Managing Risks for a Changing Climate

A Guide for Institutional Investors

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Acknowledgements

Morningstar Sustainalytics would like to thank the following members of our Climate Solutions team for their input and feedback on this ebook:

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Introduction: The Financial and Market Burdens of Climate Change

Triggered by the climate crisis and calls for transparency from investors, governments are enacting a wave of new climate regulations. For financial institutions and asset managers this means obligatory reporting on climate-related risks, greenhouse gas (GHG) emissions, and detailed plans to reach net-zero emissions by 2050 in lending and investment portfolios. The year 2050 might seem a lifetime away, but the financial impacts of the climate crisis are already being felt, prompting changes to the global financial system.

The previous eight years from 2014 to 2022 have been the warmest on record globally and this rise in temperatures has resulted in an increase in the frequency and severity of extreme weather events.[1] In 2022, 18 climate-related disasters struck the United States, each causing damages exceeding US$1 billion. In total, extreme weather events caused US$165 billion in damages in the U.S. that year. The number of billion-dollar disasters in 2022 was the third highest total of all time, only behind 2020 (22 disasters), and 2021 (20 disasters).[2]

Climate-related insured losses are also on the rise. A report from Munich Re puts the 2022 global insured losses at US$120 billion, on par with figures from 2021 and higher than the previous five-year average of US$97 billion.[3] Hurricane Ian, which made landfall in September 2022 on the west coast of Florida, was responsible for about half of the total insured losses worldwide, making it the second-costliest tropical storm after Hurricane Katrina in 2005. Extensive floods in Pakistan and Australia, which resulted in damages totaling US$15 billion and US$4 billion respectively, were other key contributors to 2022's high tally of insured losses. The rising insurance costs due to climate change are even rendering some assets uninsurable.[4, 5]

The growing materiality of climate-related financial burdens has prompted governments and regulatory bodies to enact legislation that mandates businesses to employ tracking, measuring, and disclosure mechanisms that account for different environmental metrics, strategies, and risks.

In the European Union, the Corporate Sustainability Reporting Directive (CSRD) came into law in 2023 as a more comprehensive replacement of the Non-Financial Reporting Directive (NFRD), requiring roughly 50,000 companies to report on a broad range of sustainability issues. In the U.S., the Securities and Exchange Commission's (SEC) proposed climate disclosure rules would also compel large companies to report climate data and strategies beginning in 2024.[6]

With additional climate-focused legislation on the way in jurisdictions around the world, the evolving regulatory landscape exposes businesses to added risks. On top of the physical risks of climate change that can damage company infrastructure, the transition risks posed by these changing regulations present another hurdle.

To reach net-zero emissions in financial institutions' lending and investment portfolios by 2050 requires a massive restructuring of their capital allocation. Vetting portfolio companies for their climate risk management, carbon emissions, and net-zero strategies is critical for banks and asset managers in the pursuit of their climate goals. Many financial institutions are now making net-zero pledges yet remain uncertain about how to get there. The following sections of this book will help to answer the question, "We've committed to net-zero by 2050, now what?"

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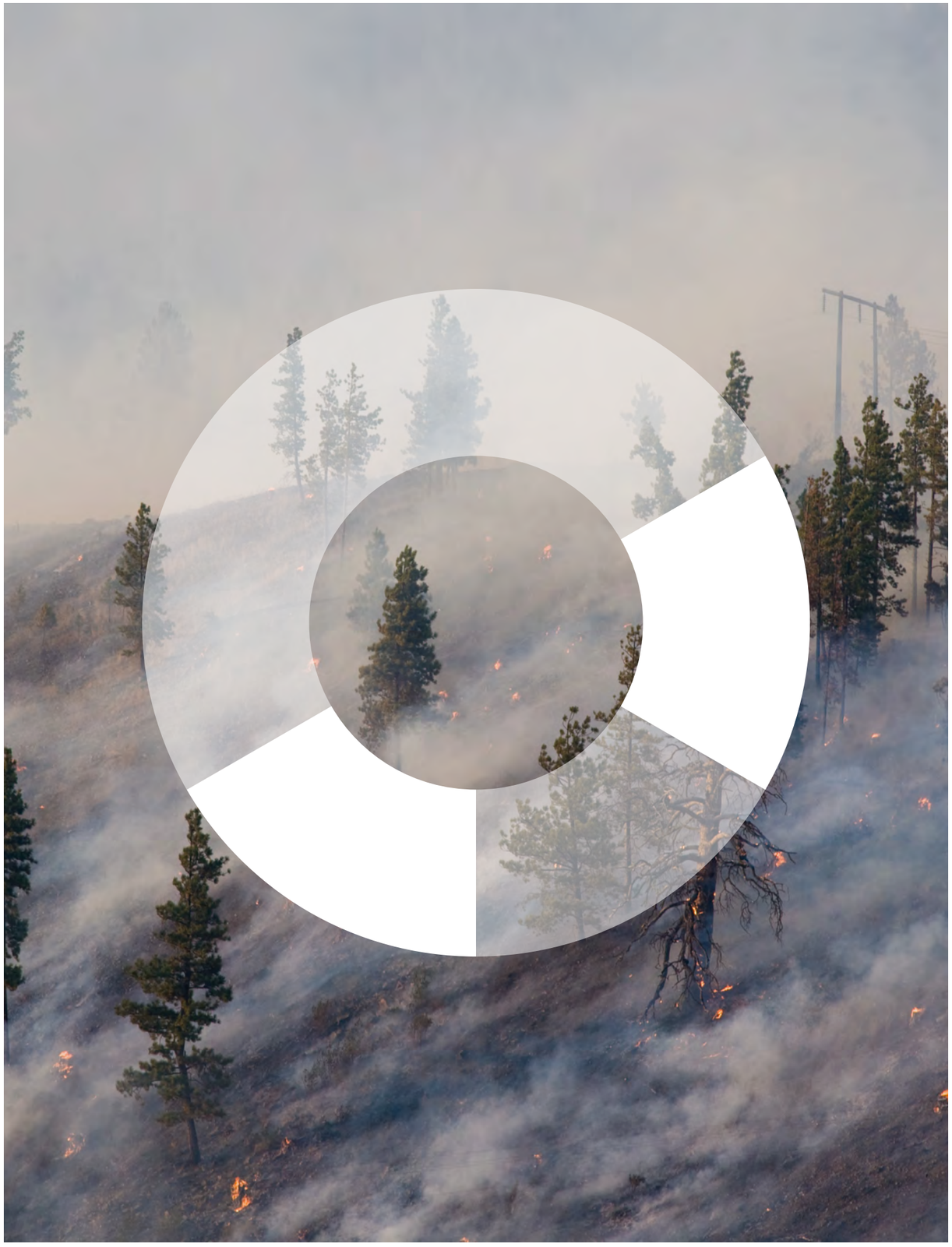
Today's Major Investment Risks Due to Climate Change

