# Task Force on Climate-related Financial Disclosures

Overview of Report
and Implementation Guidance

January 2017

TCFD | TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

# Contents

# Background

# Background

The Financial Stability Board (FSB) established the Task Force on Climate-related Financial Disclosures (TCFD) on December 4, 2015 to develop recommendations for more efficient and effective climate-related disclosures that:

- could “**promote more informed investment, credit, and insurance underwriting decisions**” and,

- in turn, “would enable stakeholders to **understand better** the concentrations of **carbon-related assets in the financial sector** and the financial system’s **exposures to climate-related risks**.”

## Industry Led and Geographically Diverse Task Force

The Task Force’s 32 international members, led by Michael Bloomberg, include providers of capital, insurers, large non-financial companies, accounting and consulting firms, and credit rating agencies.

# Three Problems: One Solution

In the current climate-related disclosure landscape, challenges are faced by:

- **Issuers** who generally have an obligation under existing law to disclose material risks, but lack a coherent framework to do so for climate-related risk,
- **Lenders, insurers, and investors** who need decision-useful climate-related risk information in order to make informed capital allocation and financial decisions, and
- **Regulators** who need to understand risks that may be building in the financial system

The Task Force aims to provide the solution:

**a clear, efficient, and voluntary disclosure framework that improves the ease of both producing and using climate-related financial disclosures**

# KEY INNOVATIONS

The Task Force's recommendations and guidance:

- Can apply to **any company in the world** and can be scaled to any level of sophistication
- Should be addressed in **financial filings**
- Are designed to solicit **decision-useful information** for investors and others
- Encourage forward-looking information through **scenario analysis**
- Provide **additional guidance** to sectors and industries most impacted by climate change
- Apply to organizations across the financial sector to address the full **investment chain**
- Place greater emphasis on risks and opportunities related to the **transition** to a lower-carbon economy
- Represent **consensus** of Task Force members, who come from the financial sector and various non-financial sectors

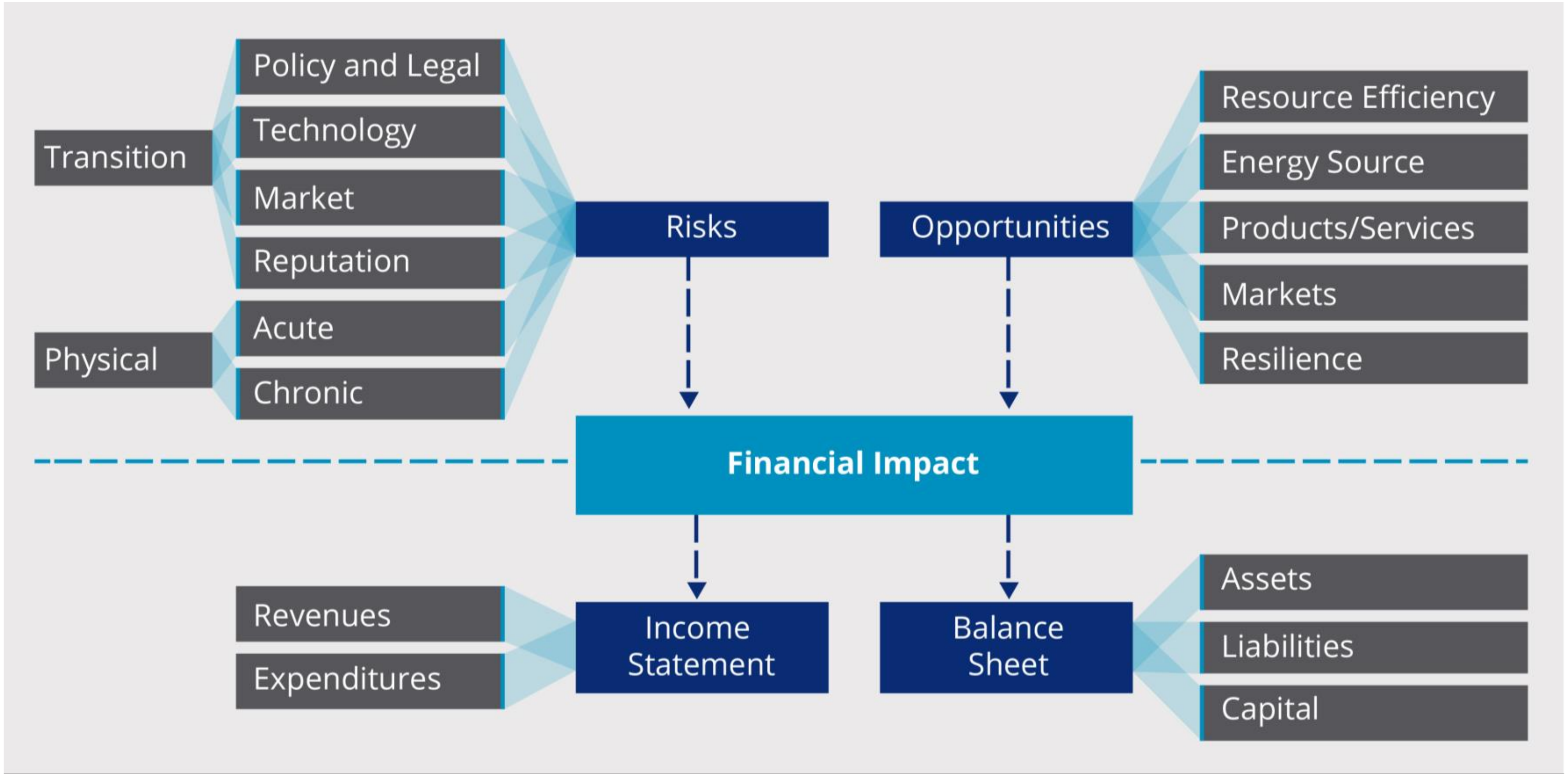
# Climate-Related Risks and Opportunities

