



A Walkthrough of the Climate Risks and Opportunities Landscape

With you today

Our speakers have extensive experience in Sustainability and Climate-related Risk Advisory



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Kamarul has more than 20 years of experience with the public accounting practice at Deloitte and is currently Deloitte Malaysia's Sustainability Lead.

His work encompasses various aspects of auditing, and he has been involved in various audit assignments comprising clients ranging from small limited companies to public listed companies and multinational corporations involved in agriculture, manufacturing, banking, property development, advertising, transportation, retailing and trading. He was also involved in the audit of a statutory body.

Kamarul has spent 18 months at Deloitte Boston in the Business Assurance and Advisory Service, gaining experience in audits of US companies involved in finance, publishing, power generation and high-tech manufacturing industries.

Kamarul has experience in leading various sustainability projects covering Task Force on Climate-related Financial Disclosures, Integrated Reporting, etc.

What is climate change?

Definition of climate change and the history of climate change action

Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use.

- The Intergovernmental Panel on Climate Change



A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

- United Nations Framework Convention on Climate Change (United Nations Climate Change)



United Nations Framework Convention on Climate Change (UNFCCC)

- International environmental treaty adopted on 9 May 1992 and effective on 21 March 1994
- Objective: "stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system"
- Ratified by 197 parties
- Specify further action towards the objective of the UNFCCC via international treaties (called "Protocols" or "Agreements")

Understanding sustainability and climate change

The climate crisis is a crisis of unprecedented magnitude that threatens to multiply a broad range of sustainability risks

Climate Change

- Broader changes occurring to planet due to global warming, including sea level rise, melting mountain glaciers, ice melts and shifts in seasons

Sustainability

- Sustainable development that meet the needs of the present without compromising the ability of future generations to meet their own needs

ESG

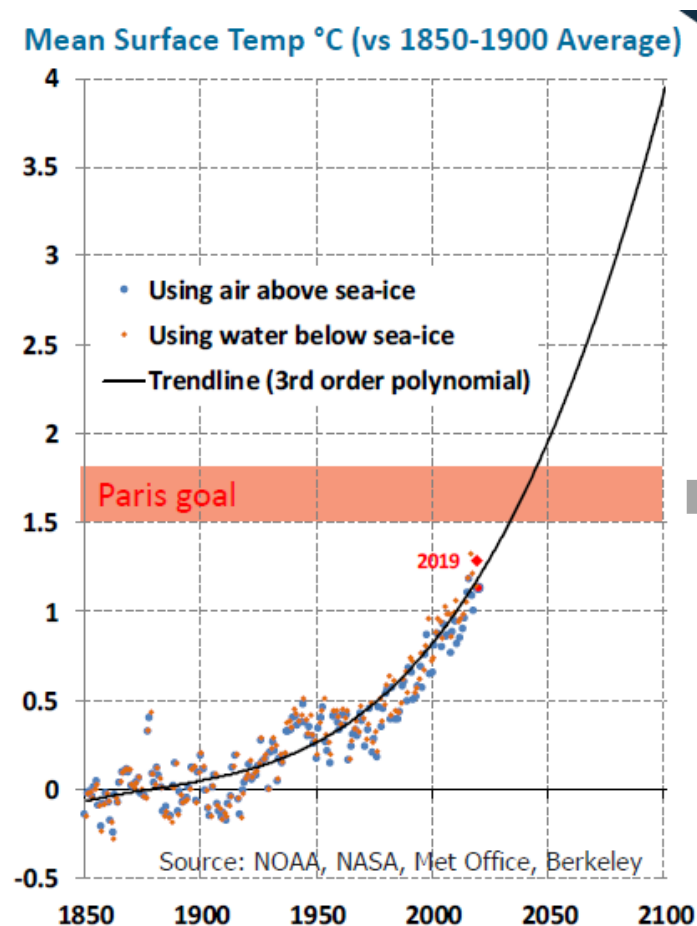
- Environmental, Social and Governance – specific focus of corporate evaluation towards three dimensions

Global Warming vs. Climate Change

- Global warming is Earth's warming due to greenhouse gas emissions
- Climate change is long term changes to the climate due to global warming

Why is climate change a significant risk in the recent years?

Scientist (IPCC) have shown that global warming beyond 1.5°C as compared to pre-industrial levels will increase the intensity and frequency of extreme weather events, as well as accelerate chronic changes at the rate that human beings would not be able to mitigate in time.



Achieving the 1.5°C scenario requires net global greenhouse gas (GHG) emissions to be reduced to zero by 2050

At COP21 in Paris, on 12th December 2015, parties to the UNFCCC reached an agreement to combat climate change by keeping a global temperature rise in this century well below 2 degrees Celsius above pre-industrial levels

Indication of severity of the impacts on the planet as a result of increase in global temperature

Environmental	Potential Impacts	Human
<i>Indicative findings from selected research</i>		
	6°C	End of civilisation? www.cser.ac.uk
	5°	General social breakdown: survival
	4°	Large areas are uninhabitable
	3°	Conflict / war: resource competition
	2°	Many deaths from weather disasters
	1°	Global GDP materially reduced
	0°	Repeated famines, mass migration
		Infectious diseases spread
		Widespread hunger and water stress
		Rising tensions over resources
		Impacts already felt by those in poverty

