TCFD | TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Phase I Report of the Task Force on Climate-Related Financial Disclosures

Presented to the Financial Stability Board

March 31, 2016

MICHAEL R. BLOOMBERG

March 31, 2016

Mr. Mark Carney
Chairman
Financial Stability Board
Bank for International Settlements
Centralbahnplatz 2
CH-4002 Basel
Switzerland

Dear Chairman Carney:

On behalf of the Task Force on Climate-related Financial Disclosures, I commend the Financial Stability Board for its leadership in promoting greater transparency around climate-related risks and opportunities. We are pleased to present our Phase I Report.

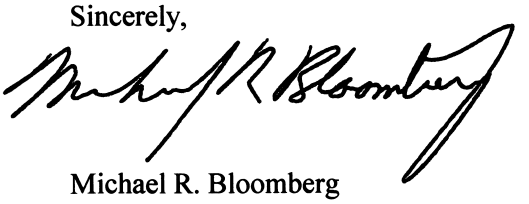
Climate change is one of the most complex issues facing businesses, governments, and society. In most G20 jurisdictions, there is a legal obligation to disclose any material risk in financial reports—which includes climate-related risks. However, the absence of a standardized framework for disclosing climate-related risks makes it difficult for preparers to determine what information should be included in their financial filings and how it should be presented. The resulting fragmentation in their reporting practices has prevented investors, creditors, and underwriters from accessing information that can inform their decisions. In addition, the same problem also can hinder regulators in their efforts to determine potential system-wide vulnerabilities.

Decisions made with better climate-related information can benefit the economy in a number of ways, including by: enabling more consistent and accurate pricing and distribution of risks; aiding more informed investing, lending, and underwriting decisions; decreasing the likelihood of large, unexpected changes in asset values; and increasing boardroom engagement on these important considerations.

On December 4, 2015, the Financial Stability Board established the industry-led Task Force to make recommendations for improving principles and practices for voluntary disclosure and selected a diverse group of experienced members (including users, preparers, and market participants from a variety of industries and regions) to lead it. The Task Force was directed to conduct its work in two phases, with reports to be delivered to the FSB at the end of each phase, in March and December 2016. In our first phase we focused on developing our scope and objectives for the proposed work and a set of fundamental disclosure principles. In our second phase, we will focus on delivering specific recommendations and guidelines for voluntary disclosure by identifying leading practices to improve consistency, accessibility, clarity, and usefulness of climate-related financial reporting.

I am grateful to the Task Force members and Secretariat for their contributions and commitment to this report, and we thank the FSB Secretariat for its technical support of the Task Force's work. We have already begun our Phase II efforts and look forward to the public comments on our consultation questions, which will help guide that work.

Sincerely,



Michael R. Bloomberg

EXECUTIVE SUMMARY

BACKGROUND

Many users and providers of financial capital increasingly recognize the risks and opportunities inherent in a changing climate, and there has been a corresponding increase in demand for decision-useful information. Nevertheless, users of climate-related financial disclosures commonly identify inconsistencies in disclosure practices, a lack of context for information, and uncomparable reporting as major obstacles to incorporating climate-related risks as a consideration in their investment, credit, and underwriting decisions. Enhanced disclosures on climate-related risks that are used by investors, creditors, and underwriters can improve market pricing and transparency and thereby reduce the potential of large, abrupt corrections in asset values that can destabilize financial markets.

At the request of the G20, the Financial Stability Board (FSB) engaged the private and public sector to review how the financial sector can incorporate climate-related issues in financial reporting. In December 2015, the FSB established the Task Force on Climate-related Financial Disclosures to undertake a coordinated assessment of what constitutes efficient and effective disclosure and design a set of recommendations for voluntary company financial disclosures of climate-related risks that are responsive to the needs of lenders, insurers, investors, and other users of disclosures. The Task Force membership spans private providers of capital, major issuers, accounting firms, and rating agencies, thereby presenting a unique opportunity to form a collaborative partnership between the users and preparers of financial reports.

THE TASK FORCE'S REMIT

A key objective of the Task Force's work, as outlined by the FSB, is to promote more effective climate-related disclosures that (1) will support informed investment, credit, and insurance underwriting decisions about reporting companies, and (2) will enable a variety of stakeholders to understand the concentrations of carbon-related assets in the financial sector and the financial system's exposures to climate-related risk.

The Task Force has been asked to deliver two reports:

- A first report (to be delivered by March 31, 2016) that will set out the scope and high-level objectives for the proposed work, together with a set of fundamental principles of disclosure, to provide an enduring disclosure framework and guide the Task Force's Phase II recommendations.
- A final report (to be delivered by the end of 2016) that will set out specific recommendations and guidelines for voluntary disclosure by identifying leading practices to improve consistency, accessibility, clarity, and usefulness of climate-related financial reporting.

In keeping with the FSB remit, this Phase I Report discusses four key areas:

LANDSCAPE

First, the Task Force has conducted a high-level review of the existing landscape of climate-related disclosures—including current voluntary and mandatory climate-related disclosure regimes—to identify commonalities, gaps, and areas for improvement. The review highlighted the progress that has been made by governments, stock exchanges, nongovernmental organizations (NGO), and others in the context of disclosure frameworks. At the same time, despite these successes, climate-related disclosure remains fragmented and incomplete, with only a limited number of reporting regimes focusing on the financial risks posed by climate-related impacts. In general, existing laws and regulations already require disclosure of climate-related risk in financial filings if it is deemed material. The Task Force plans to build on existing work to provide a framework that promotes alignment and focuses on financial risks stemming from physical and nonphysical climate-related impacts (including transition and liability risks) to better meet the specific needs of users and preparers. The approach will be market-driven.

OBJECTIVES AND SCOPE

Second, the Phase I Report defines the scope and objectives of our work for Phase II. The Task Force's recommendations in Phase II will target climate-related financial disclosures pertaining to near-, medium- , and long-term physical and nonphysical impacts faced by both nonfinancial companies and the financial sector, with the goal of furthering market understanding and evaluation of relevant financial risks and opportunities. The Task Force will consider the features and characteristics of information to be disclosed—including quantitative, qualitative, historical, and forward-looking metrics—and how disclosures are used, analyzed, and aggregated. The Task Force will focus primarily on developing recommendations for issuers of public securities, listed companies, and key financial-sector participants. The Task Force will seek to promote and drive voluntary adoption by ensuring that its recommendations reflect a consensus view of leading practices for disclosure; advance principles of good governance, fiduciary duty, and stewardship; and provide a basis for consistent and comparable application by firms in countries throughout the G20.

FUNDAMENTAL PRINCIPLES FOR EFFECTIVE DISCLOSURES

Third, the Task Force has identified seven fundamental principles that are critical for an effective regime for climate-related financial disclosure, summarized as follows:

1. Present relevant information
2. Be specific and complete
3. Be clear, balanced, and understandable
4. Be consistent over time
5. Be comparable among companies within a sector, industry, or portfolio
6. Be reliable, verifiable, and objective
7. Be provided on a timely basis

These principles will underpin the Task Force's Phase II recommendations for enhancing climate-related disclosures and provide an enduring framework for future work on these issues.

STAKEHOLDER OUTREACH AND ENGAGEMENT

The Task Force is strongly committed to extensive stakeholder engagement and public consultation, soliciting input from nonprofit organizations, industry, the official sector, and academia and ensuring that our work builds on their efforts.

TERMS OF REFERENCE FOR PHASE II

The Task Force will focus next on the financial impact of climate change on reporting companies' businesses, as the starting point for the development of recommendations for voluntary disclosures within mainstream financial reports. In general, climate-related disclosures should be subject to good-governance processes and address as comprehensively as possible the significant impacts of climate change on the company's business and the company's strategy for managing related risks. The fundamental principles will underpin the Task Force's work on these issues in Phase II of the project.

In order to conduct our work, the Task Force will hold four additional plenary meetings in the remainder of the year. In Phase II, we will organize ourselves into four workstreams:

- The governance workstream will focus on developing a common and baseline set of recommendations for voluntary disclosures pertaining to the processes that guide how boards and management consider these issues across sectors.
- Two other workstreams, on nonfinancial companies and the financial sector, will consider further industry-specific recommendations.
- The stakeholder outreach and communications workstream will continue to support the Task Force's engagement strategy.

The workstreams will consist of a balance of users, preparers, and other experts to ensure that findings reflect the challenges faced by preparers, the needs of users, and a variety of functional, regional, and industry perspectives.

TRANSPARENCY AND CONSULTATION

We recognize that effective engagement requires an open and transparent process. The Task Force will continue to proactively connect with a broad array of interested stakeholders. To provide the public with access to Task Force materials and offer greater transparency at Task Force events, we have launched a website (www.fsb-tcfd.org) and Twitter account (@fsb_tcfd).

In tandem with the April 1, 2016, publication of the report, the Task Force will post a structured, online form at www.fsb-tcfd.org/survey to open a one-month public consultation on our work in Phase II. Respondents with additional comments will be invited to submit a comment letter during the consultation period.

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1. BACKGROUND AND REMIT

Climate change is one of the most complex issues facing business, governments, and society at large. The Intergovernmental Panel on Climate Change 2014 synthesis report notes that "each of the last three decades has been successively warmer at the Earth's surface than any preceding decade since 1850."[1] Independent analyses by both NASA and the U.S. National Oceanic and Atmospheric Administration found that 2015 was the hottest year on record by a wide margin, and that 15 of the 16 warmest years on record have come in the 21st century.[2] The large-scale and long-term nature of the problem makes it uniquely challenging, especially in the context of long-term economic decisions. Moreover, our current understanding of the potential financial risks posed by climate change—to companies, investors, and the financial system as a whole—is still at an early stage.

Considerable global agreement has emerged regarding the threats posed by climate change, as evidenced by the 2015 United Nations Climate Change Conference ("COP21") held in Paris, where nearly 200 governments agreed to curb carbon emissions and limit global warming to below 2 degrees Celsius above pre-industrial levels.

There is also increasing agreement in the business and financial communities that some degree of climate change is inevitable, and that its impacts, both physical and nonphysical, may present material risks and opportunities that span both adaptation and mitigation strategies. In the runup to COP21, 350 investors representing more than US$24 trillion in assets under management called on world leaders to forge a meaningful and ambitious climate agreement, in recognition of the risks that climate change presents to their investments.[3] The Montreal Carbon Pledge,[4] with 120 investors representing over US$10 trillion in assets, commits investors to undertaking and disclosing the carbon footprint of their investment portfolios. And, the CDP (formerly the Carbon Disclosure Project) signatories—with more than 822 institutional investors representing over US$95 trillion in assets—asked companies worldwide to disclose their carbon emissions and how they are managing climate-change issues.

These efforts reflect a growing demand for decision-useful climate-related information by a range of participants in the financial markets. Creditors and investors today are more sensitive to complex or opaque financial disclosures, and increasingly demand better access to risk information that is consistent, comparable, reliable, clear, and efficient. There has also been a realization that weak

[1] Intergovernmental Panel on Climate Change, "Climate Change 2014 Synthesis Report: Summary for Policymakers," 2014, *available at* http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf.
[2] NASA, "NASA, NOAA Analyses Reveal Record-Shattering Global Warm Temperatures in 2015," January 20, 2016, *available at* http://www.nasa.gov/press-release/nasa-noaa-analyses-reveal-record-shattering-global-warm-temperatures-in-2015.
[3] "Global Investor Statement on Climate Change," September 2014, http://www.iigcc.org/files/publication-files/11DecemberGISCC.pdf.
[4] *See* http://montrealpledge.org/.

corporate governance can have a negative impact on shareholder value, which propels issues around transparency and risk management to the top of the investor agenda.

This growing demand from investors resulted in a proliferation of climate-related disclosure frameworks and the continuing development of disclosure standards for certain types of information, particularly around greenhouse gas ("GHG") emissions. Nevertheless, users of climate-related financial disclosure commonly identify inconsistencies in disclosure practices, a lack of context for information, and uncomparable reporting as major obstacles to incorporating climate-related risks as a consideration in their investment, credit, and underwriting decisions over the medium and long term. Evidence suggests that the lack of consistent information hinders investors from considering climate-related issues in their asset valuation and allocation processes.[5]

In general, inadequate information on risk exposures can lead to a mispricing of assets and/or misallocation of investment and can potentially give rise to concerns about financial stability, since markets can be vulnerable to abrupt corrections.[6] Recognizing the potential concerns, in April 2015, the G20 Finance Ministers and Central Bank Governors in their communiqué requested the FSB to convene public- and private-sector participants to review how the financial sector can take account of climate-related issues.[7] In response to the G20's request, the FSB held a public-private-sector meeting in September 2015 to consider the implications of climate-related issues for the financial sector. Participants exchanged views on the existing work of the financial sector; authorities and standard setters in this area and the challenges they face; areas for possible further work; and the possible roles the FSB and others could play in taking that work forward. The discussions continually returned to a common theme: the need for better information.

By some measures, almost 400 climate or sustainability disclosure regimes promulgated by industry groups, NGOs, stock exchanges, regulators, and international organizations are estimated to exist.[8] These regimes either indirectly or directly approach climate-related disclosure, from the perspectives of a variety of users and scopes of coverage. Many regimes focus on broader environmental, social, and governance ("ESG") issues rather than solely on climate-related risks and data. The divergent range of approaches reflects the lack of consensus around what constitutes a material climate risk, which has led to a corresponding lack of consistency, comparability, reliability, and clarity of the information provided.

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[5] Mercer LLC, "Investing in a Time of Climate Change," 2015, *available at* http://www.mercer.com/content/dam/mercer/attachments/global/investments/mercer-climate-change-report-2015.pdf.

[6] Mark Carney, "Breaking the tragedy of the horizon—climate change and financial stability," (speech, Lloyd's, London), September 29, 2015.

[7] G20, "Communiqué from the G20 Finance Ministers and Central Bank Governors Meeting in Washington, D.C. April 16-17, 2015."

[8] Quoted in Mark Carney, "Breaking the tragedy of the horizon—climate change and financial stability," (speech, Lloyd's, London), September 29, 2015. OECD and CDSB report *available at* http://www.oecd.org/daf/inv/mne/Report-on-Climate-change-disclosure-in-G20-countries.pdf. Included in this list are advocacy campaigns, platforms for registering sustainability commitments, guidance, policies, ratings schemes, laws, and measurement tools.

Practically speaking, the lack of consensus results in inefficiencies for both providers and users of disclosure.

In most G20 jurisdictions, issuers have a legal obligation to disclose any material risk in their financial reports—which includes climate-related risks. The absence of a standardized framework for disclosing climate-related risks makes it difficult for preparers to determine what information should be included in their financial filings and how it should be presented. The resulting fragmentation in their reporting practices has prevented investors, creditors, and underwriters from accessing information in a complete form that can inform their economic decisions. Furthermore, because financial sector disclosures depend on those from the underlying companies, regulators face challenges in using existing financial disclosures to determine systemwide exposures to climate-related impacts.

In response, the FSB established the Task Force on Climate-related Financial Disclosures (Task Force) on December 4, 2015, to design a set of recommendations for voluntary company financial disclosures that promote alignment across existing regimes and clarify what may constitute material and relevant climate-related risks. In devising a principle-based framework for voluntary disclosure that is responsive to the needs of lenders, insurers,[9] investors, and other users of disclosures, the Task Force seeks to improve the ease of both producing and using financial disclosures.[10] The FSB emphasized that "any disclosure recommendations by the task force would be voluntary, would need to incorporate the principle of materiality and would need to weigh the balance of costs and benefits."[11]

The Task Force membership, which was announced on January 21, 2016, spans private providers of capital, major issuers, accounting firms, and rating agencies, thereby presenting a unique opportunity to form a collaborative partnership between the users and preparers of financial reports.[12] The Task Force seeks to capitalize on and better align the work already being done in many forums to improve the quality, content, and comparability of climate-related financial disclosures.

The FSB's approach to the Task Force is modeled on work done by a prior FSB-sponsored industry group, the Enhanced Disclosure Task Force ("EDTF"). The EDTF's primary objectives were to develop fundamental principles for enhanced risk disclosures by banks, recommend improvements to current risk disclosures, and identify examples of best or leading practices. Similarly, the Task Force's assessment will identify a set of voluntary-disclosure principles supported by detailed recommendations and examples of leading practices. A key objective of the Task Force's work, as outlined by the FSB, is to promote more effective climate-related financial disclosures that: (1) will support informed investment, credit, and insurance-underwriting decisions about reporting companies, and (2) will enable a variety of financial market participants to better understand the concentrations of carbon-related assets in the financial sector and the financial system's exposures to climate-related risks. The FSB writes that

[9] Unless otherwise specified, the use of the term "insurers" in this report includes re-insurers within its scope.
[10] Financial Stability Board, "FSB to establish Task Force on Climate-related Financial Disclosures," December 4, 2015.
[11] Financial Stability Board, "Proposal for a Disclosure Task Force on Climate-Related Risks," November 9, 2015.
[12] Financial Stability Board, "FSB announces membership of Task Force on Climate-related Financial Disclosures," January 21, 2016.

disclosures by financial institutions in particular would "foster an early assessment of these risks, facilitate market discipline and encourage firms to manage what they are measuring."[13] It would also "provide a source of data that can be analyzed at a systemic level, to facilitate authorities' assessments of the materiality of any risks posed by climate change to the financial sector, and the channels through which this is most likely to be transmitted."[14] The Task Force seeks to develop recommendations that align existing disclosure schemes and fill any identified gaps with the larger aim of improving the consistency and effectiveness of climate-risk financial disclosures for global capital markets.