| Type | Climate-Related Risks |
|---|---|
| Transition Risks | **Policy and Legal** |
| | – Increased pricing of GHG emissions |
| | – Enhanced emissions-reporting obligations |
| | – Mandates on and regulation of existing products and services |
| | – Exposure to litigation |
| | **Technology** |
| | – Substitution of existing products and services with lower emissions options |
| | – Unsuccessful investment in new technologies |
| | – Upfront costs to transition to lower emissions technology |
| | **Markets** |
| | – Changing customer behavior |
| | – Uncertainty in market signals |
| | – Increased cost of raw materials |
| | **Reputation** |
| | – Shift in consumer preferences |
| | – Stigmatization of sector |
| | – Increased stakeholder concern or negative stakeholder feedback |
| Physical Risks | **Acute** |
| | – Increased severity of extreme weather events such as cyclones and floods |
| | **Chronic** |
| | – Changes in precipitation patterns and extreme weather variability |
| | – Rising mean temperatures |
| | – Rising sea levels |

| Type | Climate-Related Opportunities |
|---|---|
| Resource Efficiency | – Use of more efficient modes of transport |
| | – More efficient production and distribution processes |
| | – Use of recycling |
| | – More efficient buildings |
| | – Reduced water usage and consumption |
| Energy Source | – Lower-emission sources of energy |
| | – Supportive policy incentives |
| | – Emergence of new technologies |
| | – Participating in carbon market |
| | – Energy security and shift towards decentralization |
| Products and Services | – Develop and/or expand low emission goods and services |
| | – Climate adaptation and insurance risk solutions |
| | – R&D and innovation |
| | – Diversify business activities |
| | – Shifting consumer preferences |
| Markets | – New markets |
| | – Public-sector incentives |
| | – Community needs and initiatives |
| | – Development banks |
| Resilience | – Participate in renewable energy programs and adopt energy-efficiency measures |
| | – Resource substitutes/diversification |
| | – New assets and locations needing insurance coverage |

# Evaluating Financial Impact

Climate-related risks and opportunities can impact organizations' financial performance.



# Recommended Disclosures and Guidance

# Disclosure Recommendations

The Task Force developed **four widely-adoptable recommendations** on climate-related financial disclosures that are applicable to organizations across sectors and jurisdictions.

The recommendations are structured around four thematic areas that represent core elements of how organizations operate:


**Governance**
The organization's governance around climate-related risks and opportunities

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

**Risk Management**
The processes used by the organization 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

# Disclosure Recommendations *(continued)*

The four recommendations are supported by **specific disclosures** organizations can include in financial filings to provide decision-useful information about their climate-related risks and opportunities.

| 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. | 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. |
| **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 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 potential impact of different scenarios, including a 2° c scenario, on the organization's businesses, strategy, and financial planning. | 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. |

# Development of Recommendations

In developing its recommendations, the Task Force:

- Considered the **challenges for preparers** of disclosures as well as the **benefits** of such disclosures to investors, lenders, insurance underwriters, and other stakeholders

- Engaged in **significant outreach and consultation** with users and preparers of disclosures and other stakeholders

- Drew from existing climate-related disclosure regimes and sought to develop a decision-useful framework to **harmonize and supplement existing requirements**

# Outreach and Engagement

The Task Force engaged a broad range of external stakeholders through interviews, webinars, and other forums.