Evaluating portfolio climate risk begins with an understanding of what climate risks actually are.* We know that hurricanes, fires, and floods pose a risk to physical assets, but how do you valuate that risk? Transition risks, such as carbon taxes or net-zero mandates, can pose obstacles for businesses to overcome. But which investments are vulnerable to climate-related penalties or having their assets left stranded?

There is no simple formula for evaluating climate risk because of the uncertainties and complexities involved in forecasting and assessing. The speed and stringency with which government regulations are enacted are subject to political interests. The timing and severity of physical hazard events can never be predicted with absolute certainty.

However, using forward-looking models and scenario analysis can help paint a detailed picture of what a portfolio's climate risk may look like, providing investors with the outlook and data they need to make informed decisions and manage their climate risks.

*Unless otherwise stated, we use the term climate risk(s) in a broad sense throughout, as the risks (i.e., environmental, business, societal, existential, etc.) presented by global climate change. Physical climate risk and transition climate risk are later presented with their own distinct meanings.

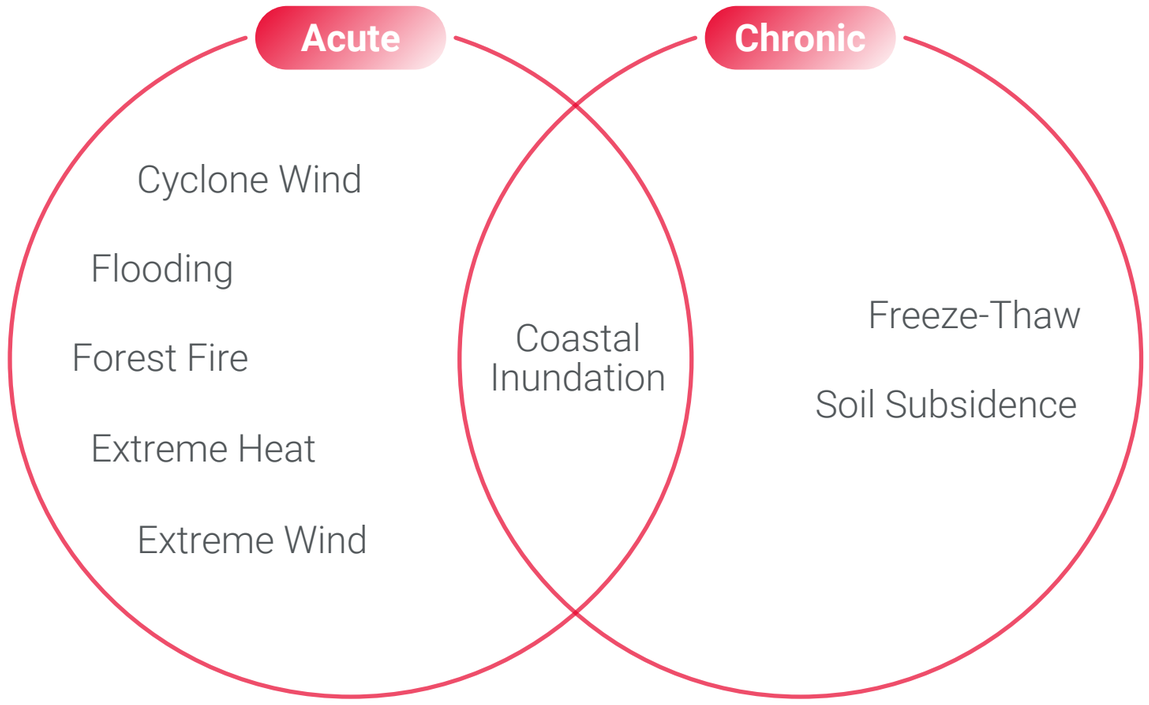


Risk One: Physical Climate Risk

Physical climate risks include the hazards related to the increasing severity and frequency of extreme weather events, as well as the long-term gradual changes in climate. Physical climate risks pose material risks to companies, as they have the potential to damage assets, increase repair costs, and hinder productivity.

Physical climate risk can be separated into two categories: acute and chronic (Figure 1). Acute hazards are high impact, short-term threats posed by extreme weather events like floods, hurricanes and wildfires. Chronic hazards are the threats created by gradual long-term changes in climate. Damage to assets due to freeze-thaw cycles, soil subsidence, or coastal inundation are all examples of chronic hazards.[7]

Figure 1. Acute Versus Chronic Physical Climate Hazards



Source: Morningstar Sustainalytics. For informational purposes only.