The FSB has asked the Task Force as a first stage to determine the scope and high-level objectives for our work. The Task Force has done so, based on preliminary research on the following:

- A stocktaking of existing climate-related disclosure schemes and related analysis
- The nature of climate risks faced by the financial sector and the scope of firms to be covered
- The needs of users of climate-related disclosures, particularly financial market participants
- The challenges faced by firms in applying and using existing disclosure schemes and
- Any gaps in current disclosures.

The FSB's November 9 proposal asked the Task Force to address the following questions about the scope and objectives of our work in the first stage (Phase I) with our responses outlined in a report delivered by the end of March 2016:[15]

- Which types of firms should recommendations cover? Which types of nonfinancial corporates? Which types of financial firms?

- Which users should be considered as the target audience? Should it be extended beyond lenders, investors, and insurers to other users of corporate disclosures (e.g., a wider set of stakeholders that monitor climate issues)?

- Should the group take into account the potential importance of being able to aggregate or otherwise analyze information for financial stability purposes? If so, what does this imply for the recommended level of consistency of disclosures?

- Should the Task Force seek input from the official sector during our work (for instance, through workshops or other outreach)?

- What are the key characteristics of effective disclosures for climate-related risks that any recommendations should seek to meet?

- Should the work be focused on carbon emissions, or instead seek to capture other types of climate-related exposures (e.g., including physical or legal exposures)?

[13] Financial Stability Board, "Proposal for a Disclosure Task Force on Climate-Related Risks," November 9, 2015.
[14] Ibid.
[15] Ibid. (slightly paraphrased).

- Should the Task Force seek to go beyond disclosures of quantitative measures of existing exposures, to more qualitative and forward-looking disclosures of plans to manage risks?

To discuss and deliberate these questions, the Task Force held plenary meetings in London and Singapore and established four Phase I workstreams: landscape; scope and objectives; principles of disclosures; and a standing committee on stakeholder outreach and engagement. In turn, the workstreams have given rise to a series of conference calls and e-mail exchanges as the work has progressed.

This report represents the culmination of the deliberations within each workstream and the collective views of the Task Force; it will guide the Task Force's work moving forward. It covers Phase I and contains detailed terms of reference for the second stage (Phase II). In Phase II, we will focus on delivering specific recommendations for voluntary disclosure principles and leading practices that promote the consistency, comparability, reliability, clarity, and efficiency of climate-related financial disclosures. A final report is targeted for delivery to the FSB by the end of 2016.

In addition to discussing and deliberating these questions, a core part of the Task Force's mandate is to take into account the work of other groups involved in climate-related disclosure and to conduct stakeholder and public outreach (see Section 5). In developing our principles, proposed scope and objectives, and Phase II work plan, the Task Force began a review of current voluntary and mandatory climate-related disclosure regimes (outlined in Section 2). One of the key features of the Task Force's mandate is its focus on building upon the existing disclosure efforts, rather than creating another, entirely new disclosure regime. The Task Force has been and will continue to conduct extensive outreach to parties with an interest in climate-related financial disclosures, including users, preparers, standard-setting bodies, and other stakeholders. We also plan to hold a public consultation to seek external feedback on our Phase I report and solicit input on substantive questions related to our work in Phase II. The Task Force's website, www.fsb-tcfd.org, will be a key channel for communicating about and sharing the Task Force's work. The website provides an online questionnaire for the public to submit comments by May 1, 2016 (see Appendix 5 for more information).

The Phase I report is organized as follows: Section 2 provides an overview of the current landscape of climate-related disclosure regimes, including voluntary and mandatory frameworks/guidelines; Section 3 lays out the Task Force's proposed high-level objectives and scope; Section 4 identifies seven fundamental principles for effective financial disclosure; Section 5 describes our plan and strategy for stakeholder outreach; and Section 6 outlines the Task Force's plans for Phase II and next steps.

In the following section, we outline the key findings from our preliminary stocktaking, which, in turn, forms the basis for the later sections of the report on principles for disclosure, scope and objectives, and next steps.

2. LANDSCAPE

In its first phase, the Task Force reviewed existing mandatory and voluntary frameworks for climate-related disclosure, to identify commonalities and gaps across existing regimes and areas that merit further work and focus by the Task Force. We drew heavily on research conducted by NGOs and industry participants, and focused on disclosure regimes that pertain most directly to the Task Force's remit—namely those with a focus on climate-related financial risk and opportunities that apply broadly to companies[16] across sectors.

To the extent there is corporate reporting of climate-related information and risks, it happens through a multitude of mandatory and voluntary schemes. Although a complete and comprehensive survey of existing schemes is beyond the scope of this report, the Task Force considered a broad range of existing frameworks, both voluntary and mandatory, in our stocktaking.

Tables A2.1 through A2.4 in Appendix 2 list select disclosure frameworks considered by the Task Force and identify a few key characteristics of each, including whether disclosures are mandatory or voluntary, what type of information and risk exposures are reported, who the target reporters and target audiences are, where the disclosed information is placed, and whether there are any specified materiality standards. These disclosure frameworks were chosen to illustrate the broad range of disclosure regimes around the world; the tables are broken out into disclosure frameworks, sponsored by banking regulators (Table A2.1), governments (Table A2.2), stock exchanges (Table A2.3), and NGOs (Table A2.4).[17]

The Organization for Economic Cooperation and Development and Climate Disclosure Standards Board's 2015 review[18] of mandatory climate-related reporting in G20 countries provides a comprehensive assessment of mandatory frameworks. They write that climate-risk reporting in G20 countries generally includes some or all of the following:

- Strategy, governance practices, and policies implemented by companies to mitigate, adapt to, and manage climate-change impacts including: extreme weather events, resource shortages, and changing market conditions;
- Resource consumption that affects climate change, including consumption of fossil fuels;
- Production of waste and pollutants that affect the climate, including GHG emissions; and

[16] Unless otherwise specified, this report's use of the term "companies" refers to companies both in the nonfinancial and financial sectors.
[17] The Task Force also considered four mandatory regimes, in particular: the European Union's because of its focus on nonfinancial information; France's because of its unique requirements for the financial sector; Brazil's because of its unique incorporation of environmental risks into bank stress tests; and Japan's because of its mandatory requirement to disclose emissions for large energy-consuming businesses.
[18] Organization for Economic Cooperation and Development and Climate Disclosure Standards Board, "Climate Change disclosure in G20 countries: Stocktaking of corporate reporting schemes," November 2015.

- The principal risks and opportunities expected by companies as a result of climate change—such as demand for new products, climate-related regulation, and supply-chain resilience.

Our review of the landscape highlighted the immense progress that has been made by governments, exchanges, NGOs, and others in promulgating and articulating disclosure frameworks and guidelines. Yet, despite these successes, climate-related disclosure remains fragmented and incomplete, with only a limited number of reporting regimes focusing specifically on the financial risks posed by climate-related impacts. Studies of climate-related financial reporting show that financial filings vary considerably based on what disclosure regime is used and, as a result, currently lack sufficient completeness, comparability, and consistency to be actionable for investors. Our findings, based on our review and an array of research reports,[19] identify a variety of challenges for both the users and preparers of reports:

- **Materiality:** Most G20 countries have some form of required climate-related disclosures, but a limited number of them pertain directly to climate-related *financial* risks. In general**,** disclosure of climate-related risk is required in mainstream financial filings if it is determined to be material.[20] However, there is a lack of consensus on what constitutes a material climate risk, particularly at the sector, subsector, and asset-class level. As a result, disclosure frameworks can differ widely in terms of content, metrics reported, form, and linkages to financial risks.

- **Fragmentation:** Different frameworks and mandatory reporting requirements can be seen as complex, costly, confusing, and burdensome for the preparers of financial reports.

- **Disjointed placement:** Climate change-related information is currently reported through multiple routes, including: to central government bodies where required; by publication of a sustainability report; in annual financial reports through inclusion of specific sections on environmental information; on company websites; or provided directly to NGOs or investors in response to surveys.

- **Financial Sector:** Few regimes currently require climate-related disclosures from the financial sector.[21]

- **Technical/methodological complexities:** The further growth and development of climate science likely means that the technical metrics and methodologies associated with disclosures will evolve. Companies struggle to provide a balanced view of the range of possible outcomes

[19] KPMG, Centre for Corporate Governance in Africa, GRI, and UNEP, "Carrots and Sticks: Sustainability reporting policies worldwide—today's best practice, tomorrow's trends," 2013.
[20] Debevoise & Plimpton, "Environmental and Climate Change Disclosure under the Securities Laws: A Multijurisdictional Survey," March 16, 2016, *available at* http://www.debevoise.com/insights/publications/2016/03/environmental-and-climate-change-disclosure.
[21] Large banks can be required to disclose their climate-related risks as listed members of stock exchanges, and there has been a recent push by governments to ask insurers and investors to report on their climate-related risks (see tables in Appendix 2).

that could affect their business model, primarily because of the inherent uncertainty in assessing when and where climate risks will likely manifest. Quantitative metrics and forward-looking analyses often rely on specified probability distributions for different climate-related scenarios, which can be difficult to estimate due to uncertainty about the likelihood of different climate events.

- **Emissions**: Direct GHG emissions are the most commonly required disclosure, yet they represent a small proportion of organizations' overall carbon footprints. "Other," indirect GHG emissions and value-chain risks are often very significant but frequently overlooked by disclosure frameworks. The identification and calculation of such emissions remain complex, in part due to poor and inconsistent data from suppliers.

- **Lack of verification/assurance:** Although many schemes request some form of assurance of information, the quality of assurance is rarely stipulated and standards for conducting assurance activities are limited.

As the Task Force moves forward (discussed further in Section 3 on Objectives and Scope), we will build on our Phase I stocktaking and continue to consider how our recommendations can address the issues identified above and can better connect existing reporting frameworks in different jurisdictions in terms of substance/content, form, and type (mandatory/voluntary). A comprehensive understanding of the wide range of relevant users and their data needs, gaps, and limitations will be crucial to ensuring that any recommendations by the Task Force will lead to disclosures that are actually used by the financial sector in making informed investment, credit, and insurance-underwriting decisions (see Appendix 3, Table A3.1).

A key consideration for Phase II will be to recognize that companies' disclosure obligations may differ across G20 legal and financial systems/jurisdictions. The Task Force will need to ensure that any recommendations factor in these differences. This includes assessing which political, legal, economic, and financial characteristics across jurisdictions may be relevant considerations in formulating Task Force recommendations, such as market structure (bank-centric vs. market-based finance); predominant types of investors (e.g., retail vs. institutional); and differing legal codes (e.g., governance, fiduciary duty, and stewardship) (see Appendix 3).

The Task Force recognizes that the impact of increasing the supply of relevant and timely information to the market will depend on whether there is sufficient demand for such data by market participants. Therefore, the Task Force will need to consider possible constraints on the demand for such information. For example, investment managers may not be properly incentivized by their asset owner clients to incorporate such information in decision-making. The Task Force will thus seek to explore how reporting by investment managers and asset owners on how they manage climate-related risks in their portfolios can increase incentives to utilize climate risk data.

2.1 CURRENT DEFINITIONS OF CLIMATE-RELATED FINANCIAL RISKS

Climate change has the potential to have enduring economic, social, and financial consequences for economies around the world.[22] As the effects of climate change become more prevalent and better understood by market participants, changing economic and regulatory conditions may affect, positively or negatively, the commercial viability, competitiveness, and/or value of certain physical assets, companies, and investments. These changes will develop in different ways, over different time horizons, and at varying intensities depending on the sector, asset class, and type of financial activity. The ways in which the global economy, specifically the financial system, could be affected by climate change are varied, complex, and uncertain.

Currently, climate-related financial risks and their implications are described using different taxonomies that focus on varying aspects and definitions of climate risks—GHG emissions, carbon risk, water risk, resource availability, physical impacts, and policy/regulatory risk, among others. At a high level, climate change has been categorized along nine interlinked "planetary boundaries":[23]

- Global warming (e.g., temperature change)
- Biosphere integrity (e.g., biodiversity)
- Freshwater use
- Land-system change (e.g., deforestation and human migration)
- Ocean acidification
- Depletion of stratospheric ozone
- Biochemical flows (e.g., nitrogen and phosphorus cycles)
- Atmospheric-aerosol loading
- Novel entities (e.g., chemical pollution and new types of engineered materials or organisms)

Since each of these climate impacts may pose risks to economic and financial activity through multiple channels, a wide range of information can be included under the heading of "climate," which, in turn, affects information to be disclosed under various regimes (see Table A4.1 in Appendix 4 for an overview of select risk frameworks). This can range from GHG emissions (see Boxes 2A and 2B) to climate-related treaties and impacts that might affect a firm's viability, value, or risk profile.

This fragmentation also stems, in part, from the lack of a generally agreed-upon definition of material climate risk. In particular, there is considerable disagreement over what constitutes a "material" climate risk that triggers disclosure requirements in most jurisdictions. This is due to the (often) significant uncertainty surrounding the severity, timing, and impact of different climate-related risks on a company or asset class. These issues are open to interpretation and debate, and they drive much of the disagreement around what companies should disclose.

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[22] WRI and UNEP-FI Portfolio Carbon Initiative, "Carbon Asset Risk: Discussion Framework," August 2015.
[23] J. Rockström et al., "A safe operating space for humanity," *Nature*, vol. 461, no. 24, September 2009, 472–475; and Will Stefen et al., "Planetary boundaries: Guiding human development on a changing planet," *Science,* vol. 347, February 13, 2015.

BOX 2A

Greenhouse Gas Protocol

The GHG Protocol is the most widely used international accounting tool for government and business leaders to understand, quantify, and manage GHG emissions. The GHG Protocol represents a decade-long partnership between the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) and provides the accounting framework for nearly every GHG standard and program in the world—from ISO to The Climate Registry—as well as hundreds of GHG inventories prepared by individual companies.

The GHG Protocol Corporate Standard generally applies to companies developing a GHG inventory but may also be used by other organizations whose operations emit GHG. It encompasses the accounting and reporting of the six gases covered in the Kyoto Protocol in addition to nitrogen trifluoride. The protocol introduces a transparent, standardized approach to accounting and reporting, which optimizes the building of a GHG inventory and allows businesses to design strategies to manage and reduce GHG emissions.

The GHG protocol has defined three ways in which a company can emit or be responsible for the emission of GHG, referred to as "scopes."

SCOPE 1

Scope 1 includes direct GHG emissions from sources that are owned or controlled by a company.

SCOPE 2

Scope 2 includes GHG emissions that result from purchased electricity, at the site where the electricity is produced.

SCOPE 3

Scope 3 comprises all indirect GHG emissions which are consequences of the activities of the reporting entity, including those of upstream (suppliers) and downstream (customers).

BOX 2B

Carbon Budget

At the COP21 Summit in Paris, more than 200 countries agreed to "holding the increase in global average temperature to well below 2 degrees C above pre-industrial levels."[1] This 2-degree Celsius target reflects a consensus in the scientific community that a 2-degree rise is the level of warming beyond which changes to the climate are likely to become dangerous and potentially irreversible.

A global carbon budget, as defined by the International Energy Association (IEA), refers to the maximum volume of emissions that can be added to the existing atmospheric build-up before exceeding the 2-degree threshold.[2] Underlying the concept of the carbon budget is the idea that there is a quantifiable if uncertain relationship between the cumulative amount of emissions over any particular period (which affects changes in atmospheric concentrations) and the amount of warming. This means that for any particular rise in temperature, there is an associated maximum level of GHG emissions which, if exceeded, would be very likely to result in a temperature rise above the target threshold. In other words, the concept of a carbon budget references the total amount of carbon that can be burned into the atmosphere before significant and potentially severe planetary change.

A carbon budget has numerous potential implications for financial reporting. For example, to meet the 2 degree target and stay within the carbon budget, resource-intensive assets may need to be separated from their carbon content or alternatively remain dormant. A number of organizations have suggested that this may be a material issue that implicates disclosures because the future revenues and costs of companies in a number of sectors currently depend on utilizing these resources—which may generate future GHG emissions. This in turn suggests that fossil fuel reserves and other resource reserves with high embedded carbon content may not be adequately accounted for in corporate accounting statements.[3] The crucial question for investors is over what time period this process may unfold, and how any transition to a low-carbon economy might affect the financial performance of companies.

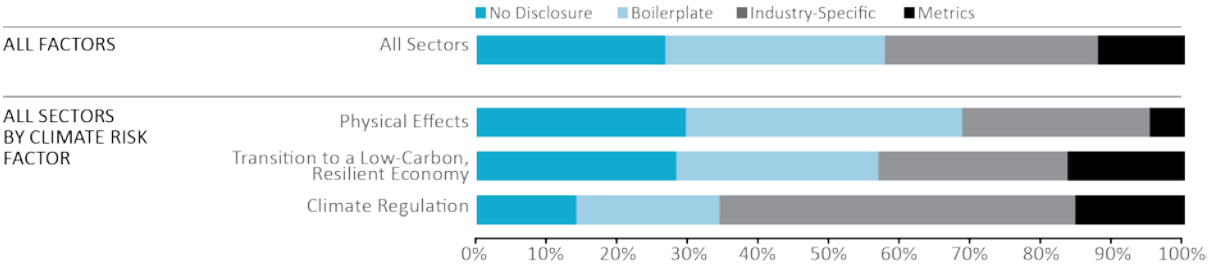
[1] *Domonoske, C., "2 Degrees, $100 Billion: The World Climate Agreement, By the Numbers," NPR, December 12, 2015.*
[2] *IEA, "Redrawing the Energy-Climate Map: World Energy Outlook Special Report," 2013.*
[3] *ACCA and Carbon Tracker, "Carbon Avoidance? Accounting for the emissions hidden in reserves," December 2013.*

2.2 SNAPSHOT OF ISSUES IN CLIMATE-RELATED FINANCIAL REPORTING

Even though climate-related impacts on business operations may present material risks to investors, financial institutions, and the wider public, climate-related reporting remains a relatively new and infrequent practice. As a result, climate-related financial risks and opportunities may not be adequately reflected in companies' financial reporting today.