# Disclosure Guidance for All Sectors

The Task Force developed **guidance** to assist organizations in implementing the recommended disclosures. The guidance builds on the recommendations and the recommended disclosures.


**Recommendations**
Four widely adoptable recommendations tied to: governance, strategy, risk management, and metrics and targets

**Recommended Disclosures**
Specific recommended disclosures organizations should include in their financial filings to provide decision-useful information

**Guidance for All Sectors**
Guidance providing context and suggestions for implementing the recommended disclosures for all organizations

**Supplemental Guidance for Certain Sectors**
Guidance that highlights important considerations for certain sectors and provides a fuller picture of potential climate-related financial impacts in those sectors

Supplemental guidance is provided for the financial sector and for non-financial sectors potentially most affected by climate change

# Guidance for All Sectors – Governance Example

## Governance

Disclose the organization's governance around climate-related risks and opportunities.

| Recommended Disclosure | Guidance for All Sectors |
| --- | --- |
| a) Describe the board's oversight of climate-related risks and opportunities. | In describing the board's oversight of climate-related issues, organizations should consider including a discussion of the following:<br>– processes and frequency by which the board and/or board committees (e.g., audit, risk, or other committees) are informed about climate-related issues,<br>– whether the board and/or board committees consider climate-related issues when reviewing and guiding strategy, major plans of action, risk management policies, annual budgets, and business plans as well as setting the organization's performance objectives, monitoring implementation and performance, and overseeing major capital expenditures, acquisitions, and divestitures, and<br>– how the board monitors and oversees progress against goals and targets for addressing climate-related issues. |

# Supplemental Guidance for Certain Sectors

For the financial sector and certain non-financial sectors and industries, the Task Force provides **supplemental guidance** to highlight important sector-specific considerations.

| | Industries and Groups | Governance A | Governance B | Strategy A | Strategy B | Strategy C | Risk Management A | Risk Management B | Risk Management C | Metrics and Targets A | Metrics and Targets B | Metrics and Targets C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Financial | Banks | | | ■ | | | ■ | | | ■ | | |
| Financial | Insurance Companies | | | | ■ | ■ | ■ | ■ | | ■ | | |
| Financial | Asset Owners | | | | ■ | ■ | ■ | ■ | | ■ | ■ | |
| Financial | Asset Managers | | | | ■ | | ■ | ■ | | ■ | ■ | |
| Non-Financial | Energy | ■ | | | ■ | ■ | | ■ | | ■ | ■ | |
| Non-Financial | Transportation | | | | ■ | ■ | | | | ■ | ■ | ■ |
| Non-Financial | Materials and Buildings | | | | ■ | ■ | | | | ■ | ■ | ■ |
| Non-Financial | Agriculture, Food, and Forest Products | | | | ■ | ■ | | | | ■ | ■ | ■ |

# Scenario Analysis

# Scenario Analysis

Scenario analysis is an important and useful tool for understanding the **strategic implications of climate-related risks and opportunities**.

The Task Force recommends that organizations describe the potential impact of different scenarios, including a 2°C scenario, on their businesses, strategy, and financial planning.

## Strategy

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.

| Recommended Disclosure | Guidance for All Sectors |
|---|---|
| c) Describe the potential impact of different scenarios, including a 2°C scenario, on the organization's businesses, strategy, and financial planning. | Organizations should describe how their strategies are likely to perform under various forward-looking, climate-related scenarios (e.g., potential effects under different scenarios) and any resulting changes to their strategies and financial plans, risk management activities, or targets/metrics to mitigate risks and take advantage of opportunities. |

# Scenario Analysis *(continued)*

The table below describes five ways the Task Force believes scenario analysis can be useful for organizations.

