short and long term qualitative and quantitative targets</p> <p>Include peer/sector benchmarks</p> <p>Targets linked to management performance incentives</p>
Sustainability reporting framework	GRI TCFD	GRI TCFD	GRI TCFD
Board statement and associated governance structure for sustainability practices	Complied	Complied	Complied

Appendix 5 – Other Resources

S/N	Document	Reference
1	TCFD Overview (May 2022)	 TCFD Overview (May 2022)
2	TCFD - Implementing the Recommendations of the TCFD (October 2021)	 TCFD - Implementing the Recommendations of the TCFD (October 2021)
3	TCFD – 2022 Status Report (October 2022)	 TCFD – 2022 Status Report (October 2022)
4	TCFD Good Practice Handbook, 2nd Edition (November 2021)	 TCFD Good Practice Handbook, 2nd Edition (November 2021)
5	The International Professional Practices Framework (IPPF)	

		 <p>The International Professional Practices Framework (IPPF)</p>
6	<p>COSO: ERM: Applying enterprise risk management to ESG risks (October 2018)</p>	 <p>COSO: ERM: Applying enterprise risk management to ESG risks (October 2018)</p>
7	<p>2022 EY Global Climate Risk Barometer Report</p>	 <p>2022 EY Global Climate Risk Barometer Report</p>

About the Contributors and Acknowledgements

IIA Singapore would like to acknowledge the inputs and contributions from the members of the ESG Working Group, Stephen Ching, Nicodemus Tan, David Toh and Vincent Cheang supported by IAS secretariat. In addition, IIA Singapore would also like to thank Debbie Goh and EY for their valuable contributions into the development of this guide.

About The Institute of Internal Auditors Singapore

The Institute of Internal Auditors Singapore is the only professional body dedicated to the advancement and development of the internal audit profession in Singapore. For more than 40 years, we have been advocating the interests of the profession and remain committed to raising the profile and standing of the internal audit profession and developing the knowledge, skills and expertise of internal auditors. Representing about 2,500 members, we enhance technical excellence through The IIA's [International Standards for the Professional Practice of Internal Auditing](#) and Code of Ethics.

IIA Singapore is an affiliate of [IIA Global](#). As an affiliate, this means that our members are concurrently members of IIA Global and have exclusive access to content, resources and benefits issued by IIA Global. Our members belong to a global community of more than 200,000 professionals in nearly 200 countries and territories who share a common vision to advance their professional growth in internal auditing and add value in their organisations.

About EY's Climate Change and Sustainability Services

Governments and organizations around the world are increasingly focusing on the environmental, social and economic impacts of climate change and the drive for sustainability.

Your business may face new regulatory requirements and rising stakeholder concerns. There may be opportunities for cost reduction and revenue generation. Embedding a sustainable approach into core business activities could be a complex transformation to create long-term shareholder value.

The industry and countries in which you operate as well as your extended business relationships introduce specific challenges, responsibilities and opportunities.

Our global, multidisciplinary team combines our experience in assurance, consulting, strategy, tax and transaction services with climate change and sustainability knowledge and experience in your industry. You'll receive tailored service supported by global methodologies to address issues relating to your specific needs. Wherever you are in the world, EY can provide the right professionals to support you in reaching your sustainability goals.