PIMCO

Global 2024 TCFD Report

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CEO Statement

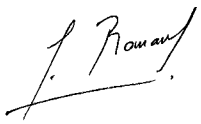
As we navigate the complexities of today's global economy, it is increasingly clear that economies and financial markets are likely affected by climate change. Climate change presents risks and opportunities that have the potential to reshape asset values and impact investment strategies. PIMCO's participation in past UN Climate Conferences has reinforced our view that the transition to a lower-carbon economy is positioned to spearhead the global sustainability agenda, driving innovative solutions while fostering long-term environmental stewardship.

With our fiduciary duty at the forefront of our investment philosophy, PIMCO recognizes our responsibility as a leading asset manager to continually refine our proprietary climate risk evaluation capabilities. This commitment empowers us to effectively meet the diverse investment objectives of our clients.

PIMCO became a signatory to the UN Principles of Responsible Investment (PRI) in September 2011, solidifying our commitment to the space while paving the way for market-leading climate capabilities in order to assist our clients with their objectives. In the following years, we have reaffirmed our dedication by actively participating in various climate-focused industry initiatives where we believe it is in our clients' best interest, including the Institutional Investors Group on Climate Change (IIGCC) and the Partnership for Carbon Accounting Financials (PCAF), in which PIMCO serves as a Member of the Core Team working to harmonize greenhouse gas (GHG) reporting across the financial industry. In addition to bolstering our commitment with these external efforts in 2024, we continued to invest significant resources to making substantial enhancements to PIMCO's proprietary climate risk assessment frameworks. Further, we continue to improve analytics and recommendations to Portfolio Managers, including a heatmap of portfolios' exposure to carbon-sensitive sectors, as always working within the specific mandate's objectives.

PIMCO endorses reporting guidelines designed to improve the disclosures of financial information related to climate risk management, such as those in line with the TCFD. In this report, we deliver an extensive overview of our methods for addressing climate-related risk and opportunities, focusing on their application to PIMCO in our role as a fiduciary to our client's assets.

The purpose of this document is to present a detailed account of our management of climate-related risks and opportunities, including the processes for their oversight, identification, and assessment.



Emmanuel Roman
CEO of PIMCO

Introduction

In order to help stakeholders better understand an organization's climate-related risks and opportunities, the Financial Stability Board established the Task Force on Climate-related Financial Disclosures (TCFD). Enabling decision-useful and forward-looking information, the framework's four main areas are governance, strategy, risk management and metrics and targets.

- Governance disclosures illustrate how an organization's board and management team monitor and assess climate risks and opportunities.
- Strategy disclosures provide insight on the actual and potential impact of climate risks and opportunities on the organization.
- Risk management disclosures highlight how the firm identifies, assesses, and manages these risks.
- The final section consists of the metrics and targets that are relevant to manage and assess these climate-related risks and opportunities, for example Scope 1, 2, and 3 greenhouse gas emissions[1].

The purpose of this report is to disclose PIMCO's procedures and capabilities in these four areas, as well as share practical case studies to illustrate these efforts where relevant. Importantly, this report encompasses both PIMCO's portfolios that follow sustainability strategies[2] and guidelines as well as those that do not. Therefore, the extent to which the frameworks, assessments, and metrics discussed are applied and optimized in individual portfolios will vary dependent on client-driven preferences.

PIMCO's investment approach seeks to appropriately integrate material ESG factors, including climate-related risks and opportunities, into investment decision-making and portfolio construction process, where applicable. This was one of the main drivers that led us to formalize PIMCO's support for the TCFD in 2019. PIMCO aims to integrate material climate factors into PIMCO's top-down (i.e. longer-term macro and socio-economic view) and bottom-up assessment in seeking to enhance clients' risk-adjusted returns. PIMCO believes these factors should be part of a robust investment process.

Integrating relevant climate related risks and opportunities into the evaluation process does not mean that this is the sole or primary consideration for an investment decision; instead, PIMCO's Portfolio Managers and analyst teams consider a variety of factors including the financial materiality of those factors to make investment decisions. Importantly, by increasing and diversifying the information available to the portfolio management team, PIMCO are able to pursue a more holistic view of an investment, which PIMCO believes will ultimately benefit PIMCO's clients.

As an asset manager and fiduciary, PIMCO's duty is to seek to achieve clients' stated investment objectives, which vary across portfolios based on investor direction. PIMCO offers solutions to support clients' ambitions to achieve decarbonization goals over a long-term horizon in their portfolios, but also recognize the diversity of strategies, approaches, and commitments to get there. PIMCO's role as a fiduciary differs from asset owners that set targets to reduce their portfolio emissions. Without instruction to do so, PIMCO has not imposed any transition targets or climate-related exclusion policies on client portfolios, as PIMCO's fiduciary duty obliges us to manage portfolios consistent with clients' preferences.

CORE ELEMENTS OF RECOMMENDED CLIMATE-RELATED FINANCIAL DISCLOSURES

Source: TCFD. **For illustrative purposes only.**

1 Refer to appendix for details on Scope 1, 2, and 3 emissions

2 Sustainable Strategies are strategies with client-driven sustainability requirements. For these strategies, PIMCO actively incorporates sustainability principles (i.e. excluding issuers fundamentally misaligned with sustainability factors, evaluating issuers using proprietary and independent ESG scoring) consistent with those strategies and guidelines. Further information is available in PIMCO's Sustainable Investment Policy Statement. For information about funds that follow sustainability strategies and guidelines, please refer to the fund's prospectus for more detailed information related to its investment objectives, investment strategies, and approach to sustainable investment.

Summary

The below summary table provides an overview of how the content of this report aligns with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD).[3]

TCFD recommendations to Asset Managers		Section's focus	Title	Summary
Governance	Describe the board's oversight of climate-related risks and opportunities and describe management's role in assessing and managing climate-related risks and opportunities.	PIMCO's governance concerning climate-related risks and opportunities.	Management's role in assessing and managing climate-related risks and opportunities.	PIMCO's governance framework includes defined roles and groups that are responsible for the facets of sustainable investing
			Sustainability Leadership team and committees overseeing climate risks and business strategy.	PIMCO's Sustainability Leadership team is responsible for overseeing climate risk integration into the investment process, guiding PIMCO's portfolio management team
			PIMCO's Forums, Global Advisory Board, and specialized Committees	Climate risks have been assessed as part of both PIMCO's Secular and Cyclical forums as well as regional committees
				ESG risk (including climate-related risks) is considered as a risk category in PIMCO'S risk taxonomy, risk management framework and risk appetite.
Strategy	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	Actual and potential impacts of climate-related risks and opportunities on PIMCO's business.	Climate-related risks and opportunities: potential impacts, specific issues and time frames	Over the cyclical horizon (short term: 0-1 year), we see mixed trends for the energy transition and continued potential for weather-related disruptions Over the secular horizon (medium to long term: 1-5 years and beyond), key developments suggest a structural rise in both transition and physical risks
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning		The impact of climate-related risks on PIMCO's business	These potential impacts led us to continuously deepen our framework that aims to systematically integrate relevant climate factors into our investment process
			The impact of climate-related opportunities on PIMCO's business	PIMCO has a developed framework to seize opportunities linked to financing the transition Introduced PIMCO's Net Zero Framework to Decarbonize Bond Portfolios supports clients with specified decarbonization goals
	Describe how climate-related risks and opportunities are factored into relevant products or investment strategies. Asset managers should also describe how each product or investment strategy might be affected by the transition to a lower-carbon economy		How climate-related risks and opportunities are factored into PIMCO's investment strategy	Climate risks are embedded into PIMCO's process to integrate ESG factors into our credit research and investment process firm-wide, including frameworks for major asset classes relevant to PIMCO
			Climate risks and impact embedded into PIMCO's sustainable investment solutions	In PIMCO's ESG funds that follow sustainability strategies and guidelines, we embed climate change into our three-step approach of exclusion, evaluation and engagement
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario		Climate scenario analysis models: assessing the resilience of assets from top-down from top-down to bottom-up	Our climate scenario models suggest it is important to pay attention to climate change now, before damage in the future becomes irreversible and much more severe
			Collaboration to advance climate risk measurement and management	PIMCO assists with climate efforts in numerous regions and via multiple initiatives

3 While a firm-wide net zero commitment has not been made, PIMCO is committed to providing industry-leading advice and solutions for clients on a range of sustainability and ESG issues, including climate change and reducing greenhouse gas emissions to net zero.

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TCFD recommendations to Asset Managers		Section's focus	Title	Summary
Risk Management	Describe the organization's processes for identifying and assessing climate-related risks	How PIMCO identifies, assesses and manages climate-related risks	Process for identifying, assessing and managing climate-related risks	PIMCO measures and manages portfolio risk by focusing on a series of factor-based risk measures PIMCO's ESG specialists designed proprietary climate tools and frameworks covering a range of perspectives and metrics We engage with issuers for enhanced corporate disclosure on climate change
	Describe the organization's processes for managing climate-related risks			
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management			
	Describe, where appropriate, engagement activity with investee companies to encourage better disclosure and practices related to climate-related risks in order to improve data availability and asset managers' ability to assess climate-related risks			
	Asset managers should also describe how they identify and assess material climate-related risks for each product or investment strategy. This might include a description of the resources and tools used in the process			
Metrics and Targets	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	Climate-focused investment exposure of PIMCO	Metrics and targets used to assess and manage relevant climate-related risks and opportunities.	This section shows, for PIMCO, selected metrics linked to the recommendations of the Task Force on Climate-Related Financial Disclosures and similar disclosure frameworks. At present, given our role as a fiduciary, PIMCO does not employ any universal climate-related targets on the assets managed on behalf of our clients.
	Describe metrics used to assess climate- related risks and opportunities in each product or investment strategy. Where relevant, asset managers should also describe how these metrics have changed over time. Where appropriate, asset managers should provide metrics considered in investment decisions and monitoring			
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks			
	Provide the weighted average carbon intensity, where data are available or can be reasonably estimated, for each product or investment strategy. In addition, asset managers should provide other metrics they believe are useful for decision-making along with a description of the methodology used			
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets			

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GOVERNANCE

Roles and Responsibilities

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

PIMCO's global governance framework includes defined roles and groups that are responsible for the facets of sustainable investing, including keeping the Risk Committee and Executive Committee apprised of PIMCO's efforts.

PIMCO's Sustainability Leadership Team sets the strategic priorities for the platform and oversees firm-wide integration efforts, including research frameworks, systems, and tools. Key members of PIMCO's Sustainability Leadership team with a clearly defined oversight function include an Executive Committee member responsible for oversight of sustainability. This member oversees the firm's sustainability initiatives including ESG, as well as product development, marketing and messaging for all PIMCO's sustainable investment solutions and firmwide integration of ESG. The Head of Corporate Sustainability oversees the firm's approach to corporate sustainability including the strategy, initiatives, and external partnerships. The Portfolio Management Lead for ESG is responsible for the management of the ESG Research Analyst team, coordination with the broader credit research team, ESG integration across the trade floor, and consistent implementation of the firm's research frameworks.

Alongside the Sustainability Leadership team, the Sustainability Oversight Group (SOG) provides senior oversight and sponsorship for PIMCO's global sustainable investing efforts. The SOG is comprised of several representatives from PIMCO Management Board (Managing Directors), including PIMCO's CEO and Group CIO. In its capacity, the group oversees several responsibilities, including: the implementation of ESG integration and engagement principles in the firm's broad investment process; supervision of sustainability (including climate-related) issues; guiding external initiatives related to public policy and/ or industry partnerships. The SOG meets every quarter, and includes two members with sustainability responsibilities, namely Grover Burthey, Portfolio Management Lead for ESG, and Kimberley Stafford, who is responsible for oversight of the firm's sustainability initiatives, sustainable investment solutions, and integration of ESG.

Business Management group functions each have designated contacts to help coordinate functional support for sustainability efforts across areas such as Operations, Legal & Compliance, Information Technology, and Marketing.

Sustainability Leadership team and committees overseeing climate risks and business strategy

The Sustainability Leadership team, including Grover Burthey, Portfolio Management Lead for ESG, manages PIMCO's ESG investment process that seeks to factor-in climate change risks across selected portfolio management teams, from credit and sovereign research to mortgage and municipal analysis.

The Sustainability Leadership team builds on inputs from PIMCO professionals focused on climate research and investing as well as analytics and technology teams who have developed firm-wide tools to assess climate risks. This involves portfolio management tools, and a weekly dashboard shared with Portfolio Managers that is comprised of key data on ESG-labelled[4] bond issuances, pricing, and notable market observations. This includes a list of news flows and research covering important developments linked to climate risks (e.g. regulatory updates).

PIMCO's Global Executive Committee is responsible for PIMCO's strategic direction and management, including establishing PIMCO's firm-wide business strategy and deciding upon a range of financial, operational and other material matters. PIMCO's investment strategy is established by the Global Investment Committee, guided by PIMCO's economic forums and subsequent strategy sessions. Notably, in recent years, the Investment Committee covered the topics of portfolio decarbonization targets and potential winners and laggards of the energy transition, including "stranded assets" (defined as those that turn out to be worth less than expected as a result of changes associated with the energy transition).

4 **ESG-labelled** bonds are defined as green, social, sustainability and sustainability-linked bonds. **Green Bonds** are those issues with proceeds specifically earmarked to be used for climate and environmental projects. **Social Bonds** are use-of-proceeds bonds earmarked to finance new and existing projects or activities with positive social impacts. **Sustainability Bonds** are use-of-proceeds bonds earmarked to finance new and existing projects or activities with positive environmental and social impacts. **Sustainability-Linked Bonds (SLBs)** are any type of bond instrument for which the financial and/or structural characteristics can vary depending on whether the issuer achieves predefined Sustainability/ESG objectives.

Sustainability Leadership team and committees overseeing climate risks and business strategy

The Sustainability Leadership team, including Grover Burthey, PIMCO's Head of ESG Portfolio Management, manages PIMCO's ESG investment process that seeks to factor-in climate change risks across selected portfolio management teams, from credit and sovereign research to mortgage and municipal analysis.

The Sustainability Leadership team builds on inputs from PIMCO professionals focused on climate research and investing as well as technology and analytics tech teams who have developed tools available firm-wide to assess climate risks. This involves portfolio screeners or a weekly dashboard shared with portfolio managers that is comprised of key data on ESG-labelled[4] bond issuances, pricing, and notable market observations including a list of news flows and research covering important developments linked to climate risks (e.g. regulatory updates).

PIMCO's Executive Committee is responsible for PIMCO's strategic direction and management including setting of firm-wide business strategy and deciding upon a range of financial, operational and other material matters, while PIMCO's investment strategy is established by our Investment Committee, guided by our economic forums and subsequent strategy sessions. Notably, in recent years, our Investment Committee covered the topic of "stranded assets" defined as those that turn out to be worth less than expected as a result of changes associated with the energy transition.

PIMCO's Forums, Global Advisory Board and specialised committees

PIMCO's active investment process combines PIMCO's top-down macroeconomic view with bottom-up research and analysis. Top-down views are driven by PIMCO's economic forums, consisting of the Secular and Cyclical forums.

During PIMCO's Secular forums, the firm formulates its outlook for global financial markets over the next five years and, as relevant for such considerations or discussions, considers relevant climate-related issues. For example, in PIMCO's 2021 annual Secular Forum, the transition from brown to green energy was highlighted as one of the major disruptive trends likely to drive a major transformation of the global economy and markets. In 2022, the Secular Forum addressed physical risks and climate resilience, including a focus on the agriculture sector. In 2023, PIMCO's Secular Outlook underscored how energy security and independence have grown into paramount objectives for various countries after widespread geopolitical conflict triggered acute energy supply shocks in several regions around the world. Further, during the forum itself, PIMCO had a dedicated session towards the secular outlook on capital expenditures ("capex"), including a portion spent analyzing a potential green capex super-cycle driven by fiscal incentives. During the 2024 Secular Forum, PIMCO assessed the potential impact the different U.S. election outcomes could have on renewables and the broader energy sector.

PIMCO's Global Advisory Board (GAB), which comprises macroeconomic thinkers and former policymakers, participates in these forums and typically provides insights on global economic, political and strategic developments and their relevance for financial markets. The impact of climate risks was notably highlighted over recent years by members of the GAB.

These topics are also analyzed in the context of PIMCO's quarterly Cyclical Forums to the extent that they affect PIMCO's bottom-up perspective, as well as growth and inflation forecasts over the business cycle horizon of the next 6-12 months. For example, the momentum for green, sustainability and sustainability-linked bonds associated with climate targets – including potential step-ups triggered by greenhouse gas emissions reduction targets being missed – was explored during the latest quarterly forums held in 2024.

PIMCO's Secular and Cyclical Forums build on PIMCO's research and economic data from presentations by the firm's regional portfolio committees and the ESG Research Analysts, among others. PIMCO's regional committees are supplemented by additional committees focused on certain sectors (e.g., PIMCO's European Credit Committee) meeting weekly and addressing a broad range of climate-related risks throughout the year. In recent years, these presentations

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examined topics such as the US, Asian or European climate policy agenda for businesses and the finance sector in particular (such as the EU taxonomy for sustainable activities), and the consequences of the international climate policy ambition (takeaways of the United Nations Climate Change conferences). These presentations were led by PIMCO's ESG Research Analysts in collaboration with Credit Research Analysts and Portfolio Managers. Metrics included a review of portfolio greenhouse gas emissions, and net zero[5] alignment methodologies or portfolios' exposure to long-dated bonds in the energy and fossil fuel industries, with a focus on issuers whose transition plan is less advanced.

Further, over the past few years, PIMCO has conducted a number of climate-focused educational sessions for PIMCO's investment professionals, with internal and external experts focusing on specific topics, including meeting client targets for decarbonizing their portfolios, green bonds, and carbon pricing risks.

Additionally, PIMCO has an ESG Data Governance Group, which includes representatives from various teams such as Risk, Analytics, Client Solutions, Credit and Portfolio Management. This group's focus areas include, among others, exploring ways of updating and enhancing proprietary ESG methodologies, and further embedding climate-related risk into existing PIMCO core stress-testing tools, portfolio risk-profiling and research.

5 While a firm-wide net zero commitment has not been made, PIMCO is committed to providing industry-leading advice and solutions for clients on a range of sustainability and ESG issues, including climate change and reducing greenhouse gas emissions to net zero.

STRATEGY

Climate Risk Integration

PIMCO's role in the transition to a low carbon economy

PIMCO is committed to providing appropriate advice and solutions for clients on a range of sustainability issues, including climate change. PIMCO, as an asset manager, recognizes the distinct role that it plays relative to asset owners, who each have varying investment objectives, preferences, and regulatory environments. PIMCO's role is to manage clients' assets using the parameters that they have set out, which can often incorporate climate risk considerations but will do so to varying degrees and in varying formats. Consequently, PIMCO has not imposed universal climate targets on portfolios managed by the firm. However, as clients begin or continue to assess the possibility of adding these targets, PIMCO will work collaboratively with them on assessing the feasibility of structuring and managing these.

PIMCO's strategy has been to:

1. Provide clients with investment solutions to meet their decarbonization ambitions.
2. Develop portfolio analytics available to the Portfolio Managers to use in evaluating investments and managing portfolios.
3. Engage with issuers, where relevant, to evaluate their transition plans to maximize value for investors.
4. Work with industry groups that meet internal criteria to develop standards and educate constituents.

As part of PIMCO's support to clients with specified decarbonization goals, in 2022 PIMCO developed a four-pronged approach of: 1. managing the carbon footprint; 2. investing in climate leaders or in those progressing in their climate objectives; 3. supporting climate solutions; and 4. influencing change through engagement activities.