| | |
|---|---|
| 1 | Scenario analysis can help organizations consider issues, like climate change, that have the following characteristics:<br>– Possible outcomes that are highly uncertain (e.g., the physical response of the climate and ecosystems to higher levels of GHG emissions in the atmosphere)<br>– Outcomes that will play out over the medium to longer term (e.g., timing, distribution, and mechanisms of the transition to a lower-carbon economy)<br>– Potential disruptive effects that, due to uncertainty and complexity, are substantial |
| 2 | Scenario analysis can enhance organizations' strategic conversations about the future by considering, in a more structured manner, what may unfold that is different from business-as-usual. Importantly, it broadens decision makers' thinking across a range of plausible scenarios, including scenarios where climate-related impacts can be significant. |
| 3 | Scenario analysis can help organizations frame and assess the potential range of plausible business, strategic, and financial impacts from climate change and the associated management actions that may need to be considered in strategic and financial plans. This can lead to more robust strategies under a wider range of uncertain future conditions. |
| 4 | Scenario analysis can help organizations identify indicators to monitor the external environment and better recognize when the environment is moving toward a different scenario state (or to a different stage along a scenario path). This allows organizations the opportunity to reassess and adjust their strategies and financial plans accordingly. |
| 5 | Scenario analysis can assist investors in understanding the robustness of organizations' strategies and financial plans and in comparing risks and opportunities across organizations. |

# Future Outlook and Public Consultation

# Examples of Areas for Further Work

The Task Force also identified certain areas where further work can contribute to the evolution of climate-related financial disclosures.

| | |
|---|---|
| **Relationship to Other Reporting Initiatives** | Encourage standard setting organizations and others to actively work toward greater alignment of frameworks and to support adoption |
| **Data Quality and Financial Impact** | Undertake further research and analysis to better measure and understand how climate-related issues translate into potential financial impacts |
| **Reporting GHG Emissions Associated with Investments** | – Develop methodologies for allocating emissions in asset classes beyond equities, including non-corporate bonds, property/real estate, infrastructure, private equity, and alternative assets<br>– Improve data quality, increase understanding of climate-related risks and opportunities, and enhance risk measurement methodologies broadly |
| **Scenario Analysis** | – Further develop applicable 2°C (or lower) transition scenarios and supporting outputs and tools/user interfaces<br>– Develop broadly accepted methodologies, datasets and tools for scenario-based evaluation of physical risk by organizations<br>– Make datasets and tools publicly available and provide commonly available platforms for scenario analysis |

# Task Force Timeline

| Fourth Quarter 2016 | First Quarter 2017 | Second Quarter 2017 | Third Quarter 2017 |
|---|---|---|---|

**Nov 17:** Presentation of report to FSB

**Dec 14:** Issuance of report for public consultation

**Public consultation period**

**Feb 12:** Public consultation ends

**Late Feb/Early Mar:** Update and provide high level summary of public consultation comments to FSB

**Jan – Jun:** Stakeholder outreach on Task Force recommendations

**Update report per public consultation feedback**

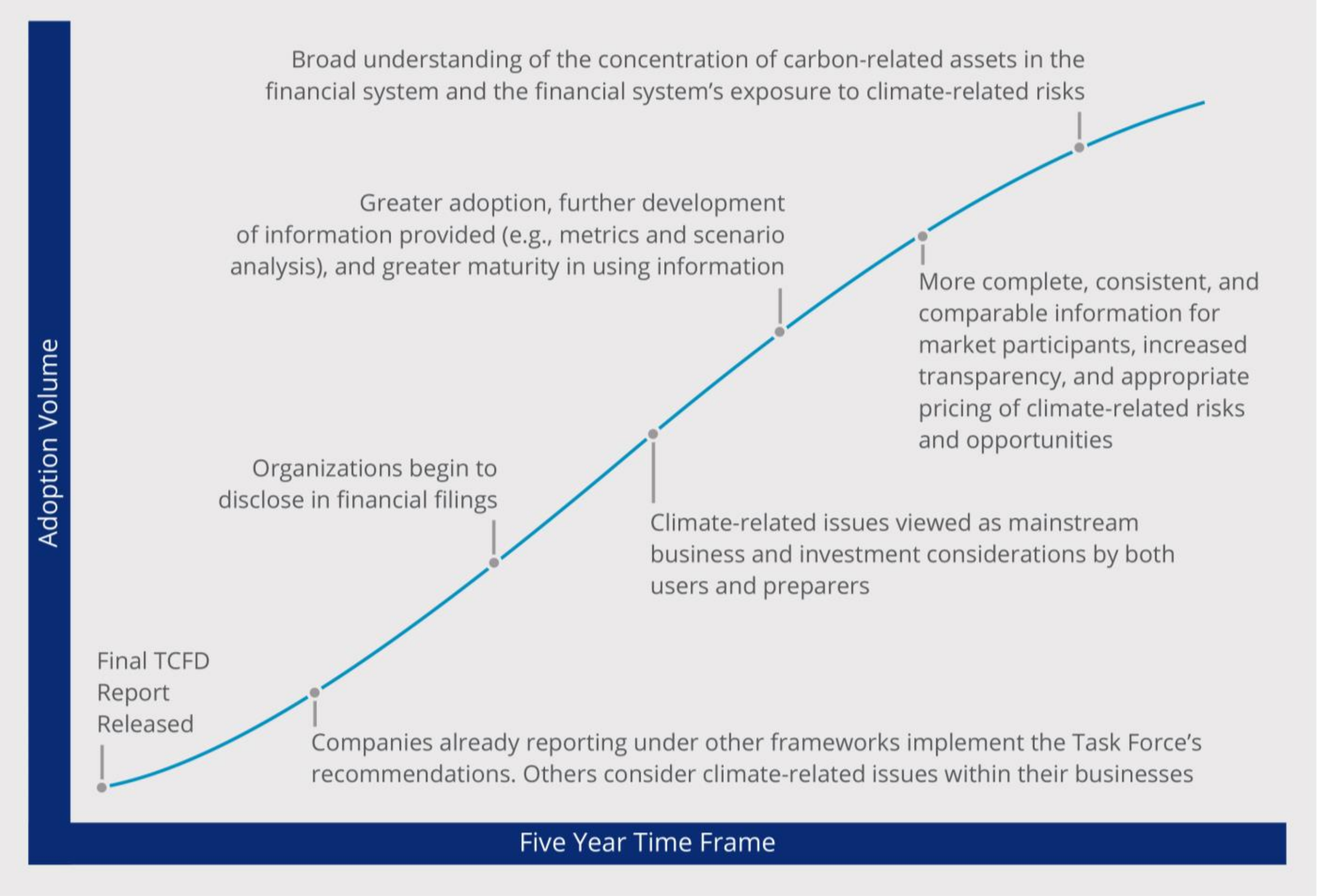
**Mar 17-18:** Meeting of G20 Finance Ministers and Governors