For more details see Morningstar Sustainalytics guide
Physical Climate Risks: Preparing Your Portfolio for a Changing Climate

The Potential Impacts of Physical Climate Risks to Companies

One obvious impact of physical climate risks is damage to company property. A company's vulnerability and exposure to these risks are determined by factors including geo-location, construction quality, frequency and severity of physical hazards, and relative importance of impacted assets.

The amount of physical climate risk that an asset carries has a direct impact on the price of its insurance premiums. The global insurance landscape is seeing more climate-related claims year over year.[8] The more vulnerable a company is to climate risks, the more it can expect to pay in insurance premiums. Research from the Swiss Re Institute expects global property catastrophe premiums to increase by up to 41% (US$183 billion) by 2040 due to climate risk.[9]

Consequently, assets with high risk and high insurance rates can experience a related loss in value. Even as insurance premiums increase, some insurers may refuse to cover certain assets. The California wildfires of 2017-2018 resulted in 235,250 non-renewals of policies, an increase of 31%. And one in ten homes in Canada are now effectively uninsurable due to flooding risk.[10, 11]

Physical climate hazards also have an impact on productivity. Hazards like heat and flooding can result in equipment failures and personnel shortages that cause operational outages, lowering productivity. During a record heatwave in the U.K. in 2022, a data center's inability to maintain a safe operating temperature due to a failed cooling system and extremely high outside temperatures resulted in a service outage for some Google Cloud services.[12] Conservative estimates from the International Labour Organization (ILO), based on a global temperature rise of 1.5°C by the year 2100, suggest that, "in 2030, 2.2 percent of total working hours worldwide will be lost to high temperatures," resulting in economic losses of US$2.4 trillion.[13]

Risk Two: Transition Climate Risk

Transition risks include the potential financial, reputational, and litigation impacts caused by the dynamic landscape of government regulations, emerging technology, and consumer preferences. Changing regulations include reporting requirements, carbon taxes, emissions caps, and financial penalties for non-compliance. This is an extra layer of risk that investors, asset managers and financial institutions need to consider.

As the world transitions to a low-carbon economy to mitigate additional physical climate risks and losses, companies face the possibility of stranded assets and higher operating costs as they are required to shift to greener technologies. And as changes in climate policies that either hinder or promote certain technologies are enacted, operational changes in global production will soon follow. This will impact the demand and cost of existing processes and the value of the infrastructure supporting them.

These costs can be offset by realizing higher growth, saving on inefficiencies and expenses, avoiding regulatory risks, accessing cheaper capital, and creating new sources of value for customers. The longer a company delays its transition, however, the greater the costs will become — and fewer opportunities will be available to offset those costs.[14]

Research from the Swiss Re Institute expects global property catastrophe premiums to increase by up to 41% (US$183 billion) by 2040 due to climate risk.

The Undervaluation of Climate Risk in the Market

According to a study by the International Monetary Fund (IMF), climate risk is not accurately reflected in global equity valuations. Past high-impact disasters have not had a large influence on market valuations, and future climate risk is not yet fully appreciated by investors. The study's analysis found that, "Climate change physical risk is not being factored into equity valuations."[15] There are two principal reasons that climate risks are undervalued in capital markets: incomplete data and the short-term nature of markets.