Climate-related risks and opportunities: potential impacts, specific issues and time frames

PIMCO recognizes that climate change may have a profound impact on the global economy, financial markets, and issuers. While the horizon of climate models can span a very long period, which PIMCO typically characterizes as the secular (1-5 years) or super-secular horizon (5+ years), the pace of change can be swift and relate to PIMCO's cyclical horizon (0-1 year).

Risks and opportunities related to climate change may materialize in unexpected ways, and can affect investments across asset classes, including a wide range of fixed income securities, such as corporate credit, mortgage-backed securities, sovereign debt and municipalities. The impact on financial markets and bond prices may be abrupt and sudden.

How climate-related risks and opportunities are factored into PIMCO's investment process

When evaluating relevant climate-related risks of specific sectors and issuers as part of PIMCO's integration of ESG factors into PIMCO's firm-wide investment process, PIMCO begins with two broad categories:

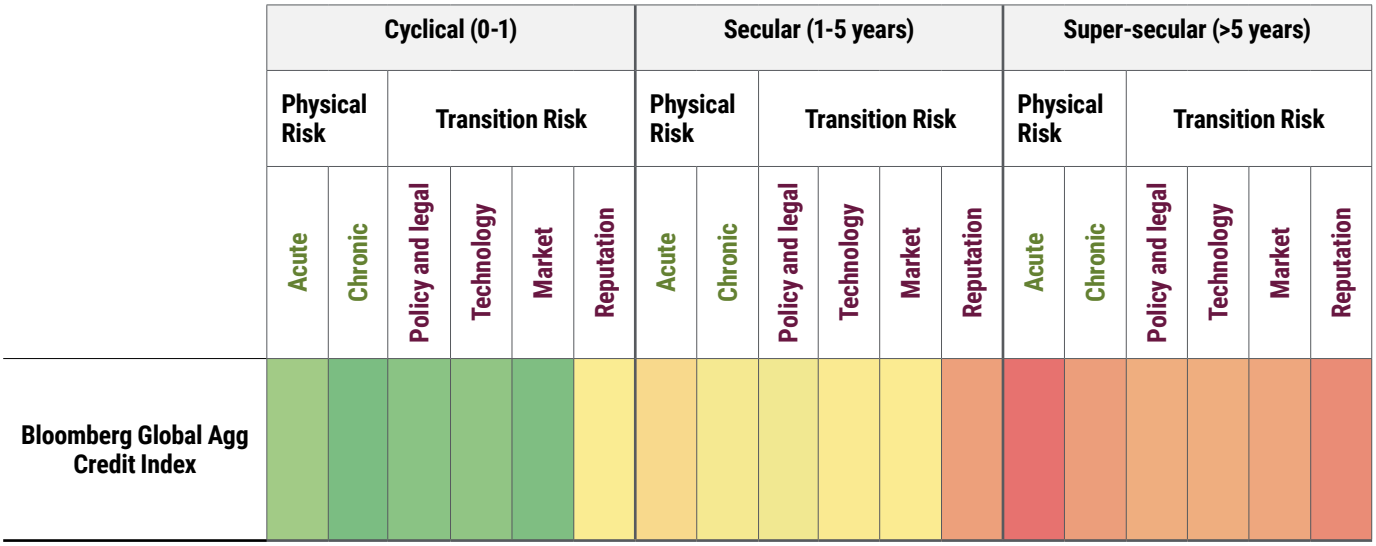
1. **Transition risks**, including policy, legal, technology, market, and reputation risks (e.g., tighter regulations on carbon emissions, climate-related litigation).
2. **Physical risks**, including both acute and chronic. Acute risks are event-driven, such as hurricanes and wildfires. Chronic risks are longer-term shifts in climate patterns, such as how the rising intensity and frequency of extreme weather events affects critical assets and natural resources used by the issuer.

ILLUSTRATIVE CLIMATE RISK DRIVERS AND ASSETS EXPOSED TO THESE DRIVERS

	Transition Risk	Physical Risk
Examples	• Carbon regulation (e.g. tax or cap and trade systems) • Energy-related technology changes (e.g. rise of low-carbon sources of energy such as renewables) • Shifting customer preferences • Liability e.g. litigation against governments and companies due to a lack of action	• Acute physical risks (e.g. increased severity of extreme weather events, such as cyclones and floods) • Chronic physical risks (e.g. changes in precipitation patterns and extreme variability in weather patterns, rising mean temperatures and sea levels) • Air pollution • Water stress • Forest and land degradation
Corporates	Autos, Energy, Coal mining	Insurance Property and Casualty (P&C), Utilities, Refining
Sovereign	Fossil fuel-exporting and energy-intensive sovereigns, depending on their fiscal positions and savings	Developing and least developed economies, resource-limited economies with weak institutions, especially those dependent on sectors like agriculture and situated near the equator or on small islands, due to their limited adaptive capacity and increased exposure
Munis	Coal-fired generation among utilities	Significant risks of water shortages for U.S. water utilities connected with regional and local governments
Mortgage- and asset-backed securities (MBS and ABS)	ABS: Aircraft, auto loans, leases affected by carbon regulations; MBS: 'Brown' assets lacking compliance with energy efficiency and environmental standards	MBS: Holders of residuals or Mortgage Servicing Rights, mostly on the private side; activities with concentrated exposure to specific geographies, such as Commercial Real Estate lending

Source: PIMCO, IPCC, IEA, Maplecroft, Moody's, as of 31 December 2024. Illustrative climate risk drivers and assets exposed to these drivers.

PIMCO has developed a climate risk scoring methodology that evaluates corporate sectors' exposure to these two climate risks over different time horizons, the cyclical (0-1 year), secular (1-5 years), and super-secular (>5 years). This assessment serves as a starting point before examining specific issuers. The graphic below provides an illustration of this scoring methodology, examining one credit-focused benchmark.



For Illustrative Purposes Only

As of 31 December 2024. Source: Moody's, PIMCO, IPCC, IEA, DNB, IPR Climate Transition Forecasting Consortium.

Lower Risk — Elevated Risk

The following table provides more information on the time horizons PIMCO uses to assess climate-related risks and opportunities when relevant, alongside selected issues identified and analyzed in terms of potential investment implications (illustrative given that PIMCO's global footprint across various asset classes involves a broad range of climate-related risk drivers) and other types of impacts, such as on PIMCO's clients or PIMCO from a regulatory or reputational perspective.

Time horizons	Time horizon label	Short term (0-1 year)	Medium term (1-5 years)	Long term (>5 years)
	PIMCO's investment process (forums' terms)	Cyclical	Secular	Super-secular
	Perspective	How to identify potential changes in monetary and fiscal policies, market risk premiums, and relative valuations that drive portfolio positioning	How to position portfolios to benefit from structural changes and trends in the global economy	
Transition Risk	Policy and Legal	Greater support for low-carbon energy sources, such as renewable energy and storage, as part of government's response to the energy shock	Carbon price increase in terms of value and coverage of greenhouse gas emissions phase-out (including bans) of certain high carbon sources of energy, technologies and products	
	Technology	Record growth of renewables capacity additions amid improved competitiveness	Renewable energy emerges as the dominant source of electricity generation	Deployment at scale of advanced batteries, hydrogen electrolysers, and direct air capture and storage
	Market	Increased uncertainties and growing demand for fossil fuel ESG-labelled bonds growth and diversification (e.g. transition-related green bonds and sustainability-linked bonds)	Increased investments into renewable energy and lower investment into fossil fuels supply Growth in climate-related requirements and requests from clients	Declining demand for fossil fuels, especially oil
	Reputation	Increased scrutiny and concerns over "greenwashing" (e.g., misrepresentation of climate characteristics of an issuer or financial product), including ESG data and standards integrity		
Physical Risk	Acute	Rising costs of disasters such as hurricanes, wildfires, floods		
	Chronic	Disruptions to energy supply brought about by droughts	Heatwaves could result in labor productivity and crop yield losses, disrupting soft commodity supply	

Source: IEA, PIMCO, S&P, Munich Re, Swiss Re, as of 31 December 2024. **For illustrative purposes only.**

Over the cyclical horizon, some geopolitical uncertainties and other sources of energy market volatility could be seen, as well as continued potential for weather-related disruption impacting PIMCO's investments, as seen in previous years. Over the long term, key developments in policy, economics, and consumer trends suggest a potential structural, non-linear rise in both transition and physical risks, with material regional variations.

The impact of climate-related risks on PIMCO's business

In recent years, PIMCO's proprietary climate risk evaluation framework has been enhanced, which has been expanded continuously. This led to the development of tools and methods that seek to integrate over time relevant climate risk evaluations in PIMCO's investment decisions as per applicable investment guidelines or business considerations.

PIMCO aims to consider all potential risks and opportunities that could affect particular issuers or industries where appropriate, including climate-related risks – both physical and transition. For instance, PIMCO's fundamental analysis of credits in the energy sector closely examines companies' exposure to different types of energy sources and extraction methods, environmental and regulatory risks to their business activities, the relative cost positions of companies and their commitments, and steps taken to diversify into lower-carbon sources of energy.

Further, PIMCO has developed proprietary carbon measurement and optimization tools. These tools include an attribution methodology which allows users to measure the estimated contribution of different factors to a change in portfolio carbon metrics over time and identify potential real-world emissions decarbonization.

Ultimately, PIMCO looks to map the extent to which long-term climate risks can be reflected in PIMCO's credit views and bond prices where applicable, and, if they are not, what this could mean for issuers' credit quality considering bond characteristics (e.g., duration) over time.

The impact of climate-related opportunities on PIMCO's business

As risks mount, many issuers around the world are shifting from climate awareness to action, giving rise to new investment opportunities. Investors are monitoring government responses to climate risks in the form of regulation, carbon taxes, and public investment, as well as shifts in consumer sentiment and business models. PIMCO expects these trends to materially change the investment landscape: the transition away from fossil fuels toward clean energy, for example, could create attractive investment opportunities not just limited to the energy sector (e.g. clean transports, energy efficient buildings) and significantly transform the global economy.

Fixed income markets, in PIMCO's view, currently offer a diverse array of sustainable investment options and even more so in the years to come. The sustainable bond market, including green, sustainability and sustainability-linked bonds, continues to grow at a rapid pace, offering compelling opportunities to finance – among others – the climate transition. PIMCO's ESG Research Analysts have published best practices for issuers of ESG labelled bonds in both the corporate, sovereign and municipals space.

PIMCO's Best Practice Guidance for Corporate Sustainable Bond Issuance

PIMCO's Best Practice Guidance for Sovereign Sustainable Bond Issuance

PIMCO's Best Practice Guidance for Municipal Sustainable Bond Issuance

For clients looking to implement decarbonization targets, PIMCO has developed a four-pillar decarbonization framework to help investors target long-term objectives to reduce portfolio exposure to greenhouse gases. This framework provides a meaningful and realistic approach to decarbonizing fixed income portfolios over time, while engaging and investing in the climate solutions and those best positioned to contribute to real-economy emissions reductions.

As certain asset owners explore the possibility of incorporating decarbonization targets in their investment portfolios, PIMCO has collaborated with numerous clients on assessing the feasibility and portfolio implications of implementing such targets.

CASE STUDY: PORTFOLIO LEVEL DECARBONIZATION TARGETS IN CREDIT MANDATES[6]

PIMCO recently worked with a UK-based institutional client to explore the potential implementation of numerous climate-related portfolio targets. The targets focused primarily on allocating to climate-leading corporate issuers. Specifically, the analysis leveraged the IIGCC's Net Zero Investment Framework with the goal of increasing the portfolio's exposure to issuers deemed to be at least aligning with net zero. PIMCO's tailored analysis assessed numerous ways to potentially implement these targets, balancing increasing exposure to issuers with seeking to minimize portfolio impacts (e.g., maintaining preferred sector exposures).

6 **The above is presented for illustrative purposes only,** as a general example of PIMCO's ESG research capability and is not intended to represent any specific portfolio's performance or how a portfolio will be invested or allocated at any particular time. PIMCO's ESG processes may yield different results than other investment managers and a company's ESG rankings and factors may change over time. **Past performance is not indicative of future results.**

PIMCO'S ASSESSMENT OF CLIMATE RISKS ACROSS ASSET CLASSES

This section provides details on climate risks identified and analyzed for major asset classes relevant to PIMCO (for illustrative purposes only), including how they may be affected by the transition to a lower-carbon economy: Corporate, Sovereign, Municipal, Securitized, and Alternative.

While the findings of this climate risk assessment may inform various actions (e.g. engagement), the examples below illustrate how they impact PIMCO's research and investment decisions. They broadly show that PIMCO's evaluation of climate risks fits into PIMCO's global investment process, including the assessment of issuer's credit quality and whether PIMCO is appropriately compensated for the climate-related financial risks analyzed.

CASE STUDY: CORPORATE CREDIT CLIMATE-RELATED RISKS AND OPPORTUNITIES

Physical risks: There have been a limited number of instances where acute risks already had a more significant impact on corporate issuers. In these scenarios, the impact has been on a rather small number of corporate issuers (e.g., hurricanes for U.S. refiners or chemicals companies, or floods in Europe for financials).

Chronic physical risks are inherently set to be more apparent over a longer period. While there are large uncertainties, PIMCO evaluates the possibility for those to occur sooner rather than later and thus to potentially have a significant importance already over a medium-term horizon. In the short term, heatwaves and reduced rainfall are two examples of risks that had a limited and temporary impact on corporate issuers' financials, for example for food and beverage companies and utilities firms in Europe.

Climate models suggest that these impacts may be exacerbated in the very long term (second part of the century) and could potentially remain moderate in the coming decade (e.g. by 2035). 2024 has been identified as both the hottest year on record globally and the first year with an average temperature above 1.5°C above pre-industrial levels[7]. This has been linked to severe heatwaves and wildfires in places with very different climates such as Canada and South America.

Transition risks: Policy, technology, market, and reputation transition risks have had a significant impact in Western markets, for example in the utilities sector given carbon regulations, renewables subsidies, shifting demand from end-use sectors, and the changing economics of coal versus modern renewables. Transition risks also had a significant impact on the automobile sector, given tightening carbon standards and the shift to electric vehicles.

2024 proved eventful for the transition to a lower-carbon economy. While certain trends were mixed when looking at market or policy developments (e.g., disruptions occurred in parts of the renewables market, certain elections may result in policy changes that are less supportive of certain technologies), PIMCO believes the drivers of green technologies remain appropriate overall and the momentum for additional climate action remains strong.

Below are select examples which illustrate how material climate factors may affect a PIMCO analyst's overall credit view on a corporate issuer.

	Corporate	Corporate
Climate risk type	Transition risk	Transition risk
Issuer profile	Automotive original equipment manufacturer (OEM)	Energy Company
Material climate factors affecting analyst overall view	Declining margins driven by pricing and mix given the transition towards electric vehicles (EVs); slower demand for EVs; negative impact of CO2 regulations (uncertainty, additional costs and/or reduced productions/changing mix)	Balanced upstream/ Liquefied natural gas (LNG) and low-carbon energies strategy and capital allocation, including diversification into downstream, renewables & power
PIMCO credit research and investment implication	Underweight recommendation	Positive view on fundamentals

As of 31 December 2024. **The above is presented for illustrative purposes only,** as a general example of PIMCO's ESG research capability and is not intended to represent any specific portfolio's performance or how a portfolio will be invested or allocated at any particular time. PIMCO's ESG processes may yield different results than other investment managers and a company's ESG rankings and factors may change over time. **Past performance is not indicative of future results.**

7 https://wmo.int/news/media-centre/wmo-confirms-2024-warmest-year-record-about-155degc-above-pre-industrial-level

CASE STUDY: SOVEREIGN CREDIT CLIMATE-RELATED RISKS AND OPPORTUNITIES

Physical risks: Countries' exposure and costs from both acute physical risks (wildfire, flooding, and storms) and chronic risks (those manifesting over the medium to longer term, including changes to precipitation and temperature patterns and sea level rise) are expected to increase[8]. Countries around the equator, and those reliant on agriculture, appear particularly vulnerable. Southeastern Asia, Central and Eastern Africa, the Caribbean and Central America are among the regions that could be the most impacted.

Climate hazards can affect countries and their wealth over a long-term horizon through direct damage to their physical capital stock (loss of land, changing crop yields, depleted natural resources, damages to infrastructure etc.). They can also be affected via indirect social impacts (food insecurity, productivity loss, international migration, civil unrest etc.), or biodiversity loss and international trade disruptions (climate change impacts on supply chains).

Public finance could be particularly affected by climate shocks (e.g. loss of revenues, increasing insurance costs, loss of value), leading to greater debt burdens that can undermine the financial stability of a country (e.g. increased probability of default).

Economies with limited resources, stringent financial conditions, and inadequate insurance coverage often face prolonged recovery periods. This was evident in the aftermath of the 2022 floods in Pakistan, where reconstruction costs exceeded the national budget[9]. Development policies may not always prioritize climate risk mitigation, as issues like poverty alleviation often take precedence, despite the interconnectedness of these challenges. Furthermore, countries with insufficient governance and scarce resources find it more difficult to build resilience against climate hazards. The 2023 IPCC report[10] lists the following as particularly vulnerable: Africa; Small Island Developing States (SIDS); Least Developed Countries (LDCs); Central and South America; Asia; and the Arctic.

Different sovereigns will have differing levels of buffer to absorb the impacts of physical climate risks and results will vary according to policy responses that governments may take to manage and adapt to such risks. Opportunities could arise from mitigation actions, including climate resilience investments (e.g. seawalls, climate-smart agriculture, and infrastructure that is more resilient to high heat and extreme storms).

Below is an example which illustrates how material climate factors may affect a PIMCO analyst's fundamental valuation on a sovereign.

Issuer	EM country
Asset Class/Sector	**Sovereign**
Climate risk type	Physical risks
Issuer profile	South American Country
Material climate factors affecting analyst overall view	The widespread impact of last year's drought due to El Niño conditions in this country, resulted in an electricity crisis with extended blackouts.
PIMCO credit research and investment implication	More cautious approach to the country's short-term credit outlook, and continuous evaluation of the potential implications of how a change to La Niña could help water reservoirs and improve conditions.

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8 Sources: Bennett Institute, Federal Reserve Bank of Dallas, Moody's, NGFS, S&P, World Bank.

9 World Bank, The Government of Pakistan, Asian Development Bank, European Union, United Nations Development Programme.

10 IPCC

CASE STUDY: SOVEREIGN CREDIT CLIMATE-RELATED RISKS AND OPPORTUNITIES

Transition risks: The impact of transition risks varies across different countries and sectors. For example, countries with a large dependence on fossil fuels may see their budget pressured by the energy transition.

In the International Energy Agency (IEA) core scenarios, either oil demand peaks this decade or has already peaked. In the latest IEA Net Zero Scenario, the IEA reiterated that "no new long lead time conventional oil and gas projects need to be approved for development"[11].

The general trend towards more aggressive carbon targets and tightening carbon policies across carbon-intensive sectors could entail material implications for businesses, households, and government spending. The impact could stem from both domestic and international actions, e.g., carbon border tax or reduced demand for fossil fuel.

Mitigation actions partly depend on countries' response and resilience. Significant opportunities could arise on the back of low-carbon technology and governments propping up these sectors could in turn foster their economic growth. Transition policies that would help advance the global net zero target in an orderly fashion could help alleviate these risks.

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11 Source: International Energy Agency

CASE STUDY: SECURITIZED CREDIT CLIMATE-RELATED RISKS AND OPPORTUNITIES

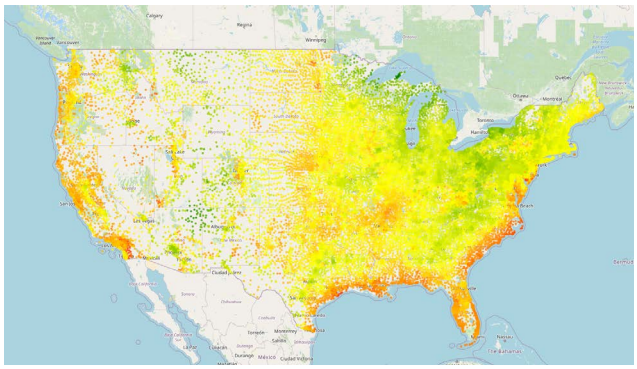
Similar to other financial assets, securitized products are subject to transition and physical risks, which can be material.

