



GREEN COUNCIL
環保促進會

Training Course: Introducing the Task Force for Climate related Financial Disclosures (TCFD)

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Remarks: This material/event is funded by the Professional Services Advancement Support Scheme of the Government of the Hong Kong Special Administrative Region. Any opinions, findings, conclusions or recommendations expressed in this material/any event organised under this project do not reflect the views of the Government of the Hong Kong Special Administrative Region or the Vetting Committee of the Professional Services Advancement Support Scheme.



Implementation of “Task Force on Climate-related Financial Disclosure” (TCFD) Recommendation

1 September 2022

Agenda



Time (GMT+8)	Topic	Speaker
2:00-2:10	Introduction of CDP	Mr. Dennis Wan
2:10-2:25	Introduction to TCFD and HKEx alignment	Ms. Elizabeth Lo
2:25-3:10	Concepts and Components of TCFD	Ms. Elizabeth Lo
2:10-3:20		Q&A
3:20-3:30		Break
3:30-4:35	How to incorporate climate-related issues into your business	Ms. Kelly So
4:35-4:50	TCFD Reporting Tips and Supporting Materials	Ms. Elizabeth Lo
4:50-5:00		Q&A

INTRODUCTION OF CDP

Global, independent, environmental disclosure system



13,000+

Companies in over 90 countries reporting

Representing over 64% of the world's market cap

1,150+

Cities, states, and regions sharing best practice and progress

280+

Global purchasing companies asking their supply chains to disclose

US\$6.5 trillion in buying power

700+

Institutional investors requesting information from their portfolios

US \$130 trillion in assets

At the heart of the ESG ecosystem



Civil Society Organizations



Financial Institutions, Authorities and Raters



How we work



Investor Signatories



Purchasing Organizations



Governments and Partners (CStaR)

Listed Companies



Suppliers

Local Governments

TCFD

TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Climate Change

Water Security

Forests



CDP provides primary data and insights back to requesting authorities

TURNING RECOMMENDATIONS INTO METRICS

What investors and companies *should* be evaluating.

How to provide complete, comparable information for each question. Resources to take action on metrics.



Breakdown of recommendations into accessible metrics.

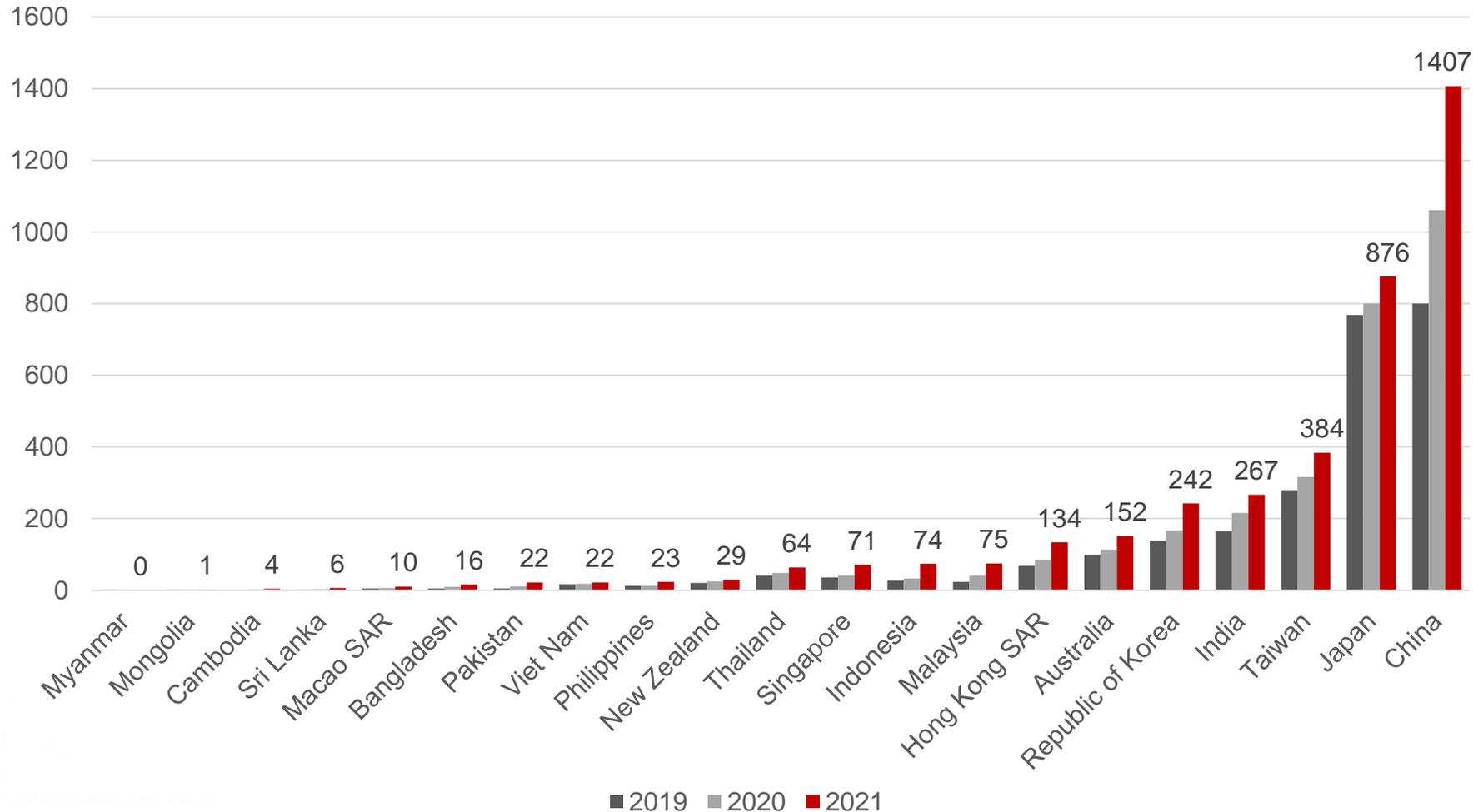
What is best practice for each metric.

CDP Data:
Standardized,
comparable,
and decision
useful

3800+ APAC Corporate Disclosure in 2021



2019-2021 Number of APAC Corporates Responded to CDP Climate Change Questionnaires



**Over 54% Increase
from 2019 to 2021**

2019: 2500+
2020: 3000+
2021: 3800+

BENEFITS OF REPORTING VIA CDP



Get Ahead of Regulation



Investor & Stakeholder Communication



Benchmarking



Manage Risks & Uncover Opportunities



Boost your Competitive Advantage



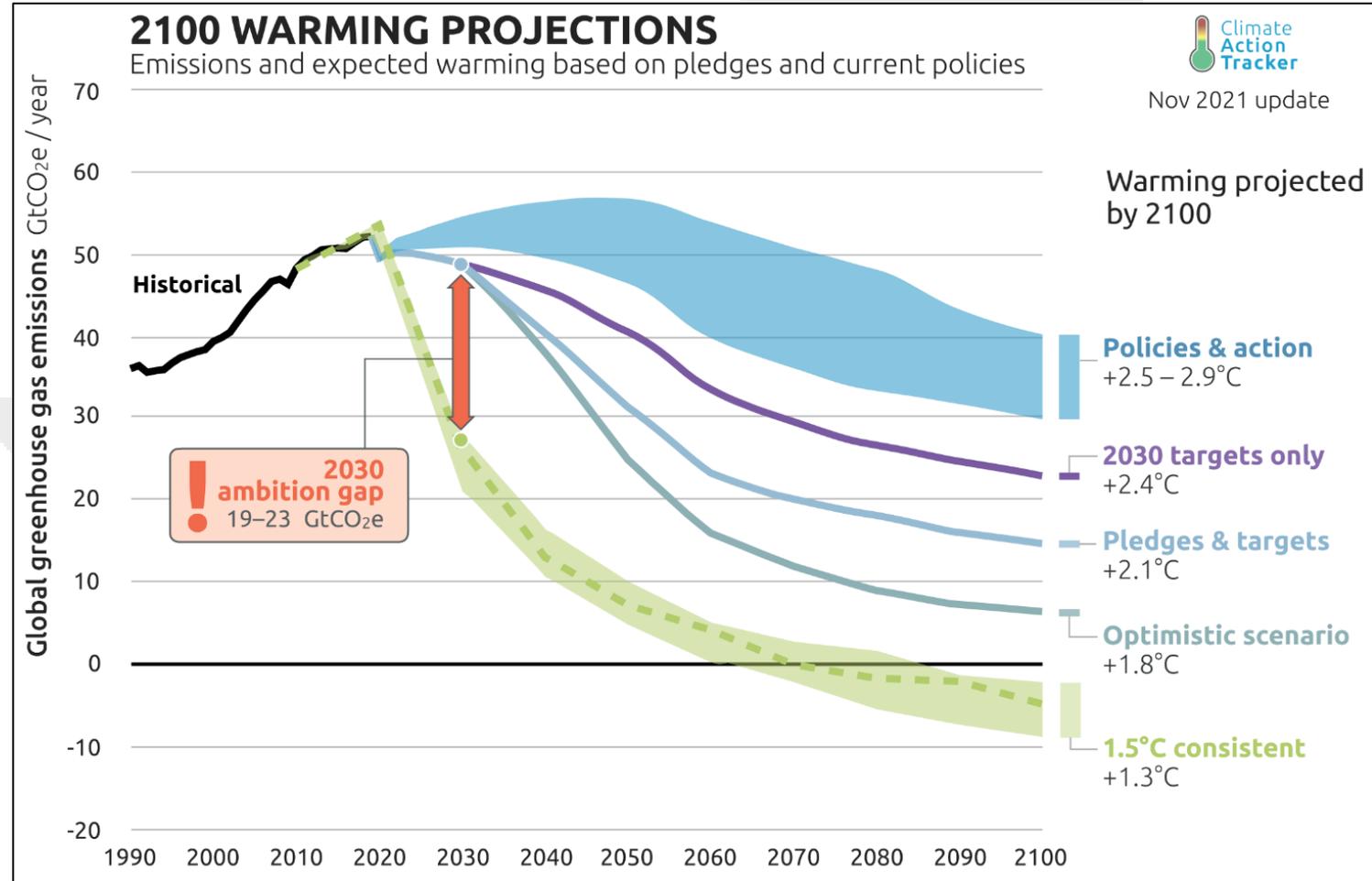
Protect & Improve your Company's Reputation



INTRODUCTION OF TCFD & STATE OF PLAY

Global state of play - emissions

- Carbon emissions continue to rise
- Projected warming of over 4°C of warming by end of the century
- Double the global temperature increase sought by the Paris Agreement
- Annual 7.6% reduction in emissions is required from 2020
- Transition risks to limit warming to 1.5 include policy and regulation, technological advancements and reputational impacts.



Coordinated policy action – Sustainable Finance



Source: Climate Action in Financial Institutions

Climate Risks to Financial Institutions

Credit Risk

1. Market value of properties taken for collateral
2. Lending to customers adversely affected by climate change drivers

Operational Risk

1. Disruption to bank property and operation
2. Higher insurance costs affecting bank profitability

Market Risk

1. Volatility in commodity prices
2. Policy changes – carbon tax / low carbon technologies

Liquidity Risk

1. Policy changes / technology breakthroughs
2. Increased focus on ESG risks by credit rating agencies

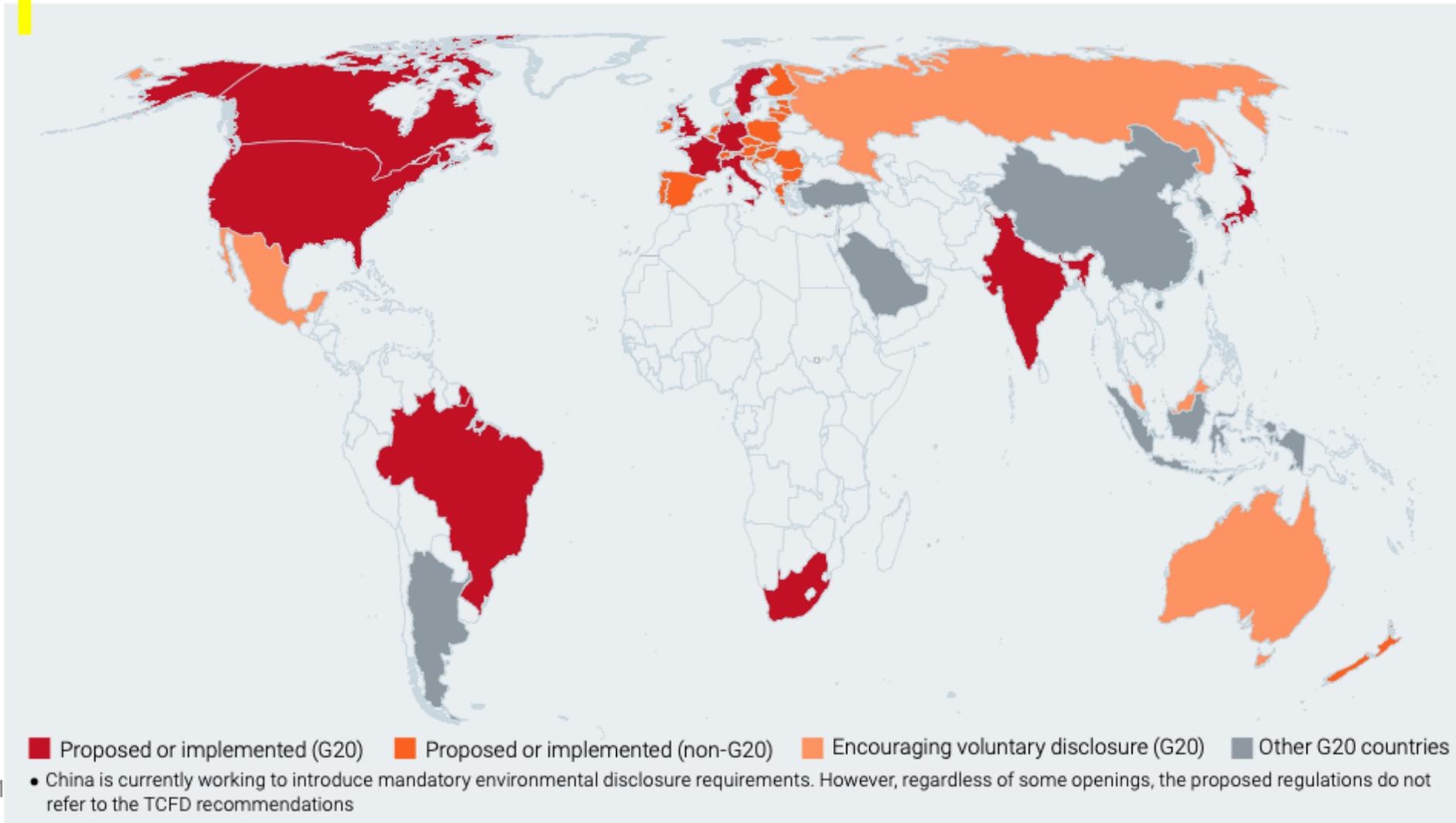
Reputational Risk

1. Market expectations on climate-resilient financial operations
2. Reputation risk for assets associated with adverse social / environmental impact

GROWING DEMANDING FOR CLIMATE-RELATED DISCLOSURE

A year of policy action

As of March 2022, **15** countries and territories had implemented or proposed to implement mandatory, TCFD-aligned climate reporting.