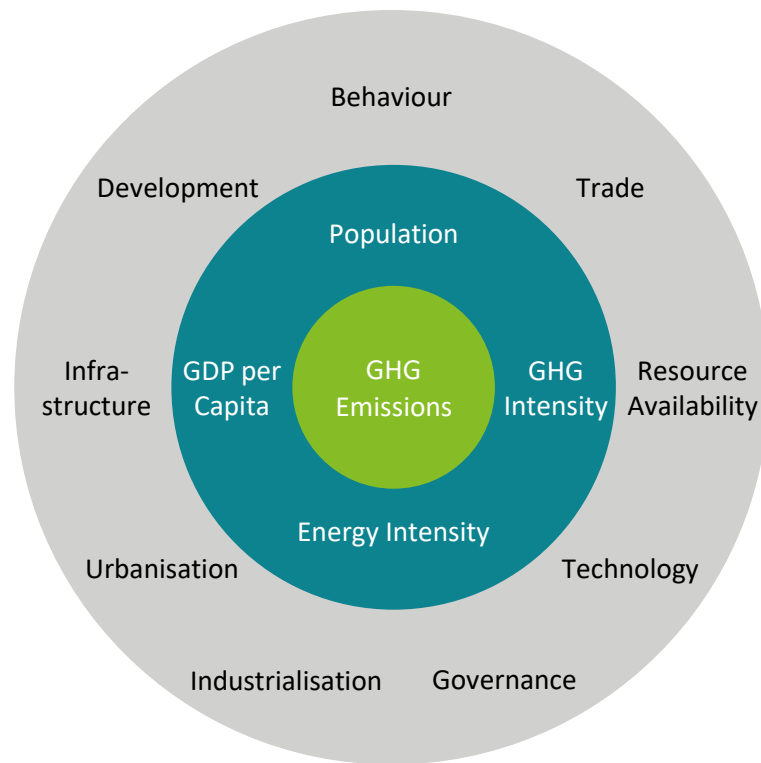
2019

What caused the Climate Emergency

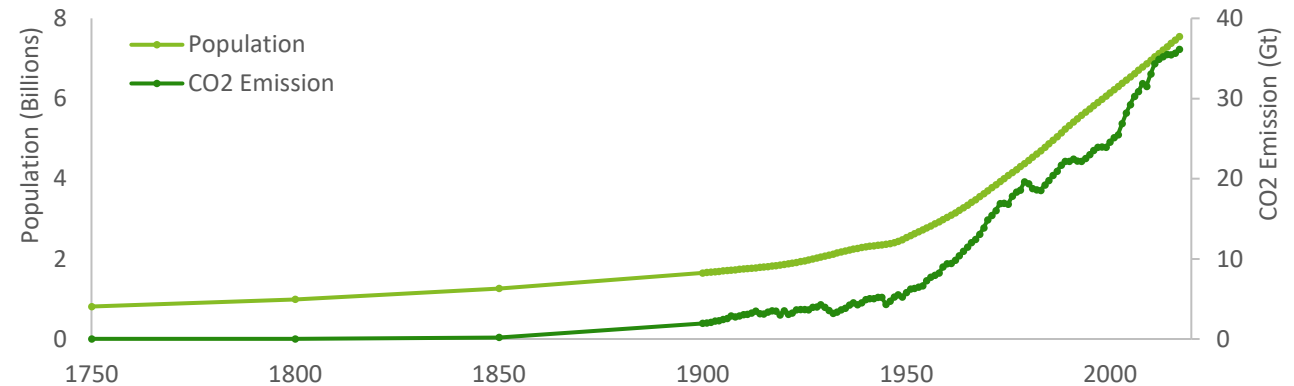
Human activities exacerbate the changes

Climate change refers to **significant changes in global temperature, precipitation, wind patterns and other measures of climate** which are attributed directly or indirectly to **human activity** that alters the composition of the global atmosphere.

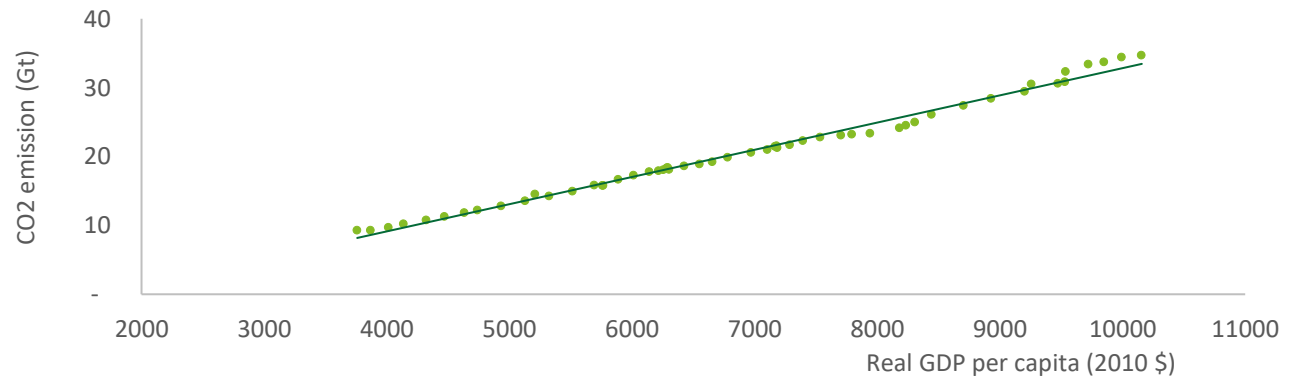
Drivers of Greenhouse Gas (GHG) emissions



Global population and CO2 emission (1750-2020)



CO2 locked to GDP since 1960



Why 1.5 / 2 degrees?

Foreseeable implications if the global temperatures continue to rise

Situation – We need to limit the temperature increase to 1.5°C

Analysis have shown that global warming beyond 1.5°C as compared to pre-industrial levels will increase the intensity and frequency of extreme weather events, as well as accelerate chronic changes at the rate that human beings would not be able to mitigate in time.

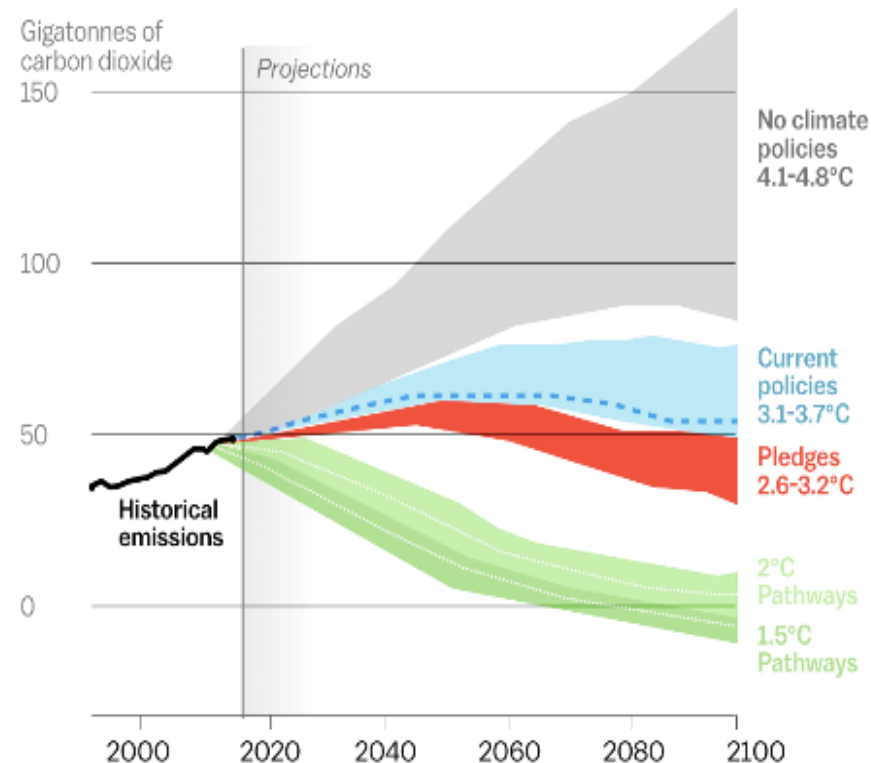
Problem – Current trajectories make the goal extremely challenging

Achieving the 1.5°C scenario requires net global greenhouse gas (GHG) emissions to be reduced to zero by 2050.

Warming by 2100

Physical impacts

	Sea-Level Rise (cm)	0.3-0.6 m	0.4-0.8 m
	Coastal assets to defend (\$tn)	\$10.2tn	\$11.7tn
	Chance of ice-free Arctic summer	1 in 30	1 in 6
	Tropical cyclones: Fewer (#cat 1-5)	-1%	-6%
	Stronger (# cat 4-5)	+24%*	+16%
	Wetter (total rain)	+6%	+12%
	Frequency of extreme rainfall	+17%	+36%
	Increase in wildfire extent	x1.4	x1.6
	People facing extreme heatwaves	x22	x27
	Land area hospitable to malaria	+12%	+18%