A general survey of disclosures provided by corporations reveals the varied quality and content of reported information across jurisdictions and industries, even though the reporting of material risks is generally required. Data from the Sustainability Accounting Standards Board (SASB), which pertains specifically to the 2014 financial filings by the top U.S.-listed companies by revenue within each industry,[24] demonstrates the types of challenges faced by users of climate-related disclosures globally. For example, 27% of companies identified no climate risk at all. Of the approximately 70% that did, only 15% used metrics, and approximately 40% used boilerplate language—broad, nonspecific wording that does not describe the realities of the reporter's particular operating context (Figure 2C).[25] The use of boilerplate language by reporters may reflect uncertainty regarding the climate-related impacts and concerns about reporting uncertain information in financial filings that carry legal obligations (Figure A4.2 in Appendix 4). Risks related to the transition to a low-carbon economy are unlikely to be disclosed.

FIGURE 2C
State of Disclosure in Annual SEC Filings



Source: SASB Technical Bulletin on Climate Risk, January 2016

Users often face a variety of challenges in forming a clear and complete understanding of the climate risks faced by companies with existing disclosures. In considering the state of climate-related reporting at a global level, data on reporting patterns of climate-related financial information across jurisdictions would be ideal; unfortunately, such analyses are rare. For investors and lenders making capital-allocation and other financial decisions, these limitations can prevent meaningful analytical comparisons across entities and sectors, thus restricting the value of a firm's climate disclosures, even where they

[24] While SASB is U.S.-focused and the data presented here looks at 10-K forms, SASB's general research is based on listed firms, which include foreign private issuers that file 20-F forms with the Securities and Exchange Commission.

[25] Jean Rogers, "Better than boilerplate: More detailed disclosures benefit investors," September 25, 2015, *available at* http://www.sasb.org/better-than-boilerplate/.

provide relevant information. Surveys show that a large number of asset managers (nearly half by some estimates) do not analyze climate risks and opportunities at all, due in part to lack of access to adequate disclosure information.[26]

Another challenge is the multitude of different users of financial disclosures, spanning investors (including shareholders and investment managers), asset owners, sell-side analysts, investment consultants, proxy advisers, index providers, beneficial users, individual investors in fund structures, banks, credit rating agencies, exchanges, governments, regulators, and other stakeholders with an interest in climate change and sustainability issues. These different users require information for different, often multiple purposes, including informing consumer decisions, assessing performance against policy objectives, investment/portfolio analysis, and credit/risk analysis.

Ultimately, there is no single representative user, nor can any single constituency of users be treated as a homogeneous entity. For example, investors with a long-term investment horizon, such as pension funds and insurance companies, may be particularly interested in information on how climate change may affect a company in the medium or long term. While investors may primarily care about climate information for risk assessments and financial analysis, a small but significant number of ethical investors also care about whether the company they are investing in is contributing disproportionately to climate change and environmental degradation.

Addressing these gaps and challenges in the context of climate-related financial disclosures could help market participants and other stakeholders better assess to what extent companies are considering and managing climate-related risks and could reveal underlying systemwide exposures.

2.3 MANDATORY CLIMATE-RELATED DISCLOSURE FRAMEWORKS

The FSB's proposal creating the Task Force noted that: "any disclosure recommendations by the task force would be voluntary, would need to incorporate the principle of materiality and would need to weigh the balance of costs and benefits."[27] Therefore, as part of our review, the Task Force considered what companies are currently required to report by law on climate-related matters, in furtherance of our goal to produce disclosures that are voluntary, incorporate the principles of materiality, and minimize the likelihood of duplication or conflicting recommendations—thereby reducing burdens on the preparers of financial reports.

In reviewing the OECD and CDSB report and other sources concerning the different regulatory or mandatory regimes for climate-related disclosure that exist in the different G20 jurisdictions (see Appendix A2.2 and A2.5), we identified a number of characteristics.

[26] High Meadows Institute, "Charting the Future for Capital Markets," May 2015, *available at* http://www.highmeadowsinstitute.org/wp-content/uploads/2015/07/FOCM-SustainabilityInitativesSurvey.pdf.
[27] Financial Stability Board, "Proposal for a Disclosure Task Force on Climate-Related Risks, November 9, 2015.

First, most G20 jurisdictions (16 out of 20) have some type of rule or regulatory guidance that requires climate-related disclosure for (at least some) corporations:

- As mentioned earlier, disclosure of climate-related risk is generally required if it is deemed material.[28]
- The four countries lacking a mandatory government-led framework (Argentina, India, Russia, and Saudi Arabia) have other frameworks for climate-related disclosure in place, often applied to listed companies by their local stock exchanges and with varying degrees of obligation.
- In many cases, utilities and energy companies are specifically required to make climate-related disclosures under mandatory frameworks (or at least have to disclose more information than companies from other sectors).

Second, in looking across all types of regulatory frameworks (those promulgated by central and local government, stock exchanges, financial supervisors, market authorities, etc.), virtually all G20 countries (with the exception of Saudi Arabia) have some form of carbon- or climate-related disclosure framework:

- Stock exchanges and market authorities often appear as initiators and supervisors of these disclosures, and have designed frameworks with the objective of providing information that is useful to financial actors.
- As a natural consequence, disclosure requirements most often apply to listed companies above a certain size threshold, which varies by regime (e.g., the level "500 employees or more" appears as a common reporting threshold).

Third, mandatory disclosure requirements generally pertain to climate-related information generally and are not explicitly focused on climate-related *financial* information. For instance, most mandatory disclosure frameworks require the reporting of GHG emissions, with a clear focus on Scope 1, some extension to Scope 2, and very rare extension to Scope 3 (see previous Box 2A). Some jurisdictions, the European Union among them, explicitly encourage Scope 2 and 3 reporting.

Fourth, mandatory and regulatory frameworks generally do not require dynamic or forward-looking disclosures or a framing in terms of risk assessment and strategic decisions to cope with risks; however, some changes are underway:

- In the most recently developed frameworks, some governments (nine of the G20 countries) have started to require disclosure beyond GHG emissions.
- Stock-exchange listing requirements often require an initial qualitative presentation of the company's risks and strategy, encouraging forward-looking and strategic thinking on broader challenges such as climate.

[28] Debevoise & Plimpton, "Environmental and Climate Change Disclosure Under the Securities Laws: A Multijurisdictional Survey," March 16, 2016, *available at* http://www.debevoise.com/insights/publications/2016/03/environmental-and-climate-change-disclosure.

- Brazil has introduced a framework for banks as part of the local implementation of Basel III's Pillar 3, which requires disclosure of banks' physical and transition risks; these disclosures can be used by the Central Bank of Brazil to conduct specific stress tests (see A2.1 in Appendix 2—which focuses specifically on mandatory regulations affecting the banking sector—and Appendix 3, for more information).
- France has recently introduced Article 173 of the Energy Transition Act that encompasses a large set of dimensions under which climate risk should be analyzed and reported, and requires that specific information be disclosed by companies—for the use of financial investors—on their strategy for addressing transitions to a low-carbon economy. In addition, asset managers and other investors are required to report on how they take into account ESG criteria in their investment processes and decisions.

Finally, among mandatory frameworks, the majority specify some format and location guidance for the disclosure; refer at least implicitly to concepts of relevance and materiality; and include a form of verification to ensure proper compliance and potential enforcement (see Appendix 2).

In conclusion, these characteristics taken together show the wide-ranging requirements that apply to companies across jurisdictions. In considering how to develop a coherent framework for climate-related financial disclosures that takes into account these requirements and successfully describes and clarifies climate-related risks and opportunities, the Task Force can significantly improve the production of financial disclosures and make them easier to use.

In our next section, we outline the scope and objectives for our upcoming work; these build on our key findings and identify areas for further study by the Task Force.

3. THE TASK FORCE'S OBJECTIVES AND SCOPE

Many market participants believe that climate-related risks are not adequately understood in today's markets. Our review of the landscape of climate-related financial reporting supports the view that this is due—at least in part—to difficulties in measurement, differences in disclosure requirements, and different perceptions of what is considered material to companies. As a consequence, climate-related risks and opportunities are potentially mispriced and unlikely to be properly incorporated in investment analyses and lending decisions. In turn, this raises concerns about whether financial-stability risks could emerge if an abrupt and widespread correction in the pricing of assets were to occur—particularly if the adjustment were concentrated in significant segments of the economy.

Improved disclosures that address these issues have the potential to enable more informed decision-making by financial market participants through a variety of channels, including by:

- Improving their understanding and monitoring of climate-related risks and opportunities facing reporting entities, including external developments that impact risk exposure (e.g., transition to a low-carbon economy), and how the risks are being managed;
- Promoting incorporation of these considerations into investment, credit, and insurance-underwriting decisions; and
- Allowing for increased investor engagement with boards and management regarding the impact of climate change, which in turn increases boardroom engagement on how and when climate change may impact a business.

In creating a coherent framework that promotes alignment across existing regimes and clarifies what constitutes material and relevant risks, the Task Force seeks to improve the ease of both producing and using climate-related financial disclosures. In turn, improved disclosures and more informed financial-sector decision-making can yield broader positive impacts throughout the economy, by:

- Enabling more consistent and appropriate pricing and distribution of risks throughout markets; and
- Reducing the potential for financial instability by reducing the likelihood of large, unexpected changes in value.

In conclusion, more complete, consistent disclosure of climate-related risks and opportunities can promote more informed decision-making by the users of disclosures and better risk management by boards and management, which, in turn, will enable a more appropriate pricing of risk, thereby helping promote a more stable financial system.

3.1 OBJECTIVES

Building upon the existing large, well-developed, but often disjointed body of work already available, the Task Force will develop a set of recommendations and guidelines that help facilitate useful, consistent, comparable, reliable, clear, and efficient voluntary climate-related financial disclosures by:

- Encouraging reporting that is balanced and addresses both climate-related financial risks and opportunities;
- Reviewing the demand for climate-related financial information by the financial sector, including assessing the relevant legal/regulatory factors that influence demand (such as differing views of governance, fiduciary duty, and stewardship);
- Developing a principle-based framework that promotes consistency in disclosures and enhanced user understanding and decision-making;
- Considering elements with potential impacts over the short, medium, and long term and how to assess their relevance to disclosure, recognizing that climate-related risks may vary over time, geography, and industry, and among individual companies;
- Ensuring that our recommendations provide a basis for consistent and comparable application across G20 countries;
- Identifying and incorporating examples of leading practices, whenever possible; and
- Engaging extensively with key stakeholders throughout our process to ensure that the Task Force's work promotes alignment across existing disclosure regimes, considers the perspectives and concerns of users and preparers of financial disclosures, and can be efficiently implemented by companies in their financial reporting.

The Task Force will seek to ensure that our recommendations reflect a consensus view of best practices for financial disclosure, and are accepted by market participants as advancing principles of good governance, fiduciary duty, and stewardship. Because disclosures evolve over time, the Task Force has also outlined principles of disclosure, discussed in Section 4, which will serve as an enduring framework and guide the development of the Task Force's recommendations in Phase II.

The Task Force expects that our recommendations will be presented to the FSB in December 2016.

FIGURE 3A

Roadmap for the TCFD's Phase II Work

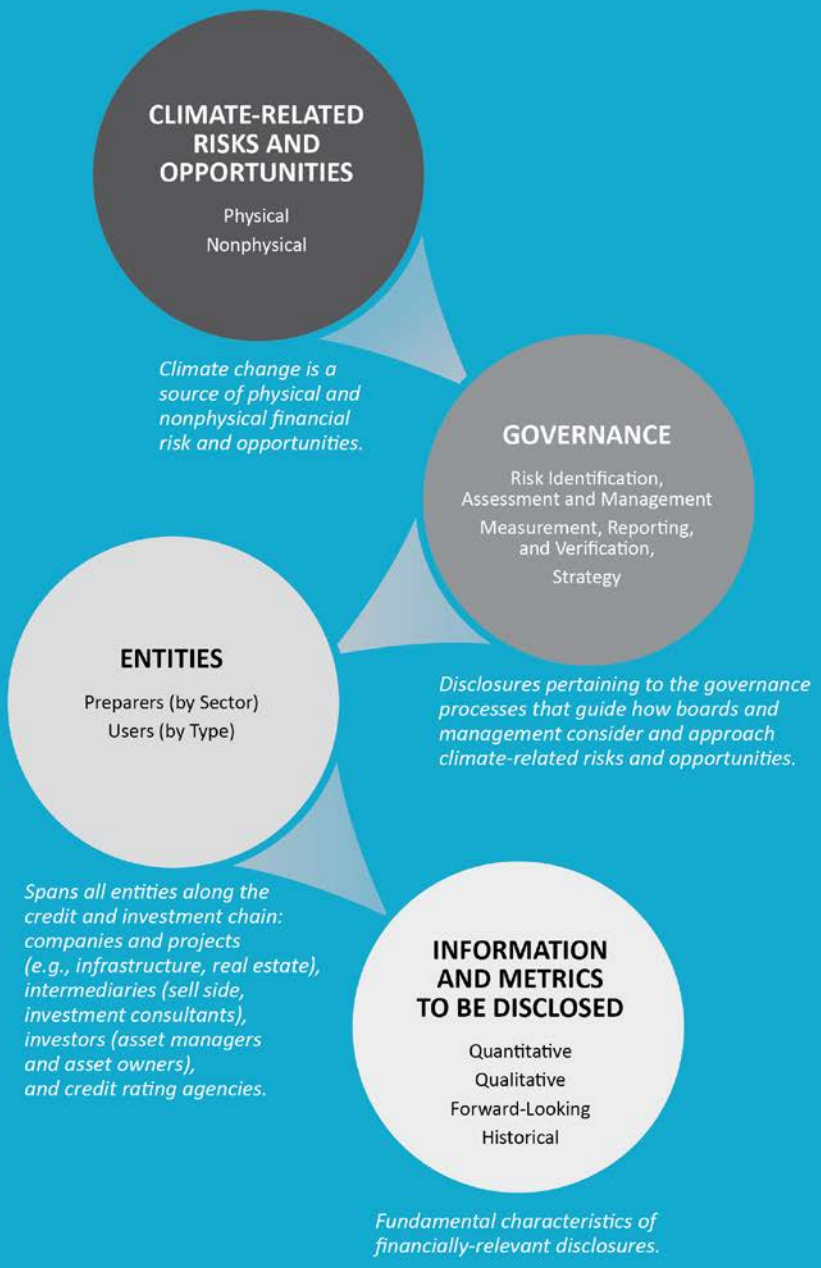


TABLE 3B

Overview of Common Climate-Related Risks and Opportunities

Risk Type	Physical Risks		Nonphysical Risks				Opportunities
	Acute	Chronic	Policy/Legal/ Litigation	Technology	Market/Economic	Reputation	Financial
Description	The physical impact of more intense weather events on investments (increasing severity of catastrophic events, e.g. increasing wind speeds, precipitation, etc.).	The physical impact of more frequent catastrophic weather events on investments (increasing probability of weather-related events).	All international, national, and subnational targets, mandates, legislation and regulations to address climate change. This includes possible risks associated with policy-driven transitions to a low-carbon economy (commonly referred to as "transition risks") and changing litigation and related allocation of liabilities, commonly referred to as "liability risks").	The rate of progress and investment in technology to support the low-carbon economy or mitigate carbon emissions (commonly included under the heading of "transition risks").	Changes in supply, demand or competition; the potential re-pricing of carbon-intensive financial assets, and the speed at which any such re-pricing might occur.	Financial or non-financial damage to reputation stemming from direct or indirect association with an asset or company.	The commercial benefits to companies, investors and economies stemming from policy-, market-, and/or technology-driven transition to a lower carbon economy, spanning both climate-related adaptation and mitigation strategies.
Financial Impacts	Disruptions to operations, transportation, supply chains, distribution chain, etc.; Damage to physical assets (plant, equipment, transportation, infrastructure); impacts on insurance liabilities.	Degradation or limitations on resource availability (e.g., water, timber, arable land, etc.); affect companies and investments reliant on the use of resources (e.g., water, natural materials).	Compliance costs, liabilities, restrictions, limitations on the use of carbon-intensive assets, investments in new technology, stranded assets, asset impairment, etc.; affect the value of operating assets and investments.	Write-offs of investments in existing technologies; required investments in new technologies; operational and process changes to accommodate new technologies; etc.; affect the value of operating assets and investments.	Viability of certain business models, company or securities valuations, asset impairment; affect the value of operating assets and investments.	Damage to brand value or reputation, lost revenue, additional expenditures.	Increased natural resource productivity, improved operating efficiency, cost reduction, identification of new revenue streams, demand for new products, potentially improved market liquidity through enhanced market pricing and transparency, accelerated technological innovation, lower asset impairment through increased investment in climate- resilient infrastructure.

