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Expectations for Mandatory ESG Disclosure



The UN's Climate Science Report



Expectations for US Mandatory Disclosure



Climate Risk Rising



Expectations for Global Mandatory Disclosure



Climate Risk is Investment Risk



Evolving ESG
Reporting Standards

Corporate Perspectives on Climate Disclosure



Evolving ESG
Accounting Standards

O1 The UN's Climate Science Report



UN Climate Science Report: Unequivocal Human Impact

The UN's 6th report on climate science, the latest in a series dating back to 1990, has unequivocally linked human activity to climate change and predicts world temperatures will rise by at least 1.5°C over pre-industrial levels by 2040, even with stringent reductions in greenhouse gas emissions. The UN report is considered the definitive assessment of the science behind climate change and analyzes research published in over 14,000 scientific publications.

1990: The first report

Key Findings: Human activities are increasing greenhouse-gas (GHG) concentrations and rising GHG concentration will result in greater warming of the Earth's surface

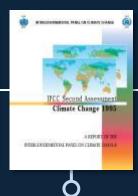
2001: The third report

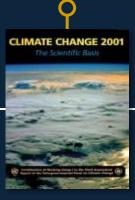
"There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities"

2013: The fifth report

"It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century"













1995: The second report

"The balance of evidence suggests a discernible human influence on the global climate"

2007: The fourth report

"Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations"

2021: The sixth report

Applies an "unequivocal" link between human activity and climate

Source: (1) Bloomberg Green "How to Talk About it" August 10, 2021. UN IPCC.

UN Climate Science Report: Key Takeaways

A 'code red for humanity': UN Secretary General, António Guterres, characterized the report as such while encouraging policy makers to make November's COP26 a success in order to avoid a climate catastrophe.

Unequivocal evidence that climate change is a direct result of human behavior: temperatures have already increased an average 1.1°C vs. pre-industrial levels. Attribution studies can now demonstrate how climate warming has caused specific climate events.

Warming will continue for the next three decades: even if GHG emissions are dramatically cut immediately, warming will continue for at least 30 years.

UN Climate Science Report: Key Takeaways - Cont'd

- Human impact is compounding extreme weather events: the average number of hurricanes has increased from 14 per decade to 23 since the 1980s, severe heat waves and droughts are occurring with much higher frequency, and the average number of floods has doubled. Each 1°C of warming is expected to increase precipitation by roughly 7%, which will intensify extreme precipitation events (i.e., floods).
- CO₂ emissions and climate change have a near-linear relationship:
 each 1,000 Gt of cumulative CO₂ emissions equates to roughly 0.45°C
 temperature increase. At the current rate of emissions, the world will warm by
 roughly 0.5°C every 20 years.
- Atmospheric concentrations of GHGs are at historically high levels: carbon dioxide concentration is at its highest level in two million years, methane and nitrous oxide at highest level in 800,000 years. Build up in GHGs can be directly linked to human activity.

UN Climate Science Report: Key Takeaways - Cont'd

- Sea levels rising at their fastest rate in history: associated flooding has nearly doubled in many coastal areas since the 1960s. Even if global warming is kept to 1.5°C, sea levels will continue to rise for centuries due to continuing deep water warming and ice sheet melt.
- Catastrophic events cannot be ruled out: events such as the collapse of ice sheets or major changes in ocean circulation patters are less likely, but cannot be ruled out, and would have catastrophic implications globally.
- Global "carbon budget" is running out: between 1850 and 2019, nearly 2,400 GtCO₂ were added to the atmosphere. In order to limit global warming to 1.5°C, only 500 Gt remain in the "carbon budget". At current emissions rates, that's roughly 13 years.

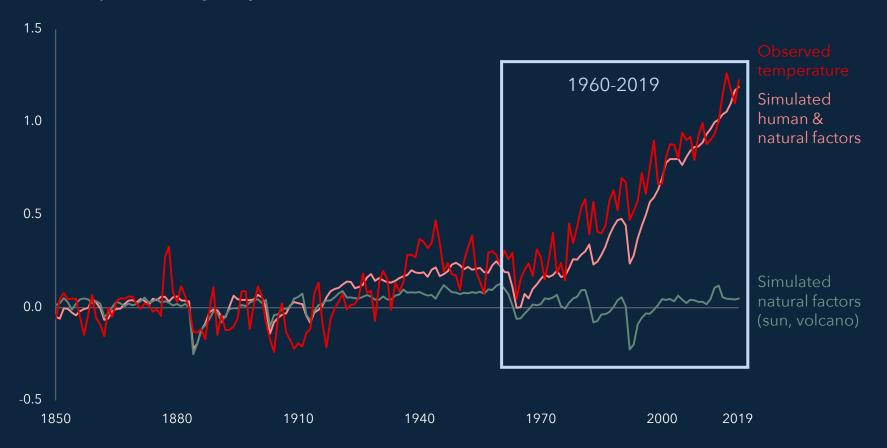
O2 Climate Risk Rising



Hottest in 100,000 years

Global average temperatures have already risen 1.1°C from pre-industrial levels and will continue to rise for the next three decades due to emissions already in the atmosphere

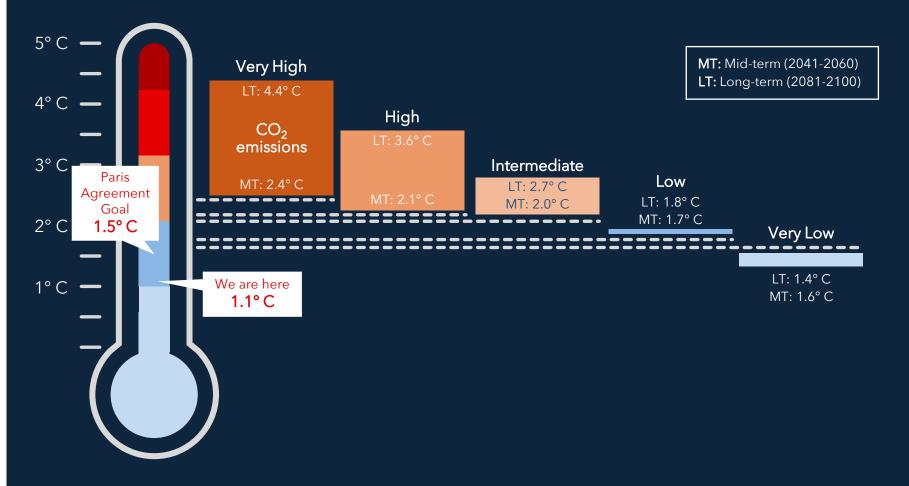
Global temperature change, degrees Celsius



Source: (1) Bloomberg, "Climate Scientists Reach 'Unequivocal' Consensus on Human-Mae Warming in Landmark Report" (August 9, 2021). IPCC AR6 Working Group I Report. "Climate Change 2021 - The physical Science Basis, Summary for Policy Makers."

Climate Scenarios

The UN climate report provides a scenario analysis modeling the temperature implications of various emission scenarios. Only in the "low" and "very low" emission scenarios are temperatures kept below a 2°C increase over the long-term.