Humanity's responses

Adaptation: acting to minimise the impact of the changing climate on a business

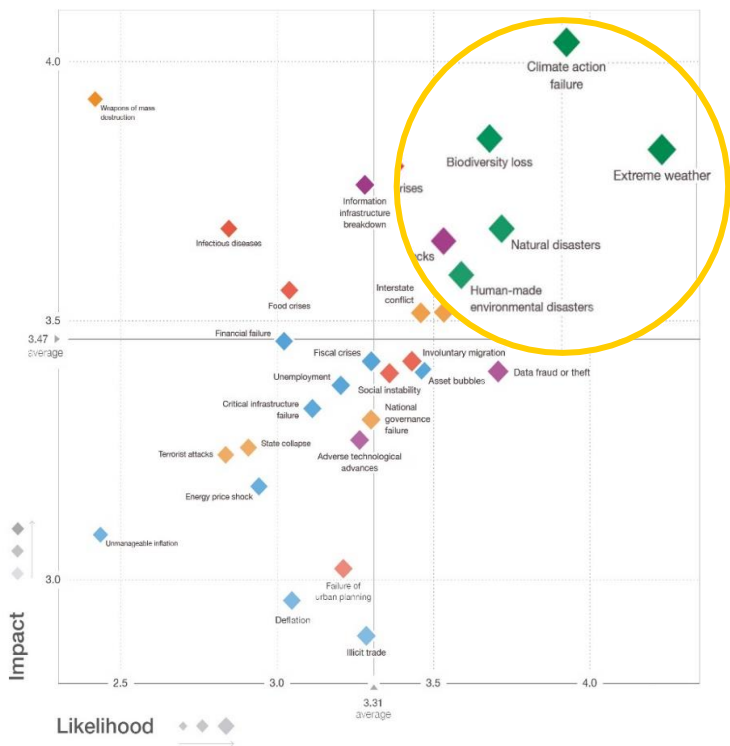
Mitigation: acting to minimise the impact of a business on the changing climate

Climate risks are the most impactful and likely risks for businesses

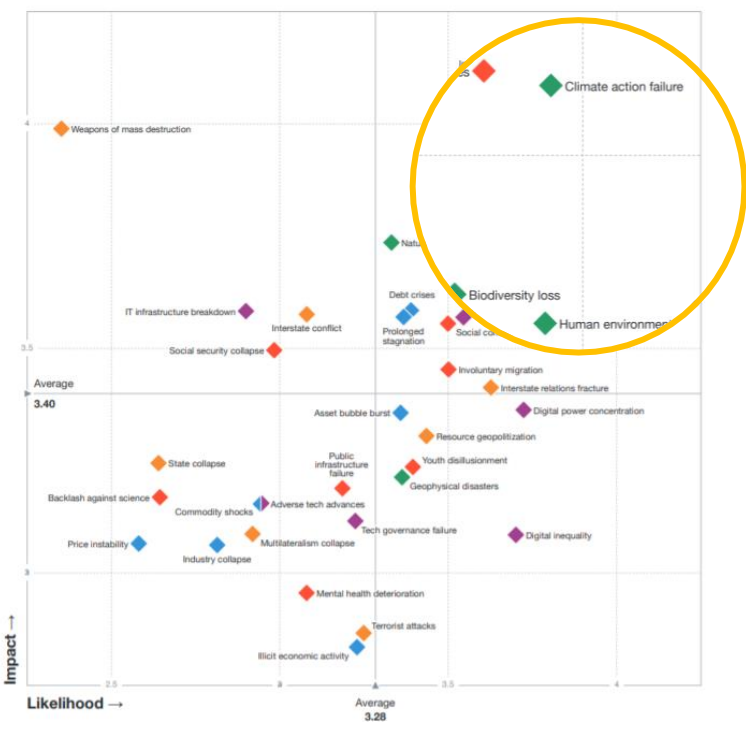
Drastic, systematic changes are necessary to avoid catastrophic impacts

Climate-related risks are some of the most likely and most impactful risks faced by businesses globally.

Global Risks Landscape (2020)



Global Risks Landscape (2021)



Global Risks Horizon (2022)



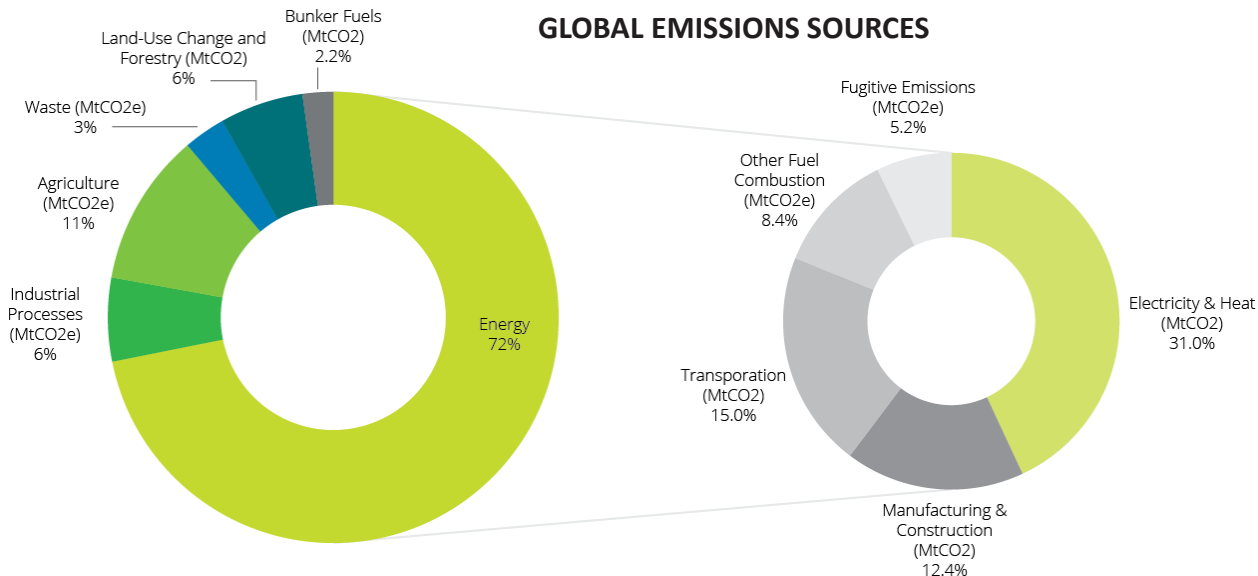
Understanding the global challenge

The world is currently not on the trajectory to meet the goals set by the Paris Agreement. However, a number of initiatives have been established and regulations are being developed to accelerate the transition

PARIS AGREEMENT 2015

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.

<https://unfccc.int/process-and-meetings/the-paris-agreement/what-is-the-paris-agreement>



Task Force on Climate-related Financial Disclosures

RE 100

The world's most influential companies, committed to 100% renewable power.