3.2 SCOPE

The Task Force has begun to define our scope along four main dimensions, outlined in Figure 3A—types of risk and opportunities, governance, entities that prepare and use disclosures, and types of information to be disclosed.

CLIMATE-RELATED FINANCIAL RISKS AND OPPORTUNITIES

- **Climate-related Risks:** The Task Force is focused on financial risks and opportunities related to climate change rather than on broader sustainability issues such as poverty, health, and migration, which, while related, do not pertain directly to the Task Force's remit.

- **Financial Risks:** In this context, financial risks include, but are not limited to, risks to both physical and financial assets/liabilities and future cash flows resulting from climate-related impacts.

- **Physical and Nonphysical Risks:** The Task Force will consider both climate-related financial risks and opportunities in the context of physical and nonphysical risks (see Table 3B). Physical risks can be event-driven (acute) and also relate to longer-term changes in precipitation, temperature, and weather patterns (chronic). Nonphysical risks can be grouped into four categories: policy/legal/litigation; technological changes; market and economic responses (e.g., consumer preferences); and reputational considerations.

- **Varied Impacts:** The Task Force also recognizes that the impact of climate-related risks and opportunities vary over time, geography, and industry—and even among individual companies. Different companies may require different disclosures that reflect the nature of their business and the specific risks they face. The Task Force's recommendations will seek to consider, account for, and reflect the need for companies to use judgment when determining what information is most suitable and appropriate for disclosure.

This framework is similar in substance to other existing risk taxonomies (see Appendix 4, Table A4.1). For example, in the context of the framework set out by FSB Chairman Mark Carney, "liability risks" form a subset of policy/legal/litigation risks; and "transition risks" span multiple types of nonphysical risks, including policy/legal/litigation and technology, reflecting the fact that there are a number of channels through which the transition to a low-carbon economy can be achieved.

GOVERNANCE

Enhancing the usefulness of climate-related financial disclosures requires reporters to bring climate-related considerations into their existing processes for risk identification, assessment, management, and strategy in relation to their particular business models. The Task Force will, therefore, focus on recommendations that relate to disclosures in firms' mainstream financial filings and investors' annual reports of how boards and management identify, assess, manage, and ultimately disclose climate-

related risks and opportunities. These include processes guiding: risk identification, assessment, and management; measurement, reporting, and verification; and strategy. Concrete explanations of the linkages and connections between these topics also provide insight into how boards address climate-related risks and opportunities.

Any Task Force recommendations, including those in the area of verification, will need to consider the legal obligations placed on board members and others regarding annual reports and other mainstream financial reports.

These topics provide the business context within which disclosures need to take place and will provide the larger structure for the Task Force's detailed recommendations in Phase II.

ENTITIES

Report Preparers:

The Task Force will seek to develop our recommendations for reporting by nonfinancial companies, financial intermediaries, and other capital market participants (including investors and asset managers) that may be exposed to material physical and nonphysical risks or potential risks and opportunities associated with climate change.

- **Issuers of Public Securities (Nonfinancial and Financial Companies):** While the Task Force's recommendations for companies can be adopted widely, they are primarily expected to be useful for publicly listed companies and other issuers (capturing some private companies, partnerships, and other issuers of public securities) above a certain size or activity threshold that will be determined in Phase II. The Task Force may also deliberate and consider whether potential disclosure principles for unlisted companies should be articulated, to the extent they represent a significant portion of large portfolios in the capital markets.

- **Financial Sector:** The Task Force's recommendations for capital market participants are expected to focus on larger institutional investors, fund managers, and financial intermediaries (including lenders). Specifically, the Task Force will consider disclosures by equity/credit investors, institutional investors/asset managers, commercial and investment banks, insurance companies (including re-insurers), and institutional or fiduciary asset owners (e.g., pension funds), among others, to make sure that all relevant parts of the credit and investment chain are covered. Since risks to the financial sector stem from risks associated with underlying loans to and investments in companies, effective financial-sector reporting will depend on and be derived from effective corporate reporting.

- **Other Considerations**: While the Task Force will focus primarily on developing recommendations for publicly listed companies and other issuers, including key financial sector participants, and will consider unlisted companies as described above, it also recognizes and will consider opportunities to enhance disclosures related to non-equity asset classes, including debt, real estate, and infrastructure.

Users of Financial Disclosures*:*

In forming our recommendations, the Task Force will seek to develop voluntary climate-related financial disclosures that are consistent, useful, and relevant for the primary consumers of this information for understanding opportunities and material risks faced by reporters: investors, lenders, and underwriters. More specifically, these users span the credit and investment chain (see Appendix 3), and can include:

- Equity and debt investors
- Commercial and investment banks
- Insurers
- Credit rating agencies
- Analysts
- Asset owners
- Stock exchanges
- Investment consultants
- Proxy advisers
- Index providers

For disclosures by banks, investors, and other financial institutions, the Task Force will consider how portfolio-wide disclosures are used and how they can be aggregated for analysis.

The Task Force will consider how our recommendations for voluntary disclosures can best be integrated into existing standards, practices, and procedures used in risk assessments, portfolio analyses, asset allocation, and/or engagement strategies. The Task Force recognizes that in some cases the same institution may be both a user and a preparer of climate-related financial disclosures.

INFORMATION TO BE DISCLOSED

The Task Force will consider both quantitative and qualitative disclosures. Quantitative disclosures should provide consistent and comparable data and metrics that could be aggregated across portfolios and classes of reporters. The Task Force will also discuss the best way to disclose granular data to enable users of financial disclosures to perform their own independent analyses. Qualitative disclosures should enable users to understand approaches to governance, transition strategies, priorities, and processes of preparers and should be useful in assessing performance, which, in turn, affects company financial positions or portfolio exposures. Qualitative disclosures provide key context for quantitative disclosures; and both, together, are necessary to provide a fully integrated view of the company's climate-related financial risks and opportunities.

A critical challenge in climate-related disclosures relates to information that is either not currently knowable or highly uncertain. Given the inherent uncertainty around the future impacts of climate change and the response to those impacts, the Task Force will consider to what extent scenario and other sensitivity analyses can provide useful and flexible tools for forward-looking assessment of risks and opportunities. Such analyses can enable evaluations of portfolio or business-plan resilience to a range of possible events, helping ascertain whether today's decisions are robust across a range of

possible situations. The Task Force will also consider how historical performance and progress against management-established targets should be reported.

Climate-related disclosures should also help users determine whether companies/investors have established and implemented an effective risk management process, including key risk indicators and key performance indicators, and are committed to continuous improvement.

The Task Force will also consider the appropriate level of discretion for management in determining relevance and materiality and the balance of qualitative and quantitative disclosures. We plan to develop our recommendations with an eye to flexibility and minimizing burden, provided they meet the Task Force's high-level objectives and are consistent with our principles. This approach is intended to facilitate disclosures that focus on the issues that matter to boards of directors and would be consistent with the paradigm of "through the eyes of management," which governs segmental reporting under International Financial Reporting Standards (IFRS) and U.S. Generally Accepted Accounting Principles (U.S. GAAP). This approach would also acknowledge the need for disclosures to evolve over time as risks, business models, and external operating environments change.

While positive disclosure is preferred, the Task Force will consider whether negative disclosures at a minimum could also encourage board-level accountability.[29] As discussed earlier, the Task Force will also consider disclosures over the short, medium, and long term, while considering sector flexibility in determining how to define appropriate time frames, particularly for disclosures over the longer term.

[29] Positive disclosures require preparers to express views in the financial report regardless of whether the view is favorable or unfavorable regarding supposed exposures to risks. In contrast, negative disclosures are those in which a report preparer states that he or she has no reason to believe that anything is wrong, but never positively states that he or she believes things to be right. See Michael Sherer and Stuart Turley, *Current Issues in Auditing,* SAGE Publications*,* 189.

4. FUNDAMENTAL PRINCIPLES FOR EFFECTIVE DISCLOSURES

In our upcoming work, the Task Force will focus on the financial impacts of climate change on the business of reporting entities, as the starting point for developing recommendations for voluntary disclosures within mainstream financial reports. In general, climate-related disclosures should be subject to good-governance processes and address as comprehensively as possible the significant impacts of climate change on the company's business and/or the investor's portfolio.

To codify the above observations in a systematic manner, the Task Force has identified seven fundamental principles for climate-related financial disclosures, which underpin the more specific, voluntary recommendations and guidelines that the Task Force will set out in our Phase II Report and provide an enduring framework for future work on these issues. Since climate-related risks, investment strategies, business models, and operating environments are likely to evolve, it is expected that reporters' actual disclosure practices will vary, especially in the near term. It is therefore important that climate-related reporting evolves alongside the climate impacts such reporting is designed to disclose. The principles seek to establish a solid foundation, extending beyond any specific disclosure framework or regime (including those of the Task Force in Phase II), and reflect the ultimate aspirations and goals of financial disclosure generally in the context of climate-related risks and opportunities.

For that reason, the principles can be used by reporters as a guide for achieving transparent, high-quality disclosures that enable users to understand the impact of climate on a company's strategy, risk, opportunities, and financial performance, in an integrated manner.[30] The principles, taken together, are designed to make clear the linkages and connections between climate-related issues and a business model, strategy, and key metrics (depending on sector and jurisdiction). In addition, disclosure should be designed and provided in as efficient and cost-sensitive a manner as possible.

Ultimately, the usefulness of the principles themselves stems from how they are implemented within financial reports and, in turn, how those disclosures are used in economic decision-making—for both businesses and investors. To this end, active engagement with key stakeholders will be crucial.

The Task Force has formulated seven principles for disclosures on climate-related financial risk and risk management:

1. Present relevant information
2. Be specific and complete
3. Be clear, balanced, and understandable
4. Be consistent over time

[30] These principles are focus primarily on company reporting, which includes reporting by investors and other financial institutions.

5. Be comparable among companies within a sector, industry, or portfolio
6. Be reliable, verifiable, and objective
7. Be provided on a timely basis

Importantly, these principles are largely consistent with other mainstream, internationally accepted frameworks for financial reporting and are generally already applicable to most providers of financial disclosures. They are informed by the qualitative and quantitative characteristics of financial information and further the overall goals of producing disclosures that are consistent, comparable, reliable, clear, and efficient, as highlighted by the FSB in establishing the Task Force.

PRINCIPLE 1: DISCLOSURES SHOULD PRESENT RELEVANT INFORMATION

- The company should explain the implications of climate-related risks and opportunities for its business model and corporate strategy. This means that the company may need to provide details on the markets, business divisions, and assets or liabilities that are significantly exposed to these risks.
- The company should provide disclosures to the extent the underlying aspects can have a significant impact on the business model, strategy risks, or future cash flows. Accordingly, disclosures should be eliminated if they are immaterial or redundant, in order to be decision-useful for users and to avoid undue obfuscation of otherwise relevant information. However, when a particular risk or issue attracts investor and market interest or attention, it may be helpful to include a statement that it has no or an insignificant impact on the company. This shows that the risk or issue has been considered and not just ignored or overlooked.
- Disclosures should be presented in sufficient detail to enable users to assess the company's exposure and approach to addressing climate-related issues, while understanding that the type of information, the way in which it is presented, and the accompanying explanatory notes will differ between companies and will be subject to change over time.
- The nature of climate-related issues is such that impacts can occur over the short, medium, and long term. Also, companies can experience chronic, gradual impacts (such as shifting temperature patterns), as well as acute, abrupt disruptive impacts (such as from flooding, drought, or sudden regulatory actions). A company should provide all information from the perspective of their potential impact on value creation, taking into account and addressing the different time frames and types of impacts.
- Companies should avoid generic or boilerplate disclosures that do not add value to users' understanding or do not relay useful information. Furthermore, any proposed metrics should adequately describe or serve as a proxy for risk or performance and reflect how the company manages the risk and opportunities.

PRINCIPLE 2: DISCLOSURES SHOULD BE SPECIFIC AND COMPLETE

- The company's reporting should provide a thorough overview of its exposure to climate-related impacts; the nature and size of such impacts; the company's strategy, governance, assessment and management of climate-related risks and performance with respect to adapting to or mitigating these risks. The above mentioned should also cover business opportunities that may arise.

- Due to their characteristics, assessing climate-related issues requires forward-looking dynamic disclosures. Therefore, in order to be sufficiently comprehensive, disclosures should both contain historical and future-oriented information in order to allow users to both confirm their previous expectations and assess possible implications for future financial impact on the company.
- For quantitative information, the disclosure should include an explanation of the definition and scope applied. For future-oriented data this includes clarification of the key assumptions used. Forward-looking quantitative disclosure should align with data used by the company for investment decision-making and risk management.
- When appropriate, meaningful and relevant disclosures should be supplemented by sensitivity or scenario analysis. Such analyses should be based on data used by the company for investment decision-making and risk management. They should also demonstrate the effect on selected risk metrics or exposures to changes in the key underlying methodologies and assumptions, both in qualitative and quantitative terms.

PRINCIPLE 3: DISCLOSURES SHOULD BE CLEAR, BALANCED, AND UNDERSTANDABLE

- Disclosures should be written with the objective of communicating to a range of financial-sector participants (investors, creditors, analysts, etc.) financial information that serves their needs. This requires reporting at a level beyond compliance with minimum requirements. The disclosures should be sufficiently granular to inform sophisticated users, but should also provide concise information for those with a justified interest who are less specialized. Clear communication will enable navigation through the information and disclosures being organized so that key information and messages are prioritized and easy to find.
- Disclosures should show an appropriate balance between qualitative and quantitative information, using text, numbers, and graphical presentations.
- Fair and balanced narrative explanations should provide insight into the meaning of quantitative disclosures, including the changes or developments they portray over time. Furthermore, balanced narrative explanations require that risks as well as opportunities are portrayed in a manner that is free from bias.
- Disclosures should provide straightforward explanations of more complex issues. Terms used in the disclosures should be explained or defined for a proper understanding by the users.

PRINCIPLE 4: DISCLOSURES SHOULD BE CONSISTENT OVER TIME

- Disclosures should be consistent over time to enable users to understand the development and/or evolution of the impact of climate-related risks and related aspects on the company's business. Disclosures should be presented consistently from period to period, allowing for inter-period comparisons. Presenting comparative information is preferred; however, in some situations it may be preferable to include a new disclosure even if comparative information cannot be prepared or restated.
- Changes in disclosures and related approaches or formats (e.g., due to shifting climate change-related issues and evolution of risk practices, governance, measurement methodologies, or accounting practices) can be expected due to the immaturity of the field. Any such changes should, however, be carefully considered and explained.

PRINCIPLE 5: DISCLOSURES SHOULD BE COMPARABLE AMONG COMPANIES WITHIN A SECTOR, INDUSTRY, OR PORTFOLIO

- Disclosures should allow for meaningful comparisons of business model and strategy, activities, risks, and performance across companies and within sectors and jurisdictions. The level of detail should enable benchmarking and the comparison of risks across sectors and/or at the portfolio level. The placement of reporting would ideally be consistent across companies—i.e., in financial filings, in order to facilitate easy access to the relevant information.

PRINCIPLE 6: DISCLOSURES SHOULD BE RELIABLE, VERIFIABLE, AND OBJECTIVE

- Disclosures should meet the essential criteria of high-quality reliable information. They should be accurate and neutral—i.e., free from bias.
- Future-oriented disclosures will inherently involve the company's judgment (which should be adequately explained where relevant). However, to the extent possible, disclosures should be based on objective data and use best-in-class measurement methodologies, which would include common industry practice as it evolves.
- Disclosures should be defined, collected, recorded, and analyzed in such a way that the information reported is verifiable to ensure its high quality. For future-oriented information, this means that model assumptions used can be traced back to their sources. This does not imply, however, a requirement for independent external assurance, although it is expected that such disclosures are subject to internal governance processes that are the same or substantially similar to those used for financial reporting.

PRINCIPLE 7: DISCLOSURES SHOULD BE PROVIDED ON A TIMELY BASIS

- Information should be delivered or updated to users in a timely manner using appropriate media on an annual basis within the mainstream financial report.
- Climate-related risks can result in disruptive events. In case of such events with a material financial impact, the company should provide a timely update of climate-related disclosures as appropriate.

In the application of these principles, reporters will inevitably encounter tension or conflict between two or more of the fundamental principles set out above. For example, a company may need to change its methodology to meet the comparability principle, which may result in a tension with the principle of consistency. Equally, tension can arise within a single principle. For example, Principle 6 states that disclosures should be verifiable, but this might not be possible for the assumptions made about future-oriented disclosures that require significant judgment by management.

Such tensions are considered to be inevitable given the wide-ranging and sometimes competing needs of users and preparers of disclosures. Disclosures require both preparers and users (often a single entity performing both roles) to find an appropriate balance in disclosures and ensure the right amount of information for the market while not being excessively burdensome for both parties.

5. STAKEHOLDER OUTREACH AND ENGAGEMENT

The Task Force is fortunate that many organizations and experts have undertaken high-quality work alongside many in industry on the topics that we are addressing. As an industry-led effort, the Task Force intends to be highly consultative in the way it works with this broader body of stakeholders.