Physical risks: PIMCO views physical risk affecting securitized credit predominantly through the risk that natural hazards could impose on the underlying collateral.

Given the wide span of securitized credits, PIMCO thinks that a differentiated approach to measure physical risk is warranted. For those where collateral is mostly concentrated in real assets, such as Residential Mortgage- Backed Securities (RMBS) or Commercial Mortgage- Backed Securities (CMBS), PIMCO utilizes proprietary tools to locate the real estate assets in the underlying pool and combine the geographic data with climate research data (e.g. Federal Emergency Management Agency) to estimate the aggregated historical impact of various natural hazards (e.g. hurricanes or wildfires) on these assets.

For those where collateral is mostly concentrated in financial assets, such as Collateralized Loan Obligations (CLOs), PIMCO looks to leverage physical risk tools, including forward-looking data that PIMCO is developing for the underlying corporates, but further extend the analysis to the CLO manager and structure level.

While PIMCO thinks that physical risk could have a more meaningful impact in both the medium term (more likely via acute risks) and long term (via both chronic risks and more frequent occurrences of acute risks), PIMCO notes the collateralization nature could, to some extent, reduce risk from certain tranches and the impact across tranches may be different.



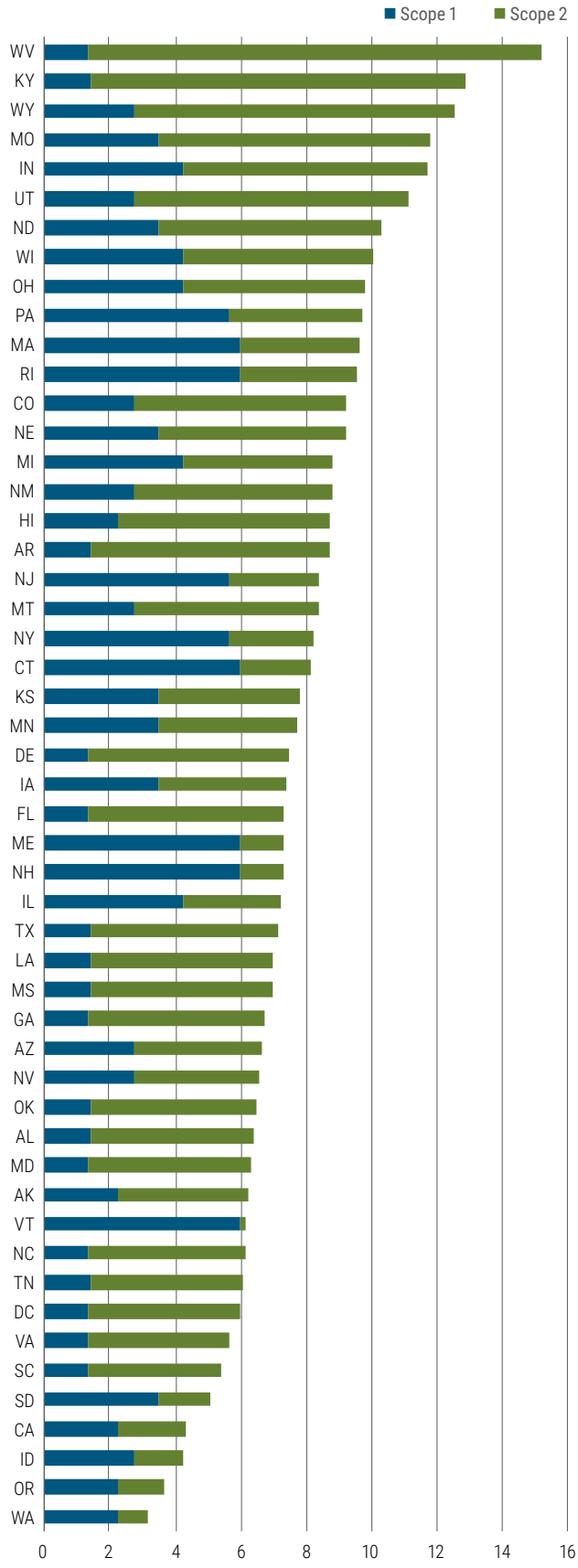
Source: PIMCO, FEMA. Estimated building loss is as of Mar 2023. **The above is presented for illustrative purposes only**, as a general example of PIMCO's ESG research capability and is not intended to represent any specific portfolio's performance or how a portfolio will be invested or allocated at any particular time. PIMCO's ESG processes may yield different results than other investment managers and a company's ESG rankings and factors may change over time. **Past performance is not indicative of future results.**

CASE STUDY: SECURITIZED CREDIT CLIMATE-RELATED RISKS AND OPPORTUNITIES (CONTINUED)

Transition risks: The main transition risk focus for securitized credit stems from the potential impacts of an acceleration of the energy transition and tightening carbon regulations on the underlying sectors and assets (e.g., reduced value for those lacking compliance with energy efficiency and environmental standards). Therefore, PIMCO leverages internal corporate sector frameworks designed to evaluate climate risks for those relevant to the underlying loans, such as automotive, banks, or real estate.

From the risk perspective, PIMCO focuses not only on the greenhouse gas (GHG) emissions from underlying assets, but also collaterals' exposure to carbon-sensitive or hard-to-abate sectors (e.g. aircraft ABS). PIMCO has developed a resource to calculate Scope 1 and 2 absolute carbon emissions associated with MBS, as well as measure carbon intensity for select auto ABS deals. The carbon analytics toolkit allows us to identify attractive investment opportunities in the region. PIMCO is actively engaging with industry groups such as Partnership for Carbon Accounting Financials (PCAF) to promote a common industry standard, as PIMCO views measuring financed GHG emissions for structured credit as the first step towards managing such risks especially for sectors most exposed to transition risks. PIMCO has also been a member of PCAF since July 2022, as well as a part of the PCAF Global Core Team since 2023, contributing to the development of a common standard for the structured products asset class.

Residential Building Carbon Intensity in US States



Source: PIMCO, PCAF. Carbon emissions are estimated for single-family homes in US, as of Sep 2023. **The above is presented for illustrative purposes only**, as a general example of PIMCO's ESG research capability and is not intended to represent any specific portfolio's performance or how a portfolio will be invested or allocated at any particular time. PIMCO's ESG processes may yield different results than other investment managers and a company's ESG rankings and factors may change over time. **Past performance is not indicative of future results.**

CASE STUDY: SECURITIZED CREDIT CLIMATE-RELATED RISKS AND OPPORTUNITIES

From the opportunity side, PIMCO focuses on the potential ability of underlying assets to decarbonize across the value chain.

Select Securitized Credit Potential Materiality Exposure

	Transition Risk	Physical Risk
Residential Mortgage-Backed Securities (RMBS)		
Commercial Mortgage-Backed Securities (CMBS)		
Auto Asset- Backed Securities (ABS)		
Student Loan ABS		
Credit Card ABS		
Collateralized Loan Obligation (CLO)		
Covered Bond		

As of 31 December 2024. Source: PIMCO. **For illustrative purpose only.**

High Medium Low

Note: High/Medium/Low refer to the perceived materiality (potential exposure) in scenarios that may be deemed relatively extreme relative to the current situation and unfold over several decades from now (e.g., disorderly transition to net zero, or limited climate action resulting in a significant increase in the intensity and frequency of extreme weather events). 'Low' includes areas where there is a particularly low visibility given data availability and quality.

Below is a select example which illustrates how material climate factors may affect a PIMCO analyst's overall view on a securitized investment.

Asset Class/Sector	Securitised
Climate risk type	Transition/Physical risk
Issuer profile	Residential mortgage-backed security
Material climate factors affecting analyst overall view	• 100% collateral looks to meet top emissions/energy efficiency standards, which is viewed attractive in light of increasing regulatory pressure on building standards in the region. • Physical risk of the underlying collaterals is assessed, including riverine and coastal flood risk, and earthquake risk, and concluded to be low to very low.
PIMCO credit research and investment implications	Supportive. PIMCO participated in the new issue.

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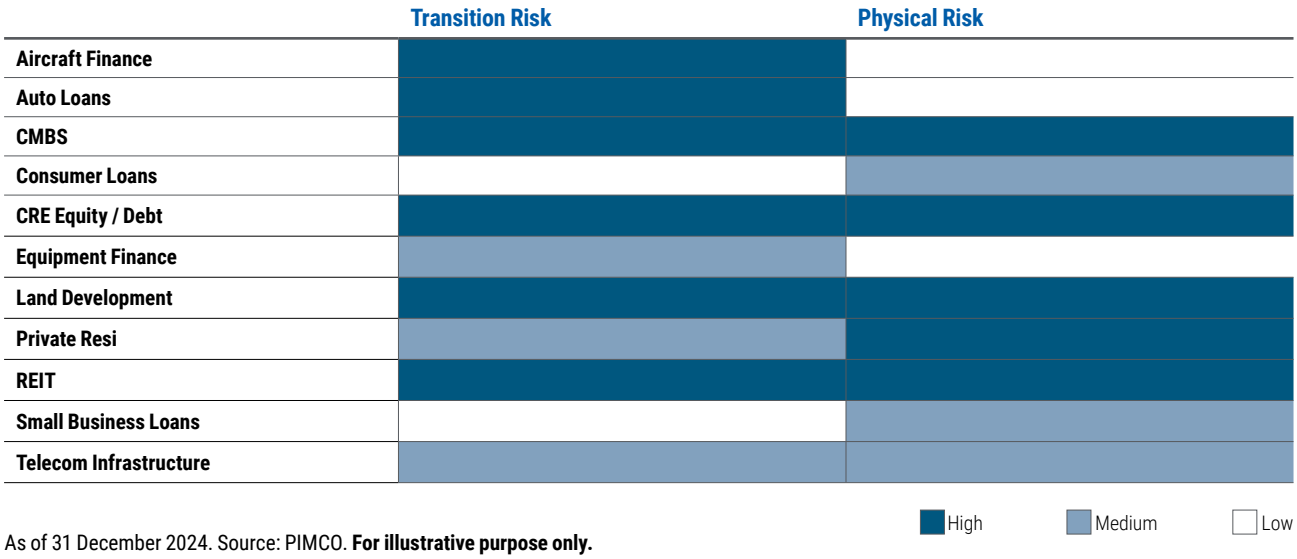
CASE STUDY: ALTERNATIVE INVESTMENTS

Alternative investments are subject to potential transition and physical risks which, similar to other financial assets, can be material and partly depend on the segment in scope.

Physical risks: Alternative assets with physical underlying collateral or real asset exposure have the greatest sensitivity to physical risks. Natural hazards and perils are taken into consideration during the pre-investment due diligence process, particularly when underwriting commercial real estate deals, as asset performance can be severely impacted by weather-driven disruptions to tenancy, property availability, or residual value.

Transition risks: Alternative assets are exposed to potential transition risk, with the built environment and transportation-related collateral having the greatest potential exposure.

Select Alternative Investment Potential Materiality Exposure



As of 31 December 2024. Source: PIMCO. **For illustrative purpose only.**

Note: High/Medium/Low refer to the perceived materiality (potential exposure) in scenarios that may be deemed relatively extreme relative to the current situation and unfold over several decades from now (e.g., disorderly transition to net zero, or limited climate action resulting in a significant increase in the intensity and frequency of extreme weather events). 'Low' includes areas where there is a particularly low visibility given data availability and quality.

EXAMPLE ALTERNATIVE INVESTMENT – DATA CENTERS[12]

Data centers enable the storage and access of data securely and efficiently. They also provide the processing power needed to run complex applications and services. Data centers require significant power, cooling, and a sizable physical presence to host servers.

Physical risks: The physical presence of data centers could be subject to hazards and perils that are impacted by climate change. Additionally, data centers can be water intensive, as servers often require substantial cooling. Adaptation measures can be taken during development to address potential issues. Considerations include: on-site renewables deployment; back-up power generators and battery storage; rainwater harvesting; natural water cooling solutions; rain gardens or green infrastructure.

Transition risks: The energy and cooling demands inherent to data centers exposes this property type to expected transition risks, as data centers can generate substantial carbon emissions. Mitigating actions can be taken during development that may help address carbon emissions on a life-cycle basis. Potential actions include: reuse of existing land and materials; installation of on-site renewable power generation; green building certifications; backup power generation via biofuels; building management systems; and natural water cooling solutions.

12 **The above is presented for illustrative purposes only**, as a general example of PIMCO's ESG research capability and is not intended to represent any specific portfolio's performance or how a portfolio will be invested or allocated at any particular time. PIMCO's ESG processes may yield different results than other investment managers and a company's ESG rankings and factors may change over time. **Past performance is not indicative of future results.**

CASE STUDY: MUNICIPAL CREDIT CLIMATE-RELATED RISKS AND OPPORTUNITIES

Physical risks: Physical risks can be both short- and long- term, with exposure to acute events in the near term, such as flooding, wildfire, and hurricanes, and the expectation of long-term changes to communities from permanent sea level rise, temperature change, extended droughts, damage from acute events, and other physical impacts. Currently, the Federal Emergency Management Agency (FEMA) plays a significant role in helping state and local governments recover from acute events, though FEMA does not eliminate physical risks entirely. Additionally, PIMCO expects that physical hazards may continue to worsen, potentially having more significant long-term impacts on communities that do not have the ability or means to sufficiently adapt or retreat, with the potential to substantially impair a community's tax and/or employment base.

Transition risks: While physical risk is a more immediate consideration for the municipal market than transition risk, PIMCO considers how transition risk could affect communities with significant ties to the fossil fuel industry, such as significant concentration in the fossil fuel industry in the tax or employment base. PIMCO views transition risk as a more medium-term risk and more likely to have a nearer-term impact on communities located in states with more robust renewable portfolio standards, net zero carbon targets, or other climate-related regulations. PIMCO also looks at where the transition away from fossil fuels could have positive impacts on communities. For example, where communities are experiencing growth in sectors that are supportive of the transition, such as renewable energy technology manufacturing plants or generation facilities, the transition could be a net job creator.

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The impact of climate risks embedded into PIMCO's sustainable investment solutions

In PIMCO's funds that follow sustainability strategies and guidelines, PIMCO embedded climate change into a three-step approach of exclusion (e.g., fossil fuels[13]), evaluation (e.g., climate performance) and engagement, to assess both the portfolio's contribution to climate change, and the impact of climate change from a credit risk perspective. Sustainability strategies often aim to be better positioned than their respective benchmarks with respect to their exposure and management of climate risks, given their relative focus on issuers with stronger climate characteristics overall (e.g., issuers with lower carbon intensity than peers, and companies with science-based carbon emission reduction targets and robust transition plans).

PIMCO's process to evaluate these risks includes both the incorporation of this analysis into credit and ESG research, as well as the implementation of climate scenario analysis and stress tests.

13 Defined as issuers principally engaged in the oil industry, including extraction, production, refining, transportation, or the production, sale of coal and coal-fired generation.

Climate-scenario analysis models: assessing the resilience of assets from top-down to bottom-up

PIMCO has developed models taking both top-down and bottom-up approaches to climate scenario analysis in order to assess potential resilience of portfolios to relevant climate risks. PIMCO conducts scenario analysis based on emerging methodologies and guidelines, such as those seeking to model the potential impact an extreme and sudden climate transition would have on bond prices (value at risk). Existing climate models could also examine the potential impact on bond prices in the event where no action is taken on climate change.

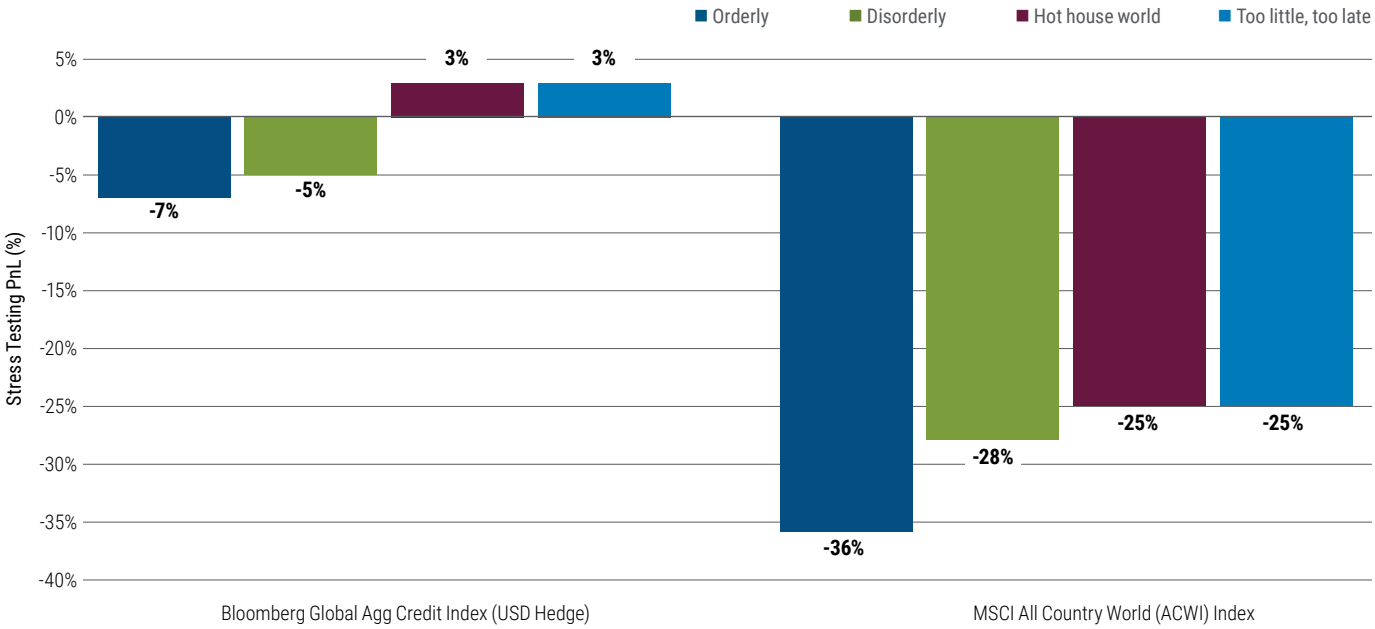
The following section expands further on these models and demonstrates how considering different climate scenarios enables PIMCO to have a more holistic assessment of the resilience of its investment strategies in relation to climate-related risks.

TOP-DOWN MODEL

PIMCO has created a PIMCO model which uses empirical data to capture the main mechanisms linking climate change to the global economy, such as changes in environmental taxes, impacts of rising temperatures, etc. With this model, PIMCO can simulate the cumulative impact climate change could have on real GDP for the world, the U.S., and Europe over the years 2020-2050 under the different scenarios designed by the Network for Greening the Financial System (NGFS) - More information on the top-down model and the NGFS Scenarios can be found in the Appendix.

To determine the impact of climate scenarios on asset prices, PIMCO maps the loss in real GDP onto real equity returns and real rates. Detailed below are the PIMCO model results ('climate value-at-risk [VaR]') for a global credit fixed income index (Bloomberg Global Aggregate Credit Index) and a global equity index (MSCI All Country World (ACWI) Index).