- ▼ US SEC has released its proposed disclosure rules at the end of March. The rule is modelled after TCFD, although with some differences. A consultation process is ongoing.

Strengthening Market Demand for TCFD Reporting



Expanding on expectations set by BNM for financial institutions to effectively manage climate and environmental risks includes **improving disclosures in line with the recommendations of TCFD.**

Source: <https://www.ngfs.net/sites/default/files/medias/documents/icw-bnm-final.pdf>



Monetary Authority of Singapore has released a consultation paper on the proposed guidelines on **environmental risk management for banks, asset managers and insurers.**

Source: <https://www.mas.gov.sg/-/media/MAS/News-and-Publications/Consultation-Papers/2020/Consultation-Paper-on-Proposed-Guidelines-on-Environmental-Risk-Management-for-Banks.pdf>



New Zealand first In the world to Require climate risk reporting.... the new regime will be on a comply-or-explain basis, based on the TCFD framework, which is **widely acknowledged as international best practice.**

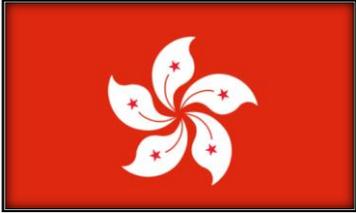
Source: *Scop Independent News, September 15 2020*



The UK Government is making TCFD aligned disclosure **mandatory** across the economy by 2025

<https://www.gov.uk/government/publications/uk-joint-regulator-and-government-tcf-taskforce-interim-report-and-roadmap>

Strengthening Market Demand for TCFD Reporting



Hong Kong SAR will introduce **mandatory** TCFD-aligned disclosures across all relevant sectors by 2025

Implementing Agency / Policy	Description of Policy	Year of implementation
HKEx Listing Rules	HKEx has a mix of mandatory and comply-or-explain ESG listing requirements	2020
Securities and Futures Commission (SFC)	Changes to Fund Manager Code of Conduct obligations to incorporate some of the TCFD elements	2021
Hong Kong Monetary Authority (HKMA) Supervisory Policy Manual	The manual provides guidelines reflecting HKMA's expectations regarding climate risk management in the shape of non-statutory guidelines.	2022

HKEx requirements against TCFD recommendations

Governance		Strategy		Risk Management		Metrics and Targets	
Disclose the organization's governance around climate-related risks and opportunities.		Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.		Disclose how the organization 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.	
Governance recommended disclosure		Strategy recommended disclosure		Risk Management recommended disclosure		Metrics & Targets recommended disclosure	
a) Describe the board's oversight of climate related risks and opportunities.	HKEx: 13i, 13ii, 13iii	a) Describe the climate related risks and opportunities the organization has identified over the short, medium, and long term.		a) Describe the organization's processes for identifying and assessing climate-related risks.	HKEx: 14 – Materiality, A4.1	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	HKEx: 14 – • Quantitative • Consistency • Boundary
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 organization's businesses, strategy, and financial planning.	HKEx: 13ii	b) Describe the organization's processes for managing climate related risks.	HKEx: A4.1, B5.3	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	HKEx: A1.1, A1.2
		c) Describe the resilience of the organization'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 organization's overall risk management.		c) Describe the targets used by the organization to manage climate related risks and opportunities and performance against targets.	HKEx: A1.5, A2.3

 - mandatory requirement aligned with TCFD

 - comply-or-explain requirement aligned or partially aligned with TCFD

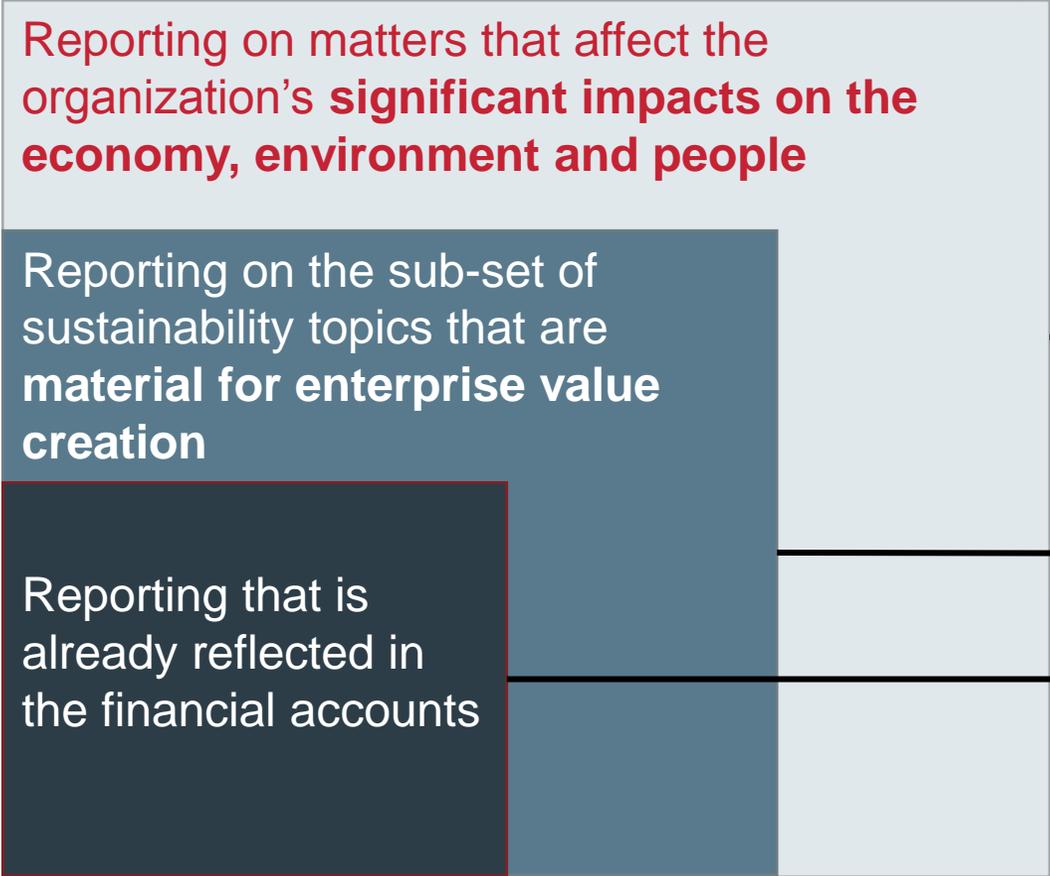
Source: Appendix 27, Environmental, Social and C

CDP Alignment Against the TCFD Recommendations

Governance		Strategy		Risk Management		Metrics and Targets	
Disclose the organization’s governance around climate-related risks and opportunities.		Disclose the actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning where such information is material.		Disclose how the organization 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.	
Governance recommended disclosure		Strategy recommended disclosure		Risk Management recommended disclosure		Metrics & Targets recommended disclosure	
a) Describe the board’s oversight of climate related risks and opportunities.	C1.1b	a) Describe the climate related risks and opportunities the organization has identified over the short, medium, and long term.	C2.1a, C2.2b, C2.3, C2.3a, C2.4, C2.4a	a) Describe the organization’s processes for identifying and assessing climate-related risks.	C2.1, C2.2, C2.2a, C2.2b, C2.2c, C2.2f	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	C4.2, C4.2a, C4.2b,
b) Describe management’s role in assessing and managing climate related risks and opportunities	C1.2, C1.2a	b) Describe the impact of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning.	C2.3a, C2.4a, C2.5, C2.6, C3.1, C3.1c, C3.2a, C3.3, C3.4, C3.4a	b) Describe the organization’s processes for managing climate related risks.	C2.1, C2.2, C2.2c, C2.2d, C2.2f	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	C6.1, C6.3, C6.5
		c) Describe the resilience of the organization’s strategy, taking into consideration different climate related scenarios, including a 2°C or lower scenario.	C3.1a, C3.1d, C3.2, C3.2a	c) Describe how processes for identifying, assessing, and managing climate related risks are integrated into the organization’s overall risk management.	C2.1, C2.2	c) Describe the targets used by the organization to manage climate related risks and opportunities and performance against targets.	C4.1, C4.1a, C4.1b, C4.2, C4.2a, C4.2b

INTEGRATING TCFD INTO FINANCIAL REPORTING AND ERM

Financial Accounting, TCFD and ESG



All stakeholders who want to understand a corporate's positive and negative contribution to sustainable development, e.g. GRI Standards

ESG disclosure that impacts economic decisions, e.g. SASB, TCFD

All corporates and financial institutions, e.g. IASB, FASB

Source: Adapted from CDP, CDSB, GRI, IIRC and SASB. *Statement of Intent to Work Together Towards Comprehensive Corporate Reporting*. September 2020

Financial Accounting, TCFD and ESG



ENTERPRISE RISK MANAGEMENT

Source: Adapted from Committee of Sponsoring Organizations of the Treadway Commission (COSO), TCFD



Governance & Culture

1. Board oversight of climate-related risks & opportunities
2. Management role in assessing climate-related risks & opportunities



Strategy & Objective-Setting

1. Climate-scenario analysis – risks & opportunities over short, medium and long term
2. Impact assessment - business strategy and financial planning
3. Vulnerability assessment & resilience of business strategy over different climate scenarios



Performance

1. Climate risks and opportunities metrics in line with strategy and risk management process
2. Disclosure of GHG emissions: Scopes 1, 2 & 3
3. Performance v/s targets



Review & Revision

1. Process to identify climate-related risks
2. Process to management climate-related risks
3. Process to identify, assess and manage climate-related risks in overall risk management



Information, Communication, & Reporting

1. Standalone TCFD-aligned report
2. Integrated TCFD and financial accounts report



CONCEPTS AND COMPONENTS OF THE TCFD RECOMMENDATIONS

Climate Action, the Paris Agreement, and CDP



G20

Finance Ministers



FINANCIAL
STABILITY
BOARD

TCFD

TASK FORCE ON
CLIMATE-RELATED
FINANCIAL
DISCLOSURES

Source: United Nations, FSB, TCFD



TCFD Recommendations

Overview

- Initially voluntary
- Report climate-related financial disclosures in the annual financial filings (mainstream report)
- Financial sector & high risk non-financial sectors
- Transition risks & physical risks (and opportunities)
- Forward-looking information & scenario analysis
- Short-term, medium-term & long-term
- Qualitative & quantitative disclosures



TCFD Recommendations



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

Who should disclose?

“the Task

*Force **recommends all organizations with public debt or equity** implement its recommendations.*

*Because climate-related issues are relevant for other types of organizations as well, the Task Force **encourages all organizations** to implement these recommendations”*

Supplemental
guidance
developed for
selected
groups

Financial sector

Banks
Insurers
Asset Owners
Asset Managers

Non-financial sector

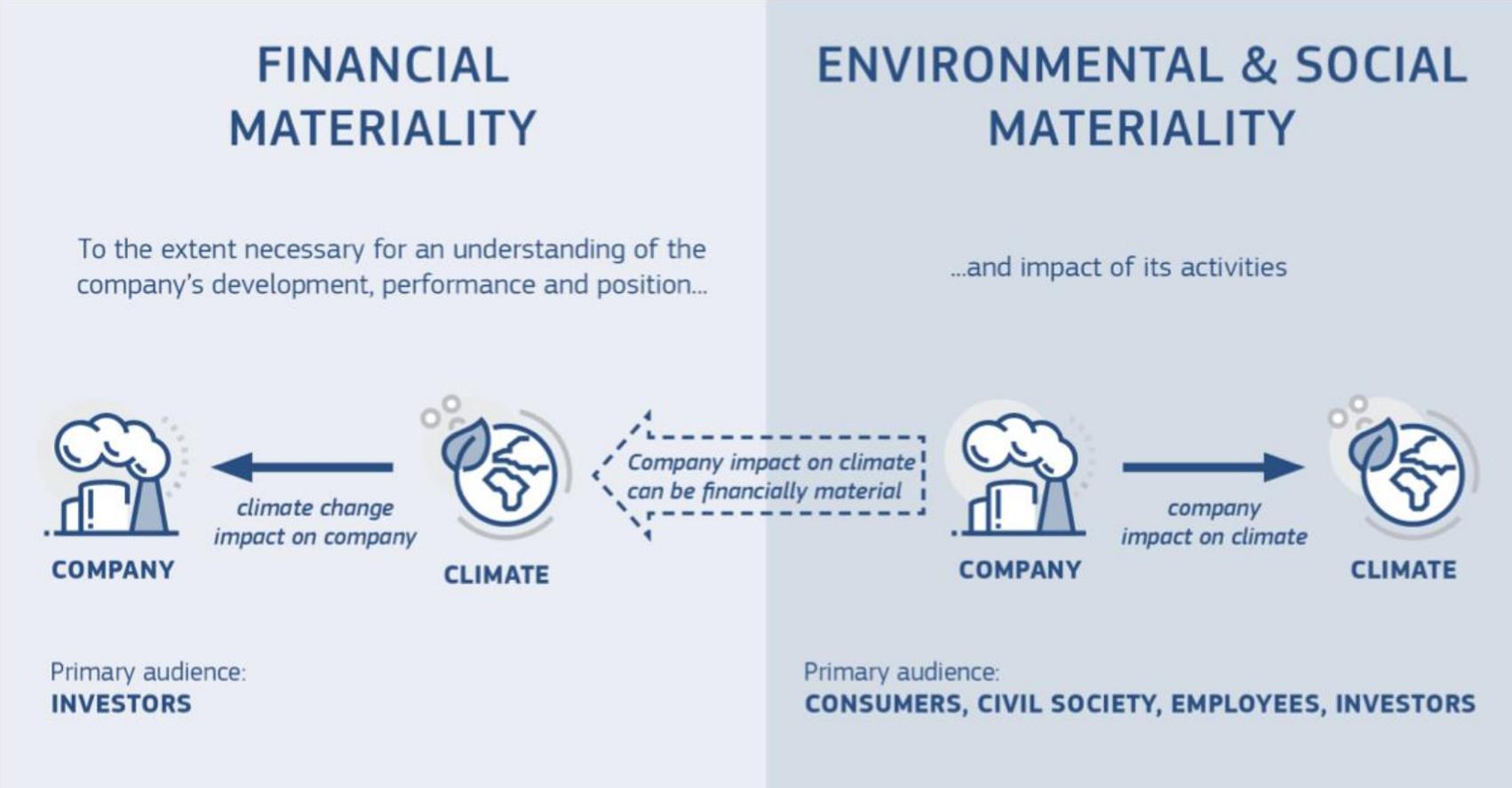
Energy
Transportation
Materials and Buildings
Agriculture, Food and
Forest Products

Where should you disclose?