SCIENCE
BASED
TARGETS

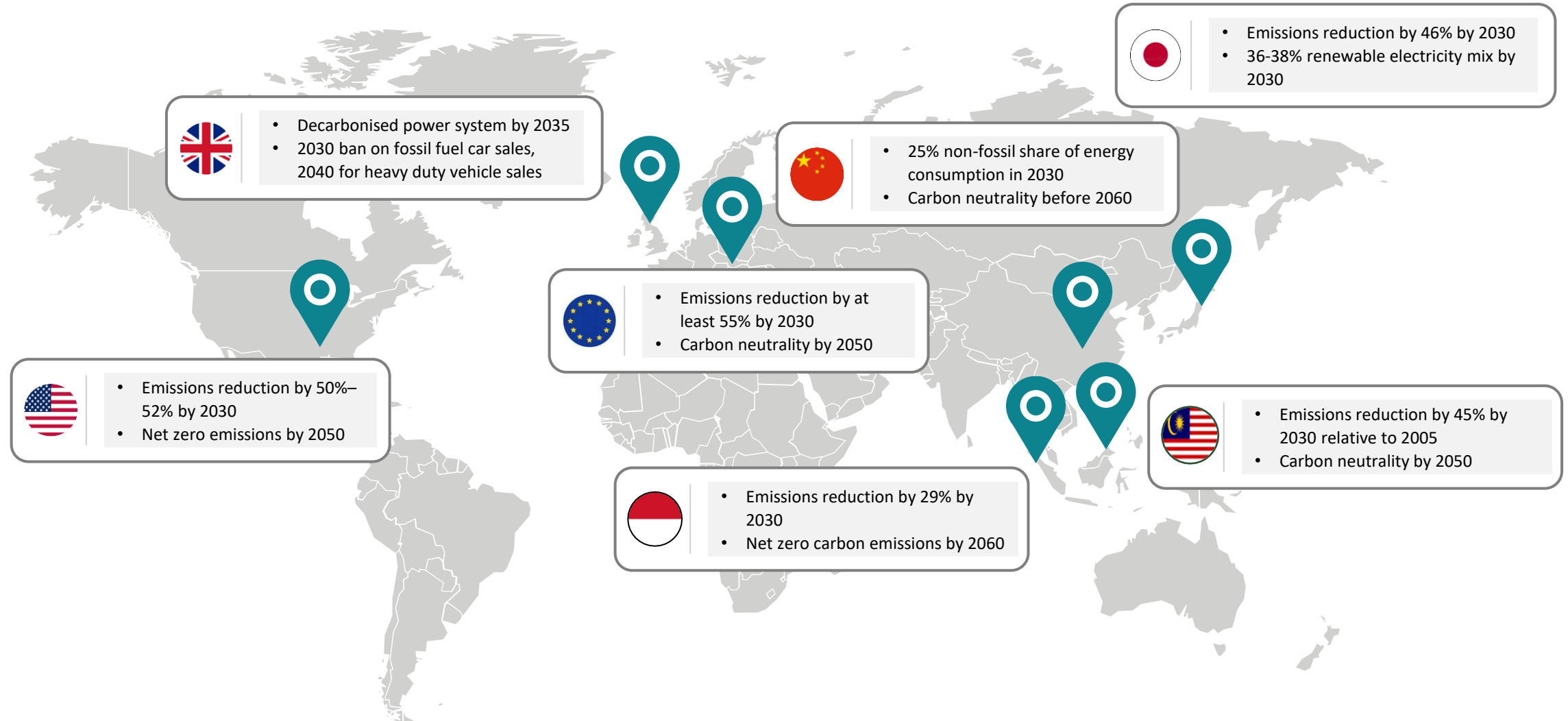
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



**CLIMATE
NEUTRAL NOW**

Overview of climate ambitions around the world

What are other countries' responses to climate change?



Introduction to climate-related physical and transition risks

Climate change impacts include direct physical events and transition elements brought about by governmental, corporate and societal response

Physical Risks

Physical risks resulting from climate change can be event-driven (acute) or longer-term shifts (chronic) in climate patterns.

Acute physical risks

1. Storms (Typhoons, hurricanes and tropical cyclones)
2. Heatwaves and droughts
3. Floods (urban and coastal)
4. Landslides
5. Wildfires

Chronic climate patterns

1. Changes in precipitation patterns / Increased Rainfall
2. Longer dry spells and droughts
3. Increased temperatures
4. Changes in sea level
5. Increased incidence of community diseases and epidemics

Transition Risks

Transition risks occur when addressing mitigation and adaptation requirements related to climate change.

Policy & Legal Risks

1. Energy policy shift to low carbon economy and carbon pricing
2. Policy shift to water and energy efficiency measures
3. Energy policy shift towards renewable energy (e.g. solar energy and wind energy)
4. Policy to improve sustainable practices in supply chains
5. Increased requirement for disclosure - transparency and accountability
6. Litigations due to a failure to mitigate or adapt climate change effectively

Technology risks

1. External disruptive technologies to supply chain
2. Inability to adapt to new technology development on energy efficiency and green technologies
3. Inability to adapt to new technology development on carbon capture and storage (e.g. gas treatment and carbon dioxide recovery)

Market Risks

1. Market sentiments forcing changes to production methods and materials
2. Changes in investor decisions and consumer purchasing decisions as a result of increased climate change awareness & consciousness
3. Increased raw material costs as a result of climate change (e.g. commodities, products, services)
4. Financial losses due to investments in products/ entities susceptible to climate change
5. Inability to tap on market opportunities (e.g. contracts or financing sources) due to non-compliant activities or company sanction
6. Increase in insurance costs against climate risk events

Reputational Risks

1. Public and employee activism on sustainable manufacturing
2. Customer or community disengagement to brand, due to organisation's inaction or non-contribution to climate change
3. Partners, alliances and/or key suppliers engaged in non-climate friendly activities
4. Sector-wide stigmatisation due to engagement in non-climate friendly practices

Climate risks at a glance

How are transition and physical risks affecting business in Malaysia?

Transition Risk



Temperature

Increases in temperature lead to an increase in the consumption of energy and water for cooling offices / facilities



Regulation

Changes in regulations covering printing facilities lead to stringent requirements and increasing compliance cost



Offsets

Increasing carbon offset pricing impact company's profit due to a rise in the cost to meet its net zero target

Physical Risk



Flooding

More frequent and severe floods cause unrepairable damage to facilities / offices in areas prone to flooding



Precipitation

Increases in precipitation lead to regular interruption to or reduction in quality of business processes (e.g., employee commutes, plant processes)



Precipitation

Increases in precipitation also cause interruptions to logistics operations, further disrupting services

PM: Govt to boost Malaysia's flood resilience with national climate change action plan