PIMCO top-down model implied impact on benchmark returns by scenario



[14] Source: Burke and Tanutama (2019), Bloomberg, BP, IMF, OECD, Our World in Data, PIMCO, as of 31 December 2024. **For illustrative purposes only**

14 Source: PIMCO Proteus model output as of 31 December 2024 for the MSCI ACWI Net Total Return USD Index. For illustrative purposes only. The top-down macro model maps a NGFS climate scenario to two types of outputs: macroeconomic and risk factor. The outputs are a panel with country and time dimensions. The time series dimension is annual over the same horizon as the input scenario. PIMCO assumes the climate scenario affects the macroeconomic outputs through two channels: 1) Physical risks: Loss in productivity due to human-driven increase in global temperature; 2) Transition risks: Increased inflation and loss in growth from taxing carbon and subsidising renewable investment. These macroeconomic shocks flow through to asset prices which is captured using a set of risk factors. The risk factor outputs are then plugged into PIMCO's risk model (Proteus) and then applied to the desired account, index or security to generate the final return impact of the climate scenario. Given the uncertainties linked to climate models and data, this work inherently includes a host of assumptions and is exploratory and iterative. Scenarios are not forecasts or predictions. Sources: NGFS, IMF, OECD, BloombergNEF, World Bank, FRED, Our World in Data, Burke and Tanutama (2019).

In the Orderly and Disorderly scenarios, the implementation of a carbon tax causes lower real GDP and higher inflation. Based on PIMCO's mapping to asset prices, this implies that equities fall and rates rise. For the Bloomberg Global Aggregate Credit index, PIMCO finds the negative return on equity also means credit spreads widen.

The Disorderly scenario features a delayed transition and larger losses in real GDP due to transitioning later, and also larger inflation causing a negative return for the fixed income benchmark. The last version of the NGFS models include a higher carbon tax for the Orderly scenario, which produces a more negative return compared to the Disorderly scenario, largely owing to more negative GDP shocks.

The Too little, too late scenario, introduced by the NGFS in 2023, sees the implementation of a smaller carbon tax which does not meaningfully reduce physical risk and negatively impacts the economy, in PIMCO's view. In this scenario, real GDP growth falls due to both physical and transition risk, and inflation is positive but small. Mapping these impacts to asset prices, both equities and rates fall. For the Bloomberg Global Aggregate Credit index, the return impact is slightly positive (but close to zero) due to the opposing effects of falling rates and widening credit spreads.

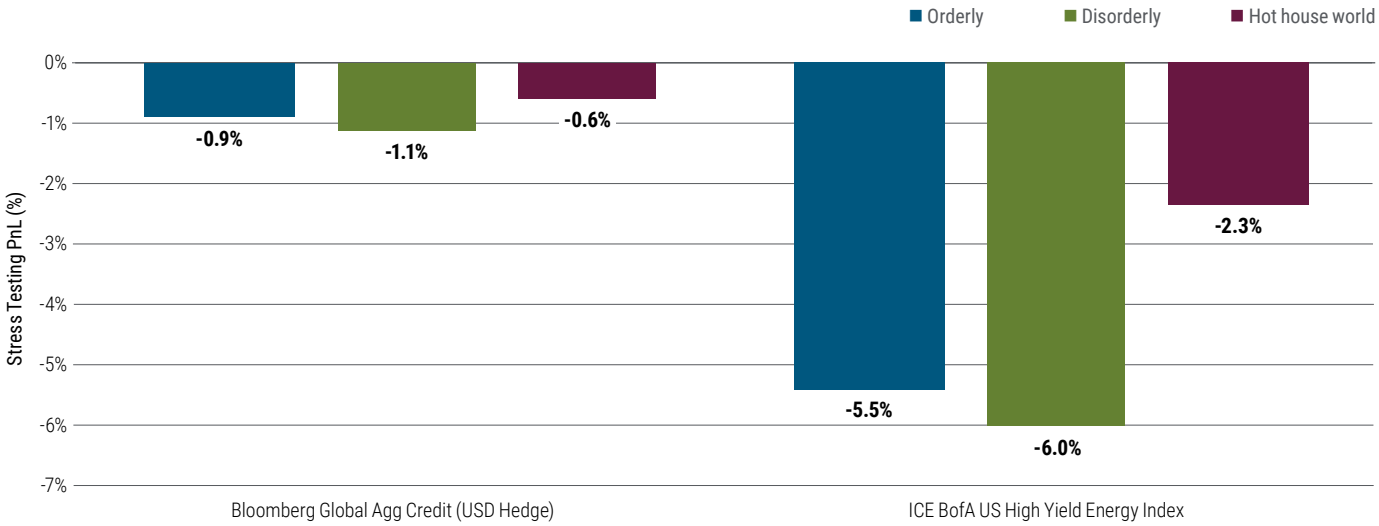
In the Hot house world scenario, there is no inflation to offset the large losses in real GDP due to physical risk. As a result, equities and rates fall, leading to losses in the equity benchmark and gains in the fixed income benchmark due to duration. While this simplified modelling inherently does not capture the specific impacts on fixed income sectors and securities given their characteristics and respective vulnerability to climate risks, it is useful as a first step to shed light on the potential connections between climate-induced GDP shocks and portfolio returns, all else equal.

BOTTOM-UP MODEL

PIMCO has developed a bottom-up sector stress-testing model using a distinct set of assumptions separate from those of the top-down approach. This model builds upon internal research and central bank stress-testing exercises to determine equity price shocks for material sectors[15]. These shocks incorporate both physical and transition risks across the 2021 NGFS's six scenarios[16]. PIMCO then translates these equity shocks into fixed income shocks and can apply them to corporate bonds in a portfolio.

The charts below illustrate the impact climate change could have on two different corporate credit benchmarks, the Bloomberg Global Aggregate Credit Index and the ICE BofAML US High Yield Energy Index. Portfolios with a higher allocation to materially exposed sectors (e.g., energy), can increase the severity of losses across scenarios. The Disorderly scenario can produce the most severe outcomes, as the world's abrupt transition materially affects the equity valuations of high carbon-emitting sectors.

PIMCO's bottom-up model impact on benchmark returns per scenario type



As of 31 December 2024. Source: Bank of England, NGFS, PIMCO. **For illustrative purposes only**[17]

While the model does not account for a company's specific dynamics, which PIMCO addresses via a complementary bottom-up research approach, it provides insights into sector selection that can help structure more climate-resilient portfolios.

15 Source: Bank of England

16 NGFS https://www.ngfs.net/ngfs-scenarios-portal/

17 Source: PIMCO bottom-up model output as of 31 December 2024. Output represents the impact on corporate bonds for both transition and physical risk. For illustrative purposes only. This model draws on a simplified method suggested by the Bank of England to assess the potential corporate sector shocks (equity and bond prices change under each climate scenario), for climate-relevant sectors, including both transition and physical risk. These sectors are then mapped to their equivalent subsectors. The Bank of England's three climate scenarios (Orderly, Disorderly, and Hot house world) are expanded to include the three new NGFS scenarios released in 2021. Each new scenario is calculated as a change compared to the original three scenarios. Expansion from three to six scenarios is accomplished by using multipliers for transition and physical risk. The transition risk multiplier is based on the NGFS carbon price for a given base and new scenario. The physical risk multiplier is based on temperature differences under each scenario. Bond price impact is estimated to be 15% of equity impact. Given the uncertainties linked to climate models and data, this work inherently includes a host of assumptions and is exploratory and iterative. Sources: NGFS, Bank of England, Merrill Lynch.

Climate resilience of PIMCO

In general, preliminary data produced by these models suggest a moderate impact of climate scenarios on PIMCO. However, limitations of stress-testing methodologies and data described in the appendix (page 42), alongside the areas for improvement PIMCO focuses on, warrant great caution.

To help address these risks, PIMCO focuses on two types of risk mitigation levers:

1. PIMCO's business model and investments diversification in terms of asset classes, credit quality, sectors, and geographies.

Climate-related risks have the potential to impact the value of PIMCO's assets under management (AuM), which would affect future profitability. PIMCO's exposure to climate-related risks is predominantly via the financial assets PIMCO manages on behalf of clients. PIMCO's business model offers us a certain degree of flexibility and agility to adapt exposure depending on the realized climate scenario, in order to effectively mitigate such risks.

Moreover, PIMCO's portfolios are broadly diversified across a number of asset classes and geographies; a large portion of PIMCO's assets are invested in high-quality, highly liquid instruments in the fixed income market including investment grade corporate credit, government and government-related securities, and cash equivalents. Climate risk-driven expected losses for bonds are typically smaller in magnitude compared to other asset classes (such as equities); diversification helps avoid unwanted concentrations towards economies that are geographically and/or structurally more vulnerable to climate change.

2. PIMCO's climate risk integration and management process, described in other sections, most notably in the Risk Management section.

PLANS FOR TRANSITIONING TO A LOW-CARBON ECONOMY

As an organization that operates in jurisdictions with greenhouse gas (GHG) emissions reduction commitments, the firm is closely monitoring the implications for its clients and portfolios but has not set universal GHG emissions targets as an organization. However, as detailed throughout this report, PIMCO is taking various actions to have leading capabilities to support the transition, for example, as it relates to investment solutions for clients with decarbonization objectives or engagement with issuers and various organizations on best practices.

Collaboration to advance climate risk measurement and management

As a leading global asset manager, PIMCO helps define global climate metrics for investment purposes, and encourages greater climate-related disclosure from issuers. Below are select examples of PIMCO's industry leadership with third-party sponsored partnerships that are involved with improving global climate-related practices with regards to investment analysis and diligence. This includes a range of industry initiatives that are linked to the implementations of the TCFD.

BANK OF ENGLAND'S CLIMATE FINANCIAL RISK FORUM

The Bank of England's Climate Financial Risk Forum's (CFRF) scenario analysis working group is an industry forum jointly convened by the Prudential Regulation Authority (PRA) and Financial Conduct Authority (FCA) to build capacity and share best practice across industry and financial regulators to advance the financial sector's responses to the financial risks from climate change.

PIMCO'S INVOLVEMENT

PIMCO has frequently provided case studies that were included in numerous series published by the initiative. Further, PIMCO has participated in working groups, such as a sub-working group focused on physical risks, adaptation, and resilience.

PROGRESS TO DATE

The CFRF has published a series of guides to climate-related financial risk management over recent years. These guides aim to help financial firms understand the risks and opportunities that arise from climate change and provides support for how to integrate them into their risk, strategy, and decision-making processes. Here, a PIMCO case study is provided in the Climate Solutions Chapter of the latest session (released in December 2022), demonstrating PIMCO's leadership and commitment to engaging with issuers on the global transition to a net zero economy[18]. In addition, PIMCO contributed to the sovereign section of the CFRF online climate scenario analysis narrative tool that was updated in 2023. More recently in 2024, the CFRF published its fourth series of guides to climate-related risk management, which included a PIMCO case study within the nature-related risk chapter.

THE PARTNERSHIP FOR CARBON ACCOUNTING FINANCIALS (PCAF)

PCAF is a global partnership of financial institutions that work together to develop and implement a harmonized approach to assess and disclose the greenhouse gas (GHG) emissions associated with their loans and investments. This subsequently helps asset owners obtain more consistent and meaningful carbon data from asset managers, which may help achieve different objectives (e.g., assess carbon-related financial risks).

PIMCO'S INVOLVEMENT

In 2023, PIMCO became a member of PCAF's Core Team, which governs the Global GHG Accounting and Reporting Standard for the financial industry and all its updates and expansions. It has the ultimate goal of harmonizing GHG accounting and reporting across the financial industry.

PROGRESS TO DATE

The PCAF Core Team announced four priority areas for standard development in 2024: transition finance and green finance; fluctuations in absolute GHG inventory; additional insurance products; and securitized and structured products. PIMCO is the Core Team Sponsor for the securitized products working group and a co-chair of the transition finance and green finance working group. PCAF's Public Consultation Survey for the next edition of the PCAF standard was released in 2024. The consultation aims to gather feedback on new methodologies to help financial institutions measure and manage carbon emissions. All methods that PIMCO was involved in, including securitized products, use of proceeds, avoided emissions, and forward-looking emissions metrics working groups, were included in the consultation.

18 While a firm-wide net zero commitment has not been made, PIMCO is committed to providing industry leading advice and solutions for clients on a range of sustainability and ESG issues, including climate change and reducing greenhouse gas emissions to net zero.

RISK MANAGEMENT

Framework to Identify, Assess and Manage Climate Risks

Processes for identifying, assessing and managing climate-related risks

Risk management is a major focus at PIMCO and has been a cornerstone of the firm's investment philosophy since inception. PIMCO believes that successful risk management demands constant reassessment of the investment landscape in order to anticipate future market events and evolutions in potential risk frameworks.

The identification and assessment of relevant climate-related risks in PIMCO's portfolios starts with the in-house investment research team. PIMCO's climate research is led by Credit Research Analysts – experts in their market sectors – who build on the structure of PIMCO's broader ESG Research Analysts for coordination and consistency. Where climate risk constitutes a material ESG factor, it is included in credit recommendations and PIMCO's proprietary ESG scores for the issuers PIMCO evaluates. In this way, the expertise of PIMCO's analyst teams is leveraged, while harmonizing climate risk analysis across asset classes and sectors where applicable. Importantly, ESG scores are a component of the risk analysis applied to broad PIMCO portfolios, not only portfolios with specific sustainability objectives[19]. Material ESG factors may include but are not limited to: climate change risks (both transition and physical risks); nature-related risks; shifting consumer preferences; and other factors associated with the concept of a Just Transition[20] or human rights (e.g., supply chain risks). PIMCO's ESG scores have been developed based on proprietary frameworks and methodologies relevant to various fixed income sectors, such as: CLOs; corporate credit; covered bonds and Danish mortgages; municipal debt; and sovereign- or government-related debt, such as local authorities, supranational issuers and development banks.

19 Note that for PIMCO strategies that do not have specific sustainability objectives, integrating material ESG factors into the evaluation process does not mean that ESG information is the sole consideration for an investment decision; instead, PIMCO's portfolio managers and analyst teams evaluate a variety of factors, which can include ESG considerations, to make investment decisions

20 According to the International Labour Organization (ILO), a Just Transition, "involves maximizing the social and economic opportunities of climate action, while minimizing and carefully managing any challenges – including through effective social dialogue among all groups impacted, and respect for fundamental labor principles and rights".

Please see below an illustration of select ESG indicators and examples of sector-specific metrics used by PIMCO's analysts to assess corporate issuers' exposure to ESG risks as well as practices to mitigate those risks.

	Theme	Issue	Key Performance Indicators & Topics
Environmental	Climate Change	Greenhouse Gas Emissions	• Carbon and GHG Emissions • Energy management, mix and reserves • Transition risks (Market, Policy, Technology) • Climate strategy, for risk mitigation
		Physical Risks and Resilience	• Extreme weather impacts • Adaptation and mitigation
	Natural Capital	Water	• Water security & scarcity • Water use, recycling & efficiency
		Land use and Biodiversity	• Agriculture, forestry, land use change • Soft commodities sourcing and production, including restoration costs
		Waste	• Materials efficiency & process mass intensity • Waste recycling, hazardous waste management • Critical incidents, environmental remediation & fines
		Air Pollution	• Air quality
Social	Human Capital	Human Capital Management	• Employee training, development, & engagement • Attraction and retention & pay equity • Diversity, equity & inclusion
		Human & Labor Rights and Health & Safety	• Occupational health and safety incident rates • Organized labor policies and relationships • Supplier policies on worker rights, health, safety and compulsory labor
		Community & Stakeholder Relationships	• Community engagement & relationship management • Conflict minerals sourcing • Involvement in controversial projects
	Product Health, Quality, Safety & Innovation	Product Safety & Quality	• Product safety & lifecycle management, Recall track record • Product liabilities, controversies and fines • User data policies, data security
		Product Innovation & Wellness	• Products & services tied to secular sustainability trends • Innovation and intellectual capital, dedicated R&D • Social/Inclusive business models ("triple bottom line")
Governance	Corporate Governance	Board, Management & Ownership	• Qualifications, characteristics and oversight & effectiveness, remuneration & succession • Shareholder profiles (majority, family, government, activist), voting rights & proxy access • Conflicts of interest and/or related party transactions
		Business Ethics, Conduct & Culture	• Bribery & corruption, litigation, anti-competitive practices & tax transparency • Regulatory capture and political influence • Code of ethics, corporate behavior & conflicts of interest • Treatment of customers and key stakeholders, reputation
		Delivery on Business & Balance Sheet Strategy	• Track record in achieving guidance and targets • Controls over capital allocation, share buybacks and distributions • Acquisitions, asset sales, divestitures or other transactions
	Risk Management & Transparency	Risk Management	• Climate / critical Incident / systemic / cyber enterprise risk management • Susceptibility to headline risks
		Transparency & Reporting	• ESG data disclosure, accounting practices & audit quality • Internal controls and reporting (timeliness and accuracy) • Communication with key stakeholders (customers, employees, clients, investors)

As of 31 December 2024; Source: PIMCO. **For illustrative purposes only**

To help analysts evaluate climate risk, PIMCO's ESG Research Analysts designed various proprietary tools (see full list in graphic below), drawing on decades of experience in fixed income analysis. The insights these tools provide are intended to help Portfolio Managers with managing and mitigating climate-related credit risks– as always, working within specific portfolio objectives and guidelines.

The first three tools, the Climate Macro Tracker, Climate Risk Heat Map, and Issuer Climate Risk Score (Tools 1-3), seek to assess and reduce portfolio exposure to material financial risks due to climate change. The Climate Macro Tracker monitors broad momentum in climate change across key themes and scenarios, measuring the gap between the real-world metrics and global climate goals. PIMCO's Climate Risk Heat Map seeks to provide a high-level overview of exposure to climate risk among relevant sectors and assets. Finally, PIMCO's Issuer Climate Risk Score assesses climate change risks for a wide range of relevant sectors and issuers, drawing on metrics such as the issuer's current and future carbon emissions. Use of these tools are generally not required; they serve as a discretionary resource to aid in the investment process at the election of portfolio management. These tools are used in client portfolios that maintain investment guidelines and restrictions related to sustainability matters.

Alongside the tools that are integrated into broad investment decisions, PIMCO's subsequent three climate tools (Tools 4-6) aim to reduce carbon emissions in sustainable investment portfolios. The Energy and Technology Mix looks to reduce portfolio exposure to activities contributing to global warming. Carbon Intensity Analysis seeks to provide insight on how to improve a portfolio's carbon profile. Finally, PIMCO's Green Bond Score assesses ESG-labelled debt, both prior to and after issuance, mapping them across a spectrum based on strategic fit, potential impact, red flags, and reporting.

Finally, engagement is a significant tool for PIMCO as PIMCO seeks to engage with relevant issuers to, among others, bolster their Paris Agreement alignment and to help them improve their management of the underlying credit risks, moving from awareness to readiness and, ultimately, alignment.

PIMCO continues to deepen and strengthen its proprietary climate frameworks and tools to support investment decisions. The table below expands on specific 2024 enhancements, highlighting their breadth and depth.