- Disclosure should be provided in the **mainstream report**, also referred to as the annual report, registration document, 10-K.
- Intention was **not for separate TCFD statements** or additional sustainability reporting.
- Integrated into reporting and **connected to financial information.**
- Subject to the same **governance processes** and sign off as the financial report
- Accessible to **investors** as primary users

*“The Task Force recognizes the challenges associated with measuring the impact of climate change, but believes that by moving climate-related issues into **mainstream annual financial filings**, practices and techniques will evolve more rapidly.”*

Materiality



TCFD, IFRS, most authorities

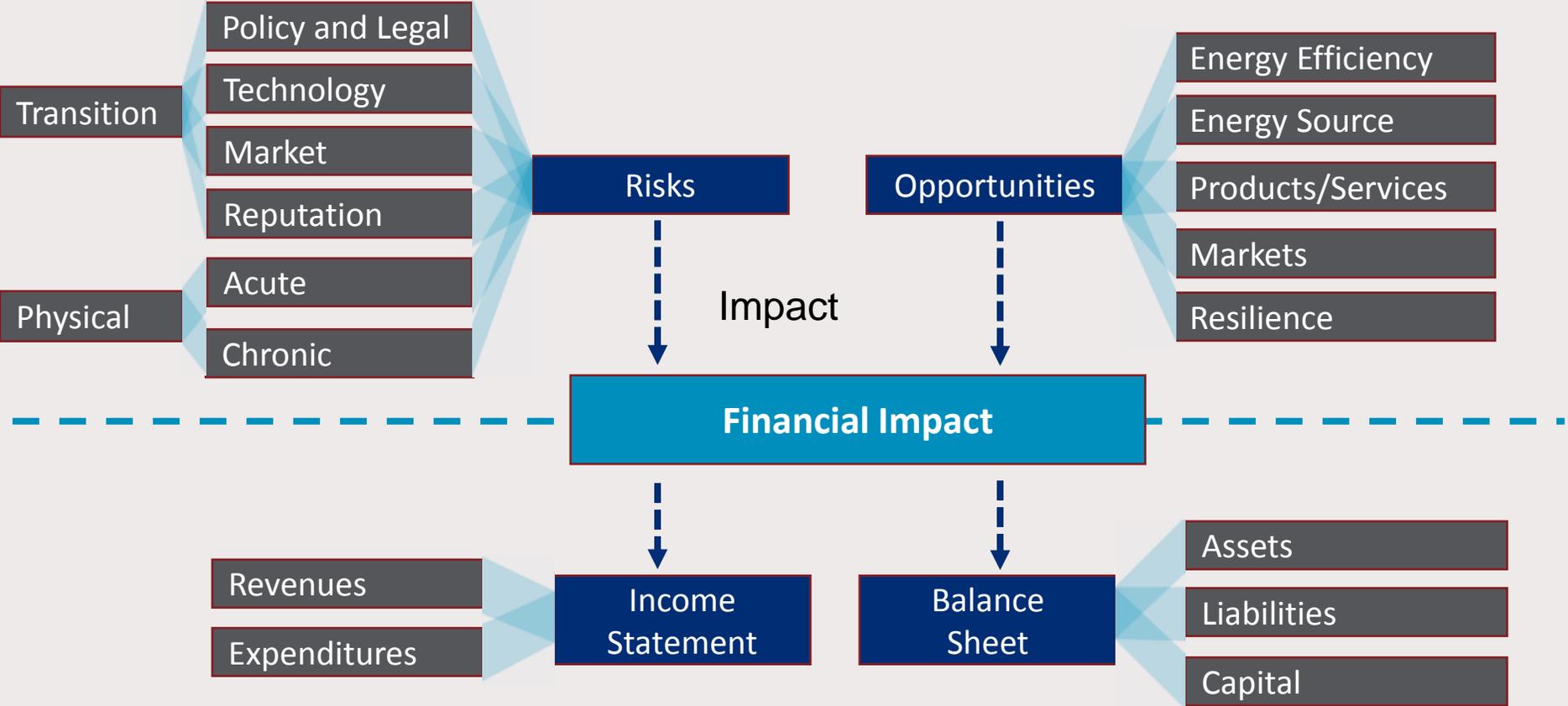
CDP, GRI, the European Union, Switzerland, NGFS (biodiversity), Bursa Malaysia, Bank Negara Malaysia

Source: European Commission *Guidelines on reporting climate-related Information*

Linking climate data and financial data

Figure 1

Climate-Related risks, opportunities, and financial impact



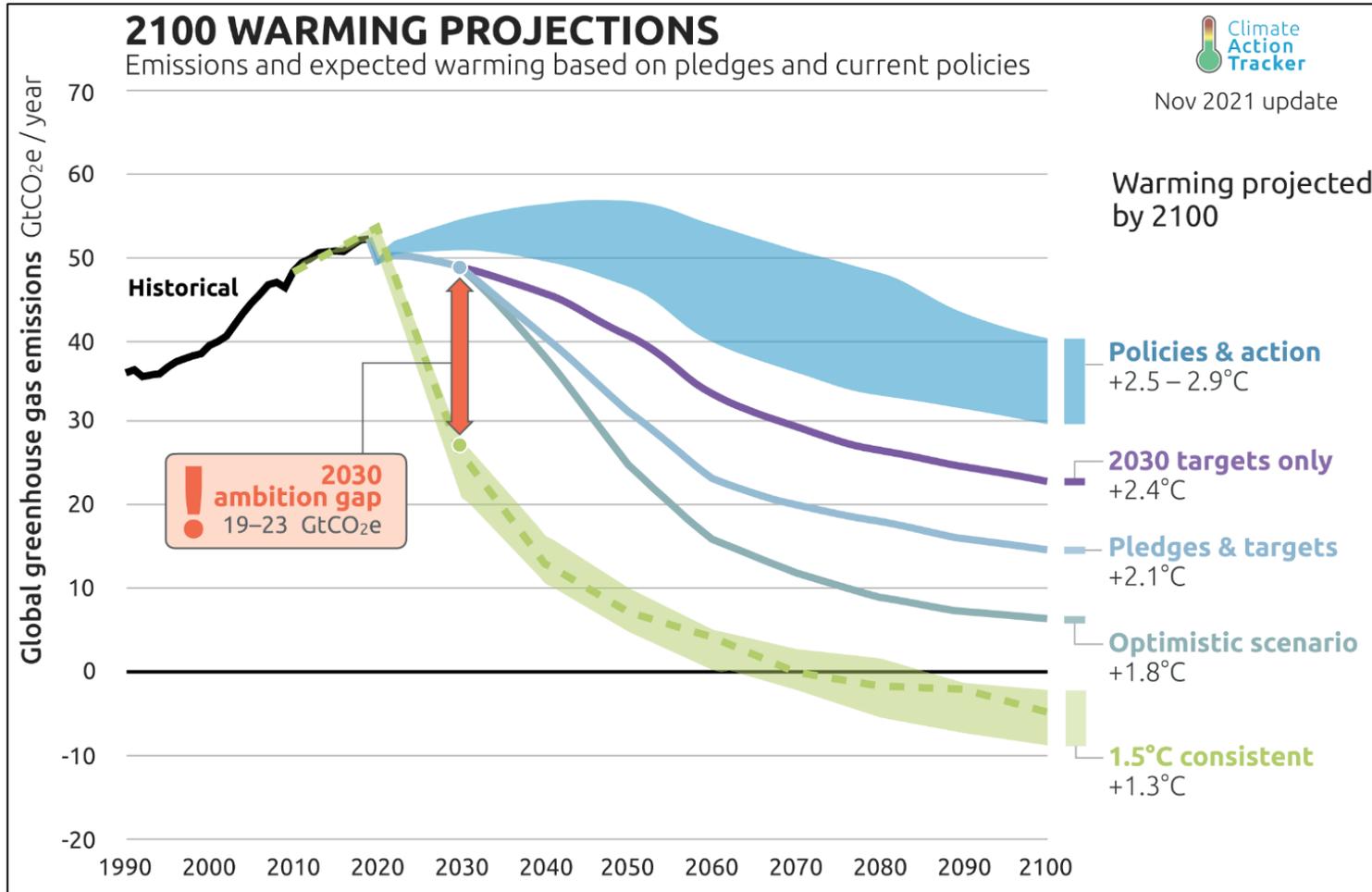
Scenario analysis: a tool for forward-looking disclosure

Scenario analysis – a tool for developing strategic plans that are flexible or robust against a range of plausible future states.

- Explore **alternatives** that may significantly alter the basis for “business-as-usual” assumptions.
- A scenario describes a **pathway** of development leading to a particular **outcome**.
- Scenario analysis is a **tool to enhance critical strategic thinking** and should be understood as narratives based on multiple scenarios.
- What is important is not credibility of the results of analysis, but the **responses to the expected futures**.

Scenario analysis is not intended to be a prediction of future performance.

Climate scenarios



	1.5°C	2°C	2°C IMPACTS
EXTREME HEAT Global population exposed to severe heat at least once every five years	14%	37%	2.6x WORSE
SEA LEVEL RISE Amount of sea level rise by 2100	0.40 METERS	0.46 METERS	.06M MORE
ECOSYSTEMS Amount of Earth's land area where ecosystems will shift to a new biome	7%	13%	1.86x WORSE
CROP YIELDS Reduction in maize harvests in tropics	3%	7%	2.3x WORSE
CORAL REEFS Further decline in coral reefs	70–90%	99%	UP TO 29% WORSE

Types of Climate-related Risks

Transition risk

Physical risk

1.5°C scenario

- An “**orderly**” transition.
- Increase of international and national climate policy, including **carbon tax**.
- Significant **changes in the energy mix** and infrastructure.
- **New green technologies**.

- Increased temperature and changes in wind patterns leading to **increased wildfire**.
- Sea level rise of 0.40m leading to **increased flooding and storm surges** in coastal areas.

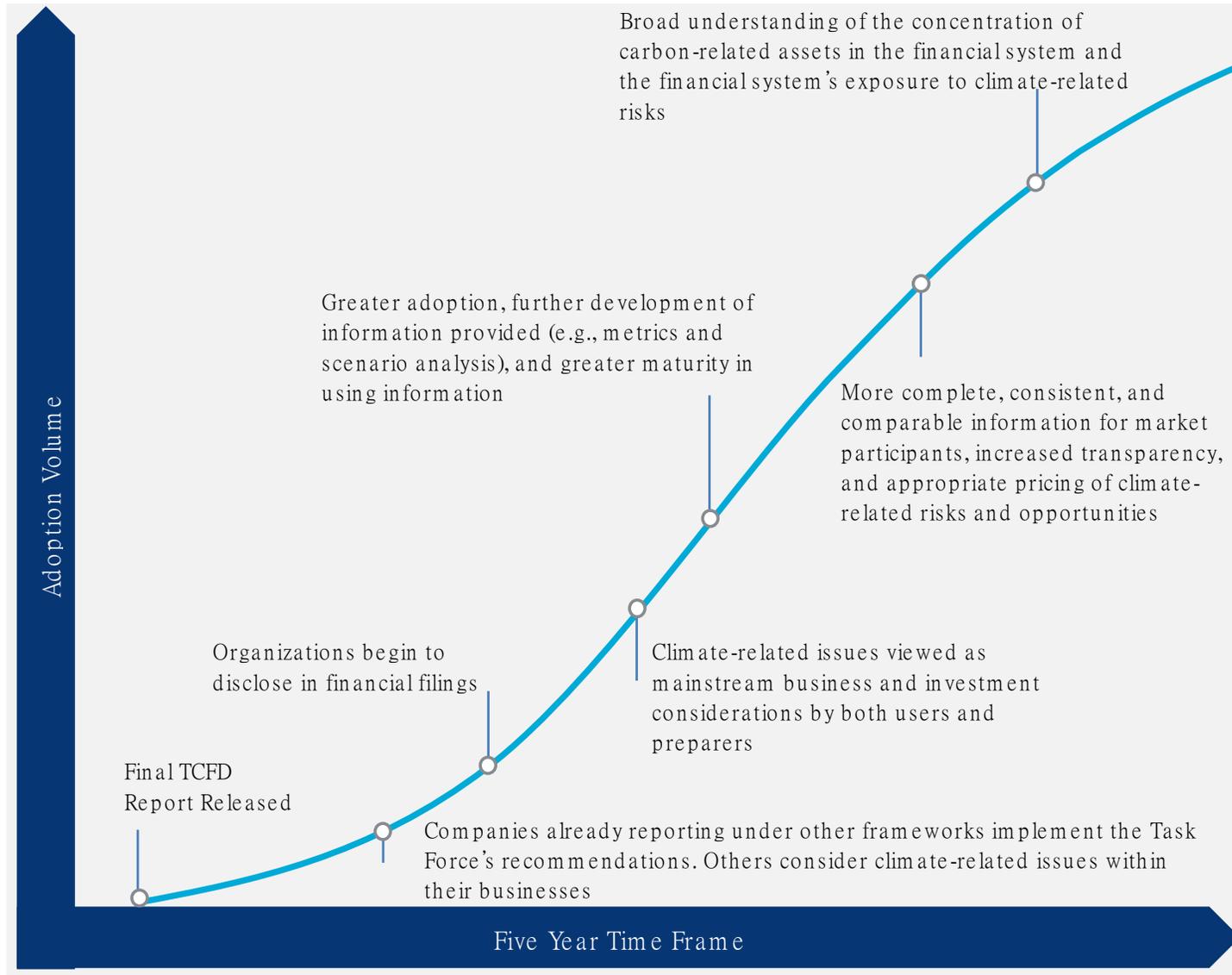
3.4°C scenario

- A “**disorderly**” and rapid transition.
- Some international and national climate policy (**no change**).
- Slower changes to the energy mix and infrastructure.
- **Price of raw materials increases**.

- Significant **melting of ice in the Arctic**.
- **Reduction in crop yields** from extreme temperatures.
- Sea level rise of above 0.50m leading to **more significant flooding and storm surges** in coastal areas.

❗ The assumptions and outcomes will also differ depending on the time horizons.

TCFD Implementation Path (illustrative)



TCFD 2021 Status Report



Key findings (full report available [here](#))



2,600+ companies and financial institutions support the TCFD, spanning 89 countries and jurisdictions, with a combined market capitalization of over \$25 trillion – a 99% increase since 2020.



Disclosure of climate-related financial information has increased, but continuing progress is needed.



Of companies using scenarios, the majority do not disclose information on the resilience of their strategies.



Expert users find the impact of climate change on a company's business and strategy as the “most useful” for decision-making.