This consultative approach is reflected in the process already undertaken. To date, the Task Force has held two plenary meetings—one in London, the other in Singapore—both of which included stakeholder forums through which the Task Force sought and received helpful feedback from external experts on themes and issues related to this report. In London, twelve NGOs and organizations working actively in this area were invited to present to the Task Force and more than 160 public attendees on their perspectives and suggestions regarding the issues that the Task Force should consider in developing our scope, principles, and eventual recommendations. Our public session in Singapore included 115 attendees representing more than 100 organizations. Throughout this period, the Task Force has also conducted more than 100 individual consultations with a wide range of experts in financial and climate-related matters. Direct solicitation of feedback has been and is a priority to ensure that the next phase of work reflects a consensus view of the issues (many of which are still rapidly evolving) from a broad spectrum of stakeholders. The Task Force's overall approach to engagement is as follows:

1. The Task Force intends to engage with stakeholders to learn from their expertise and consider their feedback as we develop final recommendations that reflect their input. Our recommendations will be greatly strengthened by building on others' expertise.
2. The Task Force is committed to an ongoing process of stakeholder engagement throughout our work. The impact of the Task Force's work will depend upon the community of stakeholders who share our commitment. Consequently, our Phase II Report will outline a detailed roadmap that will encourage voluntary, widespread usage of the Task Force's recommendations by all stakeholders within scope.
3. Wherever appropriate, the Task Force intends to continue to use all plenary meetings as additional opportunities for stakeholder engagement.
4. The Task Force intends to have two periods of public consultation on our work to provide external parties opportunities to provide formal input.
5. Task Force representatives may share information on our work and solicit feedback as panelists or speakers at events hosted by others. Parties interested in inviting a Task Force representative to attend an event may contact info@fsb-tcfd.org.
6. The Task Force also intends to host a series of forums and meetings, work closely with experts both in groups and bilaterally, and regularly seek input and feedback throughout this process.

The Task Force will engage relevant participants in all sectors including potential preparers and users of climate-risk disclosure, standard setters, experts from NGOs, academics, and the official sector. We will coordinate our work with those considering similar issues to ensure complementary outcomes.

In keeping with these goals, we plan to launch a public consultation following the delivery of the report (see Appendix 5 for the consultation questions, which will be posted in the form of a questionnaire on our website at www.fsb-tcfd.org/survey).

We recognize that effective engagement requires an open and transparent process. The Task Force has already received extensive inquiries and feedback from external stakeholders through email, social media, and our events, and will continue to seek out additional stakeholders working in this area. To support our public consultation and promote transparency, our website and Twitter account (@fsb_tcfd) will provide the public with access to Task Force materials and a schedule of the Task Force's activities. We welcome and encourage all interested parties to actively engage in the Task Force process.

6. TERMS OF REFERENCE FOR PHASE II

The Task Force is scheduled to hold four additional plenary meetings in the remainder of 2016 and conduct additional outreach to stakeholders. The Task Force will address the following topics in Phase II:

- The needs of users of climate-related disclosures (these may include insurers, lenders, underwriters, intermediaries such as credit rating agencies and equity analysts, the buy side and its customers, and public authorities);[31]
- Potential gaps in disclosures, the types of entities that could provide disclosures to fill these gaps, and challenges to achieving consistency, comparability, reliability, clarity, and efficiency of the information provided;[32]
- Specific recommendations for voluntary-disclosure principles and leading practices that promote the consistency, comparability, reliability, clarity, and efficiency of climate-related disclosures;[33]
- Strategies to promote adoption and implementation; and
- A methodology for measuring progress in adopting the Task Force's recommended disclosures.

A Phase II report addressing these points is targeted for delivery to the FSB by December 2016, with a finalized report expected to be published in February 2017.

The Task Force has established four initial workstreams to begin organizing our Phase II work. Each workstream will consist of a balance of users, preparers, and other experts to ensure that outputs reflect a consensus view informed by functional, regional, and industry perspectives. (Due to the size of the task at hand and the potential outcomes of this initial Phase II exercise, the Task Force may need to designate additional workstreams or establish subgroups within workstreams.)

- GOVERNANCE: This workstream will focus on developing a common and baseline set of recommendations on disclosures pertaining to the governance processes that guide how boards and management consider, approach, and ultimately disclose climate-related risks and opportunities.

- FINANCIAL SECTOR: This workstream will consider climate-related disclosures by financial-sector participants and aggregate and/or industry-specific financial risks arising from climate-related impacts. It will also consider the needs of financial-sector participants as users of disclosure.

[31] Financial Stability Board, Proposal, November 9, 2015, 4 (slightly paraphrased).
[32] Ibid. (slightly paraphrased).
[33] Financial Stability Board, Press Release, December 4, 2015, 2.

- NONFINANCIAL COMPANIES: This workstream will focus on nonfinancial companies and consider aggregate and/or industry-specific financial risks and opportunities arising from climate-related impacts.

- STRATEGY FOR STAKEHOLDER OUTREACH AND COMMUNICATION: Established in Phase I and outlined in Section 5, this workstream will continue its work to support the Task Force's outreach and engagement with key stakeholders, develop the appropriate strategy to promote usage and implementation, and measure progress.

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APPENDIX 1: GLOSSARY AND ABBREVIATIONS

GLOSSARY

Companies—Unless otherwise specified, the use in this report of the term "companies" refers to both financial and nonfinancial companies.

Corporate social responsibility—CSR is generally refers to how companies manage their business to produce an overall positive impact on society. However, definitions of CSR vary internationally. The European Commission's definition is "the responsibility of enterprises for their impacts on society." In India and Indonesia, the concept of CSR includes environmental, social, and governance elements, but also refers to charity and investment in community activities.

Environmental, social, and governance—ESG is a term used to describe the three areas of concern that have developed as the central factors in measuring the sustainability and ethical impact of an investment in a company or business.

Materiality—A principle for classifying the importance of information. Derived from a principle of financial reporting, material information is information on economic, environmental, social, and governance performance or impacts that should be disclosed on the grounds that it is (a) highly relevant to an organization and (b) is expected by key stakeholders as it may significantly affect their assessment of the organization.

Natural capital—The stock of renewable and nonrenewable natural resources (e.g., plants, animals, air, water, soils, and minerals) that combine to yield a flow of benefits to people.

Scope levels—

- **Scope 1:** All direct GHG emissions.
- **Scope 2:** Indirect GHG emissions from consumption of purchased electricity, heat, or steam.
- **Scope 3:** Other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g., transmission and distribution losses) not covered in Scope 2, outsourced activities, waste disposal, etc.

Stakeholders—Stakeholders are defined as entities or individuals that can reasonably be expected to be significantly affected by the organization's activities, products, and services; and whose actions can reasonably be expected to affect the ability of the organization to successfully implement its strategies and achieve its objectives. This includes entities or individuals whose rights under law or international conventions provide them with legitimate claims vis-à-vis the organization. Stakeholders can include those who are invested in the organization (such as employees, shareholders, and suppliers), as well as those who have other relationships to the organization (such as vulnerable groups within local communities and civil society).

Sustainability report—A sustainability report is an organizational report that gives information about economic, environmental, social, and governance performance and impacts. For companies and organizations, sustainability —the ability to be long-lasting or permanent—is based on performance and impacts in these four key areas.

Sustainable value chain approach—A sustainable value chain approach is the methodology employed by a business to describe how it has scoped, documented, and assessed the impact of its value chain on its sustainability performance. It enables both business and society to better understand and address the environmental and social challenges associated with the life cycle of products and services.

Value chain—Value chain is the terminology used to describe the upstream and downstream life cycle of a product, process, or service, including material sourcing, production, consumption, and disposal/recycling. Upstream activities include operations that relate to the initial stages of producing a good or service, i.e. material sourcing, material processing, supplier activities. Downstream activities include operations that relate to processing the materials into a finished product and delivering it to the end user, i.e., transportation, distribution and consumption.

ABBREVIATIONS

CBD—United Nations Convention on Biological Diversity
CDP—Carbon Disclosure Project
CDSB—Climate Disclosure Standards Board
Ceres—Coalition for Environmentally Responsible Economies
CO2—Carbon dioxide
COP—Conference of the Parties to the United Nations Framework Convention on Climate Change
CSI—Cement Sustainability Initiative of the World Business Council for Sustainable Development
DMA—disclosure on management approach
EFFAS—European Federation of Financial Analysts Societies
EU—European Union
ERM—enterprise risk management
ESG—Environmental, social and governance
GAASS—Generally Accepted Assurance Standards for Sustainability
GHG—greenhouse gas
GISR—Global Initiative for Sustainability Ratings
GRI G4—Global Reporting Initiative G4 Guidelines
GRI—Global Reporting Initiative
GPC—Global Protocol for Cities
IAASB—International Auditing and Assurance Standards Board
IASB—International Accounting Standards Board
IFRS—International Financial Reporting Standards
IIRC—International Integrated Reporting Council
IPCC—Intergovernmental Panel on Climate Change
ISAE—International Standard on Assurance Engagements
ISO—International Organization for Standardization
KPI—key performance indicator
LCTPI—Low Carbon Technology Partnership Initiative
NGO—nongovernmental organization
OECD—Organization for Economic Cooperation and Development
PRI—Principles for Responsible Investment
RAFI—Human Rights Reporting and Assurance Framework Initiative
SASB—Sustainability Accounting Standards Board
SDGs—Sustainable Development Goals
UN—United Nations
UNEP—United Nations Environmental Program
UNEP FI—United Nations Environmental Program Financial Inquiry
UNFCCC—United Nations Framework Convention on Climate Change
U.S. SEC—U.S. Securities and Exchange Commission
WBCSD—World Business Council for Sustainable Development
WRI—World Resources Institute
WWF—World Wide Fund for Nature

APPENDIX 2: SELECTED DISCLOSURE FRAMEWORKS

Note: The information below in the Tables A2.1-A2.4 is based on information released by governments, stock-exchanges, and standard setters, and is supplemented by UNEP FI, "The Financial System We Need: Aligning the Financial System with Sustainable Development," October 2015, and OECD, "Report to G20 Finance Ministers and Central Bank
Governors," September 2015.

Table A2.1: Select Mandatory Regulations Affecting Banks*

Country	Name of framework	Scope	Targeted constituency	Notes
Bangladesh	Environmental Risk Management Guidelines for Banks and Financial Institutions in Bangladesh	Environmental and social risk management	Banks and financial organizations under the Financial Institutions Act (former nonbank financial institutions)	
Brazil	(Internal Capital Adequacy and Assessment Process under Basel III) (2011)	Risk assessment and capital sufficiency	Regulated financial institutions, financial institutions, integrated in the National Rural Credit System (SNCR)	Requires banks to demonstrate how they take exposure to social and environmental damage into account.
	Resolution No. 4,327 (2014)	Social and Environmental Responsibility Policy (PRSA) guidelines (governance structure and management of environmental risks)	Financial institutions and other entities authorized by the Central Bank of Brazil	
China	Green Credit Guideline (GCG)	Environmental and social risk management, internal management and management structure, information disclosure	Policy banks, state-owned commercial banks, joint-stock commercial banks, financial assets management companies, Postal Savings Bank of China, provincial rural credit unions, all trust firms, enterprise group finance companies and financial leasing firms directly regulated by the China Banking Regulatory Commission	
European Union	Directive on annual and consolidated accounts of certain types of companies, banks and other financial institutions and insurance undertakings (2003; mandatory for EU states to transpose in national legislation)	Reporting: states that it should not be restricted to the financial aspects of the company's business, but, where appropriate, include analysis of environmental and social aspects	Most credit institutions and other financial institutions	
Nigeria	Nigerian Sustainable banking Principles and Guidance Note, incl. 3 Sector-Specific Guidelines	Environmental and social risk management	Banks, discount houses, and development finance institutions	Quasi-mandatory regulation
Peru	Resolution 1928—2015 of the SBS, March 2015	Environmental and social risk management	All Peruvian banks	
Vietnam	Environmental and Social Risk Management Circular	Environmental and social risk management	All Vietnamese banks	

***Taken directly from: Centre for Research on Multinational Corporations, "Mobilising the financial sector for a sustainable future,"* October 2015.**

Table A2.2: Select Disclosure Frameworks, Governments

Region: Framework	Target Reporter-Financial Firms	Target Reporter-Nonfinancial Firms	Target Audience	Mandatory or Voluntary	Types of Information Disclosed	Disclosure Location	Materiality Standard	External Assurance Required
European Union: *EU Directive 2014/95 regarding disclosure of nonfinancial and diversity information (2014)*	Yes, if meets size criteria (i.e., have more than 500 employees)	Yes, if meets size criteria (i.e., have more than 500 employees)	Investors, consumers, and other stakeholders	Mandatory; must be effective in Member States by December 6, 2016	Land use, water use, greenhouse gas emissions, use of materials, and energy use,	Corporate financial report or separate report (published with financial report or on website six months after the balance sheet date and referenced in financial report)	None specified	Member States must require that statutory auditor checks whether the nonfinancial statement has been provided Member States may require independent assurance for information in nonfinancial statement
France: *Article 173, Energy Transition Law (2015)*	Yes, if listed Additional requirements for institutional investors	Yes, if listed	Investors, general public	Mandatory	Listed companies: consequences on climate change of the company's activities and of the use of goods and services it produces, Institutional investors: GHG emissions, contribution to goal of limiting global warming	Annual report	None specified	Not specified (according to Two Degrees translation); may depend on assurance requirements for annual report
Australia: *National Greenhouse and Energy Reporting Act (2007)*	Yes, if meets specified emissions /energy production /consumption thresholds	Yes, if meets specified emissions or energy production or consumption thresholds	General public	Mandatory if thresholds are met	GHG emissions, energy consumption, and energy production	Report to government	Based on emissions above a certain threshold	Regulator may, by written notice to corporation, require an audit of its disclosures
US: *SEC Guidance Regarding Disclosure Related to Climate Change*	Yes, if subject to SEC periodic reporting requirements	Yes, if subject to SEC periodic reporting requirements	Investors	Mandatory	Climate-related: requirements, treaties and agreements, business trends, and physical impacts	Annual and other reports required to be filed with SEC	US securities law definition	Not specified; depends on assurance requirements for information disclosed
US: *NAICs,2010 Insurer Climate Risk Disclosure Survey*	Yes, insurers meeting certain premium thresholds	No	Regulators	Mandatory if thresholds are met	General disclosures about climate change-related risk management and investment management	Survey sent to state regulators	None specified	Not specified
India: *National Voluntary Guidelines on Social, Environmental, and Economic Responsibilities of Business (2011)*	Yes	Yes	Investors, general public	Voluntary	Materials, energy consumption, water, discharge of effluents, GHG emissions, and biodiversity	Not specified; companies may furnish a report or letter from owner/CEO	None specified	"State whether the person/committee head responsible for oversight review is independent from the executive authority or not. If yes, how." (p.37). Guidelines include third-party assurance as a "leadership indicator" of company's progress in implementing the principles
UK: *Companies Act 2006 (Strategic Report and Directors Report) Regulations 2013*	Yes, if a "Quoted Company," per Companies Act 2006	Yes, if a "Quoted Company," as defined by the Companies Act 2006	Investors	Mandatory	GHG emissions	Directors report	None specified	Not required, but statutory auditor must consider whether information is materially incorrect or materially inconsistent with financial statements based on information obtained during financial statement audit

Table A2.3: Select Disclosure Frameworks, Exchange Listing Requirements and Indices

Region: Framework	Target Reporter-Financial Firms	Target Reporter-Nonfinancial Firms	Target Audience	Mandatory or Voluntary	Types of Information Disclosed	Disclosure Location	Materiality Standard	External Assurance Required
Singapore: **Singapore Exchange Ltd.,** *Policy Statement on, and Guide to, Sustainability Reporting for Listed Companies (2011)*	Yes, if listed	Yes, if listed	Investors	Voluntary, *(Jan. 5, 2016 consultation paper, proposal for reporting on comply or explain basis)*	Business/legal developments related to climate change that may affect company, biodiversity management, environmental management, and systems *(Jan. 5, 2016 consultation paper: materials, energy, water, emissions, waste)*	Discretion of company	None specified	Not required
Australia: **Australia Securities Exchange,** *Listing Requirement 4.10.3; Corporate Governance Principles and Recommendations (2014)*	Yes, if listed	Yes, if listed	Investors	Mandatory; comply or explain	General disclosure of material environmental risks	Annual report must include either the corporate governance statement or company website link to the corporate governance statement on company's website	"a real possibility that the risk in question could substantively impact the listed entity's ability to create or preserve value for security holders over the short, medium or long term"	Not specified; may depend on assurance requirements for annual report
Brazil: Stock Exchange (BM&FBovespa) *Recommendation of report or explain (2012)*	Yes, if listed	Yes, if listed	Investors, regulator	Voluntary; Comply or Explain	Provide information on whether they prepare a sustainability report, or explain why not. Report social and environmental information disclosed; methodology used; if audited/reviewed by an independent entity; and link to information (i.e. webpage).	Discretion of company	Criteria explained in Reference Form (Annex 24) of the Instruccion CVM nº 480/09	Not specified
South Africa: Johannesburg Stock Exchange *Listing Requirement Paragraph 8.63; King Code of Governance Principles* (2009)	Yes, if listed	Yes, if listed	Investors	Mandatory; Comply or Explain	General disclosure regarding "sustainability performance"	Annual report	None specified	Required
China: **Shenzhen Stock Exchange** *Social Responsibility Instructions to Listed Companies (2006)*	Yes, if listed	Yes, if listed	Investors	Voluntary: social responsibilities Mandatory: pollutant discharge	Waste generation, Resource consumption, Pollutants	Not specified	None specified	Not specified "Companies shall allocate dedicated human resources for regular inspection of implementation of environmental protection policies." (Art. 31)
World, regional, and country-specific indices: *Dow Jones Sustainability Index, Sample Questionnaires*	Yes	Yes	Investors	Voluntary	GHG emissions, SOx emissions, energy consumption, water, waste generation, environmental violations, electricity purchased, biodiversity, carbon, and mineral waste management	Nonpublic	None specified	Disclose whether external assurance was provided and whether it was pursuant to a recognized standard