PIMCO's seven climate tools for risk analysis and management

Integrating material climate risk into broad investment decisions

Objective	Tool #	Focus	PIMCO Tool Name	Key Question
Lower Credit Risk	1	Economic Impacts (Top-down)	Climate Macro Tracker	How to assess and decrease portfolio exposure to financial risks brought about by climate change
	2	Credit Risk Impacts (Bottom-up)	Portfolio Climate Risk Heat Map	
	3		Issuer Climate Risk Score	
Reduce Carbon Emissions	4	Brown Bonds	Energy and Technology mix compared with the Paris Agreement (IEA Scenarios)	How to reduce portfolio exposure to activities contributing to global warming
	5	Carbon Intensity	Portfolio Carbon Intensity Analysis	How to reduce portfolio's carbon footprint
	6	Green Bonds	Green Bonds Score	How to increase portfolio exposure to activities that help mitigate global warming
Both	7	Engagement	Expectations toward issuers on climate change	How to influence companies' strategy

Tools / Analytics to support construction of sustainability portfolios

As of 31 December 2024. Source: PIMCO. **For illustrative purposes only.**

Evaluation of corporate climate performance across key metrics

Main perspective	Asset class	Description
Climate risk evaluation	**Corporate credit**	Banks: Incorporated new industry-specific databases as part of PIMCO's sector framework and net-zero alignment evaluation, including metrics that assess their transition plan quality, sectoral policies, and relative loan exposure to high versus low carbon sectors. Increased the weight of the environmental pillar to reflect the perceived increased materiality of climate transition risks.
	Corporate credit	Insurance: Updated PIMCO's ESG sector framework for P&C insurance to recognize the positive environmental benefits enabled by property insurers and reinsurers when they offer well-underwritten coverage at a price level that incentivizes clients to actively manage their climate and catastrophe risk.
Climate reporting and optimisation	**ABS**	Autos: Incorporated updated specific metrics such as vehicle average tailpipe CO2 emissions, electric vehicles (percent of total pool balance) and EU taxonomy alignment (in Europe) to inform environmental scores and expanded analysis for the U.S. and Europe.
	Real estate	Operationalized and piloted carbon foot printing measurement for private real estate.
Both	**CLO**	Mapped corporate climate metrics to CLOs (e.g., alignment, transition, and physical risk scores, and GHG emissions across different scopes).

Source: PIMCO

Insights from PIMCO's climate tools along with general ESG-related analysis are incorporated into PIMCO's proprietary ESG scores, as well as asset class and sector views where applicable. These assessments are subsequently made available to firm-wide Portfolio Managers in order to account for and manage relevant ESG risks and opportunities within investment strategies22. For portfolios that do not follow any sustainability strategy, the management of climate risks involves evaluating if PIMCO is being sufficiently compensated for such risks over the investment horizon.

Further, for portfolios that follow sustainability strategies, management of climate risks often involves actively optimizing portfolios in order to avoid positions most exposed to climate risks and tilting to issuers better positioned to take advantage of the identified climate opportunities. PIMCO's ESG Research Analysts provide relevant Portfolio Managers with ESG reports on a periodic basis to actively monitor and manage these risks. Quarterly reviews are also conducted for PIMCO ESG funds that follow sustainability strategies and guidelines to update Portfolio Managers regarding various trends, including engagement activity progress or issuers' climate-related performance and controversies. In addition, ESG risk reports are available to Portfolio Management to provide additional details on a portfolio's exposure to carbon-sensitive sectors, climate solutions, and issuers' alignment with the Paris Agreement or PIMCO's proprietary climate risk score.

CLIMATE RISKS' INCORPORATION INTO THE ENTERPRISE'S RISK MANAGEMENT FRAMEWORK

Specifically, in regards to enterprise risk management, sustainability risk is considered as a risk category in PIMCO's Enterprise Risk Management framework, both for the overarching strategic assessments (top risk assessments and risk appetite statement) and the tactical operational risk and control reviews (risk inventory, risk and control self-assessments). PIMCO believes addressing climate and other sustainability-related risks as a part of this framework, and not in a discrete process, appropriately integrates climate risk into PIMCO's risk management processes. In consideration of overall strategic risks, PIMCO's Risk Committee gives consideration to its most significant risks as part of its Top Risk Assessment. This is reviewed on at least an annual basis, taking into consideration the output from the various components of the Enterprise Risk Management framework. Each top risk is assessed against the firm's risk appetite, with consideration given to mitigating strategies that are in place.

The Top Risk Assessment is further complemented by PIMCO's annual Risk and Control Self-Assessment ("RCSA"). The RCSA encompasses a detailed annual process-level assessment across all key operational areas of the firm. PIMCO's Enterprise Risk Management team provides challenge and guidance for each assessment conducted by business line functions, including the triangulation of data from risk events and audit findings, among other inputs.

Additionally, PIMCO broadly takes into account a wide array of risk categories, including those related to distribution and marketing risk, regulatory compliance risk, and vendor risk. In assessment of each of those risk categories, sustainability considerations are factored into the ongoing assessments where sustainability considerations may result in a direct influence on the overall disposition of the associated risk profile. The processes described in the risk management section hence systematically consider sustainability risks and mitigations.

ENCOURAGING BETTER DISCLOSURE AND PRACTICES RELATED TO CLIMATE RISKS

PIMCO engages with issuers for enhanced corporate disclosure on climate change and transition plans.

PIMCO evaluates the evidence of issuers' activities in relation to the points highlighted in the table further below (illustrative), acknowledging issuers are at various stages, and the importance of the direction of travel and momentum. These expectations build on several frameworks, including the TCFD, Science-Based Targets initiative, or International Sustainability Standards Board[21].

1	**Climate Awareness**	Recognition	I	• Recognize climate change as a significant issue • Develop a policy
2	**Climate Readiness**	Reporting	I	• Report absolute and relative carbon emissions across entire value chain • Report carbon intensity based on relevant metrics
		Target	II	• Set a greenhouse gas (GHG) emissions reductions target
3	**Climate Alignment**	Scenarios	I	• Implement comprehensive qualitative scenario analysis
			II	• Factor an internal price of carbon into business decisions
			III	• Address potential financial impacts of transition and physical risks
		Strategy	I	• Set a Paris Agreement-aligned (science based) GHG emissions reductions target
			II	• Report business alignment with Paris Agreement and potential climate adaptation needs
			III	• Set a net zero commitment detailing interim targets, emissions covered, and any absorption or offset mechanisms

Source: PIMCO, as of 31 December 2024 **For illustrative purposes only**

PIMCO continues to view stewardship and engagement as a long-term and dynamic process that evolves over several years. While changes may take time to materialize (e.g. issuer's implementation of the TCFD recommendations or development of science-based targets often take at least two to three years), PIMCO analysts reinforce and follow up on ESG engagement objectives as part of their periodic interactions with issuers[22].

21 Exposure draft named 'IFRS S2 Climate-related Disclosures'.

22 For more details on PIMCO's ESG engagement and escalation approach, including on how this may affect investment decisions (e.g. purchasing hold or divestment consideration), see PIMCO's UK Stewardship Report (e.g. page 67) - https://www.pimco.com/gb/en/documents/43224982-1663-49d3-96e0-ba62ad537791?id=1801189823265 4

ENGAGEMENT CASE STUDIES[23]

CASE STUDY 1

Issuer: UK integrated telco

Topics: ESG Bonds, GHG emissions, climate risk disclosure

Context and Engagement Objectives: PIMCO first engaged with the issuer on the back of its inaugural Green Bond in 2021, to clarify its allocation and strategy. Subsequent engagements sought a clarification regarding its management of risks related to GHG emissions, digital inclusion, and supply chain, in line with PIMCO's materiality map.

Recent Engagement: PIMCO engaged with the issuer in Q1 2024 ahead of its 2024 green bond issuance, and further to the validation of its new GHG emission reduction targets by the Science-Based Target initiative (SBTi). It provided us with details of the benchmark used to determine the eligibility for its digital access programs.

Progress to date on milestones and looking forward: The issuer has now published impact and allocation reports for previous green bonds. It responded to the 2023 Carbon Disclosure Project (CDP) climate questionnaire which PIMCO had requested as a signatory to the CDP Non-Disclosure Campaign. It has also advanced its Scope 3 GHG inventory and will disclose emissions from more Scope 3 categories in its next sustainability report, which PIMCO looks to monitor in 2025.

CASE STUDY 2

Issuer: European beverage company

Topics: Decarbonization strategy, biodiversity, disclosure, and human rights

Context and Engagement Objectives: PIMCO has engaged with the issuer bilaterally for multiple years discussing relevant human rights, nature, and climate-related aspects. The goal was to clarify and formally encourage it to align with best practices in terms of sustainability risk mitigation across its value chain, and show readiness for the forthcoming EU regulations on sustainability disclosure and due diligence.

Recent Engagement: Interactions in Q2-2024 with both the Global Treasurer and VP Sustainability on its climate and environmental strategy and disclosure, human rights, as well as ESG bond frameworks. Shared detailed recommendations on best practices, encouraging for example enhanced disclosure and actions on Scope 3 emissions (that represent the bulk of carbon footprint) and deforestation.

Progress to date on milestones and looking forward: In 2023, issuer materially increased its transparency on its exposure (e.g., adding metrics such as the share of coffee volume coming from locations with a low risk of deforestation). Also, the issuer has increased actions taken to reduce deforestation risks in its supply chain (e.g., engagement with suppliers to trace the coffee sourcing regions) in line with PIMCO's suggestion (deforestation commitment, oversight, and disclosure). Issuer also confirmed plans to launch a Deforestation Policy while expanding its risk-based approach for deforestation and human rights across its supply chains. On carbon, issuer expanded the scope of Scope 3 emissions disclosure while in 2024 its targets were verified by the Science- based Target Initiative (SBTi) to be aligned with the most ambitious decarbonization target criteria across timelines.

23 **The above is presented for illustrative purposes only**, as a general example of PIMCO's ESG research capability and is not intended to represent any specific portfolio's performance or how a portfolio will be invested or allocated at any particular time. PIMCO's ESG processes may yield different results than other investment managers and a company's ESG rankings and factors may change over time. **Past performance is not indicative of future results.**

TAKING A HOLISTIC APPROACH TO CLIMATE RISKS

PIMCO explores and engage on climate change in the context of broader sustainability risk and are supportive of the Sustainable Development Goals (SDGs) as the reference framework to assess these wide-ranging risks (e.g., biodiversity, water scarcity, Just Transition, human and labor rights).

Further, deforestation – an important topic from both a biodiversity and Just Transition perspective – has been a particular area of thematic focus for engagement, as halting and reversing land degradation is crucial to limiting global warming and mitigating a wide variety of risks, such as biodiversity loss and human rights violations. On this front, while PIMCO's direct exposure to forest-risk commodities was limited, PIMCO engaged companies across sectors, including food manufacturers, retailers, and banks, on their commitment to eliminating deforestation in their value chain.

In terms of portfolio screener and issuer-level evaluation, PIMCO has explored the use of tools that help evaluate the impact and dependence of portfolio holdings on nature using publicly available data such as ENCORE (Exploring Natural Capital Opportunities, Risks and Exposure).

METRICS AND TARGETS

Climate-focused Investment Exposure of Sample PIMCO Portfolios

Metrics and targets used to assess and manage relevant climate-related risks and opportunities

CLIMATE-FOCUSED INVESTMENT EXPOSURE OF SAMPLE PIMCO PORTFOLIOS

Investments within the sample PIMCO portfolios are exposed to a share of the carbon emissions within the broader

global bond market. This section shows for sample PIMCO portfolios, representative of the assets that fall under PIMCO, and a representative benchmark selected metrics linked to the recommendations of the Task Force on Climate-Related Financial Disclosures and similar disclosure frameworks. This is a shortlist as there is a broader range of metrics PIMCO monitors and report in selected contexts. PIMCO has continued to refine and expand carbon measurement, data reporting, and portfolio optimization capabilities based on guidance from ESG-focused financial institutions, such as the Partnership for Carbon Accounting Financials (PCAF), and the Science-Based Targets initiative (SBTi).

PIMCO's reporting tools cover an ever-broader range of perspectives (e.g., financed emissions, portfolio alignment, climate solutions, or the exposure to both transition and physical risks), asset classes (e.g., sovereign bonds further to the publication of the guidance on carbon measurement for sovereign debt by the Partnership for Carbon Accounting Financials in 2022) and instrument types (e.g., green and sustainability bonds). This helps clients better understand key climate and carbon metrics in their portfolios. Importantly, these figures consist of ESG-optimized portfolios as well as those that do not follow a sustainability strategy. Therefore, although these metrics may be optimized in portfolio construction for mandates that follow sustainability strategies and guidelines[23], they are not optimized on aggregate across all portfolios. PIMCO's obligation as an asset manager and fiduciary is seeking to deliver on clients' investment objectives, which vary across portfolios depending on investor preference. These climate metrics are not directly incorporated into remuneration policies. Carbon pricing is a component of climate evaluation for PIMCO's portfolios, as reflected in the climate scenario analysis section of this report. An internal carbon price in relation to the GHG emissions associated with PIMCO's operations is not used.

SUMMARY TABLE FOR PIMCO PORTFOLIOS

This table includes the aggregated value for PIMCO portfolios (assets under management) for selected climate-related metrics based on the recommendations of the TCFD and other initiatives providing guidance on carbon measurement and reporting from financial institutions (e.g. Partnership for Carbon Accounting Financials or PCAF, Science-Based Targets initiative or SBTi).

This includes:

- A data quality score to give a sense of the degree of external verification of the underlying data.
- Both data for the latest reporting year and 2023, which suggests several trends (e.g., relative stability of key carbon emissions metrics such as weighted average carbon emissions or carbon footprint, with the exception of Scope 3 due to a change in the methodology - please see the appendix for more details).
- Data on the coverage per indicator: Corporates (investment grade and high yield) represent less than a third of PIMCO's assets, which indicates that a material share of assets are not covered by carbon metrics presented here.
- PIMCO's exposure to green and sustainability bonds as a climate-related opportunity metric, and PIMCO's weighted average physical risk score as a metric informing about the potential exposure to physical risks of climate change.

Metric type	Metric	Asset class covered[24]	Units	2024 Value PIMCO[25]	2024 Value Benchmark[26]	Diff Over Index	2023 Value PIMCO[27]	2023 Value benchmark[28]	2024 PIMCO Coverage[29]	2023 PIMCO Coverage[29]
Financed emissions	Weighted Average Carbon Intensity (Scope 1 and 2 emissions)	Corporates	tCO2e / $M USD Sales	232	209	-11.1%	256	227	89.6%	90.4%
	Definition: Portfolios' exposure to carbon-intensive companies (Scope 1 absolute emissions + Scope 2 absolute greenhouse gas emissions)/issuers' revenues in $M USD (weighted based on Market Value)									
	Total Carbon Emissions (Scope 1 and 2 emissions)	Corporates	tCO2e	80,963,074	80,493,402	0.6%	76,321,554	80,857,868	88.4%	89.2%
	Definition: Proxy for the carbon emissions that the position in the security is responsible for. Total GHG emissions for portfolios (Scope 1 and 2 emissions). Based on enterprise value including cash									
	Carbon Footprint (Scope 1 and 2 emissions)	Corporates	tCO2e / $M USD invested	91	83	9.7%	91	90	88.4%	89.2%
	Definition: Total GHG emissions for a portfolio normalised by the market value of the corporates in the portfolio with Scope 1+2 GHG emissions data, expressed in tons CO2e/$M invested. Based on enterprise value including cash.									
	Weighted Average Carbon Intensity (Scope 3 emissions)	Corporates	tCO2e / $M USD Sales	922	990	-6.9%	558	495	90.0%	90.0%
	Definition: Portfolios' exposure to carbon-intensive companies (Scope 3 absolute emissions)/issuers' revenues in $M USD (weighted based on Market Value)									
	Total Carbon Emissions (Scope 3 emissions)	Corporates	tCO2e	373,225,232	497,157,028	-24.9%	296,799,259	343,792,593	89.5%	89.1%
	Definition: Proxy for the carbon emissions that the position in the security is responsible for. Total GHG emissions for portfolios (Scope 3 emissions). Based on enterprise value including cash									
	Carbon Footprint (Scope 3 emissions)	Corporates	tCO2e / $M USD invested	413	507	-18.5%	355	378	89.5%	89.1%
	Definition: Total GHG emissions for a portfolio normalised by the market value of the corporates in the portfolio with Scope 3 GHG emissions data, expressed in tons CO2e/$M invested. Based on enterprise value including cash.									
	Data Quality Score (Scope 1 and 2)	Corporates	-	1.97	1.91	0.05	1.71	1.60	-	-
	Definition: Data Quality score (1 to 3 – 1: best, 3: worst) that takes into account if the emissions are reported or estimated and if there is existence of assurance audits for the emissions data									
	Data Quality Score (Scope 3)	Corporates	-	1.99	1.95	0.04	1.80	1.69	-	-
	Definition: Data Quality score (1 to 3 – 1: best, 3: worst) that takes into account if the emissions are reported or estimated and if there is existence of assurance audits for the emissions data									

Sources: MSCI, PIMCO, TCFD, PCAF, SBT, Moody's, as of 31 December 2024 and as of 31 December 2023. For illustrative purposes only. Calculations for carbon metrics are based on the guidance developed by the TCFD and the Partnership for Carbon Accounting Financials (PCAF). Carbon data reflects the last level of emissions reported by the company, although in some instances it can reflect emissions data that had been disclosed before 2024 (e.g. 2023 and 2022), subject to availability.

24 Corporates refer to Corporate Bonds, Commercial Paper, Certificate of Deposit, Time Deposit, Bankers' Acceptance. This is repeated across all the charts and tables in this section.

25 PIMCO's aggregate value is based on PIMCO accounts as of 31 December 2024, subject to data availability.

26 Benchmark value is based on Bloomberg Global Agg Credit Index as of 31 December 2024, subject to data availability. The Bloomberg Global Agg Credit Index serves as a proxy for the corporate credit market.

27 PIMCO's aggregate value based on PIMCO accounts as of 31 December 2023, subject to data availability

28 Benchmark value is based on Bloomberg Global Agg Credit Index as of 31 December 2023, subject to data availability. The Bloomberg Global Agg Credit Index serves as a proxy for the corporate credit market.

29 Coverage metrics represent the share of securities with data as a % of the corporate market value of assets under management.

Metric type	Metric	Asset class covered[24]	Units	2024 Value PIMCO[25]	2024 Value Benchmark[26]	Diff Over Index	2023 Value PIMCO[27]	2023 Value benchmark[28]	2024 PIMCO Coverage[29]	2023 PIMCO Coverage[29]
Portfolio Alignment Metrics	Share of issuers with a Science Based Target set	Corporates	%	25.4%	32.1%	-6.7 p.p.	23.2%	29.4%	-	-
	Definition: % of Corporate Market Value of portfolios invested in issuers with a Science-Based Target set									
	Weighted Average Temperature Score (WATS)	Corporates	Centigrade Degrees	2.39	2.24	6.9%	2.43	2.28	-	-
	Definition: The respective weighting of companies' implied temperature rise is the invested value in a company divided by the total value of the portfolio.									
	Share of Corporate Market Value potentially aligned with a well below 2 degrees Scenario (incl. 1.5-degree)	Corporates	%	49.7%	56.8%	-7.1 p.p.	46.7%	53.3%	-	-
	Share of Corporate Market Value potentially aligned with a 1.5-degree Scenario	Corporates	%	31.5%	37.4%	-5.9 p.p.	28.1%	33.2%	-	-
	Definition: Based on an estimate of the global temperature rise associated with the greenhouse gas emissions of each company (source: TPI, SBTi, Trucost). It incorporates current GHG emissions or other data and assumptions to estimate expected future emissions associated with the entity. Then the estimate is translated into a projected increase in global average temperature (in °C) above preindustrial levels that would occur if all companies in corresponding sectors had the same carbon intensity as the selected asset(s).									
Exposure to carbon-related assets	Share of Carbon Sensitive Sectors	Corporates	%	35.4%	36.2%	-1.8 p.p	36.3%	36.8%	-	-
	Definition: % of Corporate Market Value of portfolios invested in sectors deemed particularly sensitive to risks brought about by the energy transition (Energy; Materials and Buildings; Transportation; Food and Agriculture; Forest products).									
Exposure to Physical Risks	Weighted Average Physical Risk Exposure Score	Corporates	-	3.39	3.45	-0.05	-	-	-	-
	Definition: 1-5 Score that indicates how exposed is a company to climate physical risks (weighted based on market value) (1: most exposed and 5: least exposed)									
Climate-related Opportunities	Share of Green Bonds	All asset classes	%	2.2%	5.7%	-3.5 p.p.	2.0%	5.1%	-	-
	Definition: % Market Value of portfolios invested in Green Bonds									
	Share of Sustainability Bonds	All asset classes	%	0.8%	2.7%	-1.9 p.p.	0.7%	2.2%	-	-
	Definition: % Market Value of portfolios invested in Sustainability Bonds									

Sources: MSCI, PIMCO, TCFD, PCAF, SBT, Moody's, as of 31 December 2024 and as of 31 December 2023. For illustrative purposes only. Calculations for carbon metrics are based on the guidance developed by the TCFD and the Partnership for Carbon Accounting Financials (PCAF). Carbon data reflects the last level of emissions reported by the company, although in some instances it can reflect emissions data that had been disclosed before 2024 (e.g. 2023 and 2022), subject to availability.