**Jun (TBD):** Issuance of final report to FSB

**Jul 7-8:** FSB report presentation at G20 Summit

# Illustrative Implementation Path

The Task Force expects that **reporting of climate-related risks and opportunities will evolve** over time as organizations, investors, and others contribute to the quality and consistency of the information disclosed.



# Public Consultation

The Task Force's report was published on December 14, 2016 for a 60-day **public consultation**, which ends on February 12, 2016.

The purpose of the public consultation is to solicit feedback on recommendations in the Task Force's report. The feedback will assist the Task Force in finalizing the report, which is scheduled to be released in mid-2017.

The public consultation can be accessed through the following link:
**https://www.fsb-tcfd.org/publications/public-consultation/**

# Appendix A

# Supplemental Guidance Examples for the Financial Sector

## Metrics and Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.

| Recommended Disclosure | Supplemental Guidance for Banks |
|---|---|
| a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process. | Banks should provide the metrics used to assess the impact of (physical and transition) climate-related risks on their lending and other financial intermediary business activities in the short, medium, and long term. Metrics provided may relate to credit exposure, equity and debt holdings, or trading positions, broken down by:<br>– Industry<br>– Geography<br>– Credit quality (e.g., investment grade or non-investment grade)<br>– Average tenor<br><br>Banks should also provide the amount and percentage of carbon-related assets[1] relative to total assets.<br><br>Banks should also provide the amount of lending and other financing connected with climate-related opportunities. |

*[1] In this context, carbon-related assets are defined as those assets tied to the energy and utilities sectors under the Global Industry Classification Standard (GICS), excluding water utilities and independent power and renewable electricity producers industries.*

## Metrics and Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.

| Recommended Disclosure | Supplemental Guidance for Insurance Companies |
|---|---|
| a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process. | Insurance companies should provide aggregated risk exposure to weather-related catastrophes of their property business (i.e., annual aggregated expected losses from weather-related catastrophes) by relevant jurisdictions. |

## Metrics and Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.

| Recommended Disclosure | Supplemental Guidance for Asset Owners |
| --- | --- |
| b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks. | Asset owners should provide GHG emissions, where data are available, associated with each fund or investment strategy normalized for every million of the reporting currency invested.<br><br>*Note: The Task Force acknowledges the challenges and limitations of reporting GHG emissions associated with investments, including that GHG emissions should not be interpreted as a risk metric. The Task Force views the reporting of GHG emissions associated with investments as a first step and expects disclosure of this information to prompt important advancements in the development of decision-useful, climate-related risk metrics. The Task Force recognizes that some asset owners may be able to report such information for only a portion of their investments given data availability and methodological issues.* |