Proposed climate change law should centre around carbon emissions

Global carbon pricing schemes raised \$84 billion in 2021, World Bank says

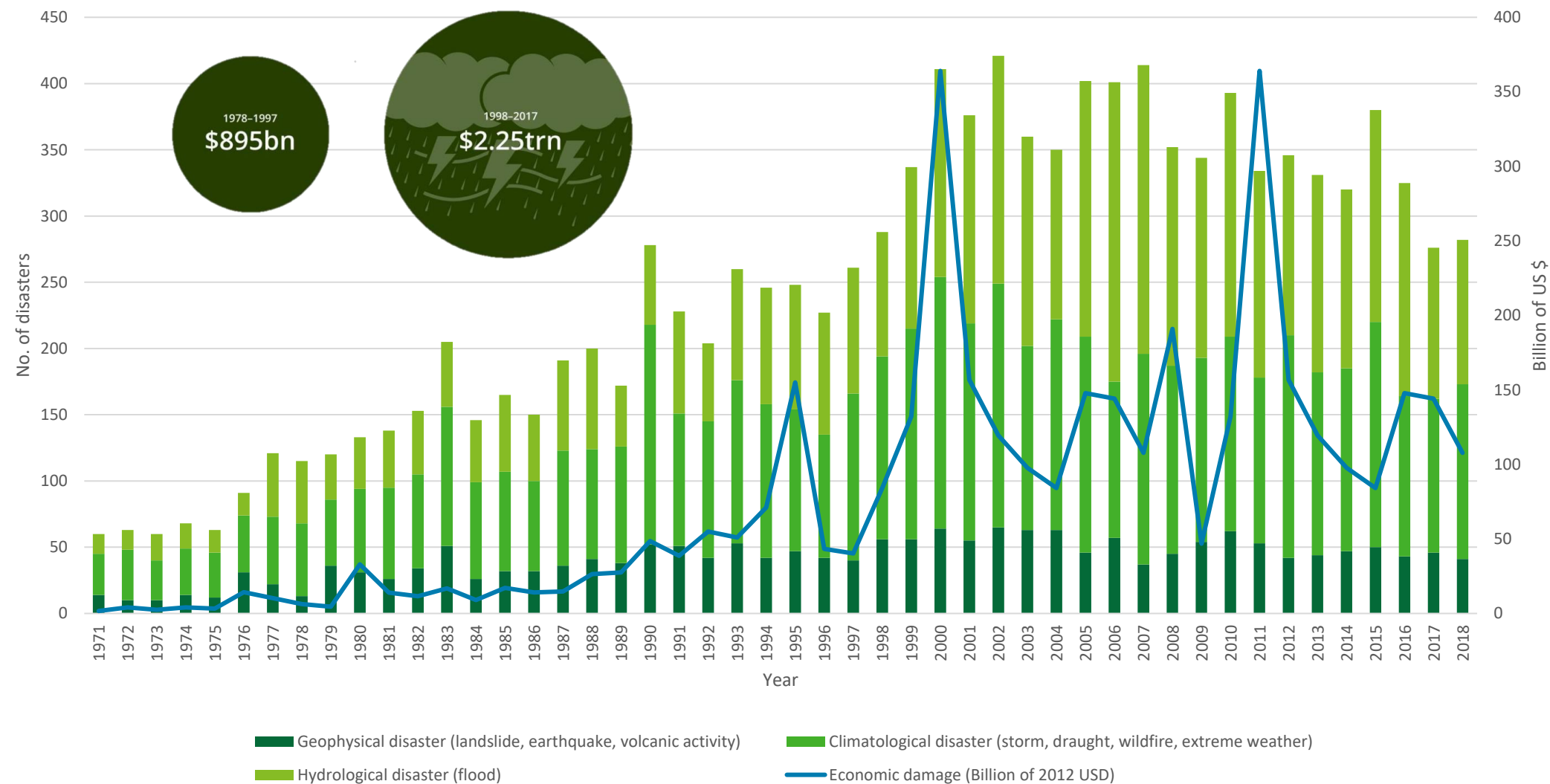
Several KL roads flooded after heavy rain

Employers urged to provide paid leave to workers affected by Baling floods

MIH 2021: Economic losses of RM5.3b to RM6.5b during the December 2021 floods

The physical risks of the changing climate is evident

Increasing occurrence and scale of extreme weather events



Physical risks in SEA



Myanmar     

Global climate exposure rankings*:
 #1, most deaths due to extreme weather
 #2, most affected due to extreme weather
 #8, flooding
 #8, sea level rise

Laos     

Global climate exposure rankings*:
 #45, flooding

Thailand     

Global climate exposure rankings*:
 #12, flooding
 #7, sea level rise
 Ranked in 'Low Performer' band in CCPI**

Malaysia  

Global climate exposure rankings*:
 #37, flooding

Singapore 

Vietnam      

Global climate exposure rankings*:
 #4, flooding
 #4, sea level rise
 #8, typhoons/cyclones

Cambodia     

Global climate exposure rankings*:
 #15, flooding

Philippines      

Global climate exposure rankings*:
 #1, most number of extreme weather events
 #2, most deaths due to extreme weather
 #4, most affected due to extreme weather
 #16, flooding

Indonesia      

Global climate exposure rankings*:
 #5, sea level rise
 #6, flooding
 Ranked in 'Low Performer' band in CCPI**

*Rankings based on global scale and sourced from multiple studies.

** CCPI: Climate Change Performance Index – measures only 57 countries and the EU. Low Performer rating indicates potentially more impactful / aggressive policies leading to transition risks

Transition risks and opportunities in SEA

Thailand

1. **Policy:** Shift towards low carbon economy
2. **Policy:** Adoption of renewable energies
3. **Legal:** Requirements on energy savings targets

Malaysia

1. **Policy:** Shift towards low carbon economy
2. **Policy:** Adoption of renewable energies
3. **Legal:** Penalties on unsustainable agricultural practices (illegal logging)

Singapore

1. **Policy:** Funding for energy efficient technologies
2. **Legal:** Regulations on carbon taxes
3. **Market:** Shift towards green economy (green and sustainable financing)

Vietnam

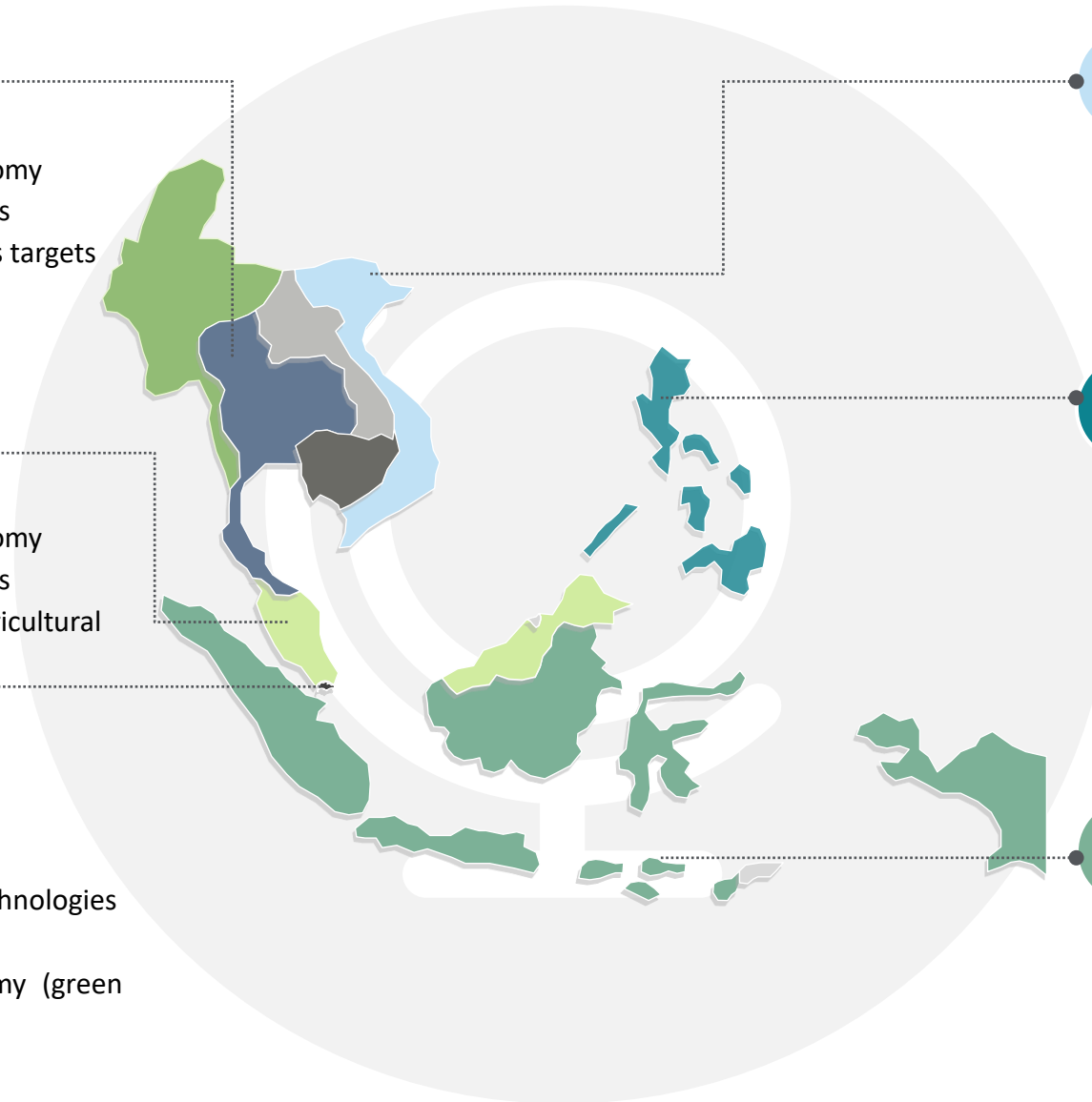
1. **Policy:** Shift towards low carbon economy
2. **Policy:** Adoption of renewable energies
3. **Policy:** Energy efficiency and reduced consumption

