



Background on the TCFD

What is the TCFD?

- Task Force formed in 2015 by the G20's Financial Stability Board (FSB) leading up to the Paris Agreement
- Task Force co-chaired by former Mayor Michael Bloomberg
- Members of the taskforce are investors, preparers of disclosure, and rating agencies

What is the Task Force's goal?

- The FSB recognized growing risk from climate change to the financial sector to the tune of trillions of dollars
- Investors need a
 disclosure framework
 that informs on climate
 risks to investees,
 allowing for informed
 capital allocation
 decisions

What did they produce?

- recommendations released 2017
- Recommendations outline a voluntary framework for climate-related disclosure that includes governance, strategy, risk management, metrics and targets



The TCFD recommendations aim to provide disclosures that are:

- Relevant, specific, complete, clear, balanced, understandable, consistent, comparable, reliable, verifiable, objective, timely;
- Forward looking; and
- Decision-useful



2017 Final Report: Recommendations of the TCFD

"With better information as a foundation, we can build a virtuous circle of better understanding of tomorrow's risks, better pricing for investors, better decisions by policymakers, and a smoother transition to a lower-carbon economy."

Mark Carney, Chair of the G20 Financial Stability Board







The Increasing Value of the TCFD Recommendations

Implementing the TCFD recommendations effectively and equitably can be a vehicle for organizational change management and "mainstreaming" climate change.

- Global best practice for climate risk management and disclosure for accountability and action
- Created by investors to allow for greater transparency around climate risk, enable decision-useful information for investors
- Designed to allow institutions, corporates, and their stakeholders to understand climate risks and opportunities - ultimately tied to financial indicators
- Explores forward-looking physical and transition risks and opportunities