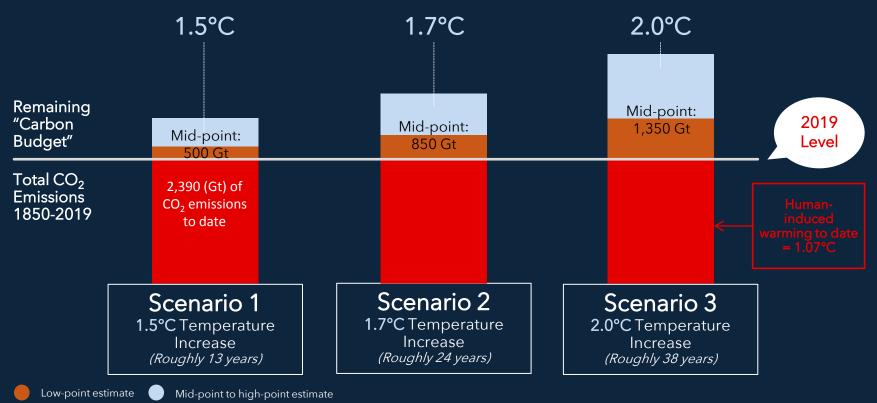


Source: IPCC AR6 Working Group I Report. "Climate Change 2021 - The physical Science Basis, Summary for Policy Makers."

The Urgency of Now

The UN "carbon budget" provides an upper bound on the amount of carbon dioxide that can be added to the atmosphere before breaching certain temperature thresholds. For example, temperatures will stay below the Paris agreed 1.5°C threshold if emissions from 2020 on stay below 500 billion tons (500 gigatonnes). At the current rate of CO_2 emissions, roughly 34 gigatonnes (Gt) per year in 2020, that budget would be used up in approximately 13 years.





Source: Bloomberg, "Climate Scientists Reach 'Unequivocal' Consensus on Human-Made Warming in Landmark Report" (August 9, 2021). IPCC AR6 Working Group I Report. "Climate Change 2021 - The physical Science Basis, Summary for Policy Makers." The higher and lower numbers in each budget scenario represent 17% and 83% chances of staying under each temperature limit.

The Importance of 1.5°C

| | | 1.5°C | 2°C | 2°C Impact |
|--|--|----------------------------------|---------------------------------|---------------|
| | Extreme Heat Global population exposed to severe heat at least once every five years | 14% | 37% | 2.6x worse |
| * | Sea-Ice-Free Arctic Number of ice-free summers | At least 1 every 100 years | At least 1 every 10 years | 10x worse |
| | Sea Level Rise Amount of sea level rise by 2100 | 0.40 meters | 0.46 meters | .06m more |
| | Permafrost Amount of Arctic permafrost that will thaw | 4.8 million KM ² | 6.6 million KM ² | 38% worse |
| - (1) (5) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1 | Crop Yields Reduction in maize harvests in tropics | 3% | 7% | 2.3x worse |
| | Fisheries Decline in marine fisheries | 1.5 million tonnes | 3 million tonnes | 2x worse |

Source: World Resources Institute, "Ambitious Climate Action by G20 Countries Can Limit Global Warming to 1.7 Degrees Celsius" (September 16, 2021).

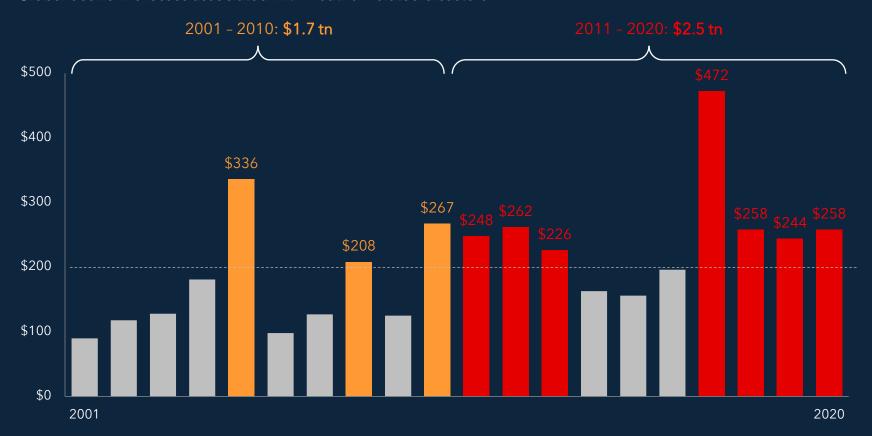
O3 Climate Risk is Investment Risk



The Rising Cost of Natural Disasters

In the first decade of the 21st Century, there were only three years when weather disasters cost more than \$200 bn (including 2010). In the second decade, global climate related financial losses exceeded \$200 bn in 7 out of 10 years. Total weather damages from 2011 to 2020 totaled approximately \$2.5 trillion globally, up nearly 50% from \$1.7 trillion in the prior decade.

Global economic losses associated with weather-related disasters

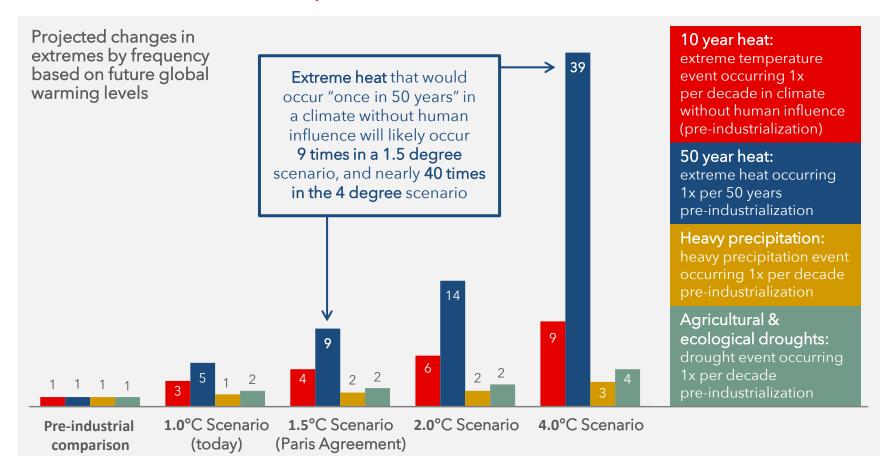


Source: Statista. AON Weather. "Weather Climate & Catastrophe Insight" 2020 Annual Report. Includes atmospheric weather events like storms, floods, droughts and wildfires. Excludes earthquakes and tsunamis. In 2020 USD dollars.

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More Extreme Weather Events

As average global temperatures rise, extreme weather events will happen more frequently and with greater intensity. Drought, precipitation and extreme heat events that would have previously been "once-in-a-decade" or "once-in-50-year" events, will occur much more often.



Source: (1) IPCC AR6 Working Group I Report. "Climate Change 2021 - The physical Science Basis, Summary for Policy Makers."

Climate Risk is Investment Risk

COVID-19 shed light not only on the state of public health, but also on the health and well-being of the planet. Over the last few years, climate-related market, financial and economic damage has risen considerably, including the first major corporate casualty of climate change: the bankruptcy of PG&E.