Table A2.4: Select Disclosure Frameworks, NGOs

Region: Framework	Target Reporter-Financial Firms	Target Reporter-Nonfinancial Firms	Target Audience	Mandatory or Voluntary	Types of Information Disclosed	Disclosure Location	Materiality Standard	External Assurance Required
Global: **CDP** *Annual Questionnaire (2016)*	Yes	Yes	Investors	Voluntary	Energy use, Carbon, GHG emissions (Scope 1-3), Water (separate questionnaire), Forests (separate questionnaire)	CDP database	None specified	Encouraged; information requested about verification and third party certification
Global: **CDSB** *Climate Change Reporting Framework, Ed. 1.1 (2012)*	Yes	Yes	Investors	Voluntary	GHG emissions	Annual report (or any mainstream financial report)	Allow "'investors to see major trends and significant events related to climate change that affect or have the potential to affect the company's financial condition and/or its ability to achieve its strategy"	No requirement "except and to the extent that International Standards on Auditing (ISA 720) require the auditor of financial statements to read information accompanying them to identify material inconsistencies between the audited financial statements and accompanying information..."
US: SASB *Conceptual Framework (2013) and SASB Standards (Various*)	Yes; any public company traded on US exchanges	Yes; any public company traded on US exchanges	Investors	Voluntary	Sector-specific requirements	SEC filings	"a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of the information made available"	Conceptual Framework encourages use of AT 101 for assurance on SASB disclosures; assurance may be required, depending on circumstances
Global: **GRI,** *G4 Sustainability Reporting Guidelines (2013)*	Yes; any public or private company	Yes; any public or private company	All Stakeholders	Voluntary	Materials, Energy, Water, Biodiversity, Emissions, Waste	Sustainability reports or "any type of document which requires such disclosure"	"may reasonably be considered important for reflecting the organization's economic, environmental and social impacts, or influencing the decisions of stakeholders"	Disclosure of policy and practice regarding external assurance
Global: **IIGCC**, *Oil & Gas (2010)*	No	Yes, oil & gas	Investors	Voluntary	GHG emissions, Clean technologies data	Not specified	None specified	Not specified
Global: **IIGCC,** *Automotive (2009)*	No	Yes, automotive industry	Investors	Voluntary	GHG emissions, Clean technologies data, Carbon	Company's discretion	None specified	Not specified
Global: **IIGCC**, *Electric Utilities (2008)*	No	Yes, electrical utilities	Investors	Voluntary	GHG emissions, Electricity production	Company's discretion	None specified	Disclose how accuracy of GHG emissions information was verified
Global: **Asset Owners Disclosure Project,** *2016 Global Climate Risk Survey*	Yes, pension funds, insurers, sovereign wealth funds ≥$2bn AUM	No	Asset managers, investment industry, government	Voluntary	GHG emissions, Carbon	Survey responses; respondents are asked whether responses may be made public	None specified	Disclose whether external assurance was provided
Global: **IIRC**, *International <IR>Framework (2013)*	Yes; any public company traded on international exchanges	Yes; any public company traded on international exchanges	Investors	Voluntary	General challenges related to climate change, loss of ecosystems, and resource shortages	Standalone sustainability or integrated report	"Substantively affect the organization's ability to create value over the short, medium and long term"	Not specified; discussion paper released on issues relating to assurance

APPENDIX 3: CLIMATE-RELATED DISCLOSURES ACROSS THE INTERNATIONAL LANDSCAPE

A review of the tables and content in Appendix 2 reveals some broad themes regarding climate disclosures that help explain the level of inconsistency and fragmentation observed in existing company disclosures and can help inform the work of the Task Force.

A3.1: SUSTAINABILITY DISCLOSURES:

Climate-change-related information is a subset of sustainability information generally. Though the Task Force will focus primarily on climate-related issues, a view of how sustainability information is disclosed and used by a wide range of individuals can cast light on related themes in the more narrow area of climate-related risks. The users of climate-risk disclosures include institutional and individual investors, financial institutions, regulators, credit rating agencies, and other stakeholders with an interest in climate change and sustainability issues. Furthermore, the information can be used for multiple purposes, including informing consumer decisions, assessing performance against policy objectives, investment and portfolio analysis, and credit and risk analysis. To illustrate, some companies request information from their suppliers and customers on how they identify and manage climate risks and request disclosure of data and performance against improvement targets. (Companies themselves also use the reporting to derive a variety of benefits, as discussed in Section 4.)

A closer examination of uptake patterns by various user groups in financial markets reveals a mixed picture when it comes to levels of engagement, knowledge, and integration of sustainability information, including climate change-related data. The Task Force will undertake to understand how information needs vary in the capital markets, which actor(s) is best placed to provide the required information, and how disclosures from each actor should vary to meet each unique need. The capital markets users for whom current practice, current data availability, and current upward reporting practices would be addressed include: investment managers, sell-side analysts, asset owners, asset consultants, creditors, proxy advisers, and index providers. The Task Force will also consider whether to evaluate the information needs of beneficial users of institutional investment and individual investors in fund structures.

The following is intended to provide a glimpse—not a comprehensive treatment—of the wide-ranging needs and challenges faced by different types of users of climate-related financial disclosures. The Task Force plans to undertake further study of these matters to formulate recommendations that can and will be incorporated in the economic decisions of users of climate-related financial disclosures.

ACTIVE ASSET MANAGERS: Asset owners and managers globally have begun to consider longer-term risks and opportunities but at a slow and inconsistent pace.[34] Some surveys show that a large number of asset managers (nearly half by some estimates) may not analyze climate risks and opportunities at all.[35] Of those asset managers that do adopt some kind of sustainability strategy, the majority tend to use broad-based screening techniques that do not fully capture the growth potential of individual firms using a climate lens.[36]

INDEXING**:** Given that so much of asset management is now passive (by some measures, over 30% of total assets are now invested in passive strategies[37]), there have been growing efforts to develop indexes that incorporate climate-related information for more passive investment strategies. Dow Jones' Sustainability Index is one such effort that dates back to 1999; it tracks the stock performance of the world's leading publicly traded companies in terms of economic, environmental, and social criteria to serve as benchmarks for investors that actively integrate sustainability considerations into their portfolios. To construct the index, Standard & Poor's Dow Jones Indices and RobecoSAM request data from over 3,000 publicly traded companies by inviting them to voluntarily participate in an independent sustainability assessment (see Appendix 2, Table A2.3).[38] Similarly, MSCI offers a family of sustainability indexes based on its benchmark market indexes under three fund families, categorized as low-carbon, fossil-fuel-exclusionary, and thematic index funds. These indexes are designed to closely track the parent market index while minimizing carbon exposures by continuous rebalancing of constituent stocks.[39] More recently, New York State's pension fund, in partnership with Goldman Sachs, formed a $2 billion "low carbon" index fund that reduces or excludes investments in high-emitting companies while increasing investment in lower emitters.[40] In Brazil, the BM&FBovespa has established some indices linked to ESG issues, serving as a benchmark for the composition of an investment portfolio. They rely primarily on publicly disclosed GHG emissions data. A low0carbon index with a low tracking error relative to a parent index helps to reduce exposure to climate-related risks while otherwise maintaining exposures to other risk factors that have been priced. This has the potential to produce superior

[34] According to the High Meadows Institute, no more than 11% of assets under management in the US, for example, are managed under a long-term investment strategy. *See* High Meadows Institute, "Charting the Future for Capital Markets," May (2015) at 13, *available at* http://www.highmeadowsinstitute.org/wp-content/uploads/2015/07/FOCM-SustainabilityInitativesSurvey.pdf.

[35] *See* ibid. at 15.

[36] Ibid. at 14. Indeed, more than thematic investment (which would include a climate change-related focus) the managers are more often on the road towards a more general "ESG integration" approach, which if executed well, would certainly take into account climate change risks and opportunities where material. *See* ibid. at 16, 21.

[37] Morningstar, Assets under Management by Category, as of June 2015, *available at* http://gordianadvisors.com/active-vs-passive-fund-assets-where-are-we-now/.

[38] ROBECO Sam, Dow Jones, "DJSI Family Overview," accessed January 30, 2016 *at* http://www.sustainability-indices.com/index-family-overview/djsi-family-overview/index.jsp.

[39] "Impact Investment and Institutional Investors," Columbia University Master of Science in Sustainability Management Program, December 2014, *available at* http://sustainability.ei.columbia.edu/files/2015/02/Impact-Investment-and-Institutional-Investors-Final-Report.pdf.

[40] Bloomberg News, "New York Pension, Goldman Form $2 Billion Low-Carbon Fund," December 4, 2015, *available at* http://www.bloomberg.com/news/articles/2015-12-04/new-york-pension-fund-goldman-create-2-billion-low-carbon-fund.

financial returns at the point when markets do not adequately price in climate-related risks.[41] While innovation abounds, sustainable and low-carbon index variants still represent the minority of assets invested, as most passive investors use broad-market indices.

BANKS**:** Banks are tied to every market sector through their lending practices, making them uniquely exposed to climate-related risks. Credit-risk analysis undertaken by lending banks will need to consider how the impacts of a changing climate will manifest in companies across sectors and geographies.[42] A 2015 survey by Boston Common Asset Management of 61 global banks found heterogeneity in how banks considered climate change in their risk management, strategy, and opportunities.[43] Of these three climate areas assessed, global banks performed best in terms of identifying opportunities, but banks across all regions failed to adequately assess the climate risk of their lending and underwriting portfolios. The survey also did not find much evidence of any comprehensive, climate-related stress tests or adjusted loan pricing in view of climate risk. Banks did, however, express support for the development of comprehensive carbon-footprint analyses of lending and underwriting portfolios, and the validity of conducting stress tests to model climate-related events. The report also identifies individual examples of leading practices. Several Chinese banks signed the Common Commitment of Chinese Banking on Green Credit in 2013, promising to intensify credit management and practice green credit.

China' Green Credit Guidelines, as outlined by the China Banking Regulatory Commission, requires supervised banking institutions to "develop client environmental and social risk assessment criteria, dynamically assess and classify client environmental and social risks, and consider the results as important basis for credit rating, access, management and exit." In addition, for "credit involving major environmental and social risks," banks are required to "disclose relevant information according to laws and regulations, and be subjected to the oversight by the market and stakeholders."[44]

Additionally, DNB's "Megatrends Initiative" aims to model climate risk scenarios, such as sea-level increases and extreme weather situations, for the coming 10 to 20 years. Canada's TD Bank's review process includes reviews of the borrowers' policies, processes, and performance regarding climate change, and over 87% of the bank's lending is currently to low-carbon-emitting sectors.

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[41] Patrick Bolton, "Hedging climate risk with decarbonized indices," in Potential Climate Risks in Financial Markets: Report from a workshop, January 20, 2016, ed. by Ingrid Hjort, January 20, 2016, *available at* http://www.sv.uio.no/econ/english/research/unpublished-works/working-papers/pdf-files/2016/memo-02-2016.pdf. We recognize, however, that the picture can become more complicated in a general equilibrium setting to the extent that the indices can create risk transfer mechanisms yield outperformance for sophisticated investors who can essentially transfer risk to less sophisticated investors. While individual investors might benefit, the aggregate stability impact of such indices is less clear (and a full analysis is beyond the scope of this paper).

[42] Bray, C., Colley, M. and Connell, R., "Credit Risk Impacts of a Changing Climate," Barclays Environmental Risk Management and Acclimatise, 2007.

[43] Boston Common Asset Management, "Are Banks Prepared for Climate Change," Impact Report 2015, available at http://www.bostoncommonasset.com/documents/ImpactReport-2015-10-Banks_ClimateChange.pdf.

[44] China Banking Regulatory Commission, "Notice of the CBRC on Issuing the Green Credit Guidelines," available at *http://www.cbrc.gov.cn/EngdocView.do?docID=3CE646AB629B46B9B533B1D8D9FF8C4A*.

CREDIT RATING AGENCIES**:** Credit rating agencies are in the early stages of incorporating ESG into their ratings criteria in a systematic way as evidenced by recent research reports like the OECD's "The Economic Consequences of Climate Change,"[45] S&P's "How Environmental and Climate Risks Factor into Global Corporate Ratings,"[46] or Moody's "Approach to Assessing the Credit Impacts of Environmental Risk."[47] Certain specific sustainability-related areas have more structured treatment, like the S&P's establishment of management-and-governance and ERM criteria. The failure to fully integrate climate-related considerations in ratings, however, could contribute to furthering a marketwide mispricing of risks.[48]

STOCK EXCHANGES**:** Stock exchanges are increasingly requiring listed companies to disclose climate-related information, though at an uneven pace (see Appendix 2, Table A2.3). Of the top 10 exchanges by market capitalization, eight offer sustainability-related indices, five have signed onto the Sustainable Stock Exchanges commitment letter, and four require comprehensive sustainability reporting.[49] To help promote a uniform corporate reporting framework, the World Federation of Exchanges[50] issued guidance in November 2015 recommending that member stock exchanges incorporate a set of 34 ESG factors into their disclosure guidance for listed companies and offered advice on how to roll out enhanced sustainability disclosure. Suggested disclosure metrics include direct and indirect GHG emissions, carbon intensity, water management (water used, recycled, and reclaimed), and waste management (waste recycled and reclaimed).[51]

OTHER USERS: There has been a recent push across jurisdictions to ask investors to report on their climate-related risks, such as the recent French Energy-Transition Law (Appendix 2, Table A2.2), the Asset Owners Disclosure Project (Appendix 2, Table A2.4), and the Montreal Carbon Pledge, the last of which represents a voluntary commitment by 120 investors across the globe to measure and publicly disclose the carbon footprint of their investment portfolios. In the U.S., the California Insurance

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[45] OECD, "The Economic Consequences of Climate Change," November 03, 2015, *available at* http://www.oecd.org/environment/the-economic-consequences-of-climate-change-9789264235410-en.htm.

[46] S&P, "How Environmental and Climate Risks Factor into Global Corporate Ratings," Oct. 21, 2015, *available at* https://www.environmental-finance.com/assets/files/How%20Environmental%20And%20Climate%20Risks%20Factor%20Into%20Global%20Corporate%20Ratings%20Oct%2021%202015%20(2).pdf.

[47] Moody's, "Global: Moody's Approach to Assessing the Credit Impacts of Environmental Risk," November 30, 2015.

[48] McAdam, M., "Exploring the role and responsibility of credit rating agencies in the transition to a sustainable economy," Cambridge Programme for Sustainability Leadership, 2010, at 27.

[49] *See* note 25, "Charting the Future for Capital Markets," at 26.

[50] The World Federation of Exchanges is a trade association that represents 64 publicly regulated stock, futures, and options exchanges that combined have more than 44,000 listed companies with a market capitalization of US$64 trillion.

[51] World Federation of Exchanges, "World Exchanges Agree Enhanced Sustainability Guidance," November 4, 2015, *available at* http://www.world-exchanges.org/home/index.php/news/world-exchange-news/world-exchanges-agree-enhanced-sustainability-guidance.

Commission announced in January 2016 that it will require insurers to disclose their holdings in coal companies.[52]

Outside of the financial system, other users like governments and policymakers, nonprofits, and even consulting firms with sustainability-focused practices (often serving the aforementioned constituents and corporations themselves) also display a decidedly heterogeneous approach to engaging sustainability issues.

A3.2: JURISDICTION-SPECIFIC CONSIDERATIONS

The mixed adoption rates and different content of climate-related disclosures may reflect a variety of factors, such as differences in financial-system structures, regulatory and legal environments, and even culture. Though the literature on this is sparse, these questions merit consideration. For example, European firms' continue to rely primarily on bank lending, with bank loans comprising more than 70% of debt in Europe. In contrast, more than 70% debt funding in the U.S. comes from capital markets. Furthermore, though 80% of bonds in emerging markets are owned by global institutional investors, retail investor flows to emerging markets play a critical role at the margin, since they tend to be very sensitive to market volatility.[53]

From this perspective, careful consideration should be given to the market profiles in the different G20 jurisdictions, as well as their legal and cultural differences, to make sure that the format, nature, and content of the information disclosed is relevant and useful to these actors.

ECONOMIC AND FINANCIAL CHARACTERISTICS OF G20 JURISDICTIONS

A starting point to identify pertinent financial users of climate-related information is to analyze the funding structure and nature of nonfinancial corporations across the G20. Figures A3.1 (Bank Market Ratio) and A3.2 (Funding of Companies) assess the relative importance of bank versus market finance in all G20 countries (with the caveat that banks can be very large in a given country because they fund international operations—e.g., in the U.K.'s case) and shed light on the funding practices of nonfinancial corporations. These differences among national markets will need to be taken into account in climate-related disclosure frameworks in order to produce disclosures in the different jurisdictions that are relevant to particular market participants and structures and provide information that fits the expectations and needs of equity investors in the U.S. versus bank lenders in Spain and Italy.

Other differences have implications for the scope of disclosure requirements: (1) the relative economic importance of listed companies (illustrated in Figure A3.3 by market capitalization as a percentage of GDP) and (2) the number of listed companies in each jurisdiction.