24 Corporates refer to Corporate Bonds, Commercial Paper, Certificate of Deposit, Time Deposit, Bankers' Acceptance. This is repeated across all the charts and tables in this section.

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29 Coverage metrics represent the share of securities with data as a % of the corporate market value of assets under management.

Sovereign

Metric type	Metric	Asset class covered	Units	2024 Value PIMCO[30]	2024 Value Benchmark[31]	Diff Over Index	2023 Value PIMCO[32]	2023 Value benchmark[33]
Financed emissions	Production Emissions excl. LULUCF (Scope 1 excl. LULUCF)	Sovereigns	tCO2e	202,477,728	197,516,018	2.5%	178,134,258	174,293,534
	Definition: The absolute production emissions (defined as Scope 1, excl. land use, land-use change, and forestry (LULUCF) emissions associated with a portfolio, expressed as the amount of production greenhouse gas (mtCO2e) emissions generated per million US$ of national economic output (PPP-adjusted GDP).							
	Production Emissions incl. LULUCF (Scope 1 incl. LULUCF)	Sovereigns	tCO2e	206,155,173	191,094,686	7.9%	185,187,994	168,446,827
	Definition: The absolute production emissions (defined as Scope 1 incl. land use, land-use change, and forestry (LULUCF) emissions associated with a portfolio, expressed as the amount of production greenhouse gas (tCO2e) emissions generated per million US$ of national economic output (PPP-adjusted GDP).							
	Weighted Average Production Emission Intensity (excl. LULUCF)	Sovereigns	tCO2e/$MPPP adjusted GDP	228	230	-0.9%	227	224
	Definition: Weighted average of production emissions (defined as Scope 1 excl. land use, land-use change, and forestry (LULUCF) emissions/ $M PPP_ adjusted_GDP), (weighted based on PMV)							
	Weighted Average Production Emission Intensity (incl. LULUCF)	Sovereigns	tCO2e/$MPPP adjusted GDP	219	215	1.9%	214	210
	Definition: Weighted average of production emissions (defined as Scope 1 incl. land use, land-use change, and forestry (LULUCF) emissions/ $M PPP_ adjusted_GDP) (weighted based on PMV)							

Source: MSCI. The asset class named Sovereign covers here bonds classified as Treasury (i.e. excluding government-related securities such as quasi-sovereign, agencies and supranational). Scope 1 refers to Production Emissions which are Territorial emissions of a country, excluding/including land use, land use change and forestry (including direct exports). Under this approach, a sovereign is seen primarily as a national territory, and direct (scope 1) GHG emissions are attributable to emissions generated within its boundaries and are equivalent to production emissions which are emissions produced domestically and inclusive of domestic consumption and direct exports. (This definition follows the territorial emissions approach adopted by UNFCCC for annual national inventories and is typically referenced by sovereigns in their Nationally Determined Contributions (NDCs). Note: Given a divergence of views among emissions data providers and climate experts regarding the accounting of land use, land-use change and forestry (LULUCF) emissions, PCAF states that investors have to report Scope 1 twice, including and excluding LULUCF as separate metrics. Due to the time lag associated with carbon emissions, there may be a discrepancy in the year between the emissions, population, and GDP data from MSCI and the most recent PMV and Adjusted_PARR values for PIMCO's sovereign holdings.

30 PIMCO's aggregate value is based on PIMCO accounts as of 31 December 2024, subject to data availability.

31 Benchmark value is based on Bloomberg Global Aggregate Treasuries Index as of 31 December 2024, subject to data availability. The Bloomberg Global Aggregate Treasuries Index serves as a proxy for the government bond market.

32 PIMCO's aggregate value based on PIMCO accounts as of 31 December 2023, subject to data availability

33 Benchmark value is based on Bloomberg Global Aggregate Treasuries Index as of 31 December 2023, subject to data availability. The Bloomberg Global Aggregate Treasuries Index serves as a proxy for the government bond market.

PIMCO's carbon emissions beyond those linked to assets under management

PIMCO believes that running a successful company entails incorporating material environmental and social factors into strategy, operations, and culture.

In 2024, PIMCO developed a Corporate Environmental Sustainability Statement and management strategy. This strategy focuses on five key areas for ongoing monitoring: energy, travel, waste, water, and paper.

Overseen by the Corporate Sustainability team in collaboration with the Sustainability Leadership team, PIMCO's Corporate Environmental Sustainability Statement encapsulates objectives and commitments to the UN Global Compact's principles. PIMCO is dedicated to integrating these principles into PIMCO's strategy, culture, and daily operations.

PIMCO's sustainability efforts are driven by the Code of Business Conduct and core values: Collaboration, Openness, Responsibility and Excellence.

PIMCO is developing processes for measuring and monitoring PIMCO's carbon footprint and assessing the sustainability practices PIMCO offices globally. As a professional services company, PIMCO does not see PIMCO's own emissions as providing relevant material risks and opportunities, but PIMCO recognizes their importance in shaping the overall strategy.

Targets used by the organization to manage climate-related risks and opportunities and performance against targets

PIMCO does not employ any universal targets as a firm on the assets managed on behalf of clients. As a firm, PIMCO's climate-related actions are principles-based, guided by the firm's official commitment to the UN Global Compact's (UNGC) core environment principles. The firm reports annually on its progress in relation to the UNGC principles. PIMCO's objective as an asset manager is to deliver on investment objectives driven by clients, the asset owners. Currently, the extent to which PIMCO employs carbon-related targets in portfolios on behalf of clients consists of relative targets, where portfolios seek to have a better carbon intensity compared to relevant benchmarks, or targets related to a reduction in portfolio's financed emissions over time.

APPENDIX

Scope of this report

Data refer to assets under management (AuM) for PIMCO.

Governance

The governance section focuses on PIMCO's Management since PIMCO does not have a board of Directors.

Climate data

GENERAL NOTE

Alongside the core metrics recommended by the TCFD, PIMCO endeavored to include additional content that seeks to provide a more comprehensive approach overview. This content is informed by similar voluntary frameworks, recommendations or proposals developed by various related initiatives (e.g., CDP, ISSB, PCAF, CFRF, UK Transition Plan Taskforce (TPT)). This inherently involves methodologies and data that are at various degrees of development, quality and acceptance, notably as it relates to greenhouse gas emissions accounting, asset classes beyond corporate credit, and forward-looking assumptions.

For example, certain metrics such as a portfolio's climate value at risk or implied temperature rise[34], are subject to particularly significant limitations. In the future, regulators, investors' own constituents, academics, and non-governmental organizations could have different interpretations and expectations for GHG accounting and climate risk disclosure in portfolios. There is no representation that data presented in this report will suffice to draw conclusions linked to investment decisions or make a positive or negative environmental impact claim. Past environmental performance and available proxies for the potential future performance is no guarantee of future results.

In this section, PIMCO shares details on methodology considerations (including uncertainties and broader limitations) and the room for improvement identified as PIMCO continuously looks at ways of enhancing ESG evaluation and disclosure, while increasing transparency.

34 'In addition to a baseline of core metrics, PIMCO proposed that firms make 'best efforts' to disclose additional, mostly forward-looking, metrics (climate value-at-risk [VaR]), portfolio alignment metrics, and any other metrics that they would consider decision-useful to disclose). We recognized that methodologies are still developing but considered that these metrics represent the direction of travel of the industry and are likely to be decision-useful to clients and consumers.' (source: FCA)

Methodology

Category	Use case	Metric type	Metric	TCFD Reference	Definition	Use case	Strengths	Weaknesses
Impact of the firm on climate change	Portfolio decarbonization	Financed emissions	Weighted Average Carbon Intensity	TCFD Implementation Guidance: Cross-Industry, Climate-Related Metric Categories (page 80), and others.	Portfolios' exposure to carbon-intensive companies (Scope 1 absolute emissions + Scope 2 absolute greenhouse gas emissions)/ issuer's revenues in $M USD (weighted based on Market Value).	Proxy for the portfolio's efficiency in terms of emitting less carbon considering a certain level of activity.	Factors in company's size. Enables some comparison over time and between portfolios. Easier to manage than absolute carbon emissions Helps assess carbon (transition) risks but is far from equating it.	Coverage of Carbon Emissions of issuers (especially for Scope 3) remains the biggest challenge when calculating carbon performance metrics such as Weighted Average Carbon Intensity, Total Carbon Emissions or Carbon Footprint. Carbon metrics including Scope 3 data are considering only issuers that have all the Scopes populated (Scope 1, 2 and 3). It is worth noting that even when Scope 3 emissions are reported, sometimes they only include a few categories (emissions from use of sold products often lacking). To cover this gap, we are using estimated Scope 3 emissions provided by MSCI when the issuer is not reporting Scope 3 data. For the sake of a fair comparison in Total Carbon Emissions, the market value of the benchmark has been rescaled to match the market value of in score PIMCO assets under management. Total Carbon Emissions and Carbon Footprint are linked to volatility, notably due to biases linked to EVIC changes and changes in the equity/debt structure. Difficult to determine appropriate capital structure of private issuers. Weighted Average Carbon Intensity use revenues as a denominator, which introduces bias. Not a proxy for the portfolio's contribution to global warming. The quality gap between the highest and lowest Data Quality Scores is significant. Lacks additional buckets to further differentiate company data that is estimated.
Impact of the firm on climate change	Portfolio decarbonization	Financed emissions	Total Carbon Emissions	TCFD Implementation Guidance: Cross-Industry, Climate-Related Metric Categories (page 80), and others.	Proxy for the carbon emissions that the position in the security is responsible for. Total GHG emissions for portfolios (scope 1 and 2 emissions). Based on enterprise value including cash.	Proxy for the portfolio's contribution to global warming.	Can be linked to the absolute impact and a portfolio's total contribution to GHG emissions.	
Impact of the firm on climate change	Portfolio decarbonization	Financed emissions	Carbon Footprint	TCFD Implementation Guidance: Cross-Industry, Climate-Related Metric Categories (page 80), and others.	Total GHG emissions for a portfolio normalized by the market value of the corporates in the portfolio with Scope 1+2 GHG emissions data, expressed in tons CO2e/$M invested. Based on enterprise value including cash.	Proxy for the portfolio's efficiency in terms of emitting less carbon considering a certain level of investment.	Can be linked to the absolute impact and a portfolio's total contribution to GHG emissions.	
Impact of the firm on climate change	Portfolio decarbonization	Financed emissions	Data Quality Score	PCAF – Global GHG Standard for Financed Emissions (page 57), and others.	Data Quality score (1 to 3 – 1: best, 3: worst) that takes into account if the emissions are reported or estimated and if there is existence of assurance audits for the emissions data.	Proxy for the portfolio's carbon data quality.	Directly comparable across companies regardless of size. Provides a general indication of the degree of advancement in company's carbon reporting.	

Category	Use case	Metric type	Metric	TCFD Reference	Definition	Use case	Strengths	Weaknesses
Impact of the firm on climate change	Portfolio decarbonization	Portfolio alignment metrics	Share of issuers with a Science Based Target set	Summary of Changes to Guidance, October 2021 (page 6, 47, 48), and others.	% of Corporate Market Value of portfolios invested in issuers with a Science Based Target set.	Proxy for the exposure to issuers with more advanced decarbonization strategies. Proxy to map alignment of the Portfolio with the objectives of the Paris Agreement.	Forward looking. Only publicly available initiative that verifies decarbonization targets based on a transparent process and methodologies.	Limitations to SBTi's coverage and methods, e.g., sectors are covered to varying degrees.
Impact of the firm on climate change	Portfolio decarbonization	Portfolio alignment metrics	Share of issuers aligned with the Paris Agreement	Summary of Changes to Guidance, October 2021 (page 6, 47, 48), and others.	% of Corporate Market Value of portfolios invested in issuers aligned with the Paris Agreement climate targets.	Proxy for the exposure to issuers with more advanced decarbonization strategies Proxy to map alignment of the Portfolio with the objectives of the Paris Agreement.	Forward looking. Uses a waterfall logic leveraging sources such as SBTi, TPI, Trucost and MSCI to address data gaps.	It is not a standardized metric (e.g. no standard methodology to calculate it). The use of a waterfall logic means that the value might be driven by different data sources which carry different assumptions.
Impact of the firm on climate change	Portfolio decarbonization	Portfolio alignment metrics	Implied Temperature Rise	TCFD Implementation Guidance (page 48, page 5 – footnote 7), and others.	% of Corporate Market Value of portfolios invested in issuers with an Implied Temperature Rise aligned with the objectives of the Paris Agreement.	Proxy for the exposure to issuers with more advanced decarbonization strategies Proxy to map alignment of the Portfolio with the objectives of the Paris Agreement.	Forward looking. Granular, as it is calculated at company level and later aggregated at portfolio level.	High dispersion in the results depending on the methodology to evaluate the warming potential of an entity and how to aggregate those at portfolio level.

Additional limitations and areas under development

BESIDES STRENGTHS AND WEAKNESSES MENTIONED IN THE PREVIOUS TABLE, WE NOTE THAT:

- **The coverage of carbon emissions of issuers** (especially for Scope 3) remains the biggest challenge when calculating carbon performance metrics such as Weighted Average Carbon Intensity, Total Carbon Emissions or Carbon Footprint. Carbon metrics including Scope 3 data consider only issuers that have all the Scopes populated (Scope 1, 2, and 3). PIMCO is using both reported and estimated Scope 3 emissions provided by MSCI. There are significant limitations associated with each approach (reported or estimated). It is worth noting that even when Scope 3 emissions are reported, sometimes they only include a few Greenhouse Gas Protocol categories (e.g., emissions from use of sold products are often lacking) and may omit the most material ones. Issuers' disclosure on the types and sources of data as well as methodology to calculate these emissions may also be partial while the heterogeneity of practices, together with uncertainties associated with these calculations, hamper the comparison over time or between issuers. Besides, MSCI's methodology uses various assumptions and proxies (e.g., estimating emissions based on sectoral revenues and intensities) that may make these values materially different from actual emissions. There are also inherently some double counting issues associated with both Scope 2 and Scope 3 (the same ton of carbon is counted several times within a portfolio). For the sake of a fair comparison for Total Carbon Emissions, the market value of the benchmark has been rescaled to match the market value of PIMCO assets under management. As explained individually in the "Definition" column, metrics representing a share of market value have been adjusted for data coverage (e.g., calculating the share only within the corporate universe with data available). Metrics using weights (e.g., for Weighted Average Carbon Intensity) have used a weighting system which calculates the weight based on the market value universe of corporates with carbon data populated.
- **Asset classes in scope:** Carbon emissions covered in this report focus on corporate issuers, in line with the initial focus of the TCFD recommendations. Most other asset classes relevant to PIMCO are not yet covered by PCAF. PIMCO is actively engages with external initiatives and market participants to enhance and improve the data that underpins these frameworks and methodologies. PIMCO is a Core Team member of PCAF that published draft guidance in 2024 covering sub-sovereign and structured products. Currently, only mortgages originated by banks (not explicitly securitized) are included by PCAF from a reporting perspective. However, PIMCO, as a sponsor of the PCAF Core team for the securitized products and covered bond working group, is actively developing guidance for securitizations.
- **Use of proceeds bonds:** All data on carbon emissions are in this report at issuer level, i.e., without applying any assumptions regarding green bonds that fund low-carbon projects such as renewable energy.
- The **'as of date':** Data reflect portfolios' holdings at the end of last year. However, given the time lag in issuers' disclosure and vendors making these data or their revized estimates available to us, the carbon data correspond to previous years.
- **Scope 3 data:** In the 2022 TCFD report, PIMCO reported Scope 1,2,3 emissions on an aggregate basis. In this report, Scope 3 emissions are reported on a standalone basis for both the 2023 and the 2024 values. Scope 3 data is not fully comparable between 2024 and 2023 since the MSCI methodology has changed. As of end of 2023 the logic PIMCO had in place looked at reported Scope 3 emissions first and if not available used Scope 3 estimated emissions (both coming from MSCI). By mid-2024 MSCI rolled out a Scope 3 field that depends on an internal logic that focuses on data availability and quality, and uses either Scope 3 disclosures or Scope 3 estimates modelled by MSCI ESG Research. The MSCI logic never combines estimates and disclosures for this aggregation.

- **Physical risk score:** It represents a weighted average percentile score based on corporate issuers held in the portfolio. It uses the Representative Concentration Pathways (RCP) 8.5 and a 2030 time horizon. There are seven hazards taken into account, including: floods; heat stress; hurricanes & typhoons; sea level rise; water stress; wildfires; earthquakes. The score only takes into account potential exposure of the assets owned by corporate bond issuers and doesn't consider impacts on broader parts of the value chain (e.g., supply chain). The percentile score means that each company score has been rescaled by percentile with respect to the universe of companies covered by Moody's in order to put them on a 0-100 scale: 0 (low risk) and 100 (high risk). PIMCO has later converted that scale into a 1-5 scale (1: high risk and 5: low risk) in order to align it with PIMCO's typical scoring scale. The percentile score is useful to directly benchmark the hazard score of a company relative to the others. PIMCO does not report 2023 physical risk scores in the corporate metrics section, since in 2023 scores used a different methodology, and therefore were not comparable. During 2024 PIMCO has transitioned to the current scoring methodology PIMCO is reporting. Physical risks are also assessed in this report in the scenario analysis section.

- **Sovereign data:**
  - Data Coverage: limited to Sovereign debt (sub-sovereign and municipalities are not currently covered).
  - Double Counting: when reporting emissions associated with sovereign bonds beyond the emissions of the governmental organization only, double counting occurs with Scope 1 and 2 emissions generated by other sectors. This double counting may also spill over to GHG accounting from FIs with investment portfolios in multiple asset classes (e.g., loans or investments to corporates). This type of double counting occurs with all approaches described in this document.
  - Use of multiple sources of data in the composite dataset increases uncertainty. Datasets from different sources might use varying assumptions about the set of activity data, emission factors, and Global Warming Potential (GWP) values. Each source of data has its own extrapolation and simplification rules.
  - Time series restatements are common, and estimated data will be replaced with reported data (when made available).
  - The dataset does not include emissions for the international shipping and aviation sector.
  - MSCI assigns a data quality score 4 to estimated data based on historical reported emissions (PCAF does not provide guidance for data quality scores for extrapolated data). Besides, the data quality score doesn't differentiate the quality of issuers' reported data here (e.g., GHG accounting coverage and robustness).
  - Due to the time lag associated with carbon emissions, there may be a discrepancy in the year between the emissions, population, and GDP data from MSCI and the most recent PMV and Adjusted_PARR values for PIMCO's sovereign holdings. Latest data for carbon refer to FY-2022.

Scenario analysis covered in Strategy section

METHODOLOGY DETAILS

Below shows a more illustrative results and background information from two different models taking a top-down macroeconomic approach to climate scenario analysis, examining fixed income markets' resiliency to future climate risks. The first is an off-the-shelf model developed by the Network for Greening the Financial System (NGFS), a coalition of central banks dedicated to assessing the impact of climate change[35]. Its approach tries to capture all the major components of the global economy including government policy, labor and capital markets, and trade flows.

