

Task Force on Climate-related Financial Disclosures

Overview of Recommendations and Guidance

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Stephanie Leaist, Managing Director, Head of Sustainable
Investing, CPP Investment Board

BACKGROUND

G20 Finance Ministers and Central Bank Governors asked the Financial Stability Board (FSB) to review how the financial sector can take account of climate-related issues.

The FSB established the Task Force on Climate-related Financial Disclosures (TCFD) to develop recommendations for more 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 31 international members, led by Michael Bloomberg, include providers of capital, insurers, large non-financial companies, accounting and consulting firms, and credit rating agencies.



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 Partner Corporate Reporting 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 Chief Credit Officer Moody's Investor Service
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 Laist 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	Giuseppe Ricci Chief Refining & Marketing Officer ENI
Martin Skancke Chair, Risk Committee Storebrand	Andreas Spiegel Head Group Sustainability Risk Swiss Re
Steve Waygood Chief Responsible Investment Officer Aviva Investors	Fiona Wild Vice President, Sustainability and Climate Change BHP Billiton
Michael Wilkins Managing Director, Environment & Climate Risk Research S&P Global Ratings	Jon Williams Partner, Sustainability and Climate Change PwC
Deborah Winshel Managing Director, Global Head of Impact Investing BlackRock	
Special Adviser	
Russell Picot Chair, Audit and Risk Committee, LifeSight Board Chair, HSBC Bank (UK) Pension Scheme Trustee Former Group Chief Accounting Officer HSBC	

BACKGROUND *(CONTINUED)*

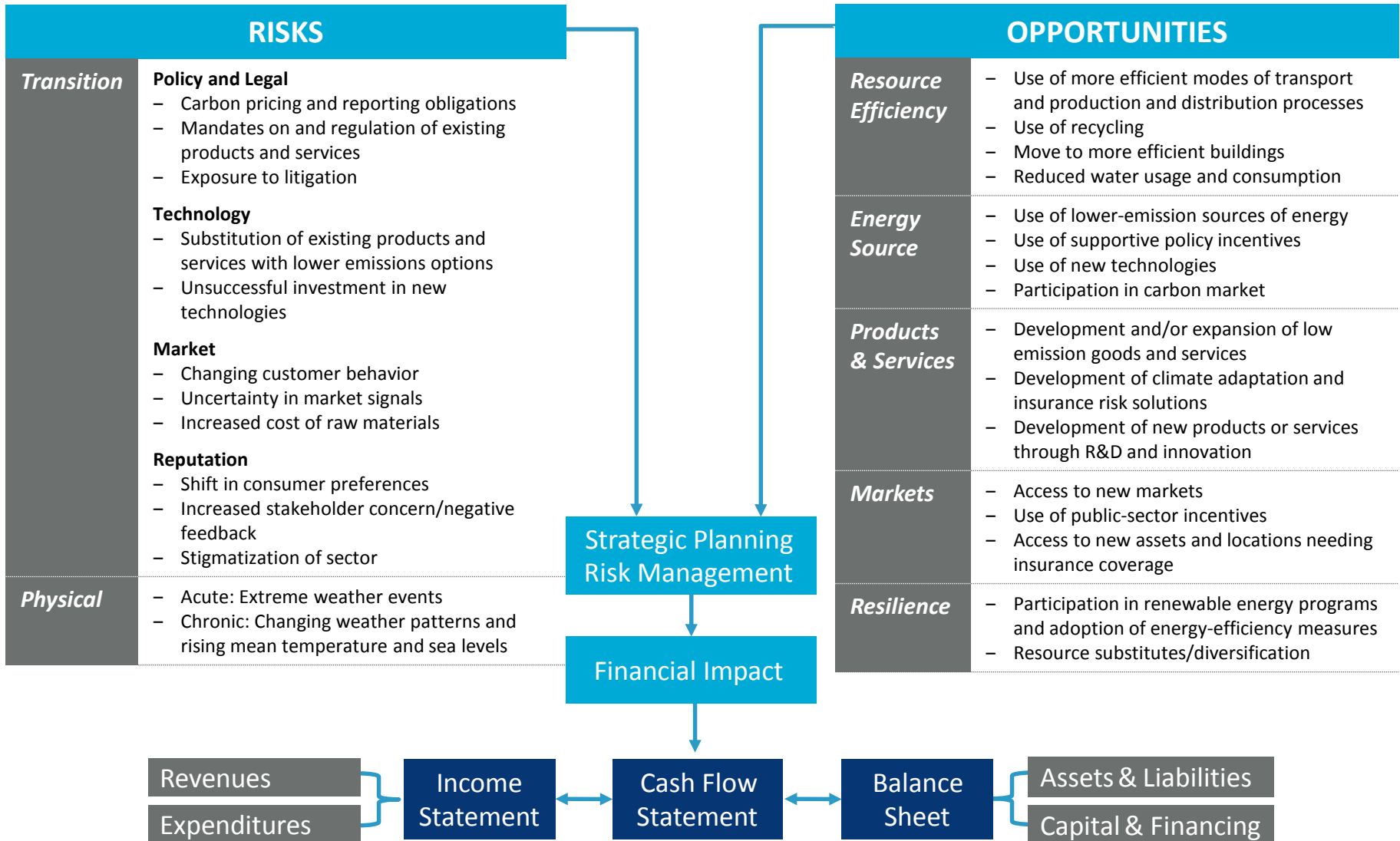
The Task Force published its final report in June 2017.