# Asset Managers

## Metrics and Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.

| Recommended Disclosure | Supplemental Guidance for Asset Managers |
|---|---|
| b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks. | Asset managers should provide GHG emissions, where data are available, associated with each product or investment strategy normalized for every million of the reporting currency invested.<br><br>*Note: The Task Force acknowledges the challenges and limitations of reporting GHG emissions associated with investments, including that GHG emissions should not necessarily be interpreted as a risk metric. The Task Force views the reporting of GHG emissions associated with investments as a first step and expects disclosure of this information to prompt important advancements in the development of decision-useful, climate-related risk metrics. The Task Force recognizes that some asset managers may be able to report such information for only portion of the assets they manage given data availability and methodological issues.* |

# Appendix B

# Supplemental Guidance Examples for Non-Financial Sectors

# Scenario Analysis for Non-Financial Sectors

While the Task Force recommends all organizations describe their use of scenarios, it asks organizations in the energy, transportation, materials and buildings, and agriculture, food, and forest products groups to consider disclosing a broader range of information, including the following:

- The climate-related scenarios used, including the 2°C scenario, and the key assumptions and considerations underlying each climate-related scenario.
- For the 2°C scenario used, any adjustments/differences from publicly available 2°C scenarios.
- Whether climate-related scenarios with major disruptions (positive and negative) from business-as-usual (breakthroughs, breakdowns) were considered.
- Quantitative and qualitative descriptions of the critical input parameters, assumptions, and analytical choices for the climate-related scenarios used.
- Time frames used for the climate-related scenarios, including near-, medium- and long-term milestones (e.g., how does the organization consider timing of potential future implications under the climate-related scenarios used).
- Qualitative and quantitative descriptions of the conclusion of the organization's climate-related scenario analysis regarding the organization's likely strategic performance under the various climate-related scenarios considered, including implications for the organization's value chain, capital allocation decisions, R&D, and other financial implications.

## Strategy

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.

| Recommended Disclosure | Supplemental Guidance for Energy |
|---|---|
| b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning. | Energy Group organizations should consider discussing how climate-related risks and opportunities are integrated into their strategy formulation and decision making as well as the key planning assumptions around:<br><br><u>Income Statement</u><br>***Revenues:*** Energy Group organizations should consider providing carbon-pricing assumptions, including any internal carbon price applied, and how it is determined, and an assessment of the potential impacts on future operational revenues.<br><br>***Expenditures:*** Energy Group organizations should consider describing the potential impacts of climate-related risks and opportunities on cost of supply and strategy for managing these impacts relative to market demand and competition. This may include discussions of research and development (R&D) expenditures, adoption of new technology, and costs of key inputs.<br><br><u>Balance Sheet</u><br>***Assets/Liabilities:*** Energy Group organizations should focus on existing and committed future activities, noting any, if applicable, expected changes to the balance sheet or reserves (e.g., additional investments, restructuring, write-downs, or impairment). Energy Group organizations should consider describing their critical planning assumptions around legacy assets, for example, strategies to lower carbon-, energy-, and/or water-intensive operations.<br><br>***Capital:*** Energy Group organizations should consider discussing whether applicable, and, if so, how GHG emissions, energy, and water issues are taken into account in capital planning and allocation. This could include a discussion of major acquisitions and divestments, joint-venture requirements, and investments in technology, innovation, and new business areas in light of changing climate-related risks and opportunities. Energy Group organizations should also consider providing an assessment of flexibility in positioning/repositioning capital to address emerging climate-related risks and opportunities. |

# Transportation Group

## Strategy

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.

| Recommended Disclosure | Supplemental Guidance for Transportation |
|---|---|
| b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning. | Transportation Group organizations should consider describing the following:<br><br><u>Income Statement</u><br><br>***Revenues:*** Assumptions around emissions and fuel efficiency, including any internal carbon price applied, whether this is on an operational basis (i.e., the short-run marginal cost of carbon) or on a lifecycle basis (i.e., the long-run marginal cost of carbon), and their assessment of the potential impacts on the demand for their carbon-intensive and low-carbon products.<br><br>***Expenditures:*** The potential impacts of climate-related risks and opportunities on cost of supply and strategy for managing these impacts relative to market demand and competition. This may include discussions of R&D expenditures, adoption of new technology, and costs of key inputs.<br><br><u>Balance Sheet</u><br><br>***Assets/Liabilities:*** Existing and committed future activities, given that long-lived assets may require additional investments, restructuring, write-downs or impairment. Transportation Group organizations should consider describing their critical planning assumptions around legacy assets, for example strategies and timelines for changes to carbon-intensive facilities or infrastructure, or shifts to lower carbon/fuel intensive assets.<br><br>***Capital:*** How climate-related risks and opportunities, particularly in the areas of GHG emissions and energy/fuel usage, are taken into account in capital planning and allocation. This could include a discussion of major acquisitions and divestments, joint venture requirements, and investments in technology, innovation, and new business areas in light of changing climate-related risks and opportunities. Transportation Group organizations should also consider providing an assessment of their flexibility in positioning/re-positioning capital to address emerging climate-related risks and opportunities. |