\$11.2 tn

Amount of rated corporate bonds with direct environmental risk



\$7.9 tn

Estimated global economic cost from climate change by 2050



\$2.5 tn

Global cost of climate-related disasters over the last decade



\$450 bn

Amount US Gov't (including FEMA) spent on disaster assistance from 2005 - 2019



\$258 bn

Amount of global climate related assessed damages in 2020



\$81 bn

Global insurance company losses from natural catastrophes in 2020



\$40 bn

Amount of crop loss in the US from extreme weather from 2010-2019



\$30 bn

PG&E's estimated climate-related liabilities prior to filing bankruptcy



22

of climate events > \$1 bn in the US in 2020



7_{mn}

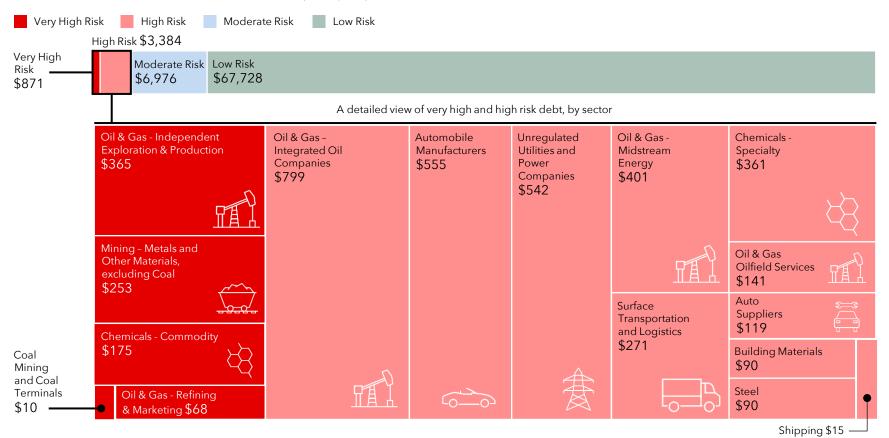
of global premature deaths per year due to air pollution

Source: (1) Moody's Heat Map. (2-3, 10) UN Foundation. (4, 7) EDF. "Climate Change Fueled Weather Disasters" Datu Research Summer 2020. (5) Munich RE Institute. (6) Swiss RE Institute, "Natural Catastrophes in 2020" (2021) (8) PG&E Company Reports. (9) National Oceanic and Atmospheric Administration. AON Weather. "Weather Climate & Catastrophe Insight" 2020 Annual Report.

Environmental Risk Heat Map

Moody's has identified 16 sectors with \$4.3 trillion in rated debt that face heightened credit risk from <u>environmental</u> considerations, an increase of nearly \$1 trillion since a similar analysis was conducted in 2020. The primary driver of the increase was renewed policy and market initiatives to reduce emissions in the lead up to the UN Climate Change Conference (COP26) in November.

Debt at risk due to environmental factors (USD, bn)

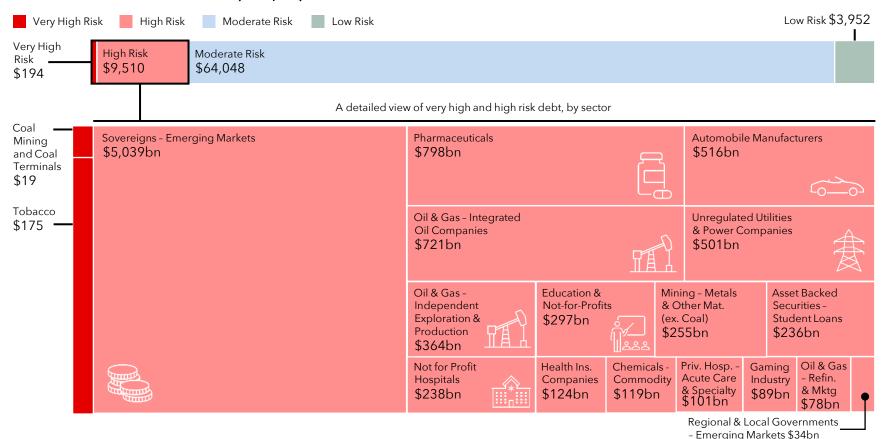




Social Risk Heat Map

Moody's has identified 18 sectors with \$9.7 trillion in rated debt that face heightened credit risk from social considerations. The analysis classifies coal mining & coal terminals and tobacco as "very high risk" while the prior Heat Map, created in 2019, did not identify any sectors as very high risk.

Debt at risk due to social factors (USD, bn)



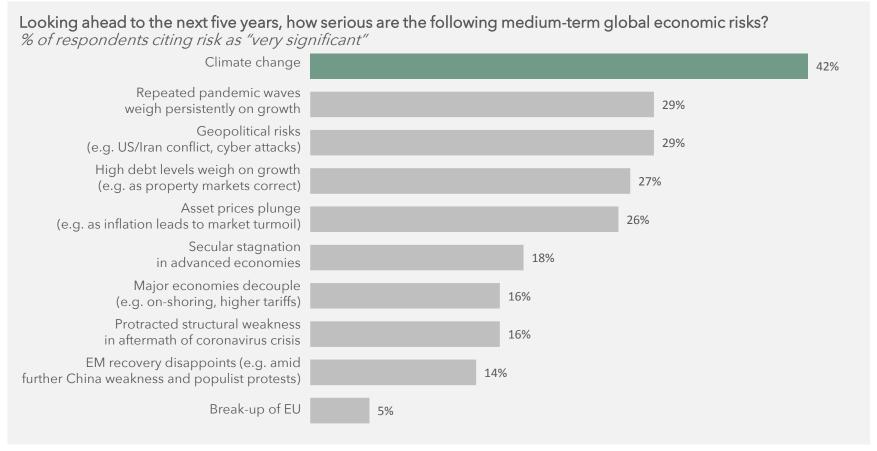


O4 | Corporate Perspectives on Climate Disclosure



Climate Change a Top Risk for Markets

In a survey of 160 businesses conducted by Oxford Economics in July, over 40% of respondents identified climate change as a "very significant" risk to the global economy in the medium term, the highest level since the survey began in early 2016. Four in five list it as a "significant" or "very significant" risk, another record high for the survey.

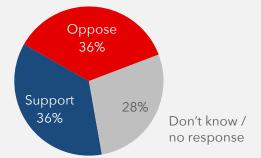


Source: (1) Oxford Economics Global Risk Survey. Completed by 160 businesses from July 12 to August 3.

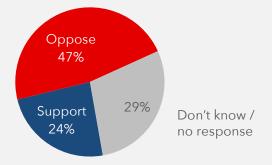
Corporate Perspectives on ESG Mandatory Disclosure

According to a speech from Gary Gensler, of the 550 unique comment letters the SEC received in response to their statement on climate disclosures, 75% of responses demonstrated support for mandatory disclosure. However, a survey by the US Chamber of Commerce suggests corporates are split on if and how mandatory climate disclosure should work.