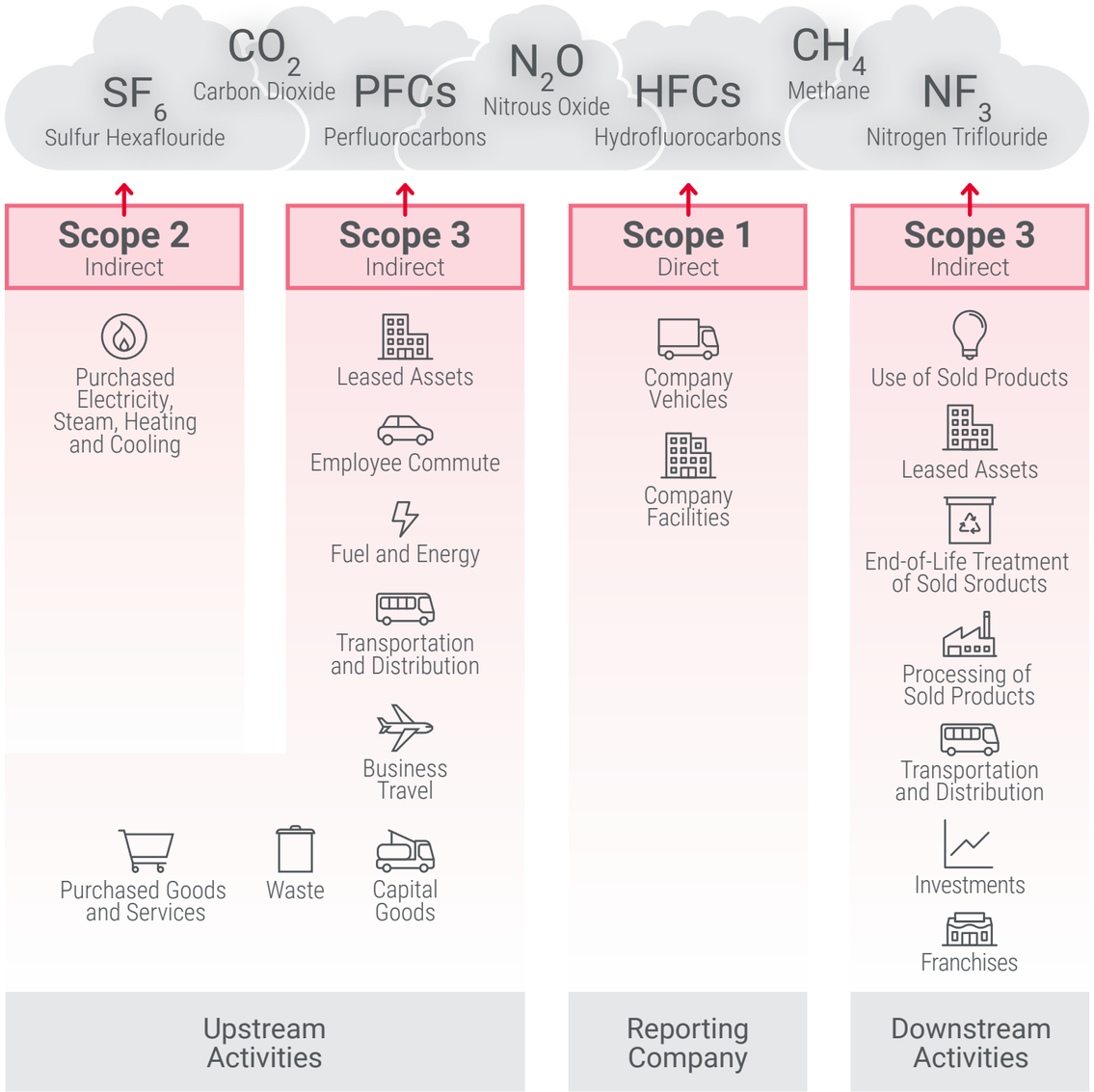
Incomplete Data

With only partial policy actions by governments and regulators, investors' evaluations of issuers' exposure to climate risks are based, for the most part, on voluntarily reported information. Without a mandatory and standardized reporting framework, it's difficult to gather the necessary data, and harder still to compare that information between companies and across industries.

When conducting climate risk assessments, crucial data is often unavailable and the lack of uniformity in reported data makes it difficult to evenly assess a portfolio of companies. An analysis of companies' emissions data reporting found that in fiscal year 2021 close to 60% of scope 1 and 2 emissions data and over 75% of scope 3 emissions data were unreported.[16] Mandatory climate risk disclosures, which are likely coming to the U.S. and are mandated in the EU Action Plan for Financing Sustainable Growth's CSRD, will not only provide investors with reliable data, but will make it much easier to analyze those disclosures using the same formats, definitions, and calculations.[17]

> "Climate change physical risk is not being factored into equity valuations." - International Monetary Fund

Figure 2. The Scopes of Carbon Emissions



Source: Technical Guidance for Calculating Scope 3 Emissions, GHG Protocol. For informational purposes only.

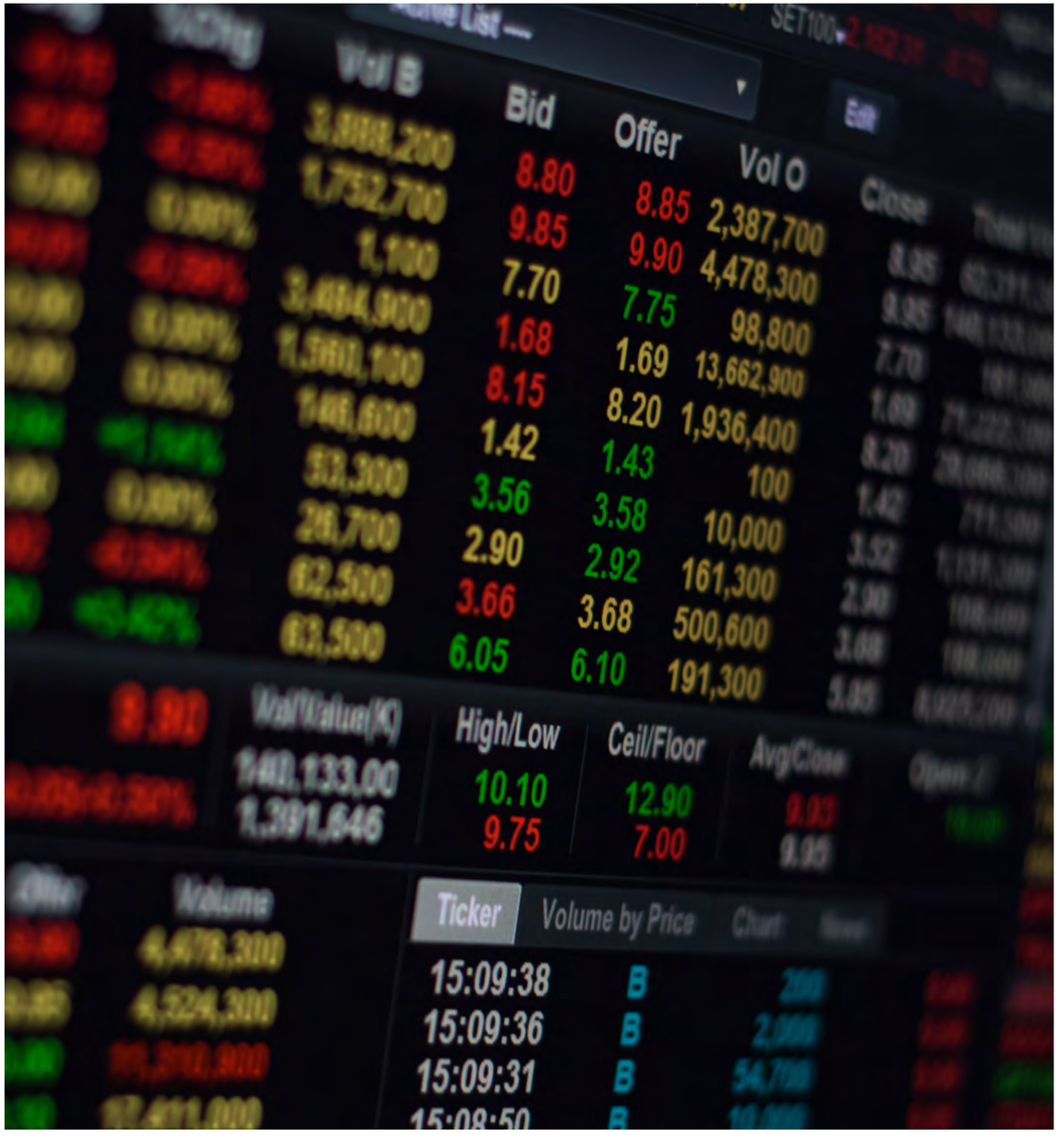
The Short-Term Nature of Capital Markets