Q&A

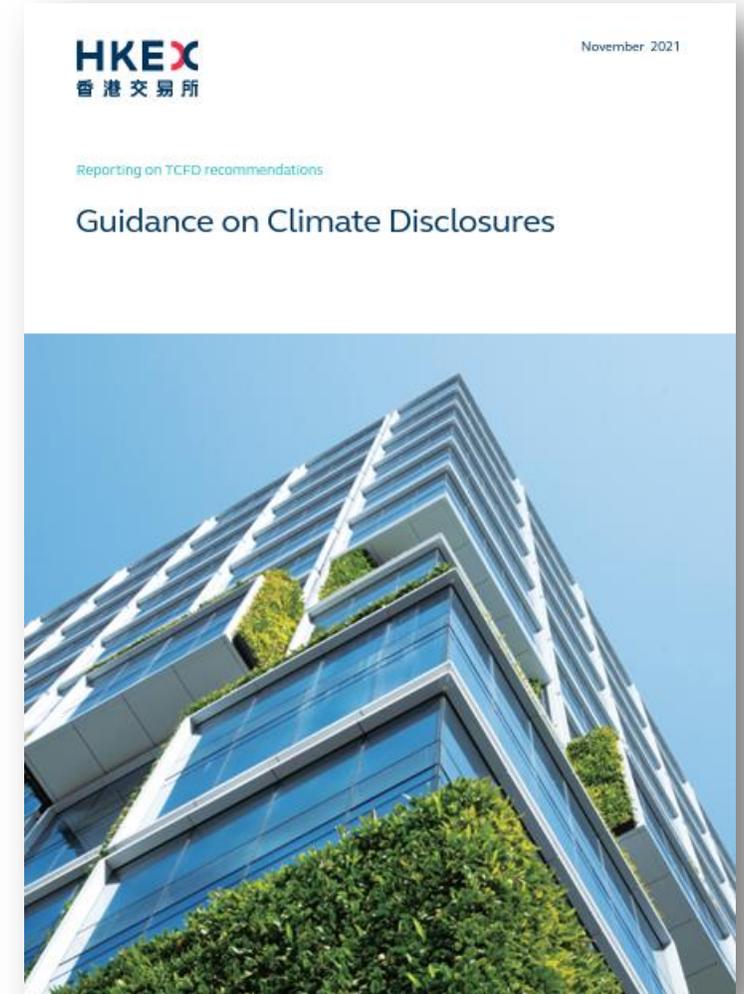
BREAK

HOW TO INCORPORATE CLIMATE-RELATED ISSUES INTO YOUR BUSINESS

Useful Resources

Guidance on Climate Disclosures

- ▼ Published in Dec 2021 by HKEX
- ▼ Provide practical guidance to facilitate listed companies in complying with the TCFD recommendations
- ▼ Challenges faced by most companies in TCFD reporting
 - lack of understanding of concepts relating to climate change issues
 - insufficient resources
 - unclear roles and responsibilities
 - lack of awareness from different corporate departments



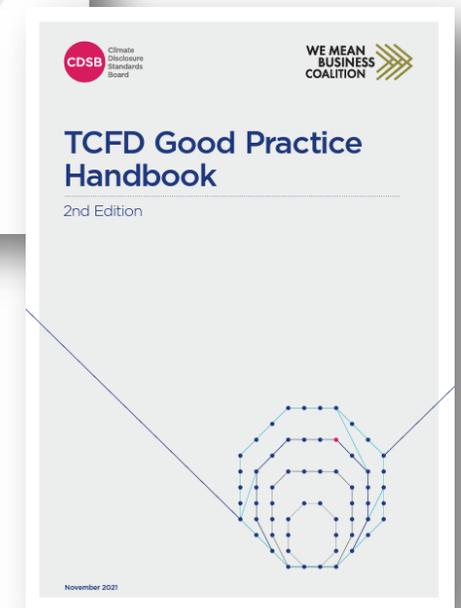
Useful Resources

Enterprise Risk Management - Applying enterprise risk management to environmental, social and governance-related risks

- an increasing need for companies to integrate ESG risks into their ERM processes
- COSO and WBCSD partnered to develop guidance to help entities better understand ESG-related risks and to manage and disclose them effectively

TCFD Good Practice Handbook

- First edition – published September 2019
- Second edition - published in November 2021
- Address the common question “what does good practice look like in TCFD-aligned reporting?”



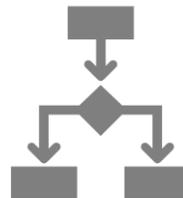
GOVERNANCE FOR CLIMATE-RELATED ISSUES

Governance for Climate-related Issues

Understand the board's and management's roles and responsibilities in overseeing climate-related issues



Understand the common approaches to climate governance



Determine the right governance structure for the company



Roles and Responsibilities of the Board and Management



Board's responsibilities:

- Develop the company's climate strategy and oversee the management of climate-related issues (e.g. incorporate climate-related considerations into strategic planning, business models and other decision-making processes)
- Establish mechanisms to be informed of climate-related issues (e.g. process/form/frequency)
- Monitor and review the effectiveness of the management approach, which envisages a review of metrics, targets and action plan
- Designate responsible individual(s)/committee(s) (e.g. include climate-related issues in the mandate of existing board committees, establish a standalone committee or appoint senior management) for the day-to-day assessment and management of climate-related issues

Management's responsibilities:

- Assess, manage and monitor climate-related issues to provide analyses, recommendations and updates for board or board committees' discussion to ensure board's oversight
- Maintain effective management systems for data, including environmental and financial data
- Determine and manage the cost and resources (e.g. staff, technology) that will be allocated for the identification, mitigation, management and monitoring of climate-related issues
- Coordinate different departments to facilitate their effective cooperation

Common Climate/ Sustainability Governance Structure



Illustrative Example of an Integrated Approach

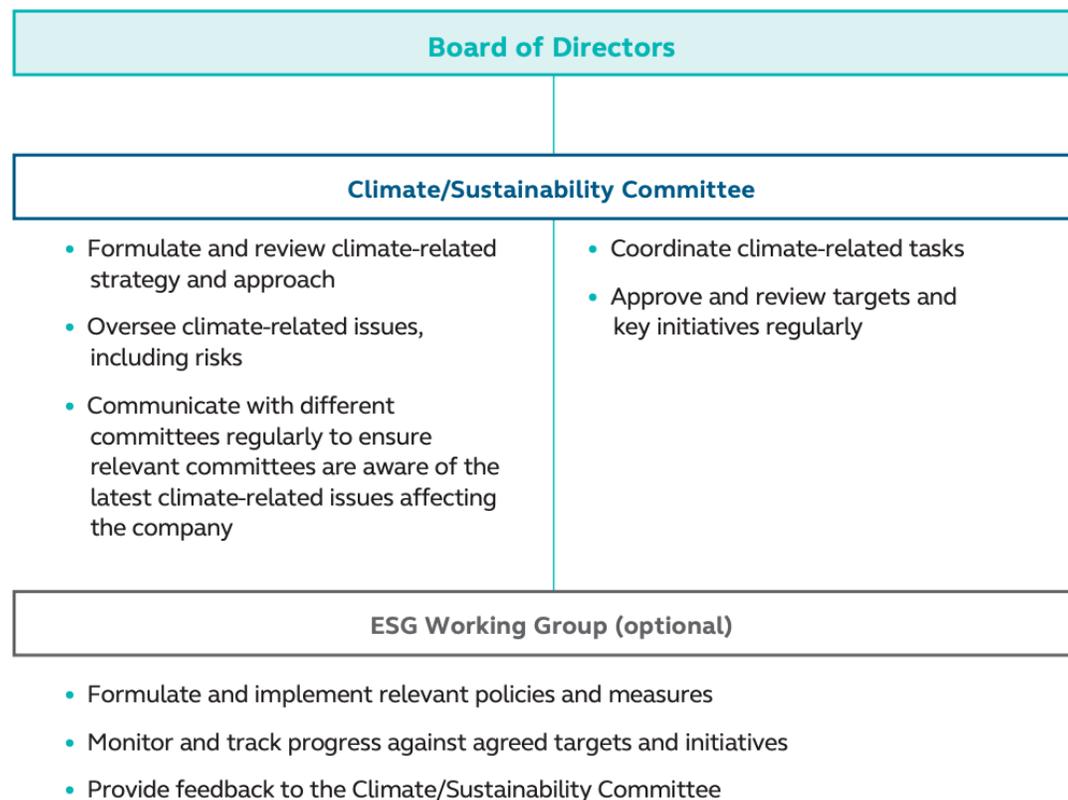


Common Climate/ Sustainability Governance Structure

Illustrative Example of a Dedicated Approach



Illustrative example of a dedicated approach



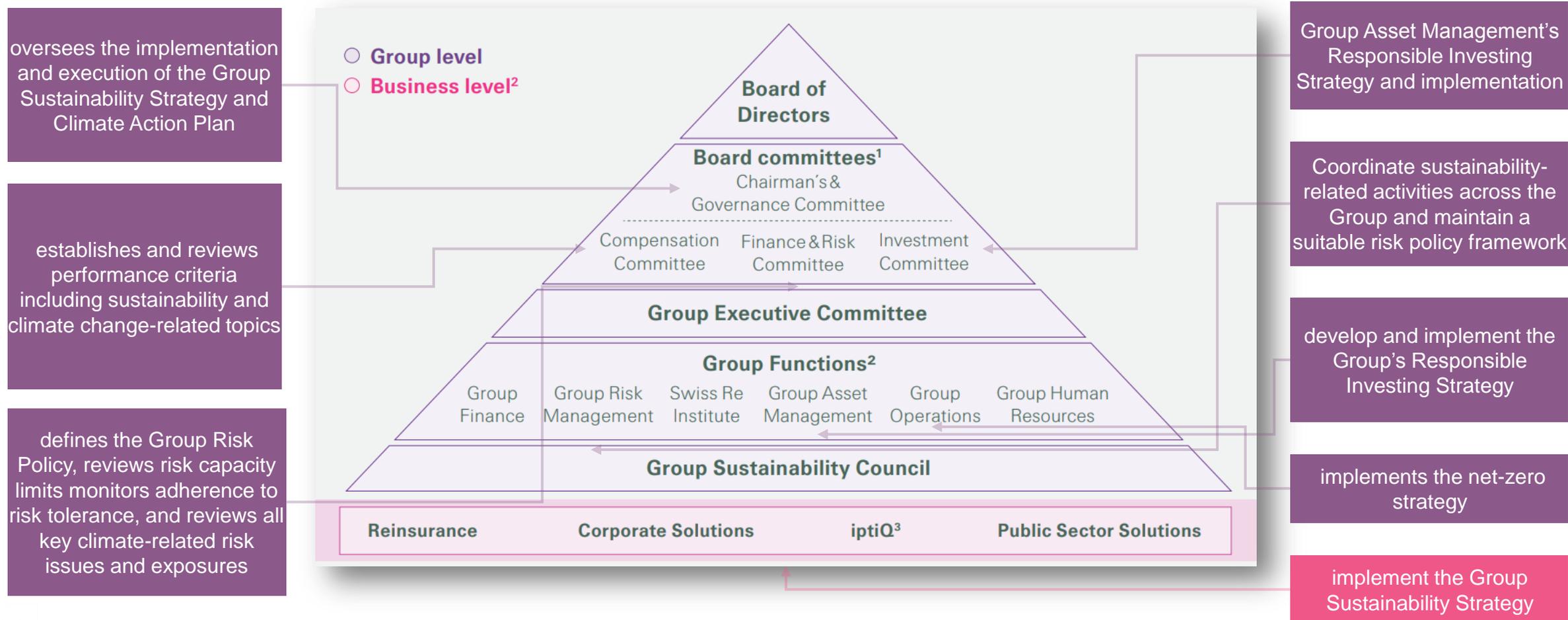
Which Governance Structure is Better?

No “one-size-fits-all” or “best” governance structure



	Integrated approach	Dedicated approach
Benefits	<ul style="list-style-type: none">• Existing scope of activities of each standing committee already covers climate-related issues	<ul style="list-style-type: none">• Enables a more holistic view of how climate change affects a company’s business and operations• Facilitates devoted and in-depth discussion of climate-related issues on a regular basis
Drawbacks	<ul style="list-style-type: none">• Deters in-depth conversations on climate-related issues, as the climate change agenda may easily be overwhelmed by more immediate or short-term issues	<ul style="list-style-type: none">• Risk of separating climate-related issues from dialogues on traditional business functions

Case Study: Swiss Re's Sustainability and Climate-related Governance



CDP Main Questions - Governance



- ▼ (C1.1) Is there board-level oversight of climate-related issues within your organization?
- ▼ (C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.
- ▼ (C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Sample Disclosure - Governance



Supported by our Sustainability Committee and other standing committees, our Board oversees climate-related issues and risks biannually during board meetings and ensures that they are incorporated into our strategy. **1.A1**

Our Sustainability Committee is appointed by our Board and chaired by an Independent Non-Executive Director (INED). **1.C2** It comprises senior management from different business functions and is responsible for monitoring our policies, programmes, and performances relating to climate change. **1.B3** In accordance with the Climate Policy, our Sustainability Committee meets quarterly to identify, assess, monitor, and report on climate-related issues.

Our Sustainability Committee also sets climate-related performance targets at the management level in order to assist our Board in evaluating the effectiveness of its climate strategy and measures. **1.A4** More details on the climate-related goals and targets can be found in the “Metrics and Targets” chapter in our sustainability report.

Board’s roles and responsibilities

1.A1 HyCo stated how its board oversees climate-related issues and disclosed the frequency of reviewing relevant issues.

Board’s oversight

1.C2 A board member of HyCo chairs the dedicated committee in managing climate-related issues. Clear responsibilities are set out for the committee.

Management’s roles and responsibilities

1.B3 HyCo’s senior management also takes part in managing climate-related issues.

Board’s roles and responsibilities

1.A4 Climate-related performance targets are set at the management level, and monitored by the board.

Sample Disclosure - Governance



To ensure that climate-related issues are integrated into our strategy, the scope of work of our standing committees are broadened to include climate-related issues, as reflected in the updated terms of reference. **1.A5** For instance, our Risk Committee regularly monitors climate-related risks, whereas our Audit Committee reviews our approach to climate change in the context of public disclosure and ensures that it reaches investor grade.

To ensure our Board keeps up with the latest trend of climate-related issues, climate competence training is provided to ensure it has the necessary expertise and skills to oversee the management of climate-related issues. Our Board also seeks professional advice from external experts when necessary to better support the decision-making process. **1.D6**

Board's roles and responsibilities

1.A5 HyCo ensured that climate-related issues are integrated into its business strategy by requiring standing committees to consider climate-related issues in their areas of expertise. Standing committees also share the responsibility in ensuring that climate-related issues are appropriately addressed, and measures are effectively implemented.

Readiness of the board and management

1.D6 HyCo engaged external experts and provided training to the board to ensure its competence in making appropriate strategic decisions.