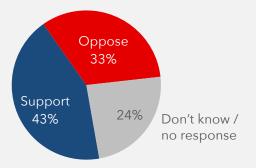
Should the SEC adopt uniform standards for climate change information:



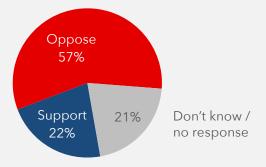
Should the SEC require certification of climate disclosures Should the SEC mandate an audit or other form of by the CEO, CFO or other corporate officer?



Should the SEC adopt a comply-or-explain approach to climate disclosure?



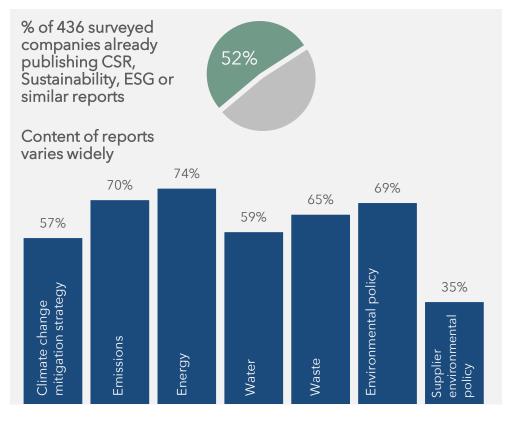
third-party assurance on climate change disclosures?



Source: (1-4) Climate Change & ESG Reporting from the Public Company Perspective (2021). Survey of 436 companies across a broad cross-section of industries and range from small to large in terms of market cap. Numbers will not sum to 100% given some report using multiple methods of filing.

Climate Disclosure in the US

A recent study showed that two thirds of Russell 1000 companies, and 90% of the 500 largest companies in the index, published sustainability reports in 2019. However, with no mandatory standardized reporting criteria and several different third-party standards available, comparability between companies' ESG disclosures is limited. The US already mandates some ESG disclosures, when material, but many investors are seeking more and clearer information from companies.

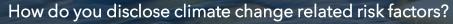


Existing US ESG Disclosure Requirements:

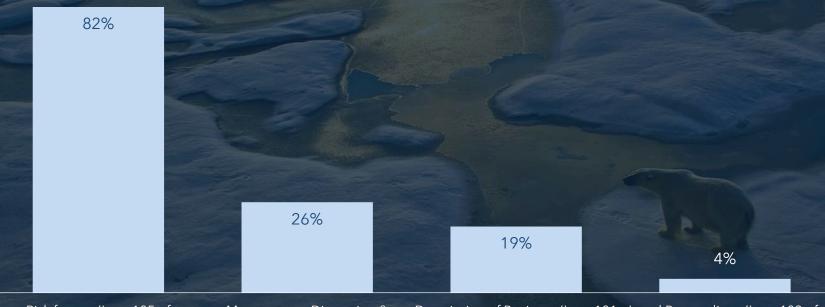
- Dodd-Frank disclosure provisions around conflict minerals, resource extraction payments, executive compensation and board diversity
- 2010 SEC guidance on climate risk and opportunity disclosure
- SEC regulation S-K financial materiality disclosure
- EEO-1 demographic workforce data

Source: (1-2) Climate Change & ESG Reporting from the Public Company Perspective (2021). Survey of 436 companies across a broad cross-section of industries and range from small to large in terms of market cap. Numbers will not sum to 100% given some report using multiple methods of filing.





Amongst those who indicated they report in SEC filings:



Risk factors (Item 105 of Regulation S-K)

Management Discussion & Analysis (Item 303 of Regulation S-K)

Description of Business (Item 101 Legal Proceedings (Item 103 of of Regulation S-K)

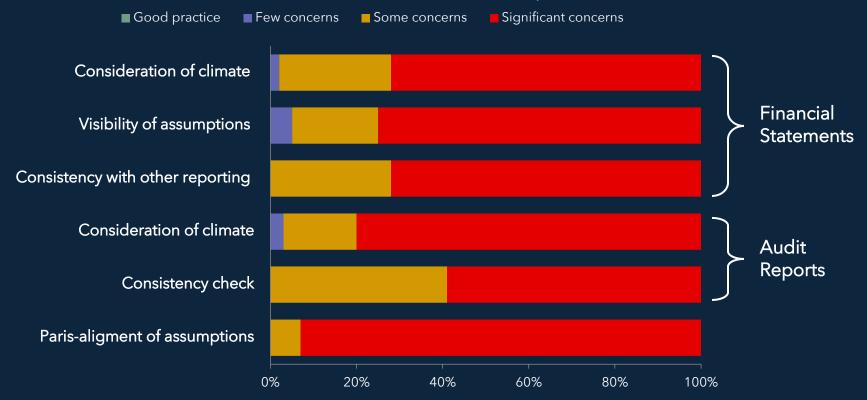
Regulation S-K)

Source: (1) Climate Change & ESG Reporting from the Public Company Perspective (2021). Survey of 436 companies across a broad cross-section of industries and range from small to large in terms of market cap. Numbers will not sum to 100% given some report using multiple methods of filing.

Limited Consideration of Climate in Financials

A recent study of roughly 100 publicly listed carbon-intensive companies and their auditors performed by the Carbon Tracker Initiative, found that roughly 70% of companies and 80% of auditors do not disclose climate-related risks in their financial statements. The same study found that companies largely have not addressed investors' concerns about Paris-alignment of financial assumptions.

Consideration of climate matters in financial statements and audit reports



Source: Carbon Tracker Initiative "Flying blind: The glaring absence of climate risks in financial reporting" (September 16, 2021). Carbon Tracker and CAP team analysis. Based on a report of 107 publicly listed carbon-intensive firms and their auditors.

Best Practices for Corporates

A recent PWC analysis highlights 5 tangible steps that companies can take now to meet stakeholder expectations as disclosure standards evolve (TCFD, SASB, IIRC, GRI etc.)



- Transparency must be a board-level issue
- Report on how you create sustainable value
- Ensure reported metrics are used to set targets and improve performance



Know your strategy

- Develop unique reporting approach that includes a comprehensive baseline and metrics specific to the sector / business (i.e., SASB, World Economic Forum IBC)
- Choose metrics and disclosures with significance to stakeholders and set challenging targets



Go digital

- Provide data in digital formats that third parties can process and use
- Move from static PDF documents to more engaging formats for data and storytelling
- Expect data consumers to use apps and algorithms to draw data from your nonfinancial reporting



Systems, not just standards

- Make sure company has ability to gather and report non-financial data effectively
- Invest in systems, controls and skills to make sure you have the right data



Same rigor you apply to financial data

- Think of non-financial metrics as equally important to financial metrics in reporting
- Strive for the same standard of accuracy, transparency and clarity in your data



In 2020, <u>less than 25%</u> of S&P 500 companies' ESG reports were aligned with the SASB reporting framework, only 16% of reports referenced TCFD and only 5% of companies published complete TCFD-aligned reports.

Source: PWC "Learning to Love Transparency."