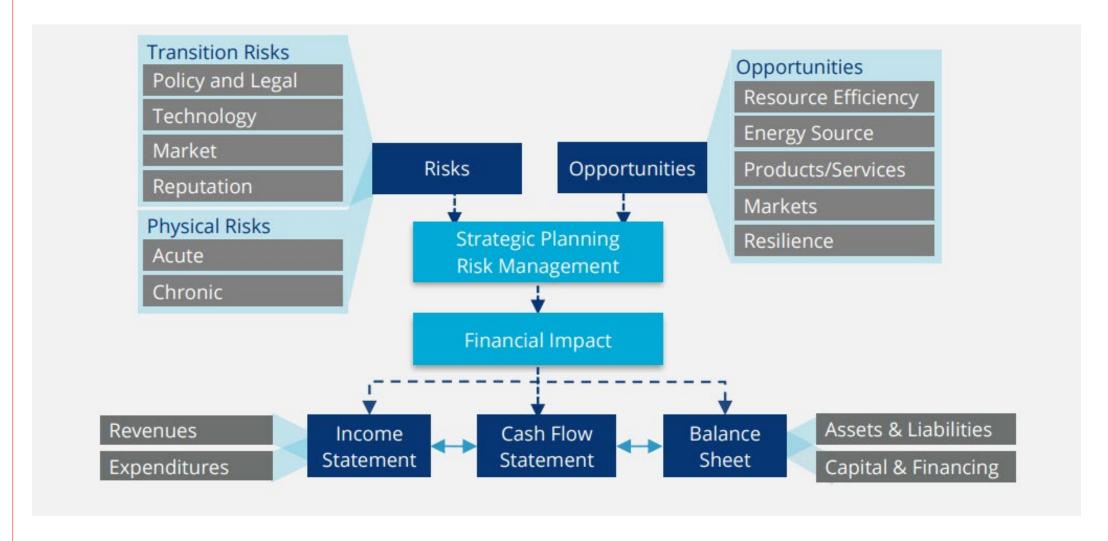


The TCFD Recommendations

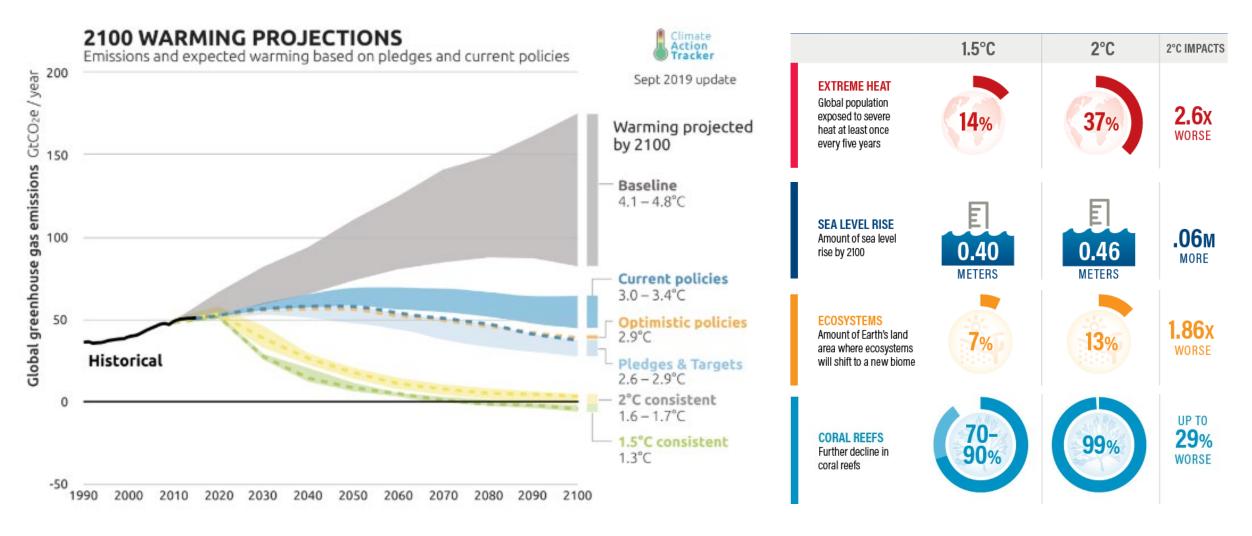
| Governance | Strategy | Risk Management | Metrics and Targets |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
| a) Describe the board's oversight of climate- related risks and opportunities. | 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. | a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process. |
| b) Describe management's role in assessing and managing climate- related risks and opportunities. | b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning. | b) Describe the organization's processes for managing climate-related risks. | b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks. |
| | c) Describe the resilience of the 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. |



Climate-related Risks, Opportunities, and Financial Impact









Scenario Analysis

Scenario analysis is a tool to explore forward-looking potential physical and transition risks and opportunities

1.5°C warming

Less physical risk
More transition risk
More transition opportunity

4°C warming

More physical risk Less transition risk

- Large, rapid GHG emission reductions
- Mitigated, but not eliminated, physical risks
- Carbon pricing
- Disruption from the transition to renewable energy and less energy intensive options

- GHG emissions continue to rise
- Very slow transition to lowcarbon economy
- Damage to assets and infrastructure
- Productivity loss
- Economic losses from strong climate impacts



Implementing the TCFD Recommendations

Assess Value

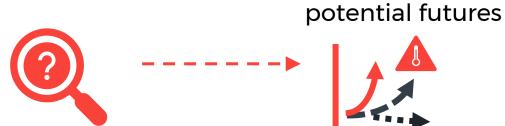
Enhance Value

Conduct scenario

analysis and understand

Create Value

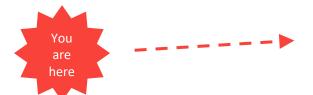
Develop a gap analysis of existing processes, data and disclosure







Embed climate-related risks and opportunities into risk management and decision-making processes (mainstream), and appropriately disclose this to the market





Create an internal working group



Integrate climate-related information into decision-making (begin mainstreaming)



Adaptation Planning

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Transition Planning

Actions to manage the physical impacts of climate change

Actions to reduce emissions that cause climate change

Flood or Fire Protection

Natural Infrastructure Investments

Infrastructure and Building Design and Upgrades

Cooling Centers

Business Continuity Planning Urban Forests

Water and
Energy
Conservation

Community Building

Sustainable Transportation

Combined Heat and Power

Energy Efficiency

Carbon Sinks

Renewable Energy



Examples of Corporate Adaptation and Resilience Initiatives





Water Stress





