Another reason for the mispricing of climate risks is the short-term nature of capital markets. Business leaders, driven by shareholder demand, want to maximize company performance year on year and quarter on quarter. Term limits for board members can influence them to operate in a manner that is best suited for the duration of their contract, but not necessarily in the best interest of the company's long-term stability.

However, research from McKinsey Global Institute concludes that despite the pressures on corporate executives to inflate short-term performance, "companies deliver superior results when executives manage to create long-term value and resist pressure from short-term investors."[18]

An investigation of New York Stock Exchange data by Reuters found that an investor's average holding period for a stock is five and a half months.[19] As a result, investors may overlook chronic physical climate risks and transition risks because they are unlikely to materialize during the traditional investment time horizon. However, these shorter holding periods tend to undervalue the physical climate and transition risks that a company is exposed to.

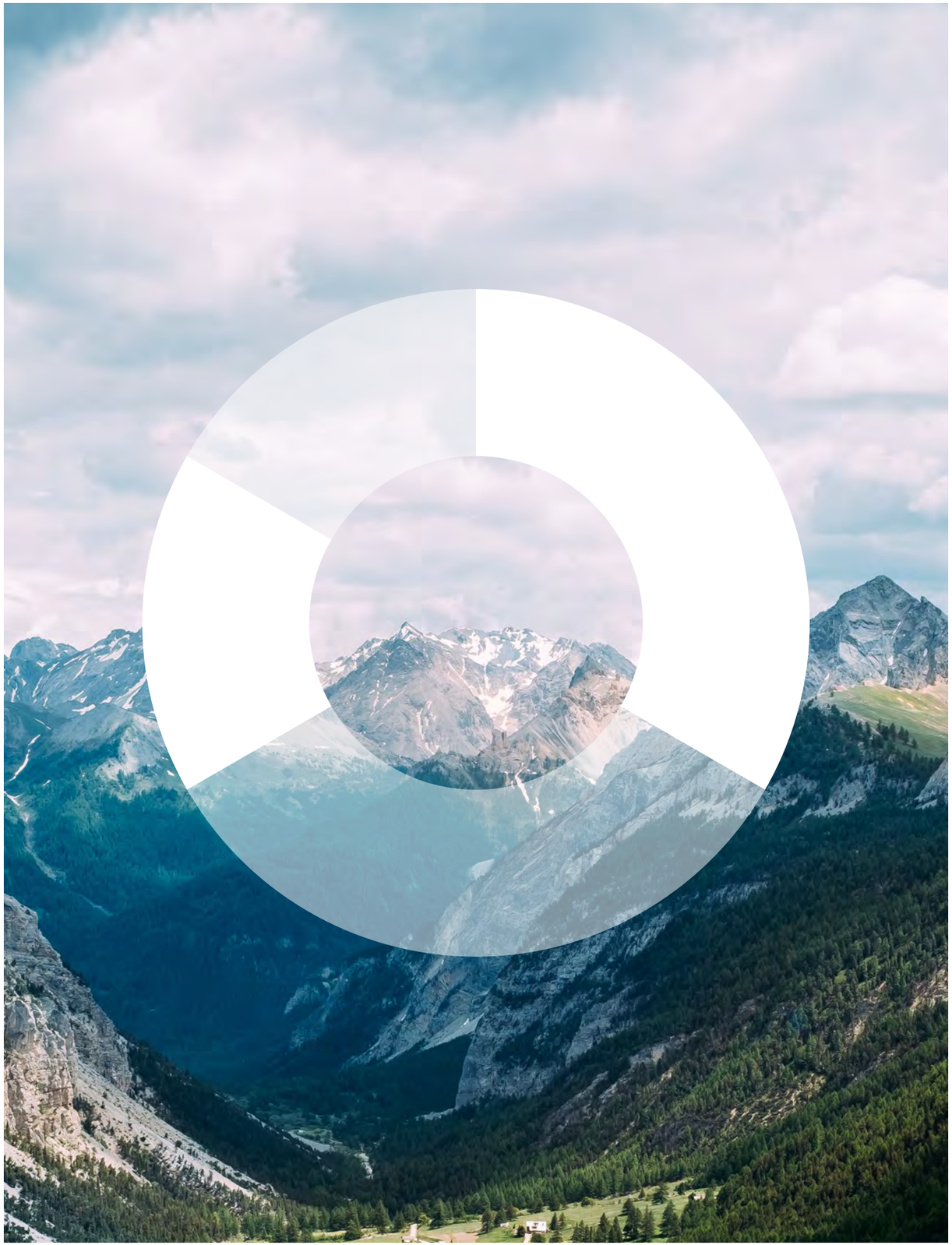
As those long-term risks begin to emerge, investor confidence in an issuer can crumble, creating a drop in asset values and a ripple effect through investor portfolios.[20] Understanding issuers' physical and transition climate risks allows investment managers to amend their portfolios well in advance of the materialization of hazards, potentially limiting market panic.