Post - Issuance Reporting

While annual post-issuance reporting is a part of the Green Bond Framework, the quality and consistency of reports varies significantly. More work needs to be done to consolidate reporting standards across various groups and frameworks (i.e., ICMA Harmonized Framework, EU Taxonomy for Sustainable Activities, EU Green Bond Standard, Green Assets Wallet). However, the Climate Bond Initiative (CBI) analyzed post-issuance reporting for 694 bonds to develop a list of post-issuance best practices. The study included bonds in the Climate Bonds Green Bond Database from 408 issuers worth \$212 bn issued between November 2017 and March 2019.

Best Practices for Post-Issuance reporting:

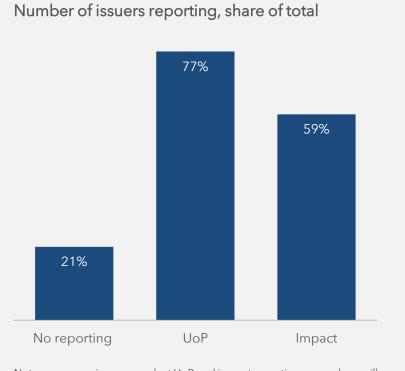
- Report on both Use of Proceeds and Impact
- Clarity and ease of access to information are key
- Create dedicated websites for green / sustainability initiatives
- Dedicated green bond reports

Use of Proceeds Reporting:

- Communicate commitment at issuance and report in-line with stated commitments
- External reviews at issuance and with post-issuance auditing
- More granular reporting preferred
 - Project level rather than portfolio level
 - Individual bond vs. program reporting

Impact Reporting:

- Insights into environmental outcomes from green bond financings
- Use absolute rather than relative metrics (i.e., absolute emissions rather than vs. baseline)
- Provide entity level assessments
- Report as long as projects are operational and impacts are ongoing



Note: numerous issuers conduct UoP and impact reporting so numbers will not sum to 100%

Source: (1) Climate Bonds Initiative "Post-issuance reporting in the green bond market" 2021.

05 Expectations for US Mandatory Disclosure



Key Dates to Watch on US Mandatory Disclosure Requirements

2021

| March | Financial Accounting Standards Board (FASB) published educational paper on the intersection of ESG matters and financial accounting standards |
|----------------------|--|
| May 20 | President Biden issued executive order instructing numerous government agencies to assess how climate risk could be integrated into regulation / policy |
| Sep 17 | "Due date" for National Economic Council and National Climate Advisor to deliver comprehensive, government-wide strategy addressing climate disclosures by federal government agencies, financing needs to meet temperature goals and areas for public-private collaboration |
| Oct 30-31 | US to participate in G20 Rome Summit |
| Nov 1-12 | US to participate in UN Climate Change Conference (COP26) |
| Nov 16 | "Due date" for Janet Yellen and FSOC to submit report on member agencies integrating climate-related financial risk into policies and programs |
| December | FSOC annual report to Congress directed to include assessment of climate- related financial risk |
| Q4 2021 - Q1 2022 | SEC to propose new rules on corporate climate risk disclosures |

US Government Focus on Climate Risk

President Biden has selected climate and ESG experts to lead or play key roles in numerous government offices. The efforts around mandatory climate disclosure will be driven by several branches of government including the White House, Treasury, FSOC, SEC and Federal Reserve.



JANET YELLEN
Secretary of the Treasury & Chair of the FSOC
Prev. served on Climate Leadership Council.
Responsible for FSOC report on climate risk.



BHARAT RAMAMURTI
Sustainability Portfolio, National Economic Council
Previously led Roosevelt Institute's Corporate
Power program



GARY GENSLER
Chairman of the US SEC
Leading efforts on corporate mandatory disclosure



JOHN KERRY
Special Presidential Envoy for Climate
Former Secretary of State, helped negotiate the
Paris Agreement on climate change



LAEL BRAINARD

Board of Governors of the Federal Reserve
Leading FSOC efforts on climate implications for financial stability



GINA MCCARTHY National Climate Advisor Former head of the EPA



KEVIN STIROH
Chair FRB Supervision Climate Committee
Running FRB efforts on climate risk's impact on
financial institutions (operational, legal, credit risks)



RANDALL KROSZNER
Chairman of the Office of Financial Research
Leading research efforts for forthcoming FSOC
report and policy recommendations



BRIAN DEESE
Director of National Economic Council
Former head of sustainable investing at BlackRock

Source: MUFG Washington DC Government Affairs Office.

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Expectations for US Mandatory Disclosure

Following President Biden's Executive Order on climate risk and regulation in May, and Janet Yellen's forthcoming FSOC report due in November, we expect significant developments related to ESG regulation and disclosure in the US in Q4 of 2021 and Q1 of 2022



Expectations for US Mandatory Disclosure:

| White House | In May 2021, President Biden issued an executive order instructing Treasury Secretary Janet Yellen to engage with the FSOC to assess climate-related financial risks US regulators will need to integrate climate-related financial risks into their policies |
|----------------|--|
| US Congress | Democrats in the US House of Representatives have introduced HR 1187 - ESG Disclosure Simplification Act of 2021 The bill would require publicly traded companies to disclose information on ESG topics such as climate risks, political spending, tax jurisdiction and executive pay raises House Democrats have also considered including a Carbon Border Adjustment component to the 2022 budget reconciliation bill |
| SEC | SEC Chairman, Gary Gensler, expected to release mandatory climate risk disclosure standards in the fourth quarter of 2021 or first quarter of 2022 Requirements likely to be based in TCFD methodology with "adjustments for US context" and may require inclusion of climate disclosures in the 10-K and some form of scope 3 disclosure Mandatory disclosure requirements expected to cover both climate and human capital management disclosures In September, SEC's Division of Corporate Finance announced enhanced reviews of companies' compliance with the 2010 Commission Guidance Regarding Disclosure Related to Climate Change and issued sample comments companies may receive regarding enhanced disclosure |

Expectations for US Mandatory Disclosure

SEC Chair, Gary Gensler, is expected to release guidance on mandatory corporate disclosures in late 2021 or early 2022. Based on speeches made, initial public comment responses and work-streams underway by SEC staff, disclosure guidance will likely include both environmental and human capital management components.

Expectations for SEC mandated ESG disclosures

Emission disclosure: Scope 1 and 2 expected with possible Scope 3 inclusion as well

Inclusion of climate disclosures in the 10-K

Possibly different disclosure requirements by sector (i.e., banking, insurance, or transportation)

Inclusion of scenario analysis outputs: incorporate possible physical, legal, market and economic changes, capture physical risk and transition risk

TCFD as a platform but adjusted for US context

Information on jurisdictional climate targets and how that impacts foreign registrants

Verification process of corporate & investor "green", "sustainable" or "low carbon" claims

Disclosures supporting forward looking commitments (i.e., net-zero pledges)

Qualitative disclosures on leadership strategy for managing climate-related risks and opportunities

Human capital management disclosures around worker safety, diversity, compensation and pay equity analysis

Stricter SEC Enforcement on Climate Disclosure

On September 22, the SEC's Division of Corporate Finance released a sample letter to companies regarding climate change disclosures and announced a step-up in reviews of companies' compliance with existing guidance. The SEC is expected to announce new ESG disclosure standards sometime during Q4 2021 - Q1 2022.