## Metrics and Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.

| Recommended Disclosure | Supplemental Guidance for Materials and Buildings |
|---|---|
| a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process. | For all relevant metrics, Materials and Buildings Group organizations should consider providing historical trends and forward-looking projections (by relevant country and/or jurisdiction and business line).<br><br>Materials and Buildings Group organizations should consider providing key metrics related to the implications of GHG emissions, energy, and water on the financial aspects related to shifting demand, cost of supply, capital allocation, and reserves. Such metrics could include the following:<br><br>***Revenues***<br>– Total energy intensity — by tons of product, amount of sales, number of products depending on informational value.<br><br>***Expenditures***<br>– Total energy consumed, broken down by source (e.g., purchased electricity and renewable sources).<br>– Total fuel consumed — percentage from coal, natural gas, oil, and renewable sources.<br>– Measurement of water withdrawn in regions with high or extremely high baseline water stress.<br><br>***Capital***<br>– Relevant metrics to indicate flexibility of capital deployment, portfolio allocation and capital payback. This could include measures such as: proportion of capital allocation to long-lived assets versus short-term assets and capital payback periods or return on capital deployed.<br>– Investments in low-carbon alternatives (e.g., R&D, technology, products, and/or services). |

# Agriculture, Food, and Forest Products Group

## Metrics and Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.

| Recommended Disclosure | Supplemental Guidance for Agriculture, Food, and Forest Products |
|---|---|
| a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process. | For all relevant metrics, Agriculture, Food, and Forest Products Group organizations should provide historical trends and forward-looking projections (by relevant country and/or jurisdiction and business line).<br><br>Agriculture, Food, and Forest Products Group organizations should consider providing key metrics related to the implications of GHG emissions, energy, and water as well as impacts of climate change on the financial aspects related to shifting demand, cost of supply, capital allocation, and reserves. Such metrics could include the following:<br><br>***Revenues***<br>– Investments in low-emissions/water technology and products.<br><br>***Expenditures***<br>– Percent of freshwater withdrawn and consumed in regions with high or extremely high baseline water stress.<br><br>***Assets/Liabilities***<br>– Where applicable, metrics used to measure new land converted to agricultural land.<br><br>***Capital***<br>– Relevant metrics to indicate flexibility of capital deployment, portfolio allocation and capital payback. This could include measures such as proportion of capital allocation to long-lived assets versus short-term assets and capital payback periods or return on capital deployed.<br>– Investment in low carbon/water alternatives R&D, equipment, products or services. |

# Illustrative Metrics - Energy Group Examples

ENERGY METRICS - ILLUSTRATIVE EXAMPLES

The specific examples of metrics provided below are for illustrative purposes to help organizations consider the types of metrics best suited for their activities and operations. Organizations should define metrics and targets that are tailored to their particular climate-related risks and opportunities and that address the key financial disclosure areas in the Task Force's supplemental guidance. Energy Group organizations should consider providing key GHG emissions, energy, water, land use, and low-carbon alternative metrics on the financial aspects related to revenue, costs, assets, liabilities, and capital allocation.

In determining the most relevant and useful metrics, organizations are encouraged to engage with their key stakeholders, including investors, and review publicly available frameworks. Again, the examples below are illustrative to assist organizations in thinking about appropriate metrics. The examples are not intended to imply additional or duplicative metrics for an organization's existing suite of metrics if existing metrics achieve the intended disclosure objective.