The second is the PIMCO model used in the scenario analysis of the strategic section, a reduced form approach using empirical data to capture the main mechanisms linking climate change to the global economy. This bespoke approach abstracts away from modelling all components of the economy and chooses instead to focus on the key mechanisms that are linked to climate change. The PIMCO top-down macro model maps the NGFS climate scenarios to two types of outputs: macroeconomic and risk factor. The outputs are a panel with country and time dimensions. The time series dimension is annual over the same horizon as the input scenario. PIMCO assumes the climate scenario affects the macroeconomic outputs through two channels: 1) Physical risks: Loss in productivity due to human-driven increase in global temperature; 2) Transition risks: Increased inflation and loss in growth from taxing carbon and subsidizing renewable investment. These macroeconomic shocks flow through to asset prices which PIMCO captures using a set of risk factors. The risk factor outputs are then plugged into PIMCO's risk model (Proteus) and applied to the desired account, index or security to generate the final return impact of the climate scenario.

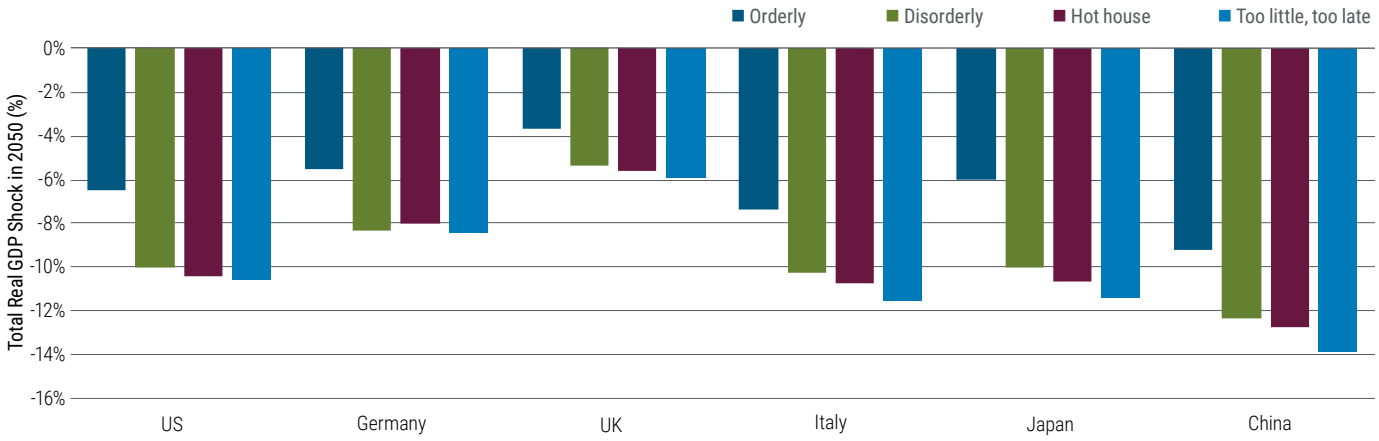
Using the two models, PIMCO can simulate the cumulative impact climate change could have on real GDP or equity for the world, the U.S., and Europe over the years 2023-2050 under four different scenarios (designed by the NGFS[36]):

1. Orderly transition: Net zero (medium transition risks, low physical risks)
2. Disorderly: Delayed transition (high transition risks, medium physical risks)
3. Hot house world: Continuation of current policies (low transition risks, very high physical risk)
4. Too little, too late: delayed action and high emission (high transition risks, high physical risk)

35 The model combines "REMIND," an integrated assessment model, and "NIGEM," a large global macroeconomic model.

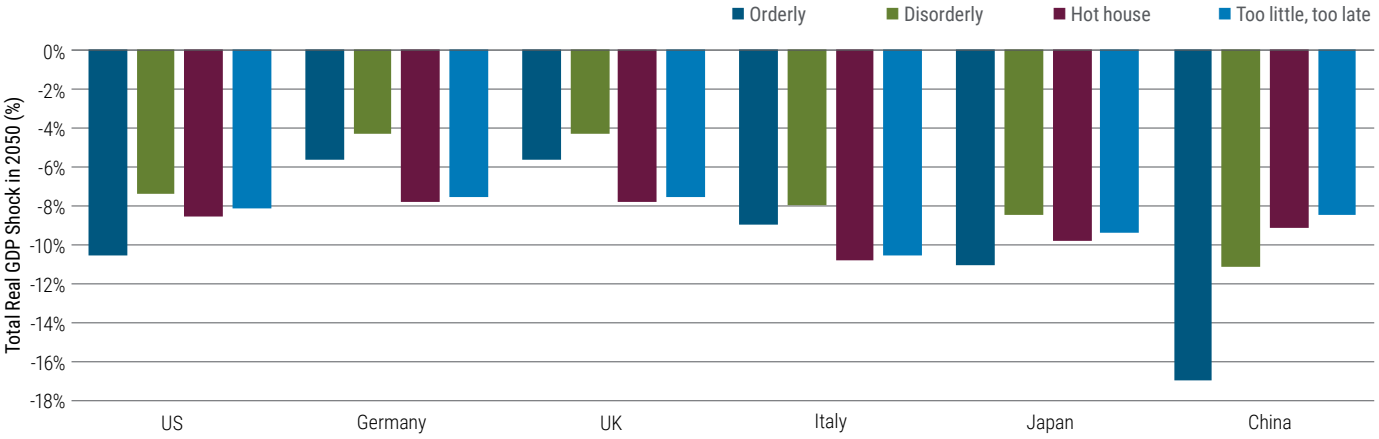
36 Orderly scenarios assume climate policies are introduced early and become gradually more stringent. Disorderly scenarios explore higher transition risk due to policies being delayed or divergent across countries and sectors. Hot house world scenarios assume that some climate policies are implemented in some jurisdictions, but globally efforts are insufficient to halt significant global warming. The scenarios result in severe physical risk including irreversible impacts, such as sea-level rise.

NGFS model predictions for real GDP shocks per region and scenario



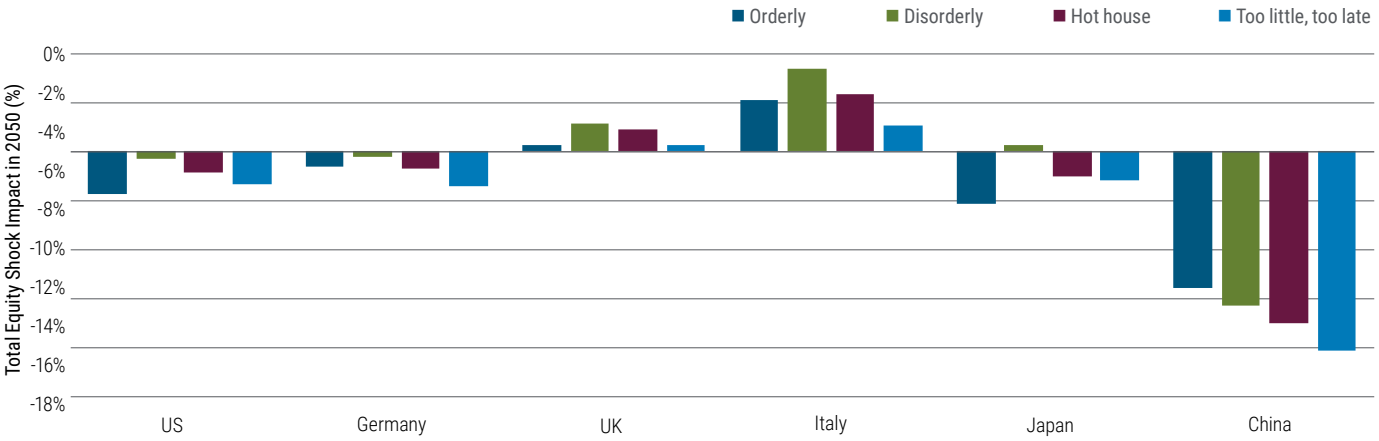
As of 31 December 2024. Source: NGFS, PIMCO. For illustrative purposes only. Represents NIGEM|Gross Domestic Product (GDP) figures for the NGFS's REMIND-MAgPIE 3.3-4.8 inputs model. Source: NGFS Phase 5 data set, V5.0, November 2024

PIMCO model predictions for real GDP shocks per region and scenario



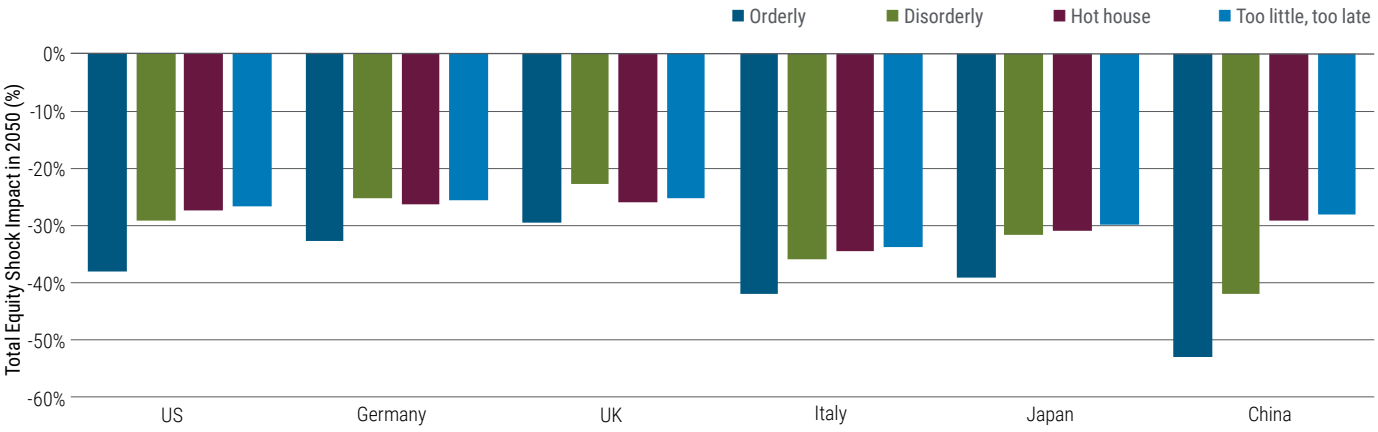
As of 31 December 2024. Source: Burke and Tanutama (2019), Bloomberg, BP, IMF, OECD, Our World in Data, PIMCO. **For illustrative purposes only.** Represents NIGEM|Gross Domestic Product (GDP) figures for the NGFS's REMIND-MAgPIE 3.3-4.8 inputs model. Source: NGFS Phase 5 data set, V5.0, November 2024

NGFS model predictions for equity shocks per region and scenario



As of 31 December 2024. Source: NGFS, PIMCO. **For illustrative purposes only.** Represents NIGEM|Gross Domestic Product (GDP) figures for the NGFS's REMIND-MAgPIE 3.3-4.8 inputs model. Source: NGFS Phase 5 data set, V5.0, November 2024

PIMCO model predictions for equity shocks per region and scenario



As of 31 December 2024. Source: Burke and Tanutama (2019), Bloomberg, BP, IMF, OECD, Our World in Data, PIMCO. **For illustrative purposes only.**
Represents NIGEM|Gross Domestic Product (GDP) figures for the NGFS's REMIND-MAgPIE 3.3-4.8 inputs model. Source: NGFS Phase 5 data set, V5.0, November 2024

Both the NGFS and PIMCO models predict a negative cumulative impact on real GDP across scenarios. For the Orderly and Disorderly scenarios, the negative impact is driven by transition risk. Carbon taxes help the world to transition to a greener economy, however they cause a negative impact on real GDP along the way. Here, it is important to note that the projections are by 2050, as the time horizon is crucial for climate shock predictions, as a climate transition can be expected to have a first phase where the mostly costs of the transition are paid, and a second phase where benefits are reaped. For the Hot house world scenario, the loss in GDP comes from physical risk; increasing temperatures impact output through losses in productivity and increased disaster risk. For the Too little, too late scenario, both transition risk and physical risk cause losses in real GDP.

The NGFS model predicts that early climate action is better than late climate action. This effect is driven by how a late transition in the Disorderly scenario causes larger and more sudden increases in carbon policy. An Orderly transition is less disruptive, causing less deadweight loss and less inflation. The models diverge in their predictions of magnitude and relative ordering. The GDP projections of the NGFS differs from the PIMCO model. Two key assumptions may differ between the models. First, the NGFS may assume that the physical damage from a delayed transition (e.g., natural catastrophes) will have a greater negative impact on GDP by 2050. This may stem from a more punitive damage function, which links each extra degree of temperature to more extreme catastrophes. Second, the NGFS may assume that the reinvestment of the collected carbon tax will be more beneficial to GDP, when compared to the PIMCO model assumption, and that these benefits offset the increased cost of energy on growth. This may be the case if, for example, breakthroughs in renewable energy that would not have been possible without these reinvestments, whose impact manifests by 2050. In the PIMCO model, more pronounced negative equity shocks in the fast transition scenarios are the result of negative GDP shocks due to high carbon taxes. However, a strong correlation between economic growth and equity returns in PIMCO's macroeconomic regression leads all scenarios to produce negative equity shocks.

It is important to note the worst of climate change is anticipated to occur after 2050 if temperatures continue to rise and the effects of sustained carbon concentration begin to appear. The results suggest that between 2020-2050 the immediate effect of climate change may be moderate, which implies that it is crucial to pay attention to climate change now, before damages in the future become irreversible and much more severe.

LIMITATIONS AND AREAS UNDER DEVELOPMENT (ILLUSTRATIVE)

- **Asset class coverage:** Data and methods are at a very early stage besides corporate credit and sovereign credit.
- **Top-down versus bottom-up:** The illustrative scenarios addressed in this report evaluate separately the impact on macroeconomic parameters (top-down model) from the impact on corporate credit (bottom-up mode).
- **Country-specific climate change-related macroeconomic effects** are difficult to quantify (whether in terms of transition risk or physical climate risk), and their time horizon is challenging to predict.
- **Physical risks:** Estimates used to model physical climate risks are based on historical data and chronic, not acute climate physical risks, and may thus underestimate future climate shocks.
- **Nature of the shock and complexity:**
  - Future climate pathways are inherently uncertain and non-linear and historical data cannot apply.
  - Second order effects, negative feedback loop and irreversible tipping points, migration, low probability high impact events together are not taken into account.
  - None of these models calculates the GDP endogenously by adding the activity in individual sectors. The effects of the mitigation policies on GDP are calculated at the macro level, by taking into account the overall changes in the costs of energy, not the increasing or decreasing activity in individual sectors.
  - The interplay between transition and physical risks is hard to model.
  - The nexus with broader environmental and social factors add to the complexity. For example, energy prices and economic disruptions associated with fossil fuels are not factored in.
- **Input macro variables:** The impact on other key macroeconomic variables (currency changes versus USD) is not addressed.
- **Time horizon:** Physical risks materialize far in time across scenarios. The scenarios deviate more in the 2nd half of the century.
- **Issuer, policy and market reactions:** There are no 'dynamic' assumptions regarding the actions taken by issuers, policy makers or the market (e.g. based on their commitments, policies or adaptive capacity).
- **Capital Market Assumptions (CMAs) and Strategic Asset Allocation (SAA):** The output of this climate scenario analysis can be connected to the existing models and infrastructure used for CMA.

GLOSSARY

Term	Description
Adaptation	Actions that minimize or remove the negative impacts of global warming or climate change. Adaptation takes different forms depending on how well the potential damage is understood, and the type of damage it is designed to prevent.
Avoided Emissions	Emission reductions that the financed project produces versus what would have been emitted in the absence of the project (the baseline emissions).
Bank of England Climate Financial Risk Forum (CFRF)	The CFRF is an initiative to build capacity and share best practice across industry and financial regulators to advance our sector's responses to the financial risks from climate change.
Biodiversity	The variability among living organisms from all sources, including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.
Carbon Dioxide	A naturally occurring gas, CO2 is also a by-product of burning fossil fuels (such as oil, gas and coal), of burning biomass, of land-use changes (LUC) and of industrial processes (e.g., cement production).
Carbon Disclosure Project (CDP)	The CDP is an organization that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts.
Carbon Footprint	Total carbon emissions for a portfolio normalized by the market value of the portfolio, expressed in tCO2e/USDmm invested.
Carbon Price	The price for avoided or released carbon dioxide (CO2) or CO2-equivalent emissions. This may refer to the rate of a carbon tax, or the price of emission permits. In many models that are used to assess the economic costs of mitigation, carbon prices are used as a proxy to represent the level of effort in mitigation policies.
Climate Bonds Initiative (CBI)	CBI is a leading organization focused on fixed income and climate change solutions.
Climate Risk Score	Assesses climate change risks for a wide range of relevant sectors and issuers.
Ecosystem	A network of relationships between organisms, their environment, and other organisms. An ecosystem is usually defined by its primary environment (e.g. a desert ecosystem, or a freshwater ecosystem). Ecosystems include living components (e.g. plants and animals) and non-living components (e.g. weather, water, rocks).
Enterprise Value Including Cash (EVIC)	The sum of the market capitalization of ordinary shares at fiscal year end, the market capitalization of preferred shares at fiscal year-end, and the book values of total debt and minorities' interests.
Environmental Degradation	Reductions in the health and resilience of the environment (or an ecosystem) from human activity. Environmental degradation is also referred to as 'ecological degradation'. Environmental degradation includes the depletion and pollution of resources (e.g. soil, water, air), habitat destruction, and the extinction of species.
FAIRR	FAIRR is a global collaborative investor network that raises awareness of the environmental, social and governance (ESG) risks and opportunities brought about by intensive livestock production, with over $23 trillion in member AuM.
Global Mean Surface Temperature	Estimated global average of near-surface air temperatures over land and sea-ice, and sea surface temperatures over ice-free ocean regions, with changes normally expressed as departures from a value over a specified reference period. When estimating changes in GMST, near-surface air temperature over both land and oceans are also used.
Global Warming	The estimated increase in global mean surface temperature (GMST) averaged over a 30-year period, or the 30-year period centered on a particular year or decade, expressed relative to pre-industrial levels unless otherwise specified.
Green Bonds	Portfolio exposure (%MV) to green bonds – bonds issued with use of proceeds devoted to environmental projects.
Green Bonds Score	We assess green bond instruments both prior to and after issuance, mapping them across a spectrum based on strategic fit, potential impact, red flags, and reporting, resulting in PIMCO's impact score for green, social, or SDG bonds.
Greenhouse Gas (GHG) Emissions	The seven gases mandated under the Kyoto Protocol and to be included in national inventories under the United Nations Framework Convention on Climate Change (UNFCCC)—carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF), and nitrogen trifluoride (NF3).