Essential Actions for Responding to Portfolio Climate Risks

The climate crisis and regulatory developments are pressing organizations to make climate commitments, analyze their exposure to climate risk, and disclose physical climate and transition risks. Most organizations are committing to reach net-zero emissions by 2050, in line with the obligations of the Paris Agreement.[21] A commitment, however, does not equal a guarantee. Commitments that don't have intermediate science-based targets nor disclosed strategies to reach those targets are quickly being labelled as greenwashing and rejected by regulatory bodies.[22]

Companies, investors and financial institutions can enhance the validity of their climate commitments by: establishing programs focused on managing climate risks and opportunities, in alignment with the Taskforce on Climate-related Financial Disclosures (TCFD) framework; tying executive compensation to GHG emissions reductions or wider climate-related targets; establishing and holding regular meetings with an internal climate committee; and measuring, tracking, and reporting on key climate metrics.



Action One: Communicate Organizational Commitments

To effectively manage climate risk, commitment needs to come from an organization's leadership. The board of directors is responsible for implementing climate risk management into the fabric of the organization. As such, climate risk assessments must be integrated into all financial risk considerations like credit risk, liquidity risk and operational risk. Accountability mechanisms, such as linking executive pay to climate performance or regular climate committee meetings, are good governance practices that will keep businesses alert to evolving climate risks.

Part of a robust climate risk strategy includes the commitment to reach net-zero emissions in lending and investment portfolios by 2050, complete with intermediate targets and strategies to hit those targets. Net-zero resources, implementation guidance, improved target setting, regulatory updates, and peer accountability are all available to banks who join the Net-Zero Banking Alliance, a coalition of over 100 banks in more than 40 countries that represent 41% (US$73 trillion) of global banking assets. Similar guidance can be found for asset owners at the Net Zero Asset Owner Alliance, and for companies at the Greenhouse Gas Protocol and the Science-Based Targets initiative (SBTi).

Action Two: Source The Most Accurate Data Available

Access to the right data can support making good decisions and complying with regulatory bodies. Institutional investors and financial institutions that are signatories to the TCFD are required to disclose their climate-related risks in alignment with the framework, so it's important that they have access to the right information. This means retrieving accurate data from portfolio companies.

While the pace of implementation of climate disclosure frameworks differs around the world, companies may already be disclosing their climate-related data to a recognized global framework. In these scenarios, investors and financial institutions can be relatively confident in the data they are receiving. Companies that are not reporting to such a framework may be providing less reliable or incomplete data. Investors and financial institutions should be pushing their portfolio companies to disclose their data to a globally recognized climate framework like the TCFD, or the International Sustainability Standards Board's (ISSB) Climate-related Disclosures Standard.[23] Doing so will provide investors and financial institutions with access to more reliable data and enable their compliance with policy regulations.

Action Three: Conduct Scenario Analysis

Another vital tool for investors in evaluating portfolio climate risk is scenario analysis. Climate change scenario analysis allows investors to include climate change risks in their asset allocation strategy. General circulation models (GCMs) are used to model the historical and future climate of the world under different GHG concentration scenarios. By applying the climate predictions from these models with additional models on physical hazard formation and modeling the consequences for global economics and energy systems, investors can use a variety of scenarios to assess the potential impacts on their investments from future physical and/or transition risks. With scenario analysis, investors can understand how their baseline risk in a better-case climate outcome compares to a worse-case climate outcome scenario.

The UN Principles for Responsible Investment (PRI) have commissioned a team of experts to develop such scenarios for the better-case climate outcome, referred to as the Inevitable Policy Response (IPR). These scenarios are specifically for use by investors to assess transition risks.

The IPR, like the name suggests, refers to assessing the government policies that would inevitably be required to facilitate an economic transition to minimize global warming and their impact on the global energy system and land use.

The IPR produces two such climate scenarios: the Forecasted Policy Scenario (FPS) and the Required Policy Scenario (RPS). The FPS provides a forecast of the likely policy developments. The RPS acknowledges that the FPS scenario will not reduce emissions sufficiently to minimize global warming to 1.5°C and goes beyond likely policy implications to illustrate the measures required to stay below a 1.5°C temperature rise. Investors can use these scenarios to understand the transition climate risks in their portfolios, a process that is becoming mandatory in some jurisdictions, as well as being a key part of TCFD and ISSB disclosure recommendations.

Action Four: Report on Climate Risk Via Established Frameworks

There are many different climate disclosure frameworks available to investors and financial institutions to develop and validate their net-zero strategies, monitor and track their progression, and evaluate the climate-related risk of the companies in their portfolios. Institutions that are not already reporting should familiarize themselves with the frameworks relevant to their region in order to prepare for mandatory reporting, and to help mitigate climate risks in their portfolios.

Taskforce on Climate-related Financial Disclosures (TCFD)

The TCFD is the leading framework for financial institutions' climate-related risk disclosures. The TCFD framework covers four core thematic areas: governance, strategy, risk management, and metrics and targets.[24] Good examples of what reporting on each thematic area looks like can be found in the Climate Disclosure Standards Board's Good Practice Handbook.