Philippines

1. **Policy:** Shift towards low carbon economy
2. **Policy:** Adoption of renewable energies
3. **Policy:** Energy efficiency and reduced consumption
4. **Market:** Tax incentives on reduced reliance on carbon-based energy

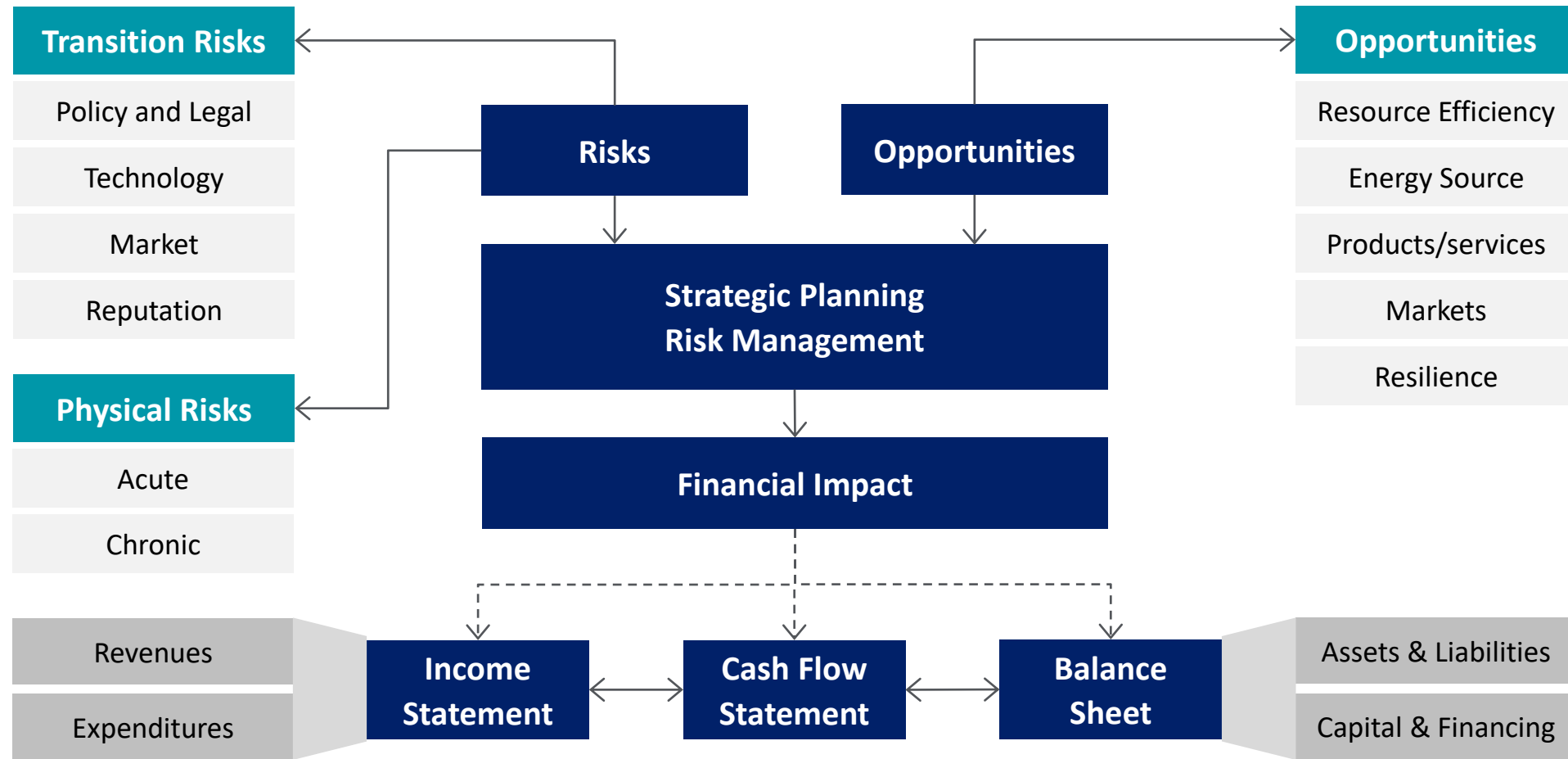
Indonesia

1. **Policy:** Shift towards low carbon economy
2. **Policy:** Adoption of renewable energies
3. **Policy:** Shift towards biofuels



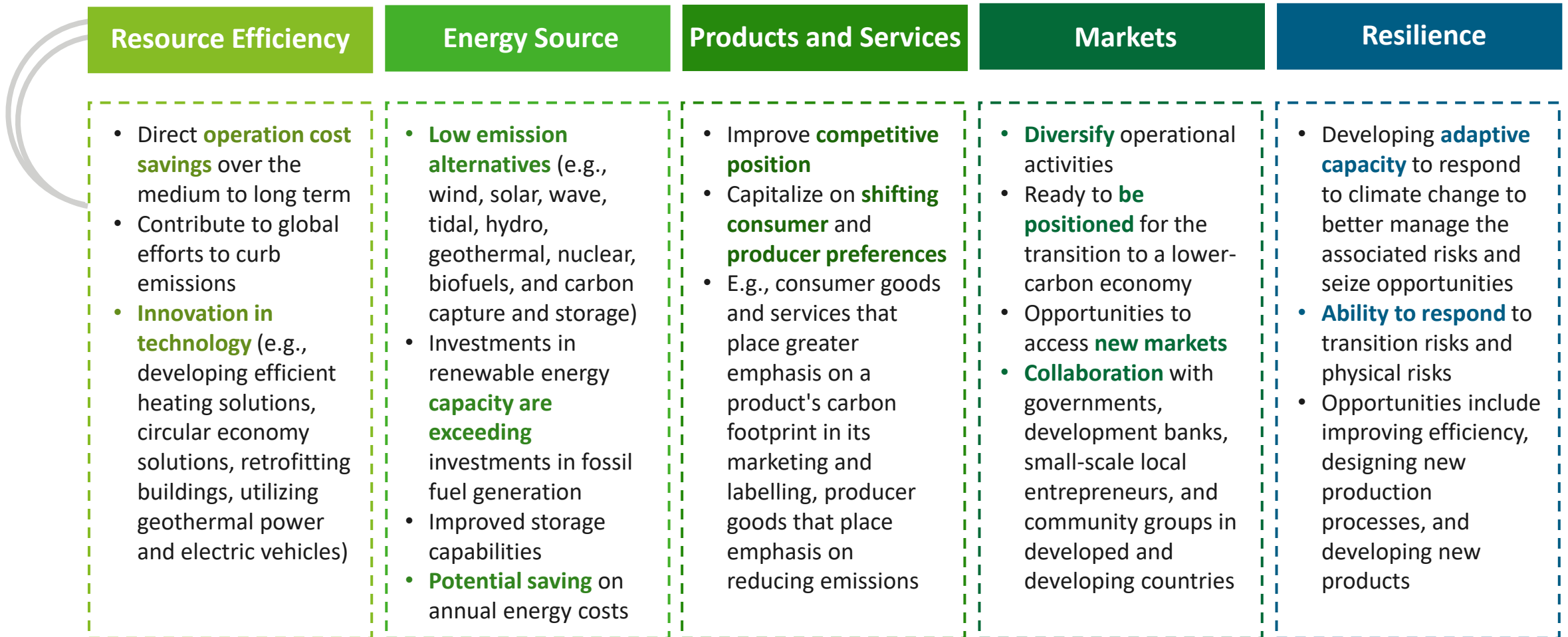
Climate related risks, opportunities and financial impact