CLIMATE-RELATED RISKS AND OPPORTUNITIES

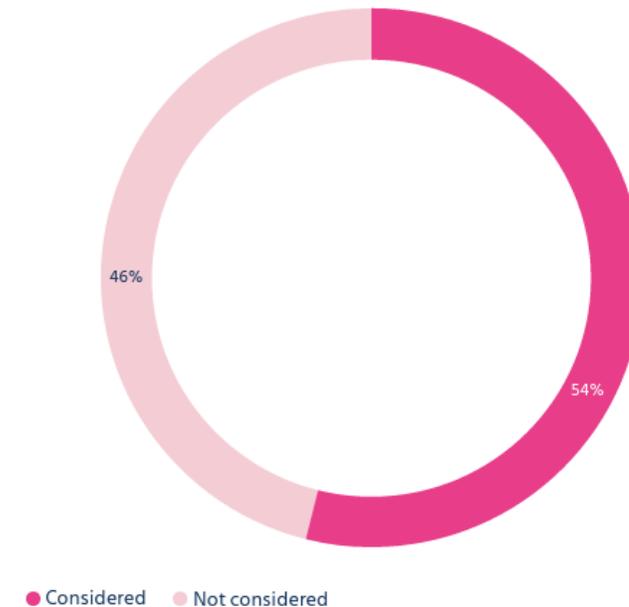
Global Risks Report 2022: What does it mean for the environment



Increased Investors' Awareness on Climate-Related Investment Risk

- ▼ A 2020 survey conducted by Mercer gathered information from 927 institutional investors across 12 European countries, reflecting a total asset of over €1.1 trillion.
- ▼ A dramatic increase in investors who have begun to consider the potential investment risk posed by climate change, from 14% of investors in 2019 to 54% in 2020

Figure 28. Has the plan considered the investment risk posed by climate change?



APAC Investors' Strong Interest in Sustainable Investing

- ▼ Around 79% of investors in Asia-Pacific increased ESG investments “significantly” or “moderately” in response to Covid-19
- ▼ ESG and climate are now firmly established as high-priority issues
- ▼ Around 50% of investors in Asia-Pacific countries, excluding Australia, New Zealand and Japan, consider climate change metrics for decision-making compared with the global average of 42%



Limitations/ Challenges for Companies to Conduct Climate-related Risk Assessment



- ▼ Limited knowledge of climate-related risks
- ▼ Tendency to focus on near-term risks
- ▼ Difficulty quantifying climate-related risks

Climate-related Risks



Physical Risks

Risks related to the physical impacts of climate change

Transition Risks

Risks related to the transition to a lower-carbon economy

Physical Risks

Acute Risks

- acute physical risk: event-driven, including increased severity of extreme weather events



Storms & Hurricane



Droughts



Flood

Chronic Risks

- Chronic physical risk: long-term shifts in climate patterns (e.g. higher temperatures)



Sea level rise



Chronic heat wave

Transition Risks



Transition Risks



Policy and Legal Risk

- Policy actions to promote adaptation to climate change (e.g. carbon-pricing mechanism, sustainable land-use practices)
- Litigation or legal risks (e.g. failure of organizations to mitigate impacts of climate change)

Technology Risk

- Technological improvements or innovations that support the transition to a lower-carbon, economy (e.g. renewable energy, battery storage, carbon capture and storage)

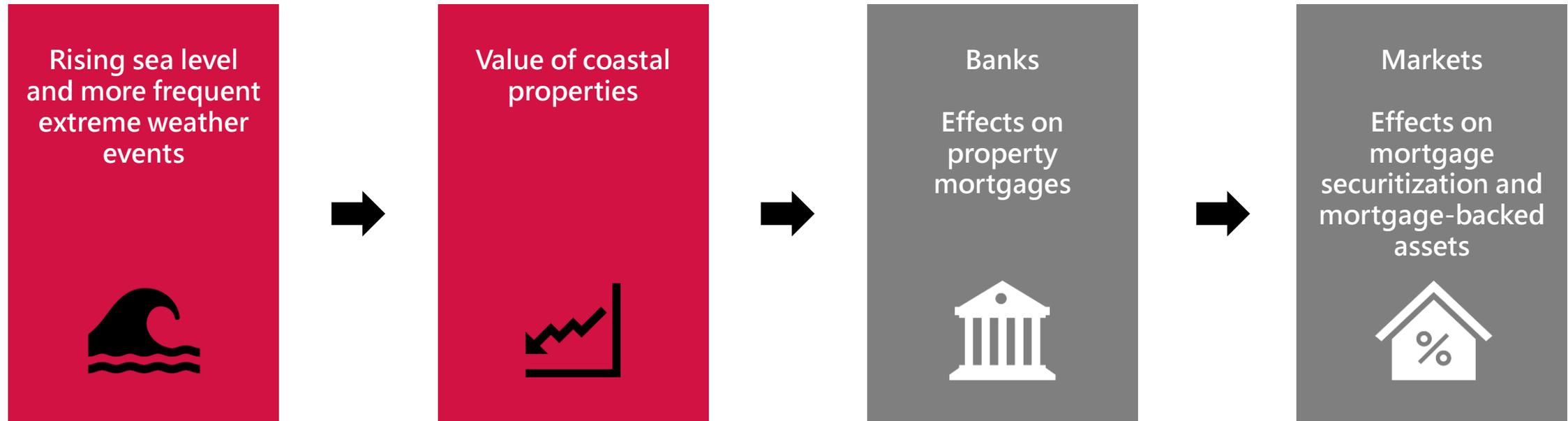
Market Risk

- Shifts in supply and demand for certain commodities, products, and services

Reputation Risk

- Customer or community perceptions of an organization's contribution to or detraction from the transition to a low-carbon economy

Example: Physical Risks for Real Estate



Example: Transition Risks for Real Estate



Climate-related Opportunities

Resource Efficiency

- Reduced operating costs by improving efficiency across production and distribution processes, buildings, machinery/ appliances, and transport/ mobility



Products/ Services

- Organizations that innovate and develop new low-emission products and services may improve their competitive position and capitalize on shifting consumer and producer preferences.



Climate-related Opportunities

Energy Source

- Savings on annual energy costs arising from shift toward low emission energy sources



Resilience

- Adaptive capacity to respond to climate change to better manage the associated risks and seize opportunities



Markets

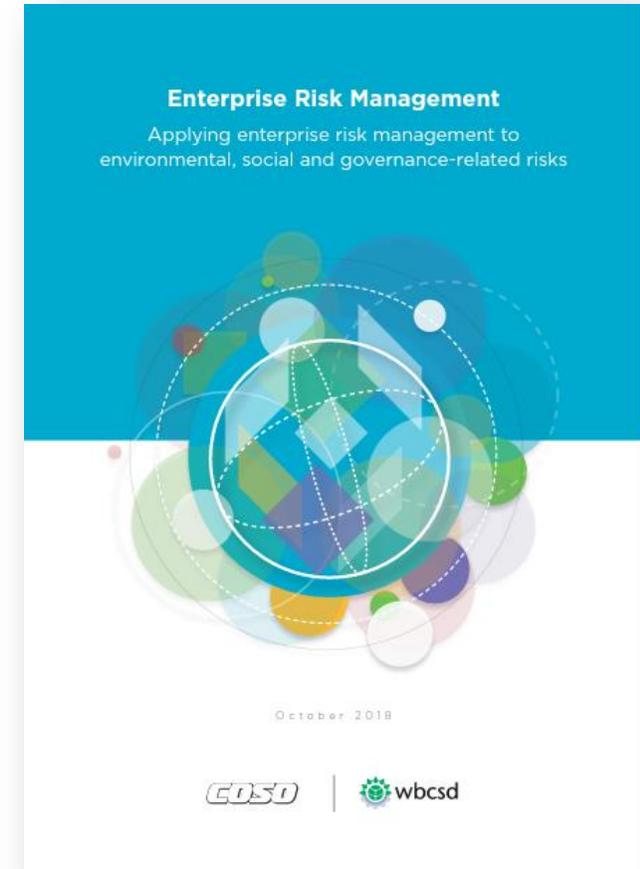
- Access to new markets or types of assets may help organizations to diversify their activities and better position themselves for the transition to a lower-carbon economy



CLIMATE-RELATED RISK ASSESSMENT

Enterprise Risk Management

Applying enterprise risk management to environmental, social and governance-related risks



HKEX's Guidance on Identifying and Prioritising Climate-related risks

- Industry-level risk review
- Stakeholder engagement
- Qualitative evaluation/ quantitative scoring



Industry-level Risk Review

Gather climate-related risks that could affect the company's business



Evaluate causes, links and consequences of such risks

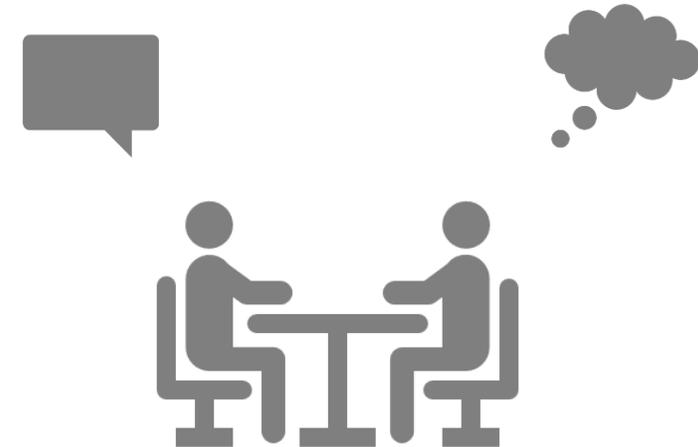
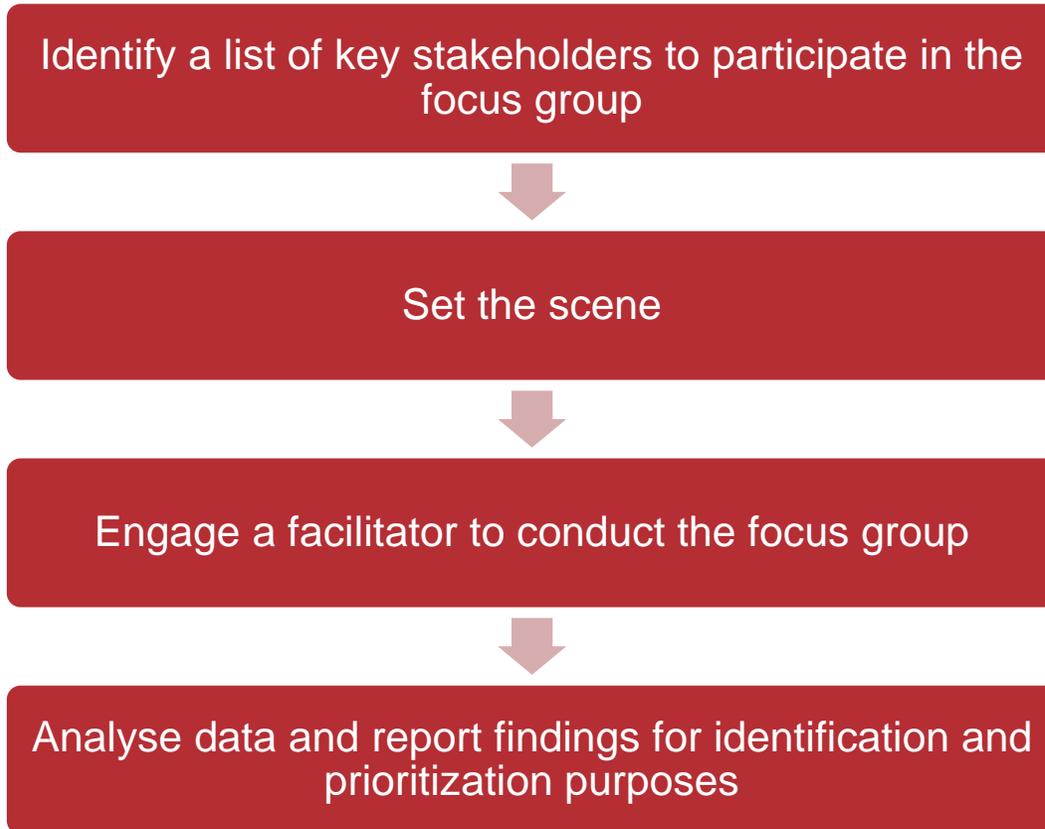


Compile a list of identified risks

Common ways of gathering relevant information

- Review peers' publications
- Engage with risk owners, risk management and sustainability practitioners
- Industry review
- Media monitoring
- Web scraping
- Internal and external audit

Stakeholder Engagement



Criteria for Prioritizing Climate-related Risks

Applicable for both qualitative and quantitative method

Criteria for prioritisation

Set out below are common criteria useful for both the qualitative evaluation method and the quantitative scoring method.

Likelihood

If an event is more likely to occur, it should be ranked as a higher priority. The possibility that a given event will occur in terms of the following:

- Frequency of event
- Chance of happening

Impact

If an event costs a more severe impact on the company, environment or society, it should be ranked as a higher priority. Examples of impacts include:

- Financial loss
- Reputation damage
- Prosecution and fines
- Loss of strategic partners

Adaptability

If an event costs more effort and time to adapt to, it should be ranked as a higher priority.

Recovery

If an event costs more effort, resources and time to recover a business, it should be ranked as a higher priority.