Selected sample comments from the SEC to companies under enhanced review of compliance with the 2010 Commission Guidance Regarding Disclosure Related to Climate Change

General:

Explanation of climate disclosure differences between annual sustainability reports and SEC filings

Risk Factors:

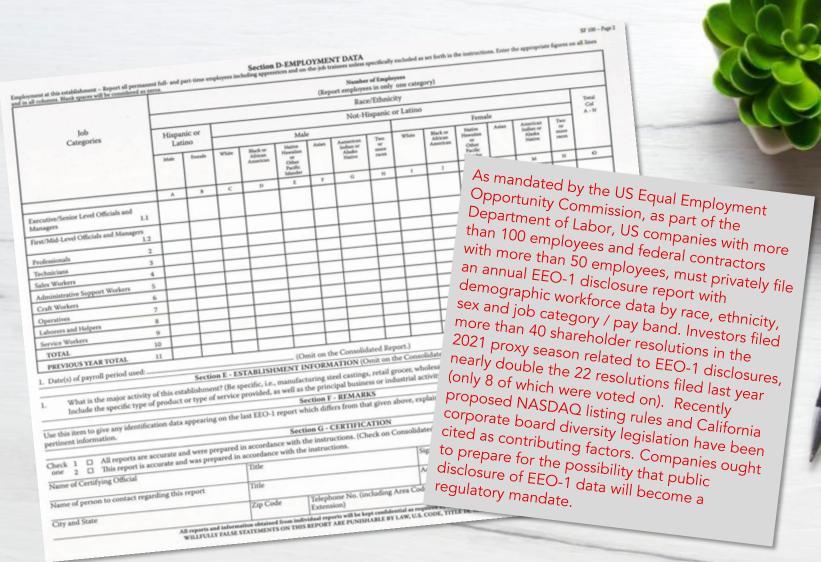
- Material impacts of transition risk related to climate change via policy & regulatory changes, market trends, credit risks, and / or technological changes
- Material litigation risks related to climate change
- Physical effects of climate change on operations
 - Direct (i.e., natural disasters) or indirect (i.e., impacts from customers or suppliers)
 - Weather-related impacts on the cost of insurance

Management's Discussion and Analysis (MD&A) of Financial Condition and Results of Operations:

- Climate change-related legislation, regulation and internal accords
- CapEx for climate-related projects
- Indirect consequences of climate-related regulation on business trends
 - Changes in consumer demand or competitive landscape
 - Anticipated reputational risks
 - Purchase or sale of carbon credits or offsets

Source: Sullivan & Cromwell LLP "SEC Staff Highlights Review of Climate Change Disclosure", September 23, 2021. BloombergNEF "SEC Finds Gaps in Climate Change Disclosures in Annual Reports"

Investor Activism on EEO-1 Disclosures



O6 Expectations for Global Mandatory Disclosure



Key Dates to Watch in Global Mandatory Disclosure Requirements

| 2021 | Mar 10 | EU SFDR high-level & principle-based requirements implemented | | |
|------|-----------|--|--|--|
| | Jun 30 | Deadline for large entities to disclose due diligence policies for Principle Adverse Impacts (PAIs) under EU SFDR | | |
| | Oct 30-31 | G20 Rome Summit | | |
| | Nov 1-12 | UN Climate Change Conference (COP26) | | |
| 2022 | Jan 1 | EU Taxonomy Climate Delegated Act set to apply | | |
| | Jun 15 | EFRAG to provide draft corporate sustainability reporting standards | | |
| | Oct 31 | EC to adopt the first set of corporate sustainability reporting standards | | |
| | Dec 31 | Deadline for firms that consider PAIs to disclose how products consider impacts & firms that do not consider PAIs to explain why they do not under EU SFDR | | |
| 2023 | January | Obligations under the EU CSRD to come into force | | |
| | Jun 30 | Deadline for firms to disclose detailed PAI indicators for full year 2022 under EU SFDR | | |
| | October | EC to adopt the second set of corporate sustainability reporting standards | | |
| | Dec 31 | Numerous interim deadlines in-place in UK's move toward mandatory TCFD- aligned disclosure (full implementation by 2025) | | |

Source: Oxford Analytica Research. EY "The future of sustainability reporting standards" June 2021.

Regional Trends in Mandatory Disclosure

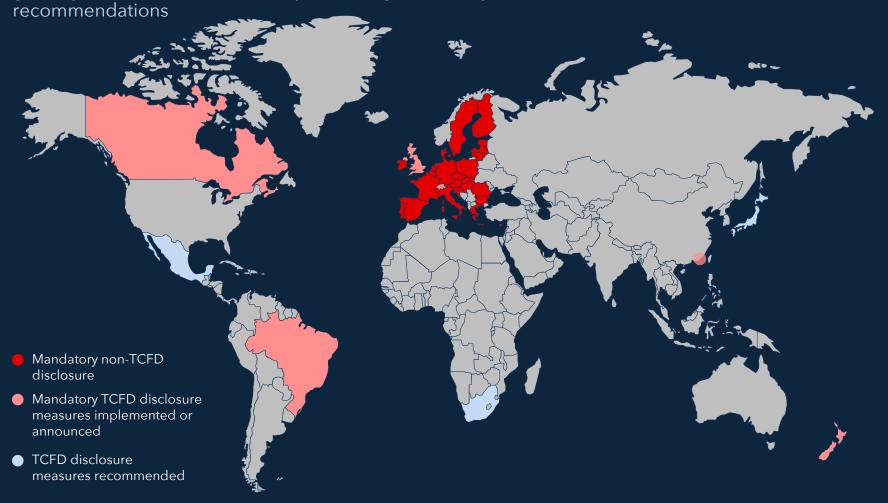
Many countries globally have already adopted or announced plans to adopt ESG disclosure requirements. While areas like the EU have created bespoke requirements, other countries are utilizing the TCFD framework.



| Regional Observations: | | | | |
|------------------------|-------------|--|--|--|
| 65 | G7 | In June 2021, the G7 publicly announced support for mandatory disclosure | | |
| | Europe | Sustainable Finance Disclosure Regulation (SFDR) phase 1 reporting requirements took effect in March 2021 | | |
| | | Corporate Sustainability Reporting Directive (CSRD) will require mandatory disclosures from all large companies and all companies listed on EU-regulated markets starting in financial years beginning on or after January 1, 2023 | | |
| | UK | Announced required TCFD-aligned disclosure across the non-financial and financial sectors | | |
| | | Disclosure requirements expected to take effect economy wide by 2025 with interim requirements by 2023 | | |
| | Japan | Council of Experts recommended enhanced disclosures based on TCFD framework for Prime Market-listed companies | | |
| | | Top 100 companies all already publish sustainability data | | |
| | New Zealand | As of April 2021, New Zealand introduced mandatory TCFD "comply or explain" disclosures for financial institutions | | |
| | | 200 large financial institutions will have to make climate-related disclosures starting in 2022 | | |
| (*) | Canada | COVID bail-out funding tied to TCFD disclosure | | |
| | | Bank of Canada working toward aligning future disclosure guidelines with TCFD | | |
| % | Hong Kong | TCFD- aligned disclosures expected to be required in 2025 | | |

Implementation of Mandatory TCFD Disclosures

While many ESG reporting frameworks exist, TCFD has gained momentum with policy makers globally with several countries implementing mandatory disclosure based on TCFD



Source: S&P Global "Companies, investors face new pressure from compulsory disclosure of climate risk."