Material risks and opportunities based on the TCFD framework



Climate-related opportunities

Opportunities vary depending on the region, market and industry for efforts in mitigating and adapting to climate change



Overview of national targets & commitments

Malaysia has set out ambitious goals to address climate change

45%

Reduction on
carbon intensity by
2030 from 2005
level

31%

of country's
electricity to be
generated from
renewable sources
by 2025

Carbon
Neutral

nation by 2050 in
line with National
Transformation Plan
2050

Multi-stakeholder platforms for climate action

Several initiatives are driving forward progress on climate action



Audience	Description			
	Scale			
	<p>Task Force on Climate-Related Financial Disclosures (TCFD) is a voluntary disclosure framework that enables stakeholders to better understand the financial system's exposures to climate-related risks.</p>	<p>An international network of investors working together to understand the implications of sustainability for investors and incorporate these issues into investment decision-making and ownership practices.</p>	<p>An investor initiative to ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change.</p>	<p>A global corporate renewable energy initiative bringing together hundreds of large and ambitious businesses committed to 100% renewable electricity.</p>
	<ul style="list-style-type: none"> • ~900 participating organisations • Over \$100 trillion AUM 	<ul style="list-style-type: none"> • >3,000 signatories • >\$100 trillion AUM 	<ul style="list-style-type: none"> • 450 investors with over USD\$40 trillion AUM • Focus list companies account for two-thirds of global industrial emissions 	<ul style="list-style-type: none"> • Over 200 companies • Aggregate demand for more than 228 TWh of renewable electricity
	Investors, lenders, insurers, and industry players	Asset Owners, Investment Managers, and Financial Service Providers	Investors	Broad range of sectors and geography

Evident global and local call for more robust climate-related disclosures

Implementation of the TCFD framework and recommendations can address the following pressure points

Stakeholders want businesses to change

- In the **changing regulatory and economic context**, companies must evolve quickly and define how their business model will work in a +2°C world. In 2023, **resilience to physical and transition climate risks will be a key aspect to business strategy**.
- Investors have recognised that a **failure to prepare for climate change could affect the resilience of their investments**. They are increasingly coordinating to drive industry shifts, with a current focus on heavy emitters, but which is likely to extend across industries in coming years.

Call for Climate Action

“If we can save the banks, we can save the world” said Greta Thunberg, a 16 year old activist, showing her support for the **global climate strikes** which brought **thousands to the streets in over 150 countries** during the UN Summit on Climate Change.

Paris Agreement

The central aim is to **strengthen the global response to the threat of climate change** by keeping a global temperature rise this century **well below 2°C** above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C.

Sustainability Ratings and Rankings

This as a **useful benchmarking tool** for investors who are interested in business with sustainable practices. Exclusion could lead to **potential divestment for a company**.

TCFD Supporters

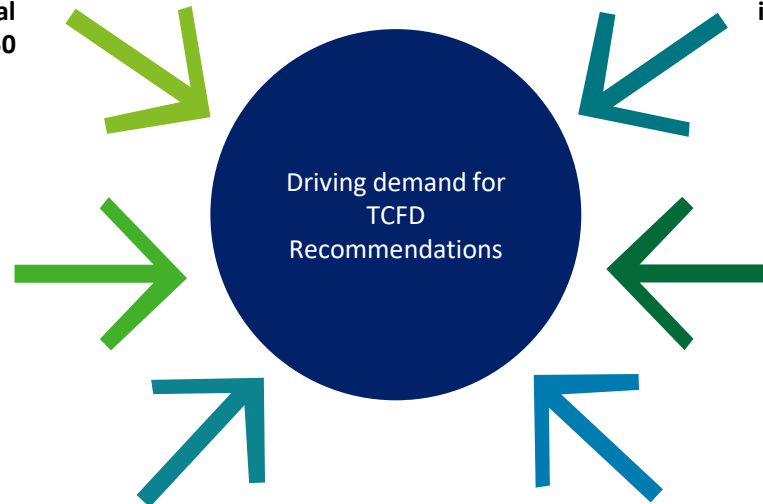
As of October 2022, TCFD has **grown to over 3,800 organisations**, an **increase of over a third since the publication of the last status report** in October 2021.

TCFD Uptake

By 2022, it will be a **mandatory requirement** for all listed companies and large asset owners in the U.K. to report on climate-related risks and opportunities, in line with the TCFD recommendations. In 2022, Bursa Malaysia **has proposed alignment with TCFD disclosures** for listed companies **on or after 31 December 2025**.

Millennials and Gen Z

In Deloitte’s 2022 Millennial Survey, **climate change was ranked second in areas of concern** for Millennials and GenZ.



What is the TCFD?

The Financial Stability Board established the Task Force on Climate-related Financial Disclosures (TCFD) to develop recommendations for more effective climate-related disclosures

Mission of TCFD

- The TCFD is an **industry-led** and geographically diverse task force led by Michael Bloomberg.
- The Task Force developed **voluntary, consistent climate-related financial risk disclosures for use by companies** in providing information to investors, lenders, insurers, and other stakeholders.
- The TCFD takes into consideration the **physical, liability and transition risks associated with climate change** and what constitutes effective financial disclosure across industries.
- The work and recommendations of the TCFD will **help companies understand what financial markets want from disclosure** in order to measure and respond to climate change risks, and encourage firms to align their disclosures with investors' needs.



Benefits of implementing TCFD Recommendations

- **Easier or better access to capital** by increasing investors' and lenders' confidence that the company's climate-related risks are appropriately assessed and managed.
- **More effectively meeting existing disclosure requirements** to report material information in financial filings.
- **Increased awareness and understanding of climate-related risks and opportunities** within the company resulting in **better risk management and more informed strategic planning**.
- **Proactively addressing investors' demand for climate-related information** in a framework that investors are increasingly asking for, which could ultimately reduce the number of climate-related information requests received.