Qualitative Evaluation for Prioritizing Climate-related Risks

Capacity building



Criteria discussion

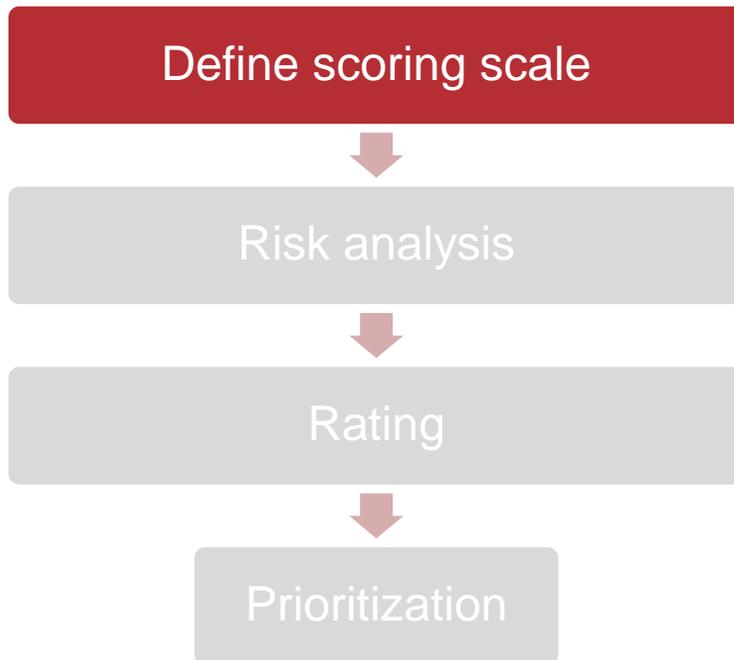


Prioritization

- Assess management's capacity in climate-related issues
 - Seek expert support if needed
 - Constant evaluation and learn from past experience
-
- Discuss the criteria (i.e. likelihood, impact, adaptability or recovery) used for prioritization
-
- Prioritize climate-related risks based on material issues and the selected criteria

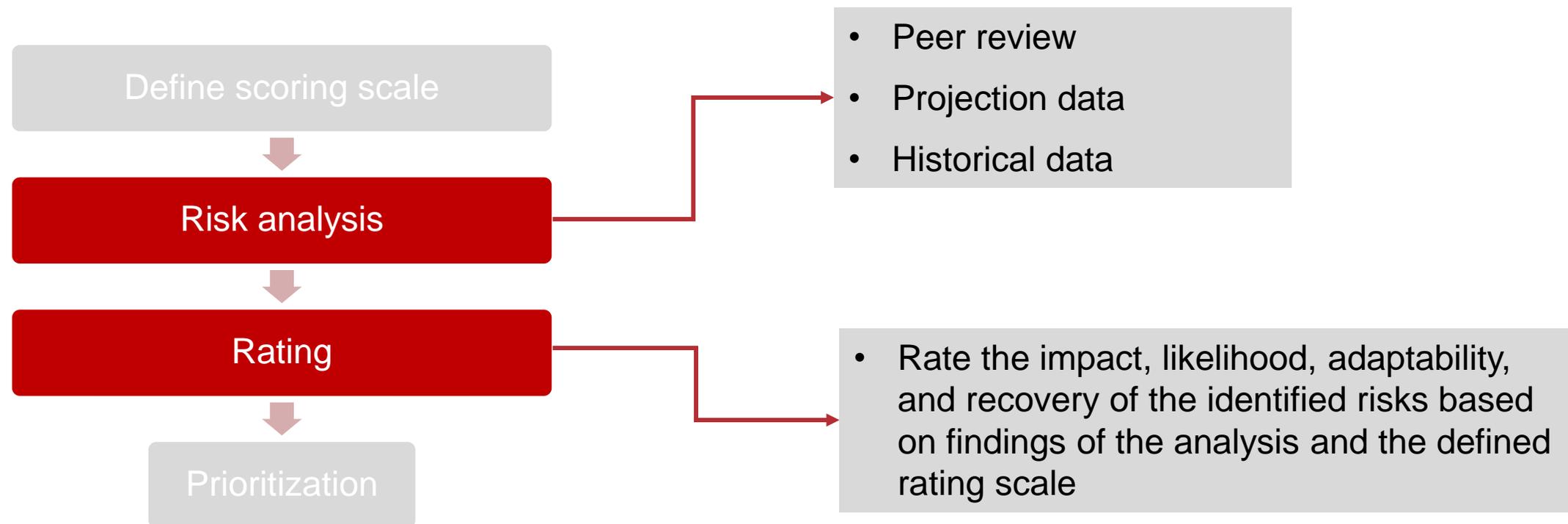
Quantitative Scoring for Prioritizing climate-related risks

Example of Quantitative Scoring

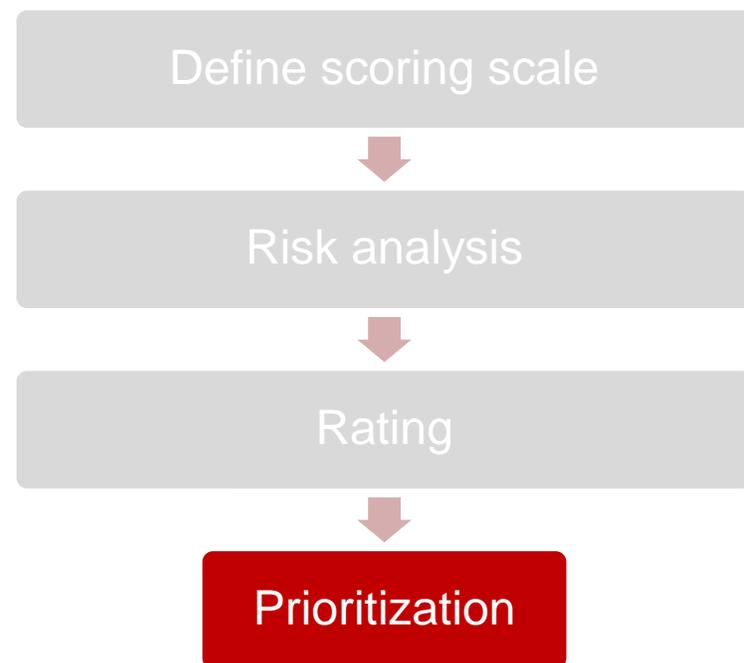


Score	Financial loss	Reputation damage	Prosecution and fines	Loss of strategic partners
4 – High	Over [•]%	Sustained severe negative publicity or material damage to the company’s reputation from the standpoint of public opinion or with any significant stakeholder	Prosecution/fines more than [•]% of revenue	Threatened or actual loss of [•]%
3 – Medium/High	Between [•]% to [•]%	Short-term negative publicity or damage to reputation to the general public	Prosecution/fines less than [•]% of revenue	Threatened or actual loss of [•]%
2 – Low/Medium	Between [•]% to [•]%	Short-term negative publicity or damage to reputation to a specific audience	Minor fines less than \$ [•]	Threatened or actual loss of [•]%
1 – Low	Less than [•]%	Minor negative publicity or damage to reputation to “non-vital” audience	No prosecution or fines	Minor complaints from strategic customers

Quantitative Scoring for Prioritizing climate-related risks



Quantitative Scoring for Prioritizing climate-related risks



Example of Risk Prioritization

Time horizon	Risk	Level of impact	Likelihood	Adaptability	Recovery
Short to medium-term	Policy change in order to achieve net-zero goals	High	High	Low/Medium	Low
Short to medium-term	Increased investors' concerns	Medium/High	Medium/High	Low	Low/Medium
Short to long-term	Increased severity of extreme weather events	Medium/High	High	Low/Medium	Medium/High
Short to long-term	Shifts in consumer preferences	Low/Medium	Medium/High	Low/Medium	Low

CDP Main Questions – Climate-related Risk Assessment



- ▼ (C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?
- ▼ (C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.
- ▼ (C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?
- ▼ (C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Case Study: Reporting Climate Risk Management

Banco Davivenda



- ▼ describe their processes for identifying and assessing climate-related risks in the context of their investment decisions

SARAS 2020 Methodology and Results

We identify and mitigate environmental and social risks in the financing of sensitive projects and sectors.

The Environmental and Social Risk Analysis System - SARAS is part of our comprehensive risk management process and is managed by the Environmental and Social Risk Department of the Vice-Presidency of Credit Risk, reporting to the Corporate Risk Committee, the Credit Risk Committees and the Sustainability Committee. It includes policies and procedures to apply it in loan evaluations in the corporate, construction, business and leasing segments, as well as in investment decisions and in the management of strategic suppliers.

Assessed Items:

- > Compliance with applicable local legislation
- > Labor and working conditions
- > Assessment and management of environmental and social risks and impacts
- > Resource efficiency and pollution prevention
- > Cultural heritage
- > Environmental and/or social certifications and awards
- > Community education and income programs
- > Indigenous peoples
- > Community health and safety
- > Climate change mitigation and adaptation
- > Land acquisition and involuntary resettlement
- > Biodiversity conservation and sustainable management of living natural resources
- > Promotion of good practices

Case Study: Reporting Climate Risk Management

Banco Davivenda



- ▼ disclose information regarding their “SARAS 2020” methodology for how they identify and mitigate environmental and social risks in the financing of sensitive projects and sectors
- ▼ they detail a step-by-step process of how this is considered in the context of climate change

Climate Change

Climate change risk management is part of the Social and Environmental Risk Analysis System (SARAS) when reviewing loan applications, by focusing on historical data on climate events such as floods, droughts, and landslides, and using geographic tools to profile risks and identify existing or required mitigation and adaptation measures.

We developed a work plan aligned with TCFD's recommendations aimed at analyzing and prioritizing the way in which climate change, physical and transition risks may impact the business in the Bank's credit and investment portfolios. It also focuses on identifying opportunities arising from the low-carbon economy in projects and investments to be financed directly contributing to climate change management, such as renewable energies, energy efficiency and sustainable building.

Case Study: Reporting Climate-related Risks

Fresnillo

Climate risk type

Description of the climate risk

Impacts and Management approach

Physical risks		Description	Impacts	Management approach
Category	Type			
Acute	Risk	<p>Changes in extreme climate and weather events such as rainfall, droughts and heatwaves affecting our operations and neighbouring communities</p> <p>Likelihood: Very likely. Timeframe: Medium and long term. Impact: Loss of revenue and increase in operating and insurance costs caused by droughts and floods.</p>	<p>An increase in the frequency and intensity of floods could affect the health and safety of our people and the continuity of our operations and construction projects in multiple ways: damaging mine infrastructure and access roads; disrupting transportation and supply chains; damaging energy infrastructure; discharging untreated water into surrounding areas; and reducing slope and tailings storage stability. Extreme weather events have a negative impact on our neighbouring communities.</p>	<p>We rely on emergency response plans to protect our people and facilities. Our mining infrastructure takes into consideration measures and capacity to handle excess water. For example, our tailings ponds incorporate infrastructure to prevent runoff water from entering the impoundments. Nonetheless, additional regional and site level climate modelling is necessary to increase our understanding of vulnerabilities and the appropriate adaptation measures. We collaborate with our communities to respond and recover from natural disasters.</p>
			<p>Droughts could lead to reductions in revenue from decreased throughput. Droughts have a negative impact on the livelihood of our neighbouring communities.</p>	<p>Our sources of resilience to droughts and chronic water stress are similar and are presented as chronic risks.</p>
			<p>Heatwaves represent a health and safety risk for our workforce in the form of heat-related illnesses and inhibited decision-making capacities, increasing the risk of accidents. Increased energy demand during heatwaves can increase our own demand and the national demand for energy and strain the national grid's transmission capacity.</p>	<p>Our response to more frequent heatwaves relies on our health and safety programmes that evaluate hazards and monitor temperature conditions. Operations already implement energy efficiency measures to reduce electricity demand in peak hours, in order to reduce costs. This is the most common approach to managing the risk of strained capacity in the grid.</p>

Case Study: Reporting Climate-related Risks

Fresnillo



Climate risk type

Description of the climate risk/opportunity

Climate opportunity type

Impacts and Management approach

Category		Type	Description	Impacts	Management approach
Regulatory	Risk		<p>Emerging regulations such as carbon taxes and cap and trade systems</p> <p>Likelihood: Very likely. Timeframe: Medium to long term. Impact: Rise in operating costs.</p>	<p>Mexico's current pilot (non-binding) Emissions Trading System (ETS) programme excludes direct emissions from haulage and indirect emissions from electricity. However, an increase in ambition to curb climate change may drive a change in regulations of the ETS to increase the emissions sources regulated and their thresholds. Other carbon pricing mechanisms such as national carbon taxes on fuels may also rise.</p>	<p>A resilient Energy Strategy supported by renewables and cost-effective energy efficiency projects.</p> <p>We engage constructively with regulators and law makers on energy and climate change regulations, directly or through the Sustainable Development Commission for the Mexican Private Sector (CESPEDES).</p>
			<p>Changes in the regulatory framework of renewables</p> <p>Likelihood: Likely. Timeframe: Short to medium term. Impact: Rise in operating costs.</p>	<p>The growth of renewables relies on a regulatory framework that provides certainty in the long term. Changes to the Mexican electricity industry to curtail renewables may reduce the options for decarbonisation and increase the cost of energy.</p>	
Market	Opportunity		<p>Increase in demand of silver for solar panel manufacturing</p> <p>Likelihood: Very likely. Timeframe: Medium term. Impact: Increase in revenues.</p>	<p>Silver is used in the manufacturing of solar photovoltaic (PV) cells. Solar energy is expected to increase its role in the global energy mix as decarbonisation ambitions rise globally. PV manufacturing is expected to be one of the drivers of greater silver demand.</p>	<p>We monitor the progress of this opportunity through the Silver Institute and specialised reports.</p>

Implement Risk Responses

Identify and select risk response

Risk Response

- ▼ Accept
- ▼ Avoid
- ▼ Pursue
- ▼ Reduce
- ▼ Share

How to Choose Risk Response

- ▼ Business context
- ▼ Costs and benefits
- ▼ Obligations and expectations
- ▼ Prioritization of risk
- ▼ Risk appetite
- ▼ Risk severity

Develop a portfolio view of risk

- ▼ take an entity-wide view of the risk profile in light of the risk responses
- ▼ consider how responses selected for an individual risk may have additive or offsetting impacts on the entity's overall risk portfolio
- ▼ identify where gaps may exist and support timely adjustments prior to finalizing risk responses

Review and Revise for Climate-related Risks



▼ Assess substantial change

Internal Environment	External Environment
<ul style="list-style-type: none">• Changes in strategy or objectives• Rapid organizational growth• Organizational changes including change to leadership• Mergers and acquisitions• Innovation• Change in risk appetite	<ul style="list-style-type: none">• New or pending regulations• Emerging technology• Changing stakeholder expectations• More frequent or extreme weather• Trends or strategies adopted by peer organizations• Shifts in global megatrends

▼ Reviews risk and performance

- Governance and culture
- strategy or business objectives
- New or changing risks
- Assessment approach or assumptions
- Effectiveness of risk responses

▼ Pursues improvement in enterprise risk management

- New technology
- Organizational change
- Risk appetite
- Peer comparison
- Historical shortcomings