The report outlines recommendations to help address climate-related disclosure challenges faced by:

- **Issuers** who generally have an obligation under existing law to disclose material information, but lack a coherent framework to do so for climate-related information, and
- **Investors, lenders, and insurers** who need decision-useful, climate-related information to make informed capital allocation and financial decisions



FOCUS ON FINANCIAL IMPACT



FINANCIAL IMPACT BY INDUSTRY

To assist organizations in understanding how climate-related risks may impact them financially, the Task Force prepared a high-level overview of the types of financial impact of climate-related risks that have been identified for specific industries and groups.

The financial impacts from climate-related risks are grouped into the following general categories:

- Revenues
- Expenditures
- Assets and Liabilities
- Capital and Financing

**Largely, but not solely, based on select content from the Sustainability Accounting Standards Board (SASB) "Financial Impacts of Climate Risk" table in its Climate Risk Technical Bulletin*

Evidence of Financial Impact*

Groups and Industries		Revenues	Expenditures	Assets and Liabilities	Capital and Financing
Financial	Banks	■		■	
	Insurers	■	■	■	
	Asset Owners	■		■	
	Asset Managers	■		■	
Energy	Oil and Gas	■	■	■	■
	Coal		■	■	■
	Electric Utilities	■	■		■
Transportation	Air Freight		■		■
	Passenger Air Transportation		■		■
	Maritime Transportation		■		■
	Rail Transportation		■		■
	Trucking Services		■		■
	Automobiles and Components	■	■		■
Materials and Buildings	Metals and Mining		■		■
	Chemicals	■	■		■
	Construction Materials	■	■		■
	Capital Goods	■	■		■
	Real Estate Management and Development	■	■	■	■
Ag, Food, and Forest	Beverages		■		■
	Agriculture	■	■	■	■
	Packaged Foods and Meats		■	■	■
	Paper and Forest Products	■	■	■	■

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, and insurance underwriters
- Engaged in **significant outreach and consultation** with users and preparers of disclosures and other stakeholders, including two public consultations, individual discussions and focus groups with industry, webinars, and outreach events in multiple countries
- Drew from existing climate-related disclosure regimes and sought to develop a decision-useful framework to **align and supplement existing disclosure-frameworks**
- Created **guidance** for all sectors and supplemental guidance for specific sectors

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 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

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

Recommended Disclosures

Guidance for All Sectors

Supplemental Guidance for Certain Sectors

DISCLOSURE RECOMMENDATIONS (CONTINUED)

The four recommendations are supported by **specific disclosures** organizations should include in financial filings or other reports to provide decision-useful information to investors and others.