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[52] California Department of Insurance, "California Insurance Commissioner Dave Jones Calls for Insurance Industry Divestment from Coal," Press Release, January 25, 2016, *available at* http://www.insurance.ca.gov/0400-news/0100-press-releases/2016/statement010-16.cfm.

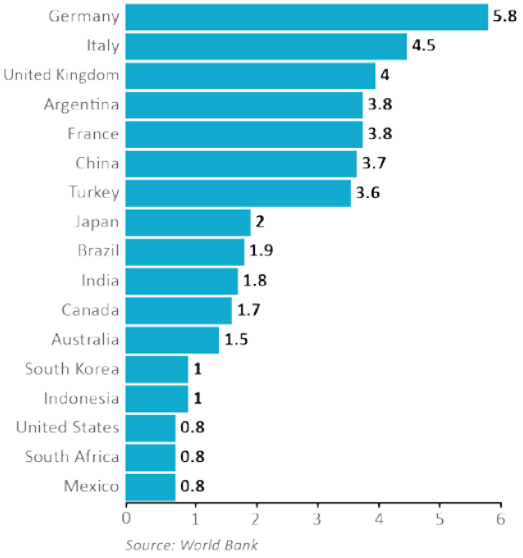
[53] International Monetary Fund, "Global Financial Stability Report," April 2015.

Another difference in market structure that may have implications for disclosure is the degree to which markets have large institutional investors such as asset managers, pension funds, sovereign wealth funds, or insurance companies. For example, pension funds and large life insurers are specific types of investors that require more granular and forward-looking information on climate-related risks given their long-term investment horizons (Figure A3.4 shows the relevant size of pension funds in various G20 countries as a share of GDP).

FIGURE A3.1

Bank Market Ratio

Bank Assets Dividend by Stock and Bond Market Cap, 2011

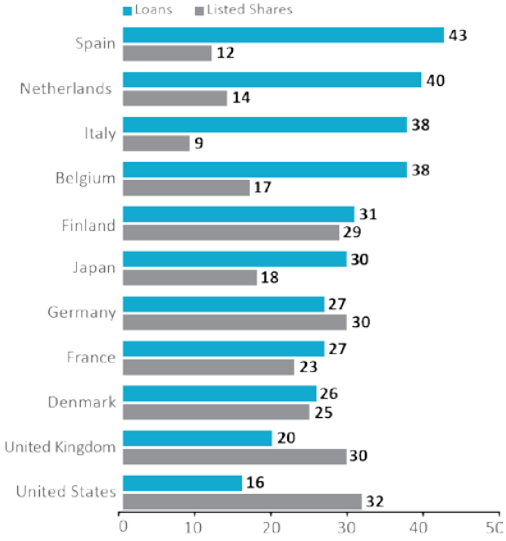


Source: World Bank

FIGURE A3.2

Funding of Companies: Banks vs. Stock Exchange

Loans and Listed Shares as a Percent of Total Liabilities of Non-Financial Companies, latest available (2013 or 2014)

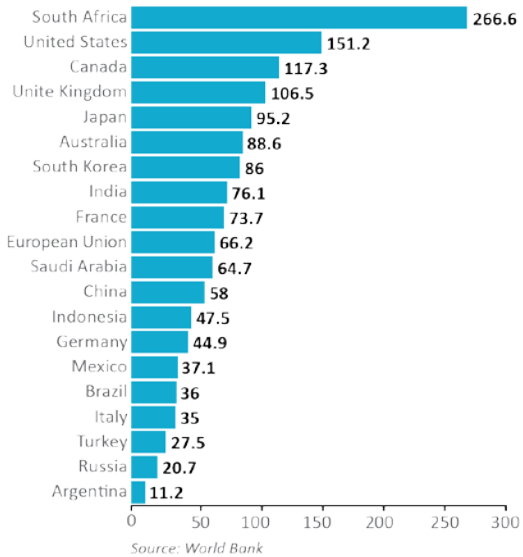


Sources: Eurostat, Bank of Japan, Federal Reserve

FIGURE A3.3

Market Capitalization of Listed Domestic Companies

As a Percent of GDP, 2014

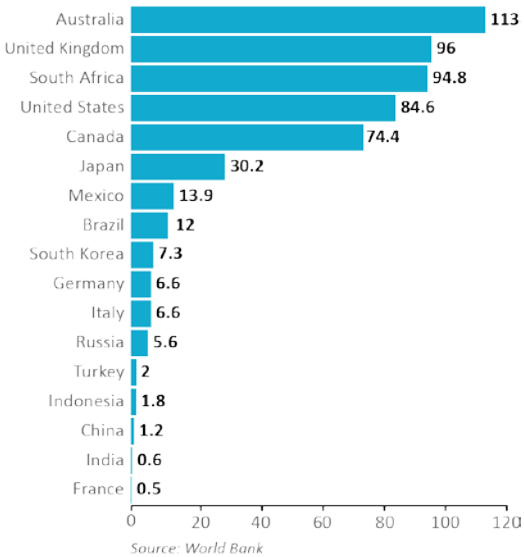


Source: World Bank

FIGURE A3.4

Total Investment of Pension Funds

As a Percent of GDP, 2014



Source: World Bank

LEGAL AND CULTURAL ENVIRONMENT FOR G20 INSTITUTIONAL INVESTORS

Within G20 countries, investors have varying degrees of discretion as to how they invest the funds they control. Within the discretion left to investors, certain legal rules define their ability to integrate ESG considerations such as climate-related risks into decision-making.

Within common-law jurisdictions—such as Australia, Canada, South Africa, the U.K., and the U.S.—fiduciary duties are the key factors limiting the discretion of investment decision-makers. These duties are articulated in statute and decided in the courts: Some rules are open to reinterpretation over time or when applied to new factors. In the U.S., for example, the decision-maker's duty is to exercise reasonable care, skill, and caution in pursuing an overall investment strategy that incorporates risk and return objectives that are reasonable and suitable to the trust.

Within civil-law jurisdictions—such as Brazil, France, Germany, and Japan—any obligations equivalent to "fiduciary duties" will be set out in statutory provisions regulating the conduct of investment decision-makers and in the governmental and other guidelines that assist in the interpretation of these provisions. Common themes include: duty to act conscientiously in the interests of beneficiaries, duty to seek profitability, recognition of the portfolio approach to modern investment (e.g., adequate diversification), and other duties relating to liquidity and limits on the types of assets that may be selected in funds.

In both common-law and civil-law jurisdictions, the rules that affect investment decision-making take the form of both specific laws and general duties that must be fulfilled. Generally, the rules do not prescribe how investors should concretely go about integrating ESG risks in their investment practices and processes, or the time frame over which investors define their investment goals.

Beyond the specific legal setting, a range of factors affect the use of climate-related financial disclosures by institutional investors. These barriers include governance culture, incentives, and capacity.[54]

[54] Indicators of these barriers include findings from PRI's 2015 reporting framework. This covers 936 PRI signatories globally, comprising 245 asset owners and 691 investment managers.

- **Governance**: Less than one-third of signatories (32%) have a policy or guidance on specific environmental issues, and those with an explicit climate policy are a subset of this. Barely more than half of PRI signatories (527, or 56%) made any reference to climate change, and fewer than 10% (89) showed detailed consideration. This suggests that the majority of PRI signatories are either not regularly considering climate-related risks as a factor in investment policy or decision-making or are not comfortable disclosing this.
- **Incentives:** As a snapshot of asset owner practices, in fixed-income corporate, over 60% of signatories evaluate quality and coverage of ESG research by managers, but less than 40% assign specific weighting to ESG factors in manager evaluation. Investors reporting to PRI made little mention of climate change when reporting on selecting, appointing, and monitoring managers. Responding to the objectives or key performance indicators, 42 out of 650 signatories reported that they had climate-related objectives or KPIs over the last year, and 55 out of 738 reported having some for the coming year.
- **Capacity:** Describing the key elements of their environmental policies or guidance notes, 74 signatories referred to climate change, with responses mainly focused on mitigation actions. Just one signatory made reference to the scientific evidence of the Intergovernmental Panel on Climate Change.

Governance-related barriers can stem from various sources such as misalignment of interests in the investment chain, short-termism, and lack of clarity on fiduciary duty leading to non-integration of climate-related financial disclosures within investment analysis. Investors are also encouraging policymakers to support efforts to address governance challenges in the investment chain through clarifications on fiduciary duty and public support for stewardship codes and disclosure.[55] This also relates to potential litigation-related concerns that can be substantial enough in the absence of clarity on consistency of ESG matters with fiduciary duty. Indeed, some argue that current challenges include outdated perceptions about fiduciary duty where climate-related risks may be characterized as "nonfinancial factors" by lawyers and investment consultants.[56]

Misalignment of incentives can also occur and can in turn deter progressive investors seeking to deliver risk-adjusted returns based on consideration of climate-related risks. Until an asset owner specifically includes climate-related risks within instructions, mandates, and appointment decisions of managers, climate-related risks may not be considered systematically in investments.

The inclusion of climate-related risks is also highly dependent on the actual capacity of the investment community to factor in climate-related financial disclosures. Trustees and investors may lack sufficient time to build their knowledge and competencies on climate-related risks and opportunities.

Another cultural factor to be taken into account is the degree of active ownership of shareholders (also referred to as shareholder engagement). Active ownership refers to the manner in which investors use their formal rights—proxy voting and the filing of shareholder resolutions—and their position as an investor to influence the activity or behavior of companies or other entities they invest in.[57]

Stewardship codes exist in the following G20 countries: France, Germany, Indonesia, Italy, Japan, South Korea, and the U.K. Active ownership is one of the six principles of the Principles of Responsible Investment, with 1,345 signatories within the G20.

The economic, financial, legal, and cultural characteristics across markets and jurisdictions have important implications for the adoption and application of climate-related financial risk disclosures. The Task Force's recommendations, therefore, will need to take these differences into consideration in order to be applicable to a wide range of companies and asset classes across the 24 FSB member jurisdictions and beyond.

In Phase II of our work, the Task Force will undertake a more in-depth review of these considerations and conduct a more in-depth assessment of the jurisdictional landscape in order to ensure that the Task Force's recommendations are compatible with the institutional features of each market. This will allow

[55] The investment industry is also building capacity for long-term investment, through initiatives such as the Focusing Capital on the Long Term initiative.

[56] UN Environment Program Finance Initiative (UNEP FI), "Fiduciary Duty in the 21st Century" (2015), *available at* http://www.unepfi.org/fileadmin/documents/fiduciary_duty_21st_century.pdf.

[57] For example, see http://www.ceres.org/investor-network/resolutions

the Task Force's recommendations to be applicable across jurisdictions, institutions, and asset classes with minimal or no transposition into local regimes.

A3.3 SELECTED REGULATORY EXAMPLES OF CLIMATE-RELATED DISCLOSURES

THE EUROPEAN UNION'S EVOLVING DISCLOSURE FRAMEWORK

In the EU, some regulations require mandatory disclosures for companies on sustainability issues, and with varying levels of explicit dedication to financial actors' use. None of this disclosure framework is directly focused on climate risks but rather refer to emissions, pollutants, or more generally to sustainability indicators. It is possible to classify the EU regulation about nonfinancial disclosures into three different branches:

1. Direct GHG emissions—included in the "EU-Emissions Trading Scheme" (EU-ETS), which is the main pillar of EU climate policy and an excellent source to quantify the current exposure of companies to carbon pricing related financial risks.
2. Polluting emissions—included in the "Industrial Emissions Directive (IED)" and the "E-PRTR," which provide information on GHGs not covered by EU-ETS, such as methane.
3. Environmental, social, and employee matters—included in the "Disclosure of non-financial and Diversity information Directive," which will apply in all EU countries by the end of 2016. Directive 2014/95/EU ("Disclosure of non-financial and Diversity information") was adopted in order to provide shareholders and other stakeholders with a meaningful, comprehensive view of the positions and performances of major entities. The obligations of nonfinancial disclosure will start in 2017 for large (with either a balance-sheet total of 20 million euros or a net turnover 40 million euros) public-interest entities (listed companies, banks, insurance undertakings, and other companies that are so designated by member states) with more than 500 employees. These shall disclose in their management report all relevant and useful information on their policies, main risks, and outcomes relating to environmental matters, social and employee aspects, human rights, and other CSR issues.

This regulation will provide investors with a broad scope of information, but is not focused on climate and does not explicitly require specific disclosures on it. While there are no specific details on the types of environmental risks as such, the directive provides that the "statement should contain, as regards environmental matters, details of the current and foreseeable impacts of the undertaking's operations on the environment, and, as appropriate, on health and safety, the use of renewable and/or non-renewable energy, greenhouse gas emissions, water use and air pollution."

In addition, there is a generic reference to developed frameworks such as EMAS, GRI, and ISO. The directive also brings in the notion of materiality, stating that: "The undertakings which are subject to this Directive should provide adequate information in relation to matters that stand out as being most likely to bring about the materialization of principal risks of severe impacts, along with those that have already materialized. The severity of such impacts should be judged by their scale and gravity. The risks of adverse impact may stem from the undertaking's own activities or may be linked to its operations, and,

where relevant and proportionate, its products, services and business relationships, including its supply and subcontracting chains."

ARTICLE 173 OF FRANCE'S ENERGY TRANSITION ACT

Enacted in August 2015, France's Energy Transition Act spells out the French strategy on energy for the coming decades. This legislative package touches on a wide range of stakeholders and areas (from the development of renewable energy and smart grids to the biodegradability of bags), with the global objective of accelerating the transition toward a low-carbon, sustainable economy.

Among the numerous provisions, Article 173 stands out with its aim of spurring better integration of climate-related issues into the decision-making process of corporations, nonfinancial and financial alike, through four dedicated and interdependent provisions closely related to the EU's directive on financial reporting and the Task Force's work.

1. It requires listed companies and/or large non-listed firms (both nonfinancial and financial) to report on financial risks related to the consequences of climate change, as well as the measures taken to reduce those risks.
2. It extends existing carbon-related disclosure requirements (currently, Scope 2) and requires corporations to report on the (most material aspects of the) "climate change implication of their activity"—including, in their supply chain—"and of the use of goods and services they produce." This, effectively, is a first step toward a materiality-based Scope 3 assessment.
3. It promotes the integration of climate-related considerations into financial institutions' capital-allocation decisions, by:

    a. Requiring the government to report by the end of 2016 on how to assess climate risks in the banking sector and implement related stress testing.
    b. Extending existing ESG-related requirements for asset managers to report on how they take into account ESG criteria in their investment processes and decisions. First, it asks for a more detailed assessment of climate-related considerations as part of reporting on environmental criteria (more specifically, the reporting encompasses an explanation of how climate-related risks—both physical and transition risks—are taken into account and an assessment of the allocation of assets to low-carbon holdings). Second, it extends the reporting requirements to institutional investors, so that both asset managers and institutional investors are now required to report on how they incorporate ESG criteria in their investment strategy.

ENVIRONMENTAL RISKS INCORPORATED IN BRAZIL'S BANK STRESS TESTS

Brazil's Federal Regulation under the Climate Change National Policy and the Climate Change National Plan (Law 12.187/09) lists activities and priorities for mitigating climate effects and adapting the country's economy and development to a sustainable model. To promote climate disclosure, Brazil also uses an online platform for public registration on corporate emissions: https://www.registropublicodeemissoes.com.br/index.php.

Brazilian stock exchange BM&FBOVESPA has led numerous initiatives aimed at integrating ESG issues into investment decision-making, creating self-regulatory initiatives and benchmarks, and encouraging ESG disclosure. Brazil has also pursued an original approach to implementing Pillar 3 of the Basel III capital accord. In 2011, the Central Bank of Brazil established an internal capital-adequacy assessment process that requires the financial institutions under its supervision to evaluate the adequacy of capital given the risks they face. Beyond assessing the traditional credit, market, liquidity, and operational risks determined by the regulator, the financial institutions perform a self-assessment that considers other relevant risks, even if they cannot quantify those risks (e.g., reputational, strategy, and environmental risks). In the ICAAP, the financial institutions are asked to consider the non-quantifiable risks of severe events and stress scenarios arising from environmental and climate risks.

Finally, in 2014, a new banking regulation (Resolution CMN No. 4,327) began to require the adoption of a social and environmental responsibility policy (commonly known by its Portuguese abbreviation, PRSA) by financial and other institutions supervised by the Central Bank of Brazil. The purpose was to add social and environmental risks to other risks already evaluated in financial institutions' risk management processes, enforce good governance over those processes, and require the designation of a director responsible for PRSA compliance. The rule also requires the formalization of the PSRA and its disclosure to the general public.

JAPAN'S GHG EMISSIONS ENVIRONMENTAL LAWS

Japan's Act on Promotion of Global Warming Countermeasures requires businesses that consume large amounts of energy to implement programs that quantify and report their GHG emissions. This program aims to encourage corporate entities to recognize their own emission levels and promote self-motivated corporate action toward achieving a low-carbon economy, while also increasing transparency by providing emission data to the public.

As part of the government's efforts to enhance the use of environmental data by financial institutions, the Ministry of the Environment since 2013 has led an initiative to set up a platform for corporate environmental disclosures. Once established, the platform is intended to help data users evaluate corporations' efforts at reducing their GHG emissions.