**Oil and Gas *(excerpt)***

| Financial Category | Climate-Related Category | Example Metric | Unit of Measure | Alignment | Rationale for Inclusion |
|---|---|---|---|---|---|
| Revenues | Low-Carbon Alternative | Investment in low-carbon alternatives (e.g., R&D, equipment, products, or services) | Local currency | GRI: G4-OG2<br>CDP: EU4.3 | Investments in new technologies are needed to manage transition risk. The level of investment provides an indication of the level to which future earning capacity of core business might be impacted. |
| Expendi-tures | Water | Percent water withdrawn in regions with high or extremely high baseline water stress | Percentage | SASB: IF0101-06 | Water stress can result in increased cost of supply, impacts to operations and increased regulation/reduced access to water withdrawal. The percent withdrawn in high-water-stress areas informs the risk of significant costs or limitations to production capacity. |
| Expendi-tures | Energy Use/ Efficiency | Indicative costs of supply for current and committed future projects, e.g., through a cost curve or indicative price range. This could be broken down by product, asset, or geography | Local currency | N/A | Cost of supply is important because in a market with falling demand, low-cost products will continue to be brought to market. Understanding the cost of supply informs investors about portfolio vulnerability and thus earning capacity. |
| Assets/ Liabilities | Reserves/ Assets | Assets committed in regions with high or extremely high baseline water stress | Number of assets, value, percentage of total assets | N/A | Water stress can result in interruptions to or limitations on production capacity or early curtailment of operating facilities. The value of assets in high-water-stress areas informs the potential implications on asset valuation. |
| Capital | Reserves/ Assets | Proportion of capital allocation to long-lived assets versus short-term assets | Percentage | N/A | Climate-related change impacts are subject to uncertainty in terms of extent and timing. Understanding the allocation to long- versus short-lived assets informs the potential of an organization to adapt to emerging climate-related risks and opportunities. |

# Appendix C

# Task Force Members

# Task Force Members

## Chair and Vice-Chairs

**Michael Bloomberg**
Chairman
Founder and President
Bloomberg L.P.

**Yeo Lian Sim**
Vice-Chair
Special Adviser
Singapore Exchange

**Denise Pavarina**
Vice-Chair
Managing Officer
Banco Bradesco

**Graeme Pitkethly**
Vice-Chair
Chief Financial Officer
Unilever

**Christian Thimann**
Vice-Chair
Group Head of Strategy, Sustainability and Public Affairs
AXA

## Members

**Jane Ambachtsheer**
Partner, Chair – Responsible Investment
Mercer

**Matt Arnold**
Managing Director and Global Head of Sustainable Finance
JPMorgan Chase & Co.

**Wim Bartels**
Global Head, Sustainability Reporting and Disclosures
KPMG

**Bruno Bertocci**
Managing Director, Head of Sustainable Investors
UBS Asset Management

**David Blood**
Senior Partner
Generation Investment Management

**Richard Cantor**
Chief Risk Officer
Moody's

**Koushik Chatterjee**
Group Executive Director, Finance and Corporate
Tata Group

**Eric Dugelay**
Global Leader, Sustainability Services
Deloitte

**Liliana Franco**
Director, Accounting Organization and Methods
Air Liquide Group

**Udo Hartmann**
Senior Manager, Group Environmental Protection & Energy Management
Daimler

**Neil Hawkins**
Corporate Vice President and Chief Sustainability Officer
The Dow Chemical Company

**Thomas Kusterer**
Chief Financial Officer
EnBW

**Diane Larsen**
Audit Partner, Global Professional Practice
EY

**Stephanie Leaist**
Managing Director, Head of Sustainable Investing
Canada Pension Plan Investment Board

**Mark Lewis**
Managing Director, Head of European Utilities Equity Research
Barclays

**Eloy Lindeijer**
Chief, Investment Management
PGGM

**Ruixia Liu**
General Manager, Risk Department
Industrial and Commercial Bank of China

**Masaaki Nagamura**
Head, Corporate Social Responsibility
Tokio Marine Holdings

**Giuseppe Ricci**
Health, Safety, Environment and Quality Executive Vice President
ENI

**Martin Skancke**
Chair, Risk Committee
Storebrand

**Andreas Spiegel**
Head Group Sustainability Risk
Swiss Re

**Steve Waygood**
Chief Responsible Investment Officer
Aviva Investors

**Deborah Winshel**
Managing Director, Global Head of Impact Investing
BlackRock

**Fiona Wild**
Vice President, Environment and Climate Change
BHP Billiton

**Michael Wilkins**
Managing Director, Environmental Finance
S&P Global Ratings

**Jon Williams**
Partner, Sustainability and Climate Change
PwC

## Special Adviser

**Russell Picot**
Chair, Audit and Risk Committee, LifeSight
Former Group Chief Accounting Officer
HSBC

# QUESTIONS?