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>
Recommended Disclosures	Recommended Disclosures	Recommended Disclosures	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>

SUPPLEMENTAL GUIDANCE

In addition to guidance for all sectors, the Task Force developed **supplemental guidance** for the financial sector and non-financial groups to assist those organizations in implementing the recommended disclosures.

Financial Sector Industries

- Banks
- Insurance Companies
- Asset Managers
- Asset Owners

The financial sector was organized into four major industries largely based on activities performed. The activities are lending (banks), underwriting (insurance companies), asset management (asset managers), and investing (asset owners).

Non-Financial Groups

- Energy
- Transportation
- Materials and Buildings
- Agriculture, Food, and Forest Products

The non-financial groups identified by the Task account for the largest proportion of GHG emissions, energy usage, and water usage.

ILLUSTRATIVE METRICS - ENERGY GROUP EXAMPLES

The Task Force also developed illustrative metrics for each of the four key non-financial groups. Importantly, the metrics provided 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. In determining the most relevant and useful metrics, organizations are encouraged to engage with their key stakeholders, including investors, and review publicly available frameworks. 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.

Table 3

Energy Group Metrics – Illustrative Examples *(Excerpt)*

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. [Appendix 2](#) includes definitions of the abbreviations used in “Unit of Measure.”

ENERGY GROUP METRICS – ILLUSTRATIVE EXAMPLES

Financial Category	Climate-Related Category	Example Metric	Unit of Measure	Alignment	Rationale for Inclusion	Oil and Gas	Coal	Electric Utilities
Revenues	GHG Emissions	Estimated Scope 3 emissions, including methodologies and emission factors used	MT of CO ₂ e	GRI: 305-3 CDP: EU4.3	(Relatively) high carbon emissions in the value chain may accelerate development of alternative technologies in a low-carbon economy. The level of emissions informs vulnerability to a significant decrease in future earning capacity.	■	■	■
Revenues	Risk Adaptation & Mitigation	Revenues/savings from investments in low-carbon alternatives (e.g., R&D, equipment, products or services)	Local currency	CDP: CC3.2, 3.3, CC6.1 SASB: NR0103-14	New products and revenue streams from climate-related products and services and the return on investments of CapEx projects that create operational efficiencies.	■	■	■
Expenditures	GHG Emissions	Describe current carbon price or range of prices used	Local currency	CDP: CC2.2 SASB: NR0101-22, NR0201-16	Internal carbon prices used, affecting the assessment of an organization’s key assets, provide investors with a proper understanding of the reasonableness of assumptions made as input for their risk assessment.	■	■	■
Expenditures	Risk Adaptation & Mitigation	Expenditures (OpEx) for low-carbon alternatives (e.g., R&D, equipment, products, or services)	Local currency	GRI: G4-OG2 CDP: EU4.3	Expenditures for new technologies are needed to manage transition risk. The level of expenditures provides an indication of the level to which future earning capacity of core business might be affected.	■	■	■

KEY ELEMENTS OF DISCLOSURE RECOMMENDATIONS

Location of Disclosure

- The Task Force recommends that organizations provide climate-related financial disclosures in their mainstream (i.e., public) **annual financial filings**.
- The recommendations were developed to apply broadly across sectors and jurisdictions and do not supersede national disclosure requirements for financial filings.
- If certain elements are incompatible with national disclosure requirements, the Task Force encourages organizations to disclose those elements in **other official company reports**.
- Organizations in the four non-financial groups that have more than one billion U.S. dollar equivalent (USDE) in annual revenue **should consider disclosing** strategy and metrics and targets information in other reports when the information is not deemed material and not included in financial filings.

Financial Filings

Required annual reporting packages in which organizations deliver their audited financial results under the laws of the jurisdictions in which they operate.

Other Official Company Reports

Should be issued at least annually, widely distributed and available to investors and others, and subject to internal governance processes that are the same or substantially similar to those used for financial reporting.

KEY ELEMENTS OF DISCLOSURE RECOMMENDATIONS *(CONTINUED)*

Principle of Materiality

- The disclosures related to the **Strategy and Metrics and Targets recommendations** are subject to an assessment of materiality.
- The disclosures related to the **Governance and Risk Management recommendations** are *not* subject to an assessment of materiality and should be provided because many investors want insight into the governance and risk management context in which organizations' financial and operating results are achieved.