The Broad Reach of EU's SFDR

The EU's Sustainable Finance Disclosure Regulation (SFDR) Level 1 went live in March 2021 and requires asset managers and financial advisors based in, operating out of, or marketing into the EU to categorize their products into green classifications. Level 2, effective in January 2022, will require supplementing the categorization with evidence of alignment with the EU Taxonomy. The goal of the SFDR is to eliminate greenwashing by standardizing disclosure of Principle Adverse Impacts (PAIs) that a financial product or decision may have on sustainability.

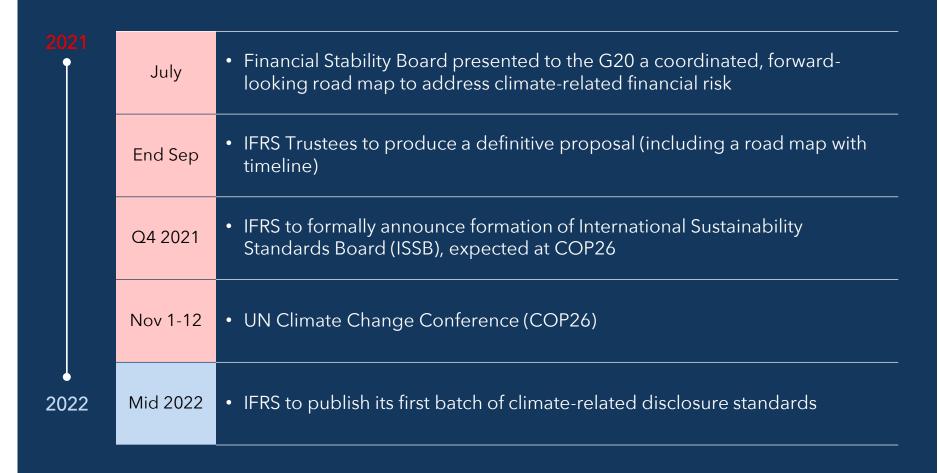
| SFDR Reporting Requirements & Product Classifications: | | | |
|--|--|--|--|
| SFDR Entity Level Reporting | How sustainability risk is integrated into investment decision making process or financial advice Policies on how PAIs are considered Remuneration policy consistent with integration of sustainability risks Pre-contractual disclosures on suitability risk integration | | |
| SFDR Product Classifications | Article 6: products that do not integrate any kind of sustainability objectives into investment process Article 8: products that promote Environmental or Social characteristics provided good governance practices are also in place Article 9: products with a sustainable investment objective and an index designated as a reference benchmark | | |
| Product Level Reporting | For firms that do consider PAIs: an explanation of how financial products account for these impacts For Article 8 products: how designated characteristics are met and disclosure on the degree of Taxonomy alignment For Article 9 products: explanation of how objective is achieved and disclosure on alignment with EU Taxonomy Regulation | | |

Source: (1) S&P Markit Intelligence "What is the Impact of the Sustainable Finance Disclosure Regulation?" (April 1, 2021). Robeco Sustainable Investing Glossary "Article 6, 8 and 9 funds." ESG Insider New EU sustainable finance rules a "game changer" for private equity. European Union, "Regulation of the European Parliament and of the Council" (November 2019). Large entities refers to entities with more than 500 employees.

07 | Evolving ESG Reporting Standards



Key Dates to Watch for International ESG Standard Setting



International Disclosure Standards

Numerous international organizations have developed standards for financial and non-financial sustainability reporting. Today, an effort is underway to integrate and streamline reporting standards to provide more clear guidance for companies and investors.



Selected International Frameworks and Standard Setters:



- International Sustainability Standards Board expected to launch in November under the umbrella of the International Financial Reporting Standards (IFRS) Board
- Expected to be a promising development in the move toward international consistent, comparable ESG and sustainability reporting standards



- Launched by the Financial Stability Board in 2014, the TCFD framework is widely used by corporates globally. The UK will require mandatory adoption of the TCFD by 2025.
- Metrics are designed to be forward looking and strategic in identifying financial risks and opportunities in the transition to a low-carbon economy. Focus on climate disclosures rather than broad ESG topics.



- In June 2021, SASB and the IIRC merged, launching the Value Reporting Foundation, to provide companies with a more comprehensive ESG reporting framework
- SASB's Materiality Map provides industry specific and decision useful metrics for ESG standards
- Commonly used by corporates for ESG reporting and often overlaid with TCFD



- Core and expanded metrics provide the most comprehensive set of ESG reporting standards
- Widely utilized by international organizations including the UN Global Compact and thousands of others

Additional Organizations

- Dozens of organizations outlining ESG values (US Sustainable Development Goals) & providing reporting frameworks (Science Based Targets, CDP, Climate Disclosure Standards Board)
- Rapid progress from regulators, particularly in Europe, mandating specific regional disclosure requirements

A Closer Look at the ISSB Standards

The IFRS, which sets accounting standards for many countries globally, will launch the ISSB in November at the COP26. The new body is expected to be well positioned to introduce internationally comparable disclosure standards. Yet, the need for regional flexibility has also been recognized. As such, support has grown for a "building block" approach involving a global baseline standard produced by the ISSB with an opportunity for selected jurisdictions to develop additional local standards and rules. The approach would allow for global comparability while providing local regulators with an opportunity to address specific stakeholder needs.



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A Closer Look at the TCFD Framework

In December 2014, the Financial Stability Board (FSB) launched the Taskforce on Climate-related Financial Disclosures (TCFD) to formulate guidelines for voluntary & consistent climate-related financial risk disclosures. After consultation with experts in capital allocation, insurance, large non-financial companies, accounting and consulting and credit ratings, the TCFD released their recommended disclosure framework in 2017.