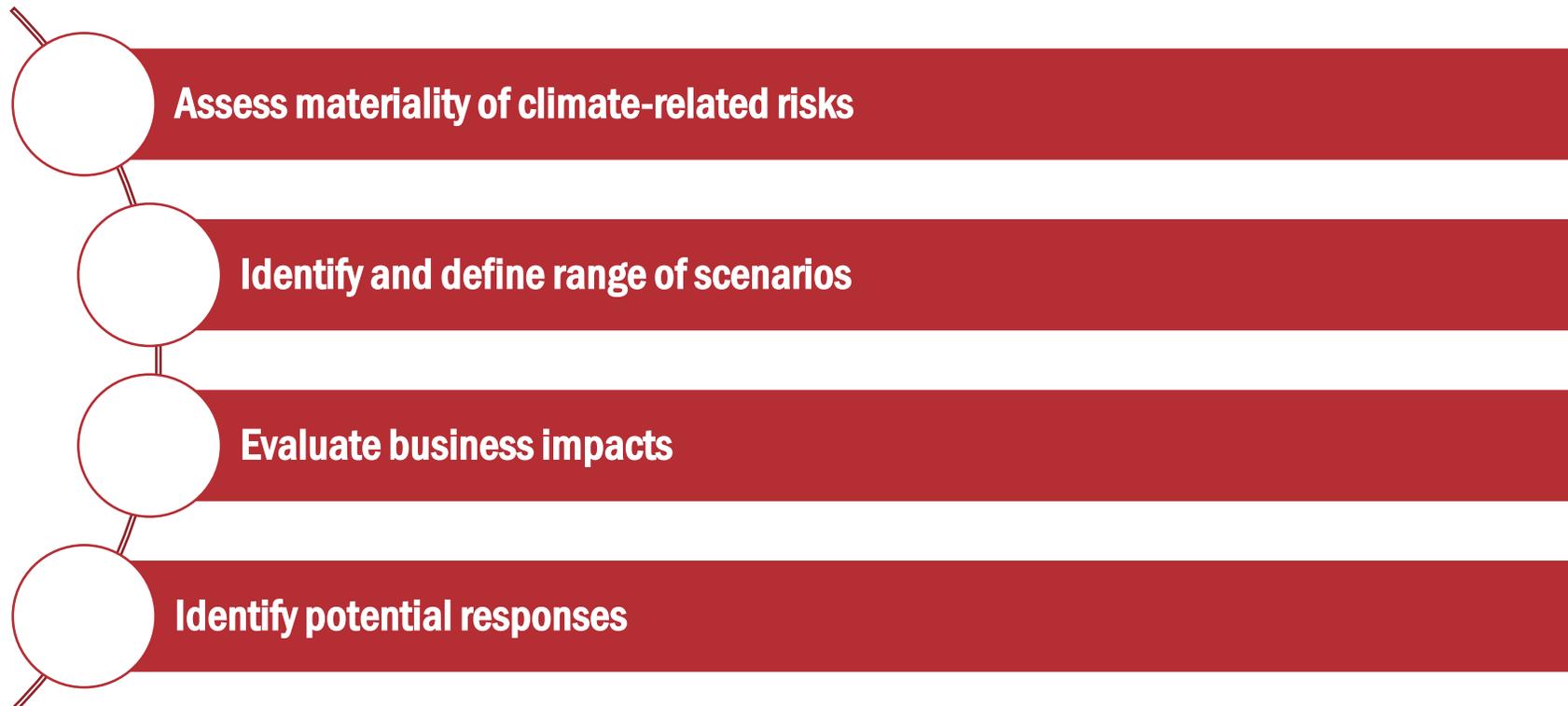
CLIMATE SCENARIO ANALYSIS

Climate Scenario Analysis



- ▼ Help companies effectively identify and assess the potential implications of climate-related risks on business performance from a range of plausible future conditions
- ▼ Help in making strategic and risk management decisions under complex and uncertain future conditions such as climate change
- ▼ Contributes to greater strategy resilience and flexibility by:
 - testing a strategy and strategy options against a set of scenarios
 - identifying possible future threats or opportunities
 - identifying trigger points to set contingency plans in motion
 - serving as a basis for continuous monitoring and strategy adjustment.

Process for Applying Scenario Analysis to Climate-related Risks and Opportunities



Assess materiality of climate-related risks

Identify and define range of scenarios

Evaluate business impacts

Identify potential responses

Analytical Choices Involved in Scenario Analysis

Parameters/Assumptions

- ▼ Discount rate
- ▼ Carbon price
- ▼ Energy demand and mix
- ▼ Price of key commodities/products
- ▼ Macro-economic Variables
- ▼ Demographic variables
- ▼ Efficiency
- ▼ Technology
- ▼ Policy

Analytical Choices

- ▼ Scenarios
- ▼ Quantitative vs. qualitative or “directional”
- ▼ Timing
- ▼ Scope of application
- ▼ Climate models/data sets
- ▼ Physical risks

Business Impacts/ Effects

- ▼ Earnings
- ▼ Costs
- ▼ Revenues
- ▼ Assets
- ▼ Capital Allocation/ investments
- ▼ Timing
- ▼ Responses
- ▼ Business Interruption due to physical impacts

Useful Resources – Guidance of Scenario Analysis for Non-Financial Companies

- ▼ Long-established planning tool
- ▼ Informs strategic management in a structured, systematic, and analytical way
- ▼ Allows continual exploration of alternative strategies
- ▼ Used beyond climate issues
- ▼ Has limitations



Useful Resources - CDP Technical Note on Scenario Analysis

- ▼ Provides an overview of climate-related scenario analysis, key considerations for conducting scenario analysis
- ▼ How CDP has incorporated scenario analysis into our questions



TCFD REPORTING TIPS AND SUPPORTING MATERIALS

TCFD's Principles for Effective Disclosure



- **Relevant and material** – environmental information shall be prepared applying the principles of relevance and materiality.
- **Faithfully represented** – to ensure that information is complete, neutral and free from error in order to be useful.
- **Connected with other information** – to explain the links between the organisation's governance, strategy, risk management and environmental performance.
- **Consistent and comparable** – to elicit information of value to investors in a way that is consistent so as to enable a level of comparability between similar organisations, reporting periods and sectors.
- **Clear and understandable** – to aid understanding by ensuring that disclosures are easy to navigate, read and research
- **Verifiable** – to ensure information that forms the basis for disclosures is verifiable
- **Forward looking** – to ensure that historic information in the mainstream report is complemented with narrative on the future impact of environmental information

Top Tips for Achieving Good Practice

Key steps in preparing your report



Governance

- Ensure that the distinction between board and management-level accountabilities is efficiently distinct and the connection between the two levels is addressed.
- Clarify the specific aspects of climate-related risk and opportunities each governing body has oversight for, and how this oversight is provided
- State the frequency with which each body reviews climate-related information.

Risk Management

- Ensure business- and context-specific actions are included alongside the disclosure of material climate-related risks, to evidence the mitigations.
- Explain how the relative significance of climate-related risks is assessed, relative to wider business risks, and how risk management actions are prioritized
- Clarify the connection and integration between climate risk assessment processes, and wider risk management, including cross-referencing between relevant report sections, if necessary.

TCFD Checklist

Key steps in preparing your report



- Bring together your sustainability, governance, and compliance teams to agree on roles.
- Integrate climate change into the governance process with board buy-in, including audit and risk committees.
- Adapt existing ERM and risk management processes to account for climate risk: quantify risks, use scenario analysis, and carry out stress testing
- Apply existing quality assurance and compliance approaches used for finance, management, and governance disclosure to climate-related disclosure
- Use tools like CDP reporting and the CDSB Climate Change Reporting Framework to collect and report climate-related financial information.
- Examine the financial impact of climate risk with respect to revenues, expenditures, assets, liabilities, and capital.
- Engage with investors to better understand the information on climate-related financial risks they consider relevant.
- Prepare climate-related disclosure in the way you would prepare an assured report, even if you are not able to assure your climate reporting now.
- Assess your business against various scenarios.
- Consider how the structure of your annual report could be modified to incorporate TCFD recommendations, particularly in sections on risk; management discussion and analysis (MD&A), and governance.

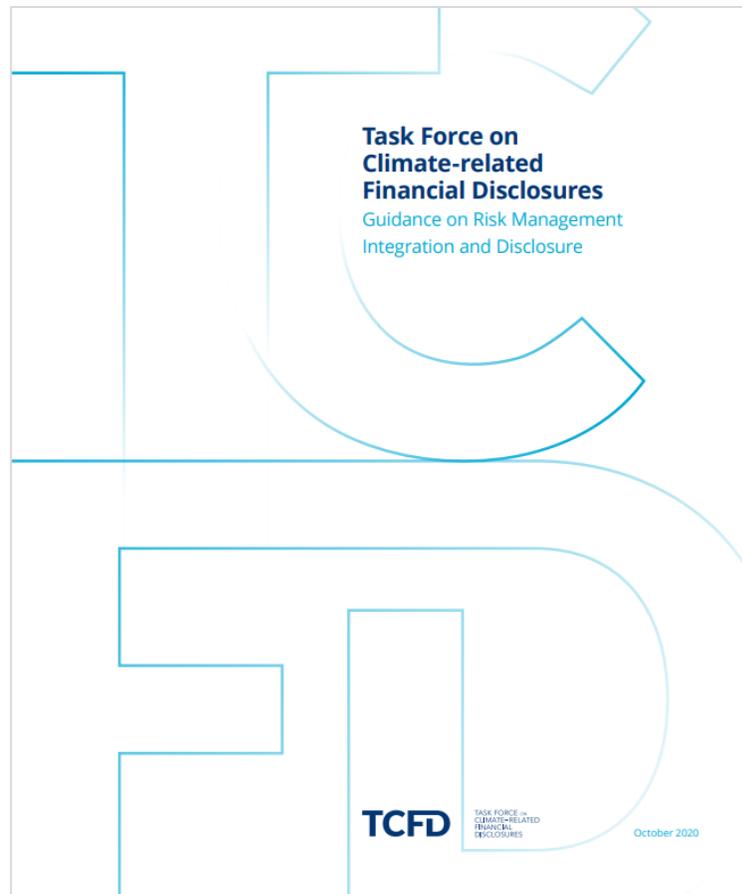
TCFD Checklist

What are the barriers to implementing the TCFD, and how can we overcome them?

- Look through the checklist and think about how your organization could apply these steps into your organisation and consider your current practices.
- What are the barriers your organization faces?
- How could your organization overcome of these barriers?



TCFD Guidance



TCFD Knowledge Hub

Find the resources you need to understand and implement the TCFD recommendations.

Start searching for resources below, or click [here](#) to learn about the TCFD recommendations. You can also click on the four themes below for more detail on the recommendations.

[Home](#) > Resources

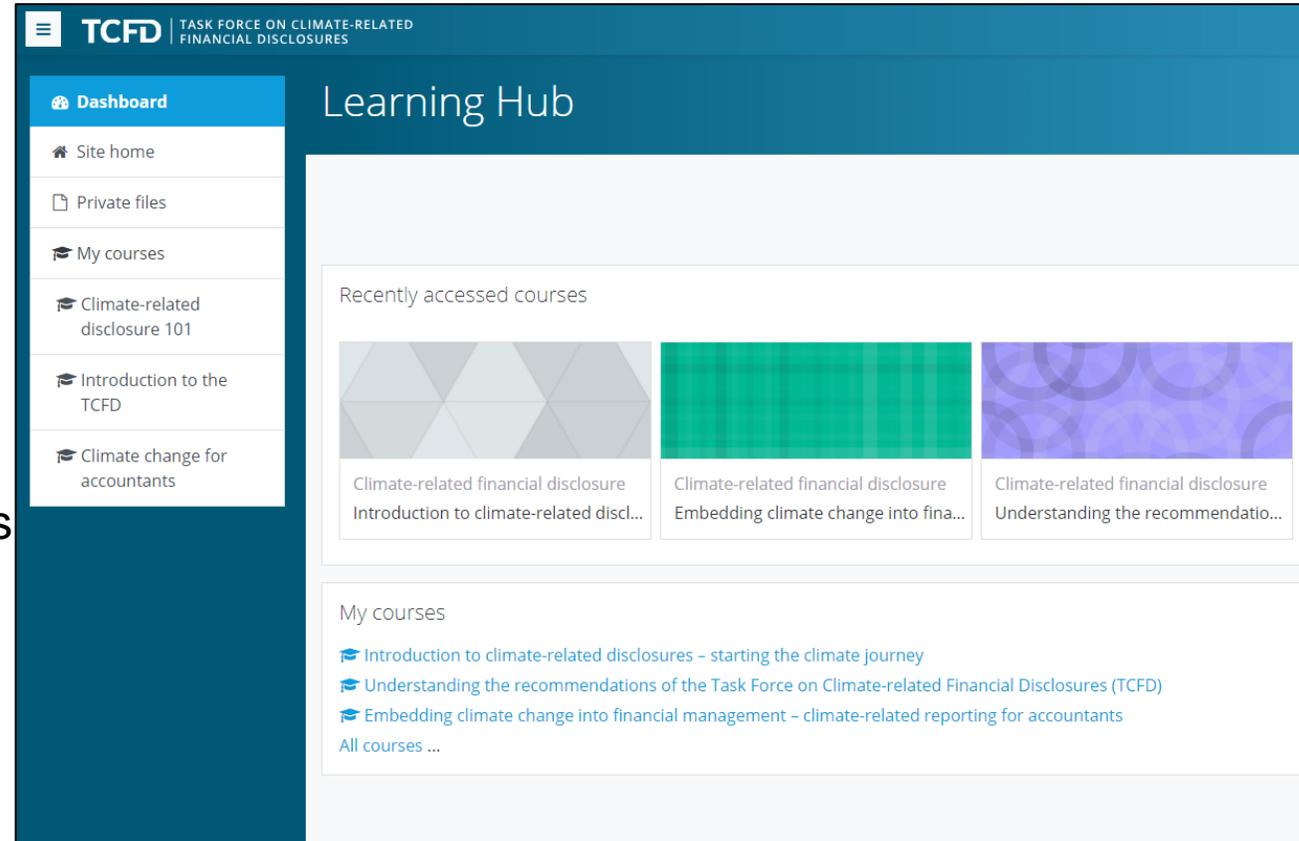
Recommendation 	Article name & author	619 articles ordered by Relevance 
Resource Type 	Directors' Duties Regarding Climate Change in Japan	 Japan
Location 	Author: Commonwealth Climate and Law Initiative	
Industry Group 	Industry Group: All Industry Groups	
	Read more	Download resource
	The Climate Risk Landscape	 International
	Author: UNEP Finance Initiative	

Online Courses

learn.tcfidhub.org



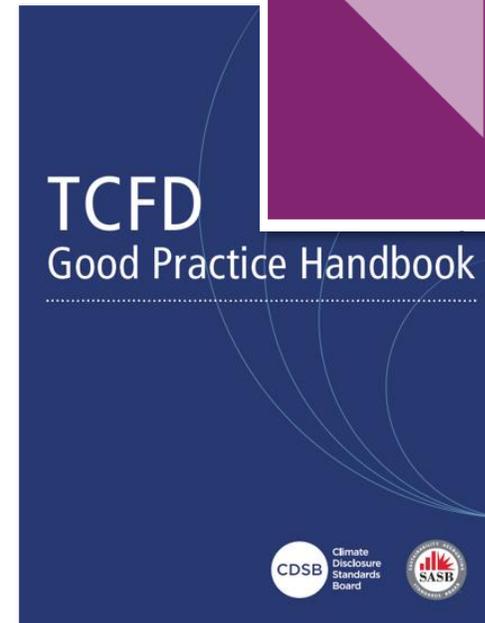
- Introduction to climate-related disclosures - starting your climate journey
- Understanding the recommendations of the TCFD
- Embedding climate change into financial management - climate-related reporting for accountants
- Governance of climate-related risks and opportunities
- An introduction to managing the financial risks from climate change
- Corporate reporting of climate and environmental matters in the European Union



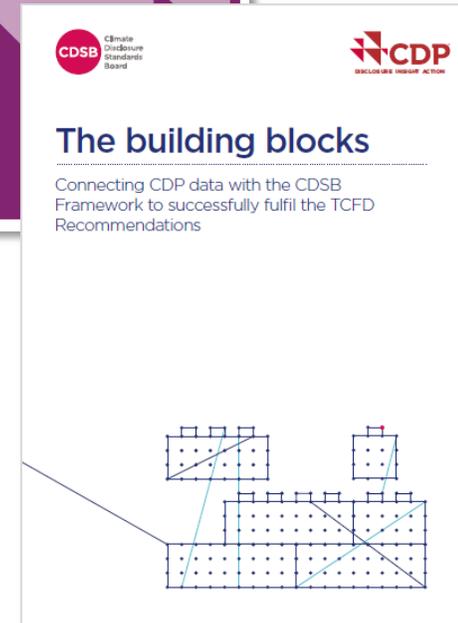
The Building Blocks



The Building Blocks Full Report



TCFD Good Practice Handbook



TURNING RECOMMENDATIONS INTO METRICS

What investors and companies *should* be evaluating.