Scenario Analysis

- The Task Force encourages forward-looking information through scenario analysis—a useful tool for considering and enhancing resiliency and flexibility of strategic plans.
- Many investors want to understand how **resilient organizations' strategies are to climate-related risks**.
- Recommended disclosure (c) under Strategy and the related guidance asks organizations to describe the resilience of their strategies, taking into consideration different climate-related scenarios, including **a 2°C or lower scenario**.

2°C Scenario

Provides a common reference point that is generally aligned with the objectives of the Paris Agreement.

Scenario Analysis Threshold

The Task Force established a threshold for organizations that should consider conducting more robust scenario analysis to assess the resilience of their strategies (those in the four non-financial groups with more than 1B USDE in annual revenue).

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 resilience of their strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Strategy

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

Recommended Disclosure

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

Guidance for All Sectors

Organizations should describe how resilient their strategies are to climate-related risks and opportunities, taking into consideration a transition to a lower-carbon economy consistent with a 2°C or lower scenario and, where relevant to the organization, scenarios consistent with increased physical climate-related risks.

Organizations should consider discussing:

- where they believe their strategies may be affected by climate-related risks and opportunities;
- how their strategies might change to address such potential risks and opportunities; and
- the climate-related scenarios and associated time horizon(s) considered.

SCENARIO ANALYSIS FOR NON-FINANCIAL SECTORS

While the Task Force recommends all organizations describe their use of scenarios, it asks organizations with more than one billion U.S. dollar equivalent (USDE) in the energy, transportation, materials and buildings, and agriculture, food, and forest products groups to consider disclosing additional information as follows:

Organizations with more than one billion U.S. dollar equivalent (USDE) in annual revenue should consider conducting more robust scenario analysis to assess the resilience of their strategies against a range of climate-related scenarios, including a 2°C or lower scenario and, where relevant to the organization, scenarios consistent with increased physical climate-related risks.^{37,38}

Organizations should consider discussing the implications of different policy assumptions, macro-economic trends, energy pathways, and technology assumptions used in publicly available climate-related scenarios to assess the resilience of their strategies.³⁹

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

- Critical input parameters, assumptions, and analytical choices for the climate-related scenarios used, particularly as they relate to key areas such as policy assumptions, energy deployment pathways, technology pathways, and related timing assumptions.
- Potential qualitative or quantitative financial implications of the climate-related scenarios, if any.⁴⁰

³⁷ The Task Force expects the application of scenarios as a tool for forward-looking assessments of climate-related risk will evolve over time as scenarios, tools, and data are further developed and refined.

³⁸ Inclusion of a 2°C or lower scenario is intended to serve as an anchor point for all organizations that aligns with current international climate agreements, recognizing that the Paris Agreement currently says “well below 2 degrees.”

³⁹ This will help identify the key characteristics that are relevant to assessing long-term strategy (e.g., changes in regulation, technology, and physical impact).

⁴⁰ In discussing potential qualitative or quantitative financial implications, the Task Force is not asking organizations to provide a financial forecast (for which scenario analysis is not appropriate). Organizations are asked to provide an indication of direction or ranges of potential financial implications, for example, directionally where key financial aspects such as CapEx, R&D, supply chains, or revenue might be headed.

CARBON FOOTPRINTING AND EXPOSURE METRICS

Recognizing the limitations of current carbon footprinting metrics, the Task Force encourages asset owners and asset managers to provide other metrics they believe are useful for decision making.

The annex to the Task Force's report includes a list of metrics that asset owners and asset managers may wish to consider reporting, including the following:

- Weighted Average Carbon Intensity
- Total Carbon Emissions
- Carbon Footprint
- Carbon Intensity
- Exposure to Carbon-Related Assets

The list is not meant to be exhaustive, and the Task Force hopes that asset owners and asset managers will work to develop better climate-related risk metrics.