Corporate reporting in line with TCFD criteria is being mandated across a growing number of jurisdictions. A TCFD-aligned disclosure is already mandatory in the U.K.,[25] and similar requirements are coming to the EU,[26] Switzerland,[27] and Canada[28] in 2024. Each jurisdiction may have minor tweaks to the framework, but the core pillars will remain the same.

Figure 3. Select List of Jurisdictions with TCFD-Aligned Reporting

TCFD Country Alignment	
Australia	Japan
Brazil	New Zealand
Canada	Singapore
European Union	United Kingdom
Hong Kong	United States

Source: Morningstar Sustainalytics. For informational purposes only.

International Sustainability Standards Board (ISSB) Sustainability Disclosure Standards

The ISSB standards are set to be released in 2023.[29] They will include guidance on broader environmental, social and governance (ESG) reporting along with climate-related risk reporting. It's expected that 40 or more countries could adopt an ISSB-aligned reporting mandate after its release.[30] In the U.K., it's anticipated that the ISSB will replace the TCFD-aligned requirements.[31] However, the frameworks are expected to remain aligned with each other, ensuring interoperability for companies and stakeholders using both frameworks.

One key difference between the TCFD framework and ISSB standards is that the ISSB standards will introduce industry-specific approaches. Additionally, reporting on scope 3 GHG emissions will be mandatory in ISSB disclosures, whereas they are currently optional under the TCFD.[32]

Securities and Exchange Commission (SEC) Climate Disclosure Rules

Also being released in 2023 are the SEC climate disclosure rules. This set of rules will likely require mandatory climate-related disclosures from all publicly listed companies in the United States. The disclosure rules are expected to include carbon emissions, climate risks, and climate-related goals or targets.[33]

The disclosure rules were designed in close accordance with the TCFD but will see a degree of variation. Scenario analysis is not required under the SEC proposal, whereas it is required with TCFD; the conditions to demonstrate materiality are lower in the SEC rules; and scope 3 emissions are expected to be required where they are material to a business.[34]

Sustainable Finance Disclosure Regulation (SFDR)

As a regulation included in the European Commission's Action Plan for Financing Sustainable Growth, the EU's strategy for sustainable finance, the SFDR aims to improve transparency in the market for sustainable investment products. Under the SFDR, certain financial market participants are required to disclose how they consider sustainability risks in their investment process, what metrics they use to assess ESG factors, and how they assess investment decisions that might result in negative effects on sustainability factors, called principal adverse impacts (PAIs). SFDR requirements may apply to both EU firms and non-EU firms operating within the region. Firms may also be required to make disclosures at both the entity/company level and at the product/fund level.

Financial market participants are required to publish on their websites information about their policies to integrate sustainability risks in their investment decision-making process. Firms must also report on how they have integrated sustainability risk in their remuneration policies. Additionally, firms are expected to report on how they consider and act to alleviate the adverse sustainability impacts of their investments or provide an explanation of why they do not.[35]

Corporate Sustainability Reporting Directive (CSRD)

The CSRD is the EU's version of climate disclosure rules, although it includes sustainability factors more broadly. The CSRD came into law in January 2023 and is an update to the Non-Financial Reporting Directive (NFRD), bringing a more thorough reporting system that requires roughly 50,000 companies to report as compared to the 12,000 companies under the NFDR.[36] The more detailed information companies are required to provide under CSRD will support investors' compliance with the SFDR.

The CSRD's climate disclosure section will include scope 3 emissions and scenario analysis.[37]

Net Zero Investment Framework (NZIF)

Developed by the Institutional Investors Group on Climate Change (IIGCC), this framework is not a reporting requirement, but rather guidance on how investors can reach net-zero in their investment portfolios. "The framework puts forward metrics to assess investments and measure alignment, and requires investors to set clear, science-based targets at the portfolio and the asset class level."[38]

Recommended metrics for investors to track include the percentage of their portfolio with net-zero targets, their level of capital expenditure relating to EU Taxonomy activities, and their exposure to fossil fuel reserves.[39]

Net Zero Alliances

The Net Zero Banking Alliance (NZBA) and Net Zero Asset Owner Alliance (NZAOA) are UN-backed coalitions of banks and asset owners, respectively. Pledging a commitment to reach net-zero by 2050 gains members access to net-zero transition resources and guidance, target setting advice, regulatory updates, and peer accountability.

The Net Zero Asset Managers initiative (NZAM) is a commitment from 301 signatories with US$59 trillion in assets under management.[40] Signatories of the NZAM commit to reach net-zero emissions by 2050 across all assets under management, setting interim targets that include a 50% reduction in carbon emissions by 2030.

Table 1. Climate Reporting Requirements by Country

Stage of Regulatory Maturity	For Corporates	Reporting Year	For Financial Institutions	Reporting Year
Proposed Requirements	Australia	2023	Australia	2023
	Malaysia	2023	Thailand	2024
	United States	2023		
Voluntary Reporting	Russia	2023	Japan	2022
			Malaysia*	2022
Mandatory Reporting	United Kingdom	2022	Eurpean Union	2021
	Singapore	2022	Brazil	2022
	Hong Kong	2022	Singapore	2022
	Egypt	2022	New Zealand	2022
	Switzerland	2022	United Kingdom	2022
			Canada	2024

*Reporting for Malaysian financial institutions will become required for reporting periods starting in 2024.

Mexico, India, South Africa, and South Korea have also recommended their respective governments codify reporting for companies or financial institutions into official regulations.

Source: Morningstar Sustainalytics. For informational purposes only.