TCFD's recommended disclosures span four categories and are designed to be widely adaptable, solicit forward-looking information and focus on both risks and opportunities in the transition to a net zero economy



Governance

- Board's oversight of climate-related risks & opportunities
- Management's role in assessing and managing risks & opportunities



Strategy

- Identify and describe risks & opportunities over short, medium and long term
- Impact on business, strategy & financial planning
- Strategy's resilience given different climaterelated scenarios



Risk Management

- Process for identifying and assessing climaterelated risks
- Processes for managing / mitigating risks
- Integration of climaterisk management into organization's risk management function



Metrics & Targets

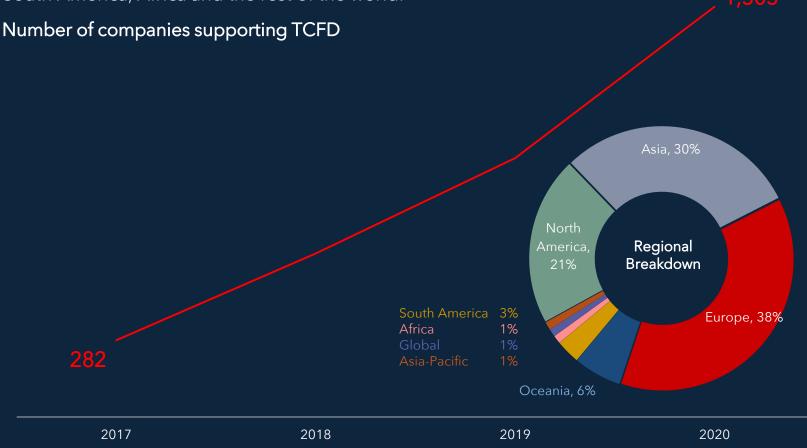
- Disclose assessment metrics for risks and opportunities
- Disclose Scope 1, 2 and 3 GHG emissions
- Set targets and report progress regularly



Source: Task Force on Climate-related Financial Disclosures Overview Report, March 2021.

Support for TCFD Disclosure Accelerating

The number of companies supporting TCFD climate disclosure increased more than 5x from 282 companies in 2017 to 1,505 in 2020. Nearly 90% of companies are in Europe, North America and Asia with much more limited support from South America, Africa and the rest of the world.



Source: (1) S&P Global, GreenBiz Group "State of Green Business 2021". S&P Global "Companies, investors face new pressure from compulsory disclosure of climate risk".

Global TCFD Adoption

As of March 2021, the TCFD had over 2,000 supporters representing over \$19.8 trillion in market capitalization, including 859 financial firms representing over \$175 trillion in assets. The signatories of the Climate Action 100+ encourage corporates they engage with to implement TCFD recommended disclosures.

Number of TCFD supporters, by region

| Top Five Countries by Number of Supporters | | |
|---|-----|--|
| Japan | 340 | |
| United Kingdom | 265 | |
| United States | 251 | |
| France | 91 | |
| Australia | 83 | |

| < 10 | 10 - 24 | 25 - 59 | 60-99 | 100 - 199 | 200 - 299 | 300+ |
|------|---------|---------|-------|-----------|-----------|------|
|------|---------|---------|-------|-----------|-----------|------|





08 Evolving ESG Accounting Standards



Key Dates for ESG Financial Reporting Standards

While many companies have been reporting climate and sustainability data in line with SASB or TCFD for several years now, in the last 18 months, there has been a renewed effort by investors, standard setters and regulators to have companies incorporate climate-related risks into their financial statements, rather than as stand-alone narrative reports

| 2019 | November | International Accounting Standards Board (IASB) provides guidance suggesting climate must be incorporated into financial accounting | | |
|------|-----------|--|--|--|
| 2020 | July | International Auditing & Assurance Standards Board (IAASB) provides guidance for auditors on incorporating climate risk into financial risks | | |
| | September | Global investor groups representing \$103 trillion write open letter to companies and auditors requesting use of IASB guidance incorporating sustainability assumptions into financial reporting | | |
| | December | Six largest auditors globally publish letter recognizing guidance from IASB and IAASB | | |
| 2021 | March | The US's Financial Accounting Standards Board (FASB) publishes an educational paper on the intersection of ESG matters and financial accounting standards | | |
| | September | US SEC announces step-up in reviews of companies' compliance with existing guidance on ESG disclosures Sample comments include requesting companies explain why financially material climate risks listed in annual sustainability reports are not include in SEC filings | | |

Selected Accounting Issues Under Consideration

Several US and international accounting standards organizations have published guidance on ways companies and auditors should expect to incorporate ESG factors into financial reporting standards

ESG's impact on selected financial accounting standards

Goodwill and indefinite-lived intangible asset impairment

Direct or indirect impact from ESG factors may increase probability of impairment

Finite-lived intangible assets and property, plant and equipment useful life calculation

Environmental factors could change useful life expectancy

Inventory assessment

Net realized value estimate may be materially impacted by ESG related regulatory changes, significant weather events, changes in consumer behavior, or increases in completion costs due to challenges in raw material sourcing

Future cash flow assumptions for long-lived asset or goodwill impairment analysis

Shifting regulatory dynamics and consumer behavior may reduce existing demand assumptions and impact cash flow assumptions

Tax recognition for deferred tax assets

Changing environmental regulations may impact estimates of future taxable income

Reputational damage

Indirect impact on financial statements from increased reputational risk due to heightened focus on ESG matters

Sources: Deloitte: "Do ESG Matters Affect Accounting and Financial Reporting Today?" (May 26, 2021), "On the audit committee's agenda: Defining the role of the audit committee in overseeing ESG" (November 2020). FASB "FASB Staff Educational Paper: Intersection of Environmental, Social and Governance Matters with Financial Accounting Standards" (March 2021).

Investors Seek Corporate Climate Disclosure in Financial Reporting

In September 2020, a group of investors representing \$103 trillion in AUM responded to an opinion published by the International Accounting Standards Board (IASB) suggesting that climate should be incorporated into a company's financial accounting

Selected excerpts from investors' open letter to corporates and auditors

As groups representing institutional investors, we call on companies to ensure that their financial reports and accounts reflect the recent opinion from the International Accounting Standards Board (IASB) and are prepared using assumptions consistent with the Paris Agreement on climate change...

To deliver this, companies should ensure that their financial statements accurately report their performance by incorporating material information about climate-related risks, for instance that they value assets in a way that would be compatible with a sustainable climate...

Without such clarifying guidance on how to incorporate an assessment of climate-related risks into their financial statements, companies have found it difficult to do so, let alone do so consistently. Auditors have had similar difficulties in fulfilling their role. Some companies may even have thought that they did not need to consider such risks, since they are not explicitly referenced in the existing IFRS guidance. This publication creates clarity that, from now on, an assessment of climate-related risks must indeed be incorporated into financial statements that are prepared under IFRS, and indicates how that should be done. The publication further emphasizes that the materiality of disclosures should be assessed according to investor concerns...













So What Are Investors Asking For?

In the same open letter to corporates and auditors, shareholders set out a series of four specific requests pertaining to incorporating climate related risks into financial reporting

- That companies apply the IASB opinion in the letter and the spirit, including showing the key assumptions that have been made with regard to climate-related risks
- That auditors only sign off on financial statements which are consistent with the IASB opinion in the letter and the spirit, which include showing the key assumptions that have been made with regard to climate-related risks
- That regulators and civil society work with us in enforcing and encouraging these actions
- That henceforward the assumptions made by companies in preparing financial statements under International Financial Reporting Standards be compatible with the Paris Agreement













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MUFG's Capital Markets Strategy Team

The MUFG Capital Markets Strategy team provides monthly publications and weekly policy notes, presenting to Boards and C-Suite executives, on a broad range of transformative themes driving the FX, rates and credit markets including: the COVID-19 recovery, ESG's acceleration, tax code policy changes, US-China decoupling, corporate strategy, geopolitical risk and central bank monetary policy.



























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