5. Carbon Footprinting and Exposure Metrics *(Excerpt)*

Table 2 below provides descriptions, formulas, and additional information for common carbon footprinting and exposure metrics. The table includes the weighted average carbon intensity metric that the Task Force recommends asset owners and asset managers report to their beneficiaries and clients as well as other metrics such organizations should consider reporting.

Table 2

Common Carbon Footprinting and Exposure Metrics

Metric	Supporting Information
Weighted Average Carbon Intensity	<i>Description</i> Portfolio's exposure to carbon-intensive companies, expressed in tons CO ₂ e / \$M revenue. <i>Metric recommended by the Task Force.</i>
	<i>Formula</i> $\sum_n \left(\frac{\text{current value of investment}_i \cdot \text{issuer's Scope 1 and Scope 2 GHG emissions}_i}{\text{current portfolio value} \cdot \text{issuer's \$M revenue}_i} \right)$
	<i>Methodology</i> Unlike the next three metrics, Scope 1 and Scope 2 GHG emissions are allocated based on portfolio weights (the current value of the investment relative to the current portfolio value), rather than the equity ownership approach (as described under methodology for Total Carbon Emissions). Gross values should be used.
	<i>Key Points</i> +/- + Metric can be more easily applied across asset classes since it does not rely on equity ownership approach. + The calculation of this metric is fairly simple and easy to communicate to investors. + Metric allows for portfolio decomposition and attribution analysis. - Metric is sensitive to outliers. - Using revenue (instead of physical or other metrics) to normalize the data tends to favor companies with higher pricing levels relative to their peers.
Total Carbon Emissions	<i>Description</i> The absolute greenhouse gas emissions associated with a portfolio, expressed in tons CO ₂ e.
	<i>Formula</i> $\sum_n \left(\frac{\text{current value of investment}_i}{\text{issuer's market capitalization}_i} \cdot \text{issuer's Scope 1 and Scope 2 GHG emissions}_i \right)$
	<i>Methodology</i> Scope 1 and Scope 2 GHG emissions are allocated to investors based on an equity ownership approach. Under this approach, if an investor owns 5 percent of a company's total market capitalization, then the investor owns 5 percent of the company as well as 5 percent of the company's GHG (or carbon) emissions. While this metric is generally used for public equities, it can be used for other asset classes by allocating GHG emissions across the total capital structure of the investee (debt and equity).
	<i>Key Points</i> + Metric may be used to communicate the carbon footprint of a portfolio consistent with the GHG protocol. + Metric may be used to track changes in GHG emissions in a portfolio. + Metric allows for portfolio decomposition and attribution analysis. - Metric is generally not used to compare portfolios because the data are not normalized. - Changes in underlying companies' market capitalization can be misinterpreted.

BENEFITS OF IMPLEMENTING THE RECOMMENDATIONS

Some of the potential benefits associated with implementing the Task Force's recommendations include:

- 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

BEGINNING THE JOURNEY – ILLUSTRATIVE ROADMAP

For organizations in early stages of assessing climate-related risks and opportunities, it may be helpful to develop a roadmap for implementing the recommendations.

Year 1

- Compare current disclosures to the recommendations, especially Governance and Risk Management, and identify alignment and gaps
- Determine information and data needs and process changes
- Begin evaluating metrics for assessing climate-related risks and opportunities
- Incorporate climate-related risks into risk identification and assessment process as needed
- Assign oversight to board committees and management as needed
- Disclose information related to Governance and Risk Management recommendations or disclose intention to implement the TCFD recommendations

Year 2

- Implement new processes for information and data collection and reporting
- Identify metrics useful for assessing climate-related risks and opportunities
- Adjust data collection to support metrics
- Identify climate-related risks and opportunities and assess whether they are material
- Identify relevant climate-related scenarios and consider how those scenarios might affect the organization
- Disclose information related to Governance and Risk Management recommendations and item (a) of the Strategy recommendation, where the information is material

Year 3

- Calculate and use metrics for assessing climate-related risks and opportunities
- Integrate scenario analysis into strategic planning and/or risk management frameworks
- Disclose information related to Governance and Risk Management recommendations
- Disclose information related to Strategy and Metrics and Targets recommendations, where the information is material