Addressing Challenges in Assessing and Reporting on Climate Risks

Regulations vary depending on jurisdiction, but in general, climate risk reporting looks similar worldwide thanks to widespread adoption of the TCFD framework and the incoming ISSB framework. That said, it doesn't mean that climate risk reporting is straightforward and easy. There are many challenges that institutional investors and financial institutions face when assessing and reporting on their climate risks.

Challenge One: Assessing the Validity of Portfolio Companies' Net-Zero Commitments

While strategies to achieve net-zero may differ by company and by industry, there are universal components of a net-zero commitment that should be accounted for. First, the pledge to reach net-zero by 2050 or sooner must be made by the head of the organization.[41] Following that, there must be science-based targets to reduce GHG in the short, medium, and long term, signaling an achievable path to net-zero. Other things to look for are a detailed decarbonization strategy, capital allocation alignment disclosure, climate risk and opportunities disclosure, and a TCFD-aligned disclosure.[42]

Investors and financial institutions need to dig deep to analyze the validity of companies' commitments and run forward-looking scenario projections to gauge the effectiveness of those commitments in the short, medium, and long term.

> "In the transition to a low-carbon economy, success will require not only a commitment to align to net-zero emissions, but also leadership buy-in, a sound strategy, and access to metrics based on science."
>
> - Fredrik Fogde
> ESG Research Associate Director, Climate Solutions
> Morningstar Sustainalytics

Challenge Two: Collecting Data Across Company Reports and Documents

Despite the regulations that mandate climate disclosures, there are still many challenges in collecting and analyzing company data. The scale at which financial institutions need to collect and compile data can be enormous depending on the size of their lending and investment portfolios. Further complicating matters, not all companies report their data to the same degree or use the same format and terminologies in doing so. Data gaps can aggravate reporting challenges for financial institutions.

Challenge Three: Estimating Issuers' GHG Emissions

Although more companies are reporting emissions data, the reality is that 60% of scope 1 and 2 emissions data and over 75% of scope 3 emissions data are left unreported.[43] For most companies, that data will have to be estimated.

Scope 3 GHG emissions are the most complex component of emissions reporting. Without access to detailed company data regarding its supply chain, scope 3 emissions are nearly impossible to evaluate. Averages based on industry-level data can be used to get a rough estimate of a company's scope 3 emissions but are hard to rely on by themselves. So, how can investors get a more accurate estimation of an issuer's GHG emissions?

A bottom-up approach to estimating GHG emissions uses companies' reported scope 1, 2, and 3 emissions as the baseline average at a subindustry level. Taking this baseline average and then applying a multi-metric, multi-factor model will provide a more accurate number that accounts for geographic location, company size and scale, and business models. This number is a much more reliable estimation and will also help investors fulfill reporting requirements like those of the TCFD.

> "60% of scope 1 and 2 emissions data and over 75% of scope 3 emissions data are left unreported."
>
> - Nick Burniston
> Associate Director, Senior Product Manager, Climate Solutions
> Morningstar Sustainalytics

The Urgent Task at Hand: Measuring to Manage Climate-Related Risk

“We’ve committed to net zero by 2050, now what?” Now the real challenge begins. Between conducting climate and policy scenario analyses, coming to grips with the global reporting frameworks, assessing the validity of company net-zero commitments, and many more climate risk management responsibilities, financial institutions will have their hands full preparing for the low-carbon transition.

Climate-related risk will need to be integrated into the overall enterprise risk management process of institutional investors and financial institutions, with board members and executives developing committees to manage climate risk.[44] Understanding the extent of the exposure to physical and transition climate risks in a portfolio will mean assessing company actions, evaluating the impact of their commitments, analyzing their management preparedness, and developing strategies to mitigate these risks.

Variations in companies’ net-zero commitments and pathways due to their industry and subindustry exposure to climate-related risks can lead to large inaccuracies between climate-risk estimations and real-world data. Engaging the support of climate-risk professionals that understand the differences between the net-zero approaches of various industries and subindustries will provide financial institutions with the actionable data that they need to capitalize on the low-carbon transition and achieve net-zero by 2050.

Learn How Morningstar Sustainalytics Can Help Investors on Their Journey to Net-Zero

Regulatory developments and market guidance such as the TCFD and EU Action Plan have placed urgency on the investment community to take a more active role to address global climate change. Morningstar Sustainalytics' suite of climate solutions can help you ensure your portfolios are aligned to net-zero.

Low Carbon Transition Rating

The Low Carbon Transition Ratings provide investors with a science-based forward-looking assessment of public issuers' alignment to a net-zero pathway by 2050. Investors can respond to regulatory initiatives, implement net-zero strategies, fulfill client net-zero mandates, and obtain transparency into company actions by integrating climate research into their investment decision-making processes.

Physical Climate Risk Metrics

Physical Climate Risk Metrics are designed to help investors understand their direct and indirect exposure to physical climate risks and the potential financial impacts to their portfolio companies.

Carbon Emissions Data

Carbon Emissions Data are designed to provide investors with powerful insights to assess and analyze companies' carbon emissions. Backed by best-in-class multi-factor regression models to predict carbon emissions, our Carbon Emissions Data can help investors respond to regulatory requirements and initiatives such as the EU Action Plan, TCFD, and PRI.

Engagement Services – Net-Zero Transition Engagement

Sustainalytics' Engagement Services helps the world's leading asset owners and asset managers to foster constructive dialogues with target companies. Informed by our company research, our program helps clients achieve consistent ESG engagement outcomes and promote and protect long-term shareholder value. The Net Zero Transition Engagement Program will support institutional investors to advance their net-zero stewardship ambitions by establishing an effective climate-focused dialogue with high-emitting companies on their journey to net-zero carbon emissions.

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