How to provide complete, comparable information for each question. Resources to take action on metrics.



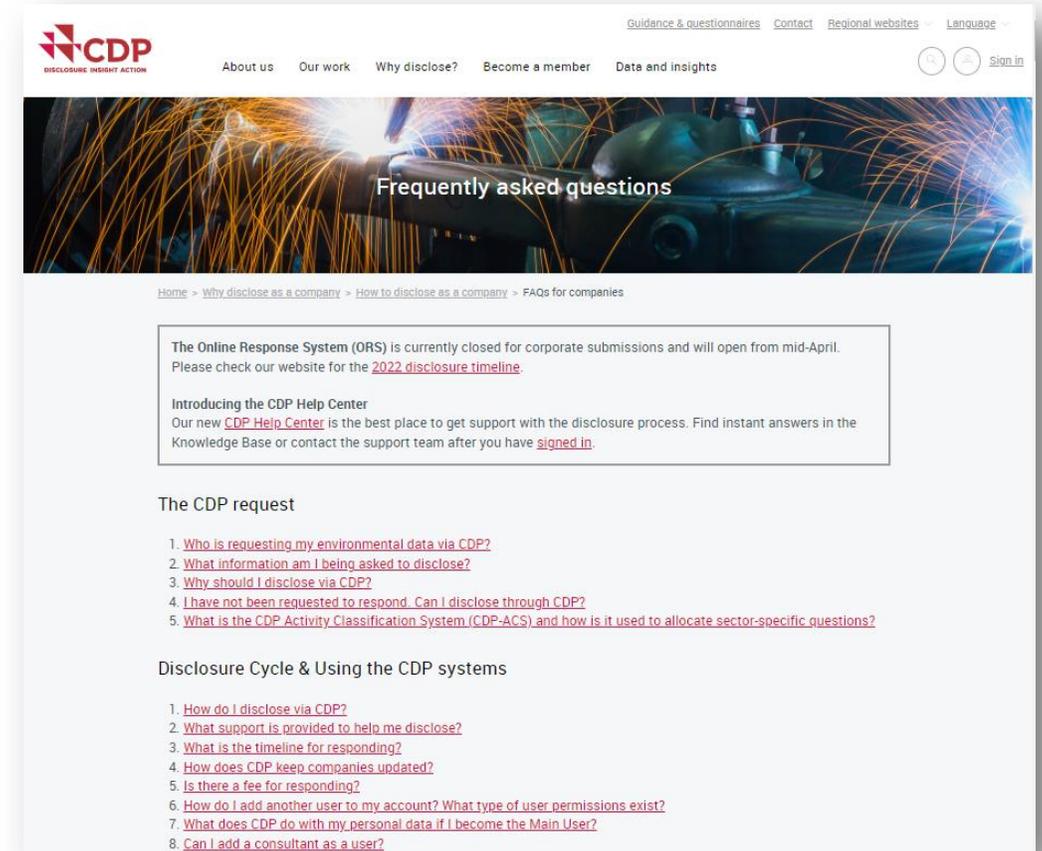
Breakdown of recommendations into accessible metrics.

What is best practice for each metric.

CDP Data:
Standardized,
comparable,
and decision
useful

Key Resources - Frequently Asked Questions

- ▶ Who is requesting my environmental data via CDP?
- ▶ How does CDP keep companies updated?
- ▶ How do I add another user to my account? What type of user permissions exist?
- ▶ What happens to my response?
- ▶ How do I view public responses?
- ▶ When will my score be available?
- ▶ ...



The screenshot shows the CDP website's 'Frequently asked questions' page. The page features a navigation bar with links for 'Guidance & questionnaires', 'Contact', 'Regional websites', and 'Language'. Below the navigation bar is a header image with the text 'Frequently asked questions'. The main content area includes a breadcrumb trail: 'Home > Why disclose as a company > How to disclose as a company > FAQs for companies'. A prominent message states: 'The Online Response System (ORS) is currently closed for corporate submissions and will open from mid-April. Please check our website for the [2022 disclosure timeline](#).' Below this, there is a section titled 'Introducing the CDP Help Center' with the text: 'Our new [CDP Help Center](#) is the best place to get support with the disclosure process. Find instant answers in the Knowledge Base or contact the support team after you have [signed in](#).' The page is organized into sections with sub-headers and lists of links. The first section is 'The CDP request' with five links: '1. [Who is requesting my environmental data via CDP?](#)', '2. [What information am I being asked to disclose?](#)', '3. [Why should I disclose via CDP?](#)', '4. [I have not been requested to respond. Can I disclose through CDP?](#)', and '5. [What is the CDP Activity Classification System \(CDP-ACS\) and how is it used to allocate sector-specific questions?](#)'. The second section is 'Disclosure Cycle & Using the CDP systems' with eight links: '1. [How do I disclose via CDP?](#)', '2. [What support is provided to help me disclose?](#)', '3. [What is the timeline for responding?](#)', '4. [How does CDP keep companies updated?](#)', '5. [Is there a fee for responding?](#)', '6. [How do I add another user to my account? What type of user permissions exist?](#)', '7. [What does CDP do with my personal data if I become the Main User?](#)', and '8. [Can I add a consultant as a user?](#)'.

Key Resources - Guidance for Companies

Questionnaire-related

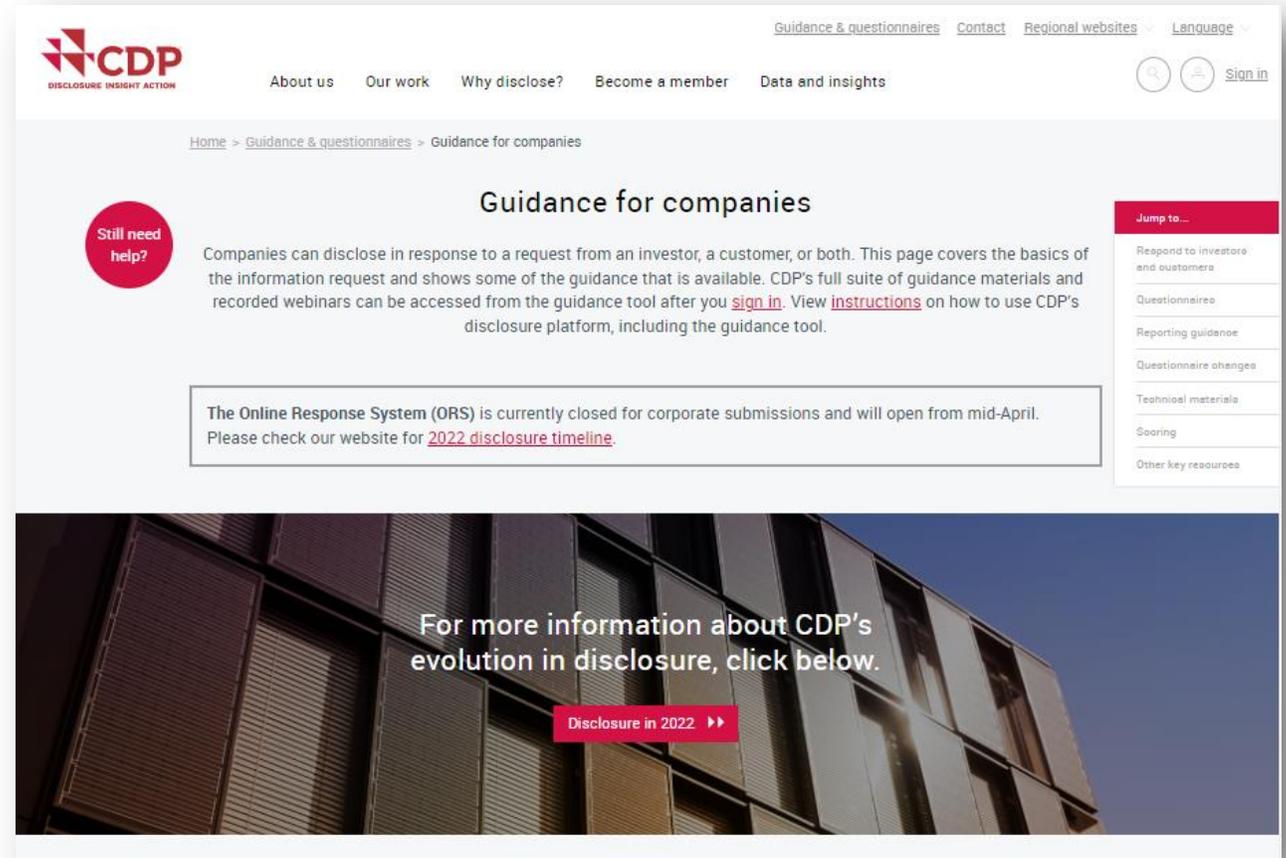
- ▶ Questionnaires
- ▶ Questionnaire Changes doc.
- ▶ Reporting Guidance

Scoring-related

- ▶ Scoring Introduction
- ▶ Scoring Methodology
- ▶ Scoring Methodology Changes doc.
- ▶ Scoring Categories & Weightings doc.

Others

- ▶ CDP Technical note –TCFD/ Reporting on Transition Plans/ Water



Q&A

APPENDIX

CDP Reporter Services

Accelerate your journey towards environmental leadership



STRATEGIC DISCLOSURE SUPPORT



improve your CDP disclosure and strengthen your environmental roadmap

- 1-to-1 account management
- 3 key touchpoints (score feedback call, in-depth gap analysis, review of your draft CDP response)

DATA AND ANALYTICS



benchmark against your peers and identify best practices

- Benchmarking report
- Interactive analytics
- Unlimited downloads of company responses
- Best practice response examples

EVENTS AND INSIGHTS



stay ahead of the curve and showcase environmental leadership

- Exclusive webinars on CDP questionnaires and scoring updates
- Exclusive webinars on thought leadership topics
- Invitations to speak on panels at CDP events

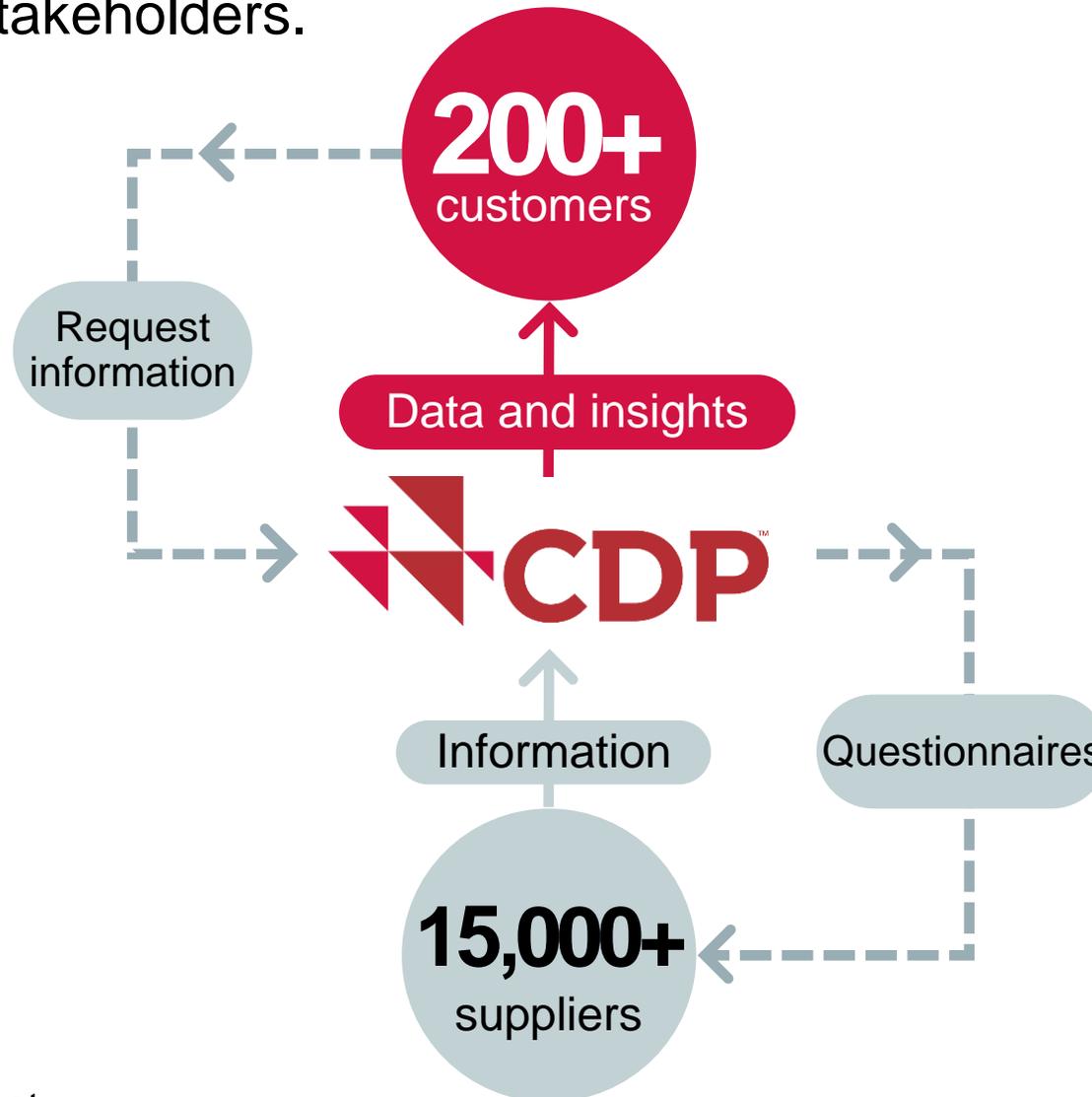
CDP Supply Chain Program

One response. Multiple stakeholders.



Supply Chain members (Customers)

- ▶ Customers identify strategic suppliers to evaluate their potential climate impacts, deforestation, and water security risks through CDP's disclosure platform.
- ▶ Customers use the reported data to measure supplier environmental impacts and to track progress of internal and external sustainability goals and/or commitments.



Suppliers

- ▶ Requested suppliers report qualitative and quantitative information in a standardized way, which will ultimately be reviewed and analyzed by requesting Customers.
- ▶ Suppliers improve their responses and calculations through feedback from Customers, CDP's action exchange initiative, and scoring documents.