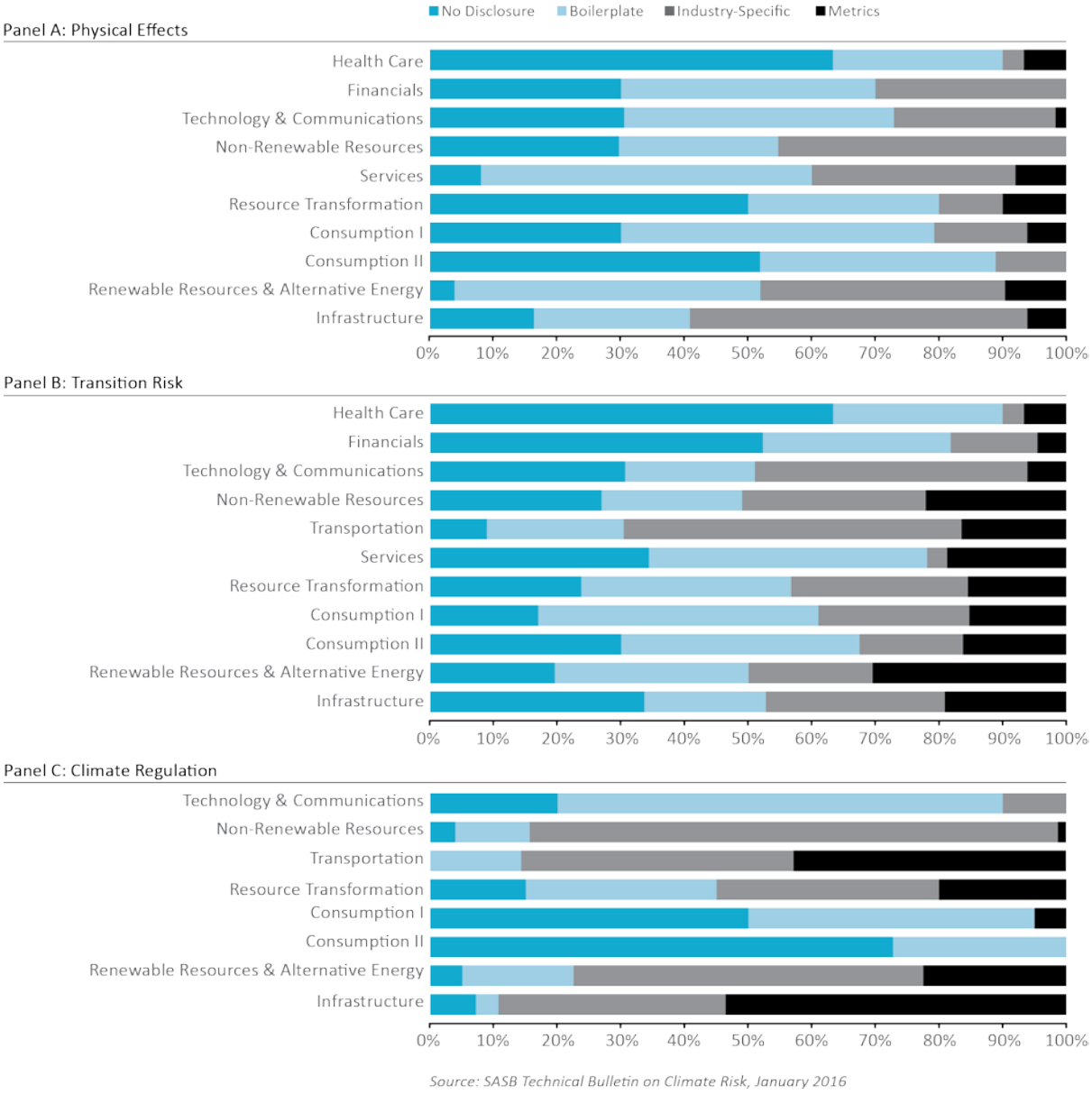
APPENDIX 4: SUPPLEMENTAL CHARTS AND TABLES

Table A4.1—A Sample of Key Climate-Related Risk Frameworks

Framework	Elements
Mercer "Investing in a Time of Climate Change"	**Technology (T)**, broadly defined as the rate of progress and investment in the development of technology to support the low-carbon economy. **Resource Availability (R)**, defined as the impact on investments of chronic weather patterns (for example, long-term changes in temperature or precipitation) and related physical changes. **Impact (I)**, defined as the physical impact on investments of acute weather incidence/severity (that is, extreme or catastrophic events). **Policy (P),** broadly defined as all international, national, and sub-national targets; mandates; legislation; and regulations meant to reduce the risk of further man-made or "anthropogenic" climate change.
WRI/UNEP-FI "Carbon Asset Risk Discussion Framework"; and 2° Investment Initiative working paper "Financial risk and the transition to a low-carbon economy"	**Physical climate risks**, which are risks associated with physical impacts from climate change that could impact carbon assets and operating companies. These impacts may include physical damage and/or capital expenditures necessary in response to variations in weather patterns (such as severe storms, floods, and drought) and "slow onset" impacts such as sea level rise, desertification, etc. **Carbon risks**, which this paper defines as nonphysical climate change-related factors facing assets and companies. This principally encompasses policy and legal, technology, market and economic factors as well as reputational risks. Depending upon their nature and severity, carbon risks may translate to carbon asset risk to financial intermediaries and investors.
SASB Climate Risk Technical Bulletin (2016-01)	**Physical effects,** Climate change has a range of current and projected acute (punctuated) and progressive effects on the physical environment, leading to risks and opportunities for business entities. **Transition risks,** the range of market-based responses with the transition to a low-carbon, resilient economy. These comprise the mitigation and adaptation responses of business entities, customers, and suppliers, which may create a range of risks and opportunities. **Climate regulation,** the spectrum of policies, rules, non-binding agreements, and other regulatory mechanisms that currently exist or are likely to come to bear in response to climate change.
UK Prudential Regulation Authority "The impact of climate change on the UK insurance sector"	**Physical risks**: the first-order risks which arise from weather-related events, such as floods and storms. They comprise impacts directly resulting from such events, such as damage to property, and also those that may arise indirectly through subsequent events, such as disruption of global supply chains or resource scarcity. **Transition risks**: the financial risks which could arise for insurance firms from the transition to a lower-carbon economy. For insurance firms, this risk factor is mainly about the potential re-pricing of carbon-intensive financial assets, and the speed at which any such re-pricing might occur. To a lesser extent, insurers may also need to adapt to potential impacts on the liability side resulting from reductions in insurance premiums in carbon-intensive sectors. **Liability risks**: risks that could arise for insurance firms from parties who have suffered loss and damage from climate change, and then seek to recover losses from others who they believe may have been responsible. Where such claims are successful, those parties against whom the claims are made may seek to pass on some or all of the cost to insurance firms under third-party liability contracts such as professional indemnity or directors' and officers' insurance.
SEC Climate disclosure guidance	**Impact of climate-related legislation**, regulation and international accords; **Physical impacts of climate change** (e.g., disruptions to operations, transportation, supply chains, and distribution chain); **Indirect consequences** (e.g., changes in demand or competition; reputational risk); **Changes in investment risks** (e.g., new trading markets for climate-related financial products)

FIGURE A4.2

Sector-Level Disclosure Quality in Annual SEC Filings, by Climate Risk



Source: SASB Technical Bulletin on Climate Risk, January 2016

APPENDIX 5: PUBLIC CONSULTATION QUESTIONS

Recognizing that the success of the Task Force and its recommendations will depend on ensuring that our work reflects a wide range of views, the Task Force is committed to engaging and soliciting input from a broad spectrum of stakeholders across academia, industry, NGOS, and the official sector. Stakeholder outreach has been central to our process thus far and will continue to be crucial as we conduct our second phase of work. The following questionnaire seeks to gather input to help inform our thinking throughout the year as we develop recommendations that will be greatly strengthened by building on your expertise and input. The Task Force also seeks to promote public discussion around related questions that, while extending beyond our remit, provide important context for our work and may merit additional study.

To this end, the Task Force posted a structured, online form targeting specific aspects of our work, available on April 1, 2016, at https://www.fsb-tcfd.org/survey. Respondents will be asked to provide their responses by May 1. The questions below will appear in the online comment questionnaire. Respondents with additional comments will be invited to submit a comment letter by May 1 to info@fsb-tcfd.org, though we ask that such submissions be structured to specifically address the numbered questions, with any comments or views that do not fit one of the questions placed at the end of the letter in an "other views" section.

COVERAGE AND AUDIENCES

1. Which types of nonfinancial firms should any disclosure recommendations cover? List in order of importance.
2. Which types of financial firms should any disclosure recommendations cover?
3. Which users in the financial sector should be considered as the target audience?

CLIMATE-RISK DIMENSION

4. For nonfinancial preparers of climate risk and opportunity information, what are the top three key concerns that you would like the Task Force to keep in mind in making our recommendations?
5. For users of climate risk and opportunity information, what are five specific points of information that you wish to secure?
6. Are there any best-practice disclosures of climate risks by companies that you would like to bring to our attention? What specific climate elements of this disclosure would you like to highlight? (Please limit to two examples)
7. "Transition Risk" in terms of climate is an evolving term. How would you define this risk? What specific disclosures would help measure it?
8. Which three sectors do you think most exposed to climate risks? For these sectors, how are physical, transition, and liability risks best measured and reported?
9. How should the Task Force consider the challenge of aggregate versus sector-specific climate-related financial risks and opportunities?
10. Is there a role for scenario and sensitivity analysis—for the nonfinancial and/or financial sectors? Please provide three specific examples.

ASSET-CLASS DIMENSION

11. Which are the key asset classes that require initial attention? Are there any gaps that we should focus on? Within this, what are the top three priorities for action?

INTERMEDIARY/USER SCOPE

12. Considering the breadth of services the capital supply chain provides, please provide up to three examples of leading work (research or other) from sell-side brokers' investment recommendations, listing rules of stock exchanges, portfolio management and stewardship examples by fund managers, fund-manager recommendations by consultants, or others we should consider.
13. Please identify three examples of existing disclosure practices on climate risk and opportunities that you consider to be effective by investment banks, stock exchanges, investment managers, investment consultants, or asset owners. Please indicate the preparer and type of disclosure.
14. How can climate risk information be simply summarized for retail investors? What standards or mechanisms exist for assuring end investors that climate risks and opportunities have been considered in the way that their savings and investment and pension products have been managed?

MACRO SCOPE

15. In conducting macroeconomic analysis, what are the top three key measures of macroeconomic climate risk performance when seeking to measure the extent to which the global economy is transitioning towards net-zero emissions?
16. One way to measure transition risk is by considering disclosures based on sector/market scenario analysis. What scenario planning work is currently available in this area?
17. The United Nations Framework Convention on Climate Change five yearly "global stocktakes" seek to establish in part whether financial flows are consistent with the less-than-two-degree scenarios. Are there any climate-risk disclosure recommendations that would appropriately feed into such an effort?

LOOKING AHEAD

18. How should the Task Force define "success"?
19. What are the key barriers that you believe the Task Force needs to overcome?
20. Is the Task Force focused on the appropriate set of topics for its Phase II work plan?
21. What additional topics should it consider?
22. The Task Force plans to reach out to a broad sample of key stakeholders among preparers, users, and standard setters. Are there particular types of entities or organizations that you believe the Task Force should reach out to?

APPENDIX 6: FSB PRESS RELEASE (DECEMBER 4, 2015)

Press enquiries:
+41 61 280 8138
Joe.Perry@bis.org
Ref no: 91/2015

The Financial Stability Board (FSB) announced today it is establishing an industry-led disclosure task force on climate-related financial risks under the chairmanship of Michael R. Bloomberg. The Task Force on Climate-related Financial Disclosures (Task Force) will develop voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to lenders, insurers, investors and other stakeholders.

Speaking at the COP21 Paris Climate Change Conference Mark Carney, FSB Chairman said "The FSB is asking the Task Force on Climate-related Financial Disclosures to make recommendations for consistent company disclosures that will help financial market participants understand their climate-related risks. Access to high quality financial information will allow market participants and policymakers to understand and better manage those risks, which are likely to grow with time. Michael's experience working on climate change issues, his unparalleled track record of execution in a broad range of fields and his lifelong commitment to open and transparent financial markets make him the ideal leader for the Task Force."

The Task Force will consider the physical, liability and transition risks associated with climate change and what constitutes effective financial disclosures in this area. It will seek to develop a set of recommendations for consistent, comparable, reliable, clear and efficient climate-related disclosures, as set out in the FSB's proposal in November. The wide range of existing disclosure schemes relating to climate or sustainability highlights the need for companies and relevant stakeholders to reach a consensus on the characteristics of effective disclosures and examples of good practices. In doing so, the industry-led Task Force will take account of the work of other groups related to effective disclosures.

Speaking about his role, Michael R. Bloomberg said "It's critical that industries and investors understand the risks posed by climate change, but currently there is too little transparency about those risks. When Governor Carney laid out the idea for a Task Force on Climate-related Financial Disclosures, I offered him my full support to help make it a success. While the business and finance communities are already playing a leading role on climate change, through investments in technological innovation and clean energy, this Task Force will accelerate that activity by increasing transparency. And in doing so, it will help make markets more efficient, and economies more stable and resilient."

The Task Force will conduct its work in two stages. During the first stage, the Task Force will consist of about 10 individuals, who will determine the scope and high-level objectives for its work. It is expected that this first stage will be completed by end-March 2016. During the second stage, the Task Force's work is likely to be expanded to include up to 30 individuals, focused on delivering specific recommendations for voluntary disclosure principles and leading practices, if appropriate, with a view to completing its work by end-2016. As part of its work the Task Force will conduct public outreach.

In similar fashion to the Enhanced Disclosure Task Force (EDTF), an industry-led group that was established by the FSB in 2012 to make recommendations on financial risk disclosures for banks, the Task Force will comprise senior technical experts from firms that are the preparers and users of company risk disclosures, as well as risk analysts. The members of the Task Force will be private-sector individuals drawn from financial and nonfinancial companies across a broad range of countries within the FSB's membership.

Notes to editors

Mark Carney and Michael R. Bloomberg will discuss the Task Force at the Paris Climate Change Conference. The discussion will be available as a live webcast and recording on the COP21 website.

In April 2015, G20 Finance Ministers and Central Bank Governors asked the FSB "to convene public- and private- sector participants to review how the financial sector can take account of climate-related issues". G20 Leaders, in their Antalya Summit communiqué in November 2015 asked the FSB to continue to engage with public- and private- sector participants on this subject.

Michael R. Bloomberg is the United Nations Secretary-General's Special Envoy for Cities and Climate Change, Founder, Bloomberg LP and Bloomberg Philanthropies and was the 108th Mayor of the City of New York.

Details on the full membership of the Task Force and its terms of reference will be released later in December. The FSB will publish periodic updates on the work of the Task Force on its website.

The FSB has been established to coordinate at the international level the work of national financial authorities and international standard setting bodies and to develop and promote the implementation of effective regulatory, supervisory and other financial sector policies in the interest of financial stability. It brings together national authorities responsible for financial stability in 24 countries and jurisdictions, international financial institutions, sector-specific international groupings of regulators and supervisors, and committees of central bank experts. The FSB also conducts outreach with 65 other jurisdictions through its six regional consultative groups.

The FSB is chaired by Mark Carney, Governor of the Bank of England. Its Secretariat is located in Basel, Switzerland, and hosted by the Bank for International Settlements.

For further information on the FSB, visit the FSB website, www.fsb.org.

APPENDIX 7: TASK FORCE MEMBERS

Chairman and Vice-Chairs

Chairman	**Michael Bloomberg** Founder and President Bloomberg LP
Vice-Chair	**Yeo Lian Sim** Special Adviser Singapore Exchange
Vice-Chair	**Denise Pavarina** Managing Officer Banco Bradesco
Vice-Chair	**Graeme Pitkethly** Chief Financial Officer Unilever
Vice-Chair	**Christian Thimann** Group Head of Strategy, Sustainability and Public Affairs AXA

Members

	Matt Arnold Head, Social and Sustainable Finance Group JPMorgan Chase
	David Blood Senior Partner Generation Investment Management
	Ruixia Liu General Manager, Risk Department Industrial and Commercial Bank of China
	Masaaki Nagamura Head, Corporate Social Responsibility Tokio Marine Holdings

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

Koushik Chatterjee
Group Executive Director, Finance and Corporate
Tata Group

Liliana Franco
Director, Accounting Organization and Methods
Air Liquide Group

Thomas Kusterer
Chief Financial Officer
EnBW

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

Fiona Wild
Vice President, Environment and Climate Change
BHP Billiton

Jane Ambachtsheer
Partner and Global Head of Responsible Investment
Mercer Investments

Wim Bartels
Global Head, Sustainability Reporting and Disclosures
KPMG

	Michael Wilkins Managing Director, Environmental Finance Standard and Poor's
Special Adviser	**Russell Picot** Co-Chair, Enhanced Disclosure Task Force Group Chief Accounting Officer HSBC
Secretariat	
	Mary Schapiro Special Adviser to the Chair Former Chair, U.S. Securities and Exchange Commission
	Curtis Ravenel Global Head, Sustainable Business & Finance Bloomberg LP
	Didem Nisanci Managing Director Promontory Financial Group
	Parinitha Sastry Associate Promontory Financial Group
Observers	
	Rupert Thorne Deputy to the Secretary General, Financial Stability Board
	Richard Thorpe Adviser Accounting and Auditing, Financial Stability Board
	Joe Perry Member of Secretariat, Financial Stability Board