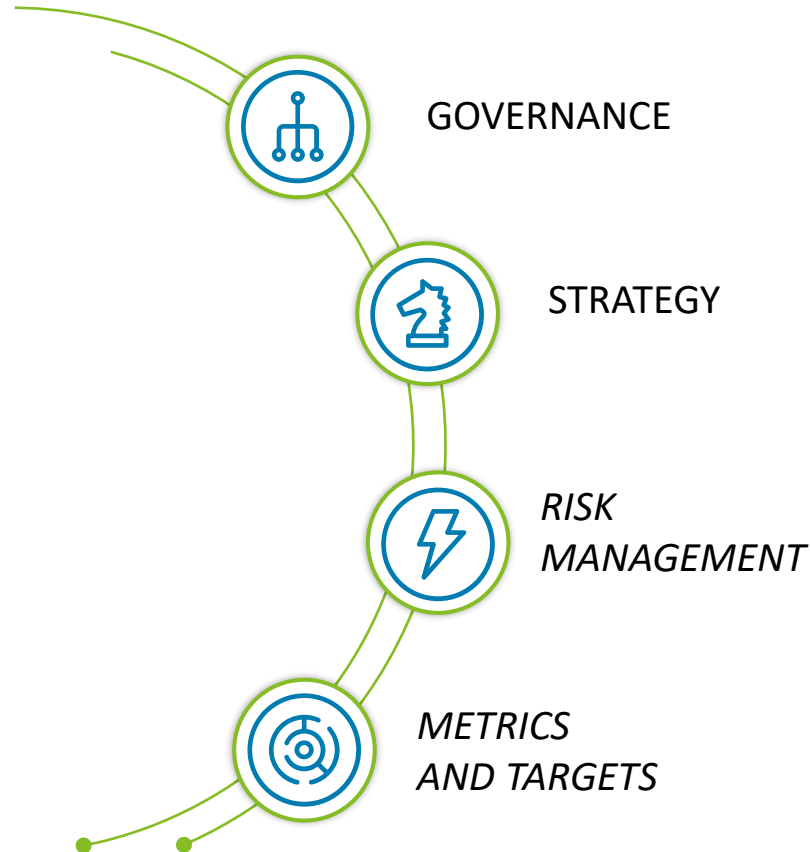
Overview of TCFD framework

The TCFD recommendations offer corporates a clear framework to mainstream climate considerations and to account for climate risks in their financials



The Task Force developed **four widely-adoptable recommendations** on climate-related financial disclosures, published in June 2017, that are applicable to organisations across sectors and jurisdictions.

The recommendations are **structured around four thematic areas** that represent core elements of how organisations operate.



Governance: The organisation's governance around climate-related risks and opportunities

Strategy: The actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning

Risk Management: The processes used by the organisation to identify, assess, and manage climate-related risks

Metrics and Targets: The metrics and targets used to assess and manage relevant climate-related risks and opportunities

What are the four key pillars of TCFD Recommendations?

Corporates should fully embrace the 11 disclosure recommendations on climate-related risks and opportunities



Governance	Strategy	Risk Management	Metrics & Targets
Disclose the organisation’s governance around climate-related risks and opportunities.	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 available.	Disclose how the organisation 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.

Recommended Disclosures	Recommended Disclosures	Recommended Disclosures	Recommended Disclosures
a) Describe the Board’s oversight of climate-related risks and opportunities	a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term	a) Describe the organisation’s processes for identifying and assessing climate-related risks	a) Disclose the metrics used by the organisation 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 businesses, strategy, and financial planning	b) Describe the organisation’s processes for managing climate-related risks	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas emissions, and the <i>related risks</i>
	c) Describe the potential impact of different scenarios (ex: 2° scenario, on businesses, strategy, and financial planning	c) Describe how these processes are integrated into the organisation’s overall risk management	c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets

Note: The four recommendations are supported by 11 recommended disclosures.
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The recommendations challenge companies to ask a series of key questions

The TCFD Recommendations fundamentally asks organisations to re-evaluate and prioritise many aspects of their business through a new lens of climate risk - from products, services and organization, to financial choices, marketing and communication.

Governance	Strategy	Risk Management	Metrics and Targets
1. What is our board oversight and management responsibility for climate change?	2. Does our business strategy reference climate change risks and opportunities? 3. Have our opportunities of climate change adaptation been fully explored? 4. Do we have the right data and analytical capabilities to perform scenario analysis? 5. How do we make our climate change activities understandable, wide-reaching and supported across our organization?	6. What physical, transition and financial risks does our business face from climate change? 7. Have our climate-related risks been integrated within existing risk management processes?	8. Have we committed to any specific climate change initiatives in the past year? 9. Which reporting frameworks are most effective to meet our stakeholders' expectations?



National pressure to align to TCFD is steadily growing

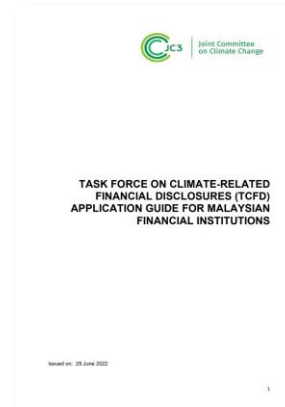
In support of the Paris Agreement and the global climate action agenda, regulators and key market movers in Malaysia have responded by establishing policies and market guidance to influence local corporate activities



Bursa Malaysia

Review of the Sustainability Reporting Requirements under the Main Market and ACE Market Listing Requirements

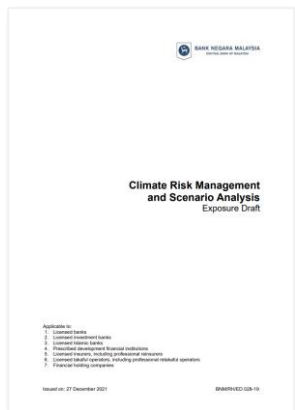
Para 52: “The Exchange recognises that listed issuers require time to assess and respond to climate change-related risks and opportunities including putting in place the necessary policies, processes and practices. As such, the Exchange is proposing to **require the Proposed TCFD Aligned Disclosures** for Sustainability Statements in annual reports issued for FYE **on or after 31 December 2025.**”



Joint Committee on Climate Change

TCFD Application Guide for Malaysian Financial Institutions

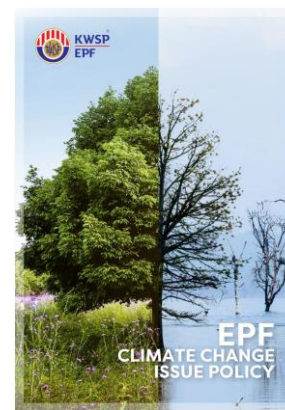
Purpose and context of JC3 application guide: “Recognising the urgency for financial institutions in Malaysia to accelerate efforts to manage climate-related risks as well as opportunities, this application Guide forms part of a broader range of JC3 initiatives to **support the progressive implementation of climate-related disclosures that are aligned with TCFD Recommendations.**”



Bank Negara Malaysia

Climate Risk Management and Scenario Analysis Exposure Draft

Para 13.3: “Financial institutions shall **make annual climate-related disclosures** that are aligned with the recommendations of the Financial Stability Board’s Task Force on Climate-related Financial Disclosures (TCFD) **by 31 December 2024.** The disclosures shall be published together with annual financial reports for financial years beginning on or after 1 January 2024.”



Employees Provident Fund

Priority Issue Policy: Climate Change

Core Requirement 11: “Companies should seek to **align their disclosures and reporting practices** relating to climate risks and opportunities with TCFD.”

Core requirements are expected to be met by companies **by 2024 and will follow a “**comply or explain**” approach in the case that companies require more time to comply with some of them.*

THANK YOU