Term	Description
Greenhouse Gases	A naturally occurring gas, CO2 is also a by-product of burning fossil fuels (such as oil, gas and coal), of burning biomass, of land-use changes (LUC) and of industrial processes (e.g., cement production).
Greenium	Pricing differential between green bonds (issues where proceeds are used to finance or re-finance environmentally sustainable projects) and conventional non-green fixed income securities.
Institutional Investors Group on Climate Change (IIGCC)	The IIGCC is a leading investor coalition on climate change with more than 170 members across 13 countries, with over €23 trillion in assets.
Integrated Assessment Model (IAMs)	Integrated assessment models (IAMs) integrate knowledge from two or more domains into a single framework. They are one of the main tools for undertaking integrated assessments. One class of IAM used in respect of climate change mitigation may include representations of: multiple sectors of the economy, such as energy, land use and land-use change; interactions between sectors; the economy as a whole; associated GHG emissions and sinks; and reduced representations of the climate system. This class of model is used to assess linkages between economic, social and technological development and the evolution of the climate system. Another class of IAM additionally includes representations of the costs associated with climate change impacts, but includes less detailed representations of economic systems.
Intergovernmental Panel on Climate Change (IPCC)	The IPCC is a United Nations intergovernmental body that assesses and synthesizes the body of scientific knowledge regarding climate change.
Interim Target	Refers to a short-term milestone between the organization's medium- or long-term target and current period.
International Capital Markets Association (ICMA)	ICMA is an association that promotes building internationally accepted standards of best practice in markets through the development of appropriate, broadly accepted guidelines, rules, recommendations, and standard documentation. In order to maintain and enhance the framework of cross-border issuing, trade, and investing in debt securities.
Investor Group on Climate Change (IGCC)	The IGCC is a collaboration of Australian and New Zealand institutional investors focused on the impact of climate change on investments.
Issuers Engaged on Net Zero	Net zero engagement topics includes: environment, greenhouse gas emissions, transparency and reporting, land use and biodiversity, physical risks and resilience and ESG bonds.
Just Transition	Involves maximizing the social and economic opportunities of climate action, while minimizing and carefully managing any challenges – including through effective social dialogue among all groups impacted, and respect for fundamental labor principles and rights.
Mitigation	Actions that minimize or remove the processes that cause global warming or climate change. Mitigation involves minimizing greenhouse gas emissions and/or maximizing greenhouse gas sequestration.
Nationally Determined Contribution	A term used under the United Nations Framework Convention on Climate Change (UNFCCC) whereby a country that has joined the Paris Agreement outlines its plans for reducing its emissions. Some countries' NDCs also address how they will adapt to climate change impacts, and what support they need from, or will provide to, other countries to adopt low-carbon pathways and to build climate resilience.
Net Zero	Achieving an equal balance between GHG emissions produced and GHG emissions removed from the atmosphere.
Network for Greening the Financial System (NGFS)	The NGFS is a coalition of central banks dedicated to assessing the impact of climate change. Their approach tries to capture all the major components of the global economy including government policy, labor and capital markets, and trade flows.
New Energy Vehicles (NEV)	NEV includes Battery Electric Vehicles or BEV and Plug-in hybrid electric vehicle (PHEV).
One Planet Asset Management Initiative	Initiative created following the 2015 Paris Agreement to collectively mitigate the effects of climate change. Aims to help Sovereign Wealth Funds foster a shared understanding of key principles, methodologies, and indicators related to climate change; identify climate-related risks and opportunities in their investments.
Paris Agreement	The Paris Agreement, adopted within the UNFCCC in December 2015, commits participating countries to limit global temperature rise to well-below 2°C above preindustrial levels and pursue efforts to limit warming to 1.5°C, adapt to changes already occurring, and regularly increase efforts over time.
Partnership for Carbon Accounting Financials (PCAF)	An industry-led initiative enabling financial institutions to measure and disclose greenhouse gas (GHG) emissions of loans and investments.

Term	Description
Physical Risk	Physical risks from climate change broadly include risk to facilities and infrastructure, impact on operations, water and raw material availability and supply chain disruptions. Physical risks affect the economy in two ways. • **Acute** impacts from extreme weather events can lead to business disruption and damages to property. Historically these impacts were considered transient but this will change with increased global warming. These events can increase underwriting risks for insurers and impair asset values. • **Chronic** impacts, particularly from increased temperatures, sea levels rise and precipitation, may affect labor, capital and agriculture productivity. These changes will require a significant level of investment and adaptation from companies, households and governments.
Portfolio Carbon Intensity Analysis	Consists of high-level portfolio screens that allow comparison of carbon intensity of different portfolios and benchmarks, for example based on the weighted average sum of both direct greenhouse gas emissions and greenhouse gas emissions due to purchases of electricity, heating, and cooling (i.e., Scope 1 + Scope 2 emissions in tonnes of carbon dioxide equivalent, or tCO2e / revenues in USD (weighted based on percentage of market value)).
Portfolio Climate Risk Heat Map	Gives a high-level overview of exposure to climate risk (both transition and physical) among relevant sectors and assets. It illustrates a "heat map" of select corporate sectors' exposure, from low risk (green) to high risk (red), along with examples of relevant climate risks within each sector.
Scenario Analysis	A plausible description of how the future may develop based on a coherent and internally consistent set of assumptions about key driving forces (e.g., rate of technological change, prices) and relationships.
Science Based Target initiative (SBTi)	The Science Based Targets initiative is a collaboration between the CDP, the United Nations Global Compact, World Resources Institute and the World Wide Fund for Nature.
Scope 1 Emissions	**Corporate:** Direct GHG emissions that occur from sources owned or controlled by the reporting company—i.e., emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc. Sovereign: Domestic GHG emissions from sources located within the country territory.
Scope 2 Emissions	**Corporate:** Indirect GHG emissions from the generation of purchased or acquired electricity, steam, heating, or cooling consumed by the reporting company. Scope 2 emissions physically occur at the facility where the electricity, steam, heating, or cooling is generated. Sovereign: GHG emissions occurring as a consequence of the domestic use of grid-supplied electricity, heat, steam and/or cooling which is imported from another territory.
Scope 3 Emissions	**Corporate**: All other indirect GHG emissions (not included in Scope 1 and 2) that occur in the value chain of the reporting company. The 15 Scope 3 GHG Protocol categories consist of; • Purchased Goods and Services • Capital Goods • Fuel and Energy related Activities (Not included in Scope 1 and 2) • Upstream Transportation and Distribution • Waste Generated in Operations • Business Travel • Employee Commuting • Upstream Leased Assets • Downstream Transportation and Distribution • Processing of Sold Products • Use of Sold Products • End of Life Treatment of Sold Products • Downstream Leased Assets • Franchises • Investments **Sovereign:** Emissions attributable to non-energy imports as a result of activities taking place within the country territory.
Shared Socioeconomic Pathways (SSPs)	Based on five narratives, the SSPs describe alternative socio-economic futures in the absence of climate policy intervention, comprising sustainable development (SSP1), regional rivalry (SSP3), inequality (SSP4), fossil–fuelled development (SSP5) and middle-of-the road development (SSP2).

Term	Description
Sovereign Consumption Emissions	Reflect the demand side of sovereign emissions and account for consumption patterns and trade effects. This metric provides a broader view of a sovereign's GHG emissions and tackles the issue of carbon leakage that arises due to production shifts from countries where goods and services are actually consumed later.
Sovereign Production Emissions	Emissions attributable to emissions produced domestically and include domestic consumption and exports. This definition follows the territorial emissions approach adopted by UNFCCC for annual national inventories and is typically referenced by sovereigns in their Nationally Determined Contributions (NDCs).
Stranded Assets	Assets that turn out to be worth less than expected as a result of changes associated with the energy transition
Sustainable Development Goals (SDGs)	A collection of seventeen interlinked objectives designed to serve as a "shared blueprint for peace and prosperity for people and the planet, now and into the future".
Total Carbon Emissions	The absolute greenhouse gas emissions associated with a portfolio, expressed in tons CO2e.
Transition Pathway Initiative (TPI)	TPI is a global asset owner-led initiative (including clients and investment consultants) that assesses companies' preparedness for the transition to a low-carbon economy.
Transition Risks	Transitioning to a lower-carbon economy can entail extensive policy, legal, technology and market changes to address mitigation and adaptation requirements related to climate change. Transition risks will affect the profitability of businesses and wealth of households, creating financial risks for lenders and investors. They will also affect the broader macroeconomy through investment, productivity and relative price channels, particularly if the transition leads to stranded assets.
Unlabelled Green Bonds	Portfolio exposure (%MV) to unlabelled green bonds – issuers fundamentally aligned to low carbon products and services, including renewable energy pure plays.
Weighted Average Carbon Intensity	Portfolio's exposure to carbon-intensive companies, expressed in tCO2e/USDmm sales.

As of 31 December 2024. Source: PIMCO, IPCC, PCAF, NGFS, TCFD

The information contained herein is as of December 31, 2024 unless otherwise noted.

This presentation contains examples of the firm's internal investment research capability. The data contained within the reports may not be related to the strategy discussed herein, may be stale and should not be relied upon as investment advice or a recommendation of any particular security, strategy or investment product.

In selecting case studies, PIMCO considers investment performance in addition to other factors, including, but not limited to, whether the example illustrates the particular investment strategy being featured and processes applied by PIMCO to making investment decisions. Information contained herein has been obtained from sources believed to be reliable, but not guaranteed.

Environmental ("E") factors can include matters such as climate change, pollution, waste, and how an issuer protects and/or conserves natural resources. Social ("S") factors can include how an issuer manages its relationships with individuals, such as its employees, stakeholders, customers and its community. Governance ("G") factors can include how an issuer operates, such as its leadership, pay and incentive structures, internal controls, and the rights of equity and debt holders.

Sustainable Strategies are strategies with client-driven sustainability requirements. For these strategies, PIMCO actively incorporates sustainability principles (i.e. excluding issuers fundamentally misaligned with sustainability factors, evaluating issuers using proprietary and independent ESG scoring) consistent with those strategies and guidelines. Further information is available in PIMCO's Sustainable Investment Policy Statement. For information about funds that follow sustainability strategies and guidelines, please refer to the fund's prospectus for more detailed information related to its investment objectives, investment strategies, and approach to sustainable investment.

There is no assurance that the socially responsible investing strategy and techniques employed will be successful.

Green Bonds: are a type of bond whose proceeds are used to finance or re-finance new and existing projects or activities with positive environmental impact. Eligible project categories include: renewable energy, energy efficiency, clean transportation, green buildings, wastewater management and climate change adaptation. **Social Bonds:** are a type of bond whose proceeds are used to finance or re-finance social projects or activities that aim to address or mitigate a specific social issue or seek to achieve positive social outcomes. Social project categories include providing and/or promoting: affordable basic infrastructure, access to essential services, affordable housing, employment generation, food security, or socioeconomic advancement and empowerment. **Sustainability Bonds:** are a type of bond whose proceeds are used to finance or re-finance a combination of green and social projects or activities. Sustainability bonds with strict accountability of the use of proceeds towards activities that advance the UN Sustainable Development Goals or SDGs may be labeled as SDG Bonds. **Sustainability-linked Bonds:** are bonds which are structurally linked to the issuer's achievement of certain sustainability goals, such as through a covenant linking the coupon of a bond to specific environmental and/or social goals. Progress, or lack thereof, toward the forementioned goals or selected key performance indicators results in a decrease or increase in the instrument's coupon. In contrast to the green, social and sustainability bonds described above, sustainability-linked bonds do not finance particular projects but rather finance the general functioning of an issuer that has explicit sustainability targets that are linked to the financing conditions of the bond.

All investments contain risk and may lose value. Investing in the **bond market** is subject to risks, including market, interest rate, issuer, credit, inflation risk, and liquidity risk. The value of most bonds and bond strategies are impacted by changes in interest rates. Bonds and bond strategies with longer durations tend to be more sensitive and volatile than those with shorter durations; bond prices generally fall as interest rates rise, and low interest rate environments increase this risk. Reductions in bond counterparty capacity may contribute to decreased market liquidity and increased price volatility. Bond investments may be worth more or less than the original cost when redeemed. Investing in **foreign denominated and/or domiciled securities** may involve heightened risk due to currency fluctuations, and economic and political risks, which may be enhanced in emerging markets. Mortgage and asset-backed securities may be sensitive to changes in interest rates, subject to early repayment risk, and their value may fluctuate in response to the markets perception of issuer creditworthiness; while generally supported by some form of government or private guarantee there is no assurance that private guarantors will meet their obligations. **High-yield, lower-rated, securities** involve greater risk than higher-rated securities; portfolios that invest in them may be subject to greater levels of credit and liquidity risk than portfolios that do not Structured products such as Collateralized Debt Obligations (CDOs), Constant Proportion Portfolio Insurance (CPPI), and Constant Proportion Debt Obligations (CPDOs) are complex instruments, typically involving a high degree of risk and intended for qualified investors only. Use of these instruments may involve derivative instruments that could lose more than the principal amount invested. The market value may also be affected by changes in economic, financial, and political environment (including, but not limited to spot and forward interest and exchange rates), maturity, market, and the credit quality of any issuer. **Equities** may decline in value due to both real and perceived general market, economic, and industry conditions. **Derivatives** may involve certain costs and risks such as liquidity, interest rate, market, credit, management and the risk that a position could not be closed when most advantageous. Investing in derivatives could lose more than the amount invested. **Diversification** does not ensure against loss. **Management risk** is the risk that the investment techniques and risk analyses applied by an investment manager will not produce the desired results, and that certain policies or developments may affect the investment techniques available to the manager in connection with managing the strategy.

ESG investing is qualitative and subjective by nature, and there is no guarantee that the factors utilized by PIMCO or any judgment exercised by PIMCO will reflect the opinions of any particular investor, and the factors utilized by PIMCO may differ from the factors that any particular investor considers relevant in evaluating an issuer's ESG practices. In evaluating an issuer, PIMCO is dependent upon information and data obtained through voluntary or third-party reporting that may be incomplete, inaccurate or unavailable, or present conflicting information and data with respect to an issuer, which in each case could cause PIMCO to incorrectly assess an issuer's business practices with respect to its ESG practices. Socially responsible norms differ by region, and an issuer's ESG practices or PIMCO's assessment of an issuer's ESG practices may change over time. There is no standardized industry definition or certification for certain ESG categories, for example "green bonds"; as such, the inclusion of securities in these statistics involves PIMCO's subjectivity and discretion. There is no assurance that the ESG investing strategy or techniques employed will be successful. Past performance is not a guarantee or reliable indicator of future results.

PIMCO's Credit Research Analysts assess the Environmental, Social, and Governance ("ESG") profile of corporate, municipal, and sovereign issuers relative to peer issuers with a goal of separating leaders from laggards. Using industry-specific ESG frameworks, analysts review issuers' ESG performance based on information available in public filings, recent ESG news and controversies, as well as through engagement with company management teams. Analysts assign three separate numerical scores from 1 to 5 (with 5 being the highest) to their environmental, social and governance-based business practices. The score in each category is related to an issuer's rank relative to industry peers, and the relative weights of the E, S, and G scores in the composite score vary based on industries, as each industry is assigned a different factor weight. For example, the environmental category has the greatest weight for issuers in extractive industries (e.g., oil, gas, and mining), the social category has the greatest weight for pharmaceutical issuers, and the governance category has the greatest weight for financial issuers. Analysts also include a forward-looking ESG trend assessment, which recognizes companies whose ESG performance is significantly improving or deteriorating. These factors are combined to create a proprietary composite ESG issuer score.

PIMCO's Credit Research Analysts also assess green, social, sustainability, and sustainability-linked bonds (collectively "ESG bonds") at an issuance level, including prior to and after issuance. Utilizing PIMCO's proprietary ESG Bond Framework assessment, Credit Research Analysts evaluate such instruments starting with the strategic fit, assessing the alignment of the issuers' ESG-related strategies with the bond's objectives and use of proceeds, key performance indicators (KPIs), and the evidence of significant positive impact of the activities compared to "business as usual". PIMCO continuously screens for "red flags" and controversies through this process and also assess the degree of reporting by the issuer to analyze misalignment with key market standards, such as the Green Bond Principles. These factors result in a proprietary ESG bond score ranging from 1 to 5 (with 5 being the highest). PIMCO does not score all ESG bonds. Unassessed ESG bonds receive a default score of 3. ESG bonds holdings in PIMCO portfolios are then assigned a score that combines the issuer's ESG score and the ESG bond score. Specifically, an ESG bond holding receives the ESG issuer score plus an adjustment ranging from 0 up to 1.0 point, depending on the type of ESG bond (use of proceeds or sustainability-linked) and the quality of the ESG bond according to PIMCO's proprietary assessment. Holdings of securitized ESG bond issuances (asset-backed securities, collateralized loan obligations, collateralized mortgage obligations, collateralized debt obligations, and mortgage pass through securities) receive the ESG issuer score and are not adjusted.

PIMCO uses MSCI and other third-party ratings for reference but make our own assessment based on our own, independent analysis of the industry and relevant ESG factors. PIMCO's resulting assessments are proprietary and distinct from those provided by ESG rating providers. Inclusion of a proprietary PIMCO ESG rating creates a conflict of interest because PIMCO and its affiliates benefit when PIMCO assigns a particular security a high score, or assigns a benchmark index or security a low score.

Statements concerning financial market trends or portfolio strategies are based on current market conditions, which will fluctuate. There is no guarantee that these investment strategies will work under all market conditions or are appropriate for all investors and each investor should evaluate their ability to invest for the long term, especially during periods of downturn in the market. Outlook and strategies are subject to change without notice. Investors should consult their investment professional prior to making an investment decision.

The issuers referenced are examples of issuers PIMCO considers to be well known and that may fall into the stated sectors. References to specific issuers are not intended and should not be interpreted as recommendations to purchase, sell or hold securities of those issuers. PIMCO products and strategies may or may not include the securities of the issuers referenced and, if such securities are included, no representation is being made that such securities will continue to be included.

Stress testing involves asset or portfolio modeling techniques that attempt to simulate possible performance outcomes using historical data and/or hypothetical performance modeling events. These methodologies can include among other things, use of historical data modeling, various factor or market change assumptions, different valuation models and subjective judgments.

While PIMCO has not made a firm wide **net zero** commitment, PIMCO is committed to providing industry leading advice and solutions for clients on a range of sustainability and ESG issues, including climate change and reducing greenhouse gas emissions to net zero.

Weighted Average Carbon Intensity is intended to reflect how an issuer's greenhouse gas (GHG) emissions (expressed as tons of CO2 equivalent (tCO2e)) compares to its overall revenues. The carbon intensity of the securities portfolio is defined as the weighted average carbon emissions (Scope 1 + Scope 2 emissions tCO2e))/Revenues in USD of corporate bond holdings only in the portfolio (for issuers with available data). Absolute carbon emission analysis takes the total emission per issuer into consideration. PIMCO applies emissions values of the parent to subsidiaries where MSCI data is not available. As defined by the U.S. Environmental Protection Agency (EPA), Scope 1 emissions are direct GHG emissions that occur from sources owned or controlled by a company (for example, company vehicles and facilities), and Scope 2 emissions are indirect GHG emissions from the purchase of electricity, steam, heating or cooling. Data used by PIMCO to calculate carbon intensity is (i) sourced from MSCI based on data reported by companies, a company specific model, or an industry specific model (MSCI's methodology is available here: https://www.msci.com/index-carbon- footprint-metrics), or (ii) estimated by PIMCO for "use of proceeds" bonds not covered by MSCI(green and sustainability bonds). PIMCO's estimates generally apply absolute emissions of the issuer's parent company/companies to its subsidiaries.

Carbon Discounting Methodology: In its calculation of carbon metrics for ESG labeled bonds, PIMCO applies a proprietary carbon discounting methodology which generally can include the consideration of: i) publicly available information disclosed by an issuer/ company, ii) third-party data sources, and/ or iii) internal proprietary assessments, as applicable. Green bonds and sustainability bonds issued by select electric utility companies adjust a company's carbon metrics by subtracting at a proportion equal to the contribution of eligible renewable energy projects to the proceeds allocation (i.e. the portion allocated to renewable energy projects are treated as having zero carbon emissions and, therefore, zero carbon intensity). For green or sustainability bonds where proceeds are allocated to eligible green or social projects other than renewable energy or are issued by companies in nonelectric utility sectors, carbon metrics are directly passed through from the company level to these bonds with no adjustments. To the extent possible, PIMCO utilizes an issuer's public disclosure, such as post-issuance allocation report, when calculating the allocation of proceeds to renewable energy projects. In some cases, PIMCO may leverage third party data to source such information. In the case of absent or incomplete disclosure, PIMCO uses several assumptions to estimate the allocation of proceeds to renewable energy projects for the respective utility sector, such as the potential allocation split across eligible green projects communicated by the issuer or the average allocation to renewable energy for the industry. PIMCO climate and carbon metrics and methodologies may change over time and may not be comparable to prior period metrics reported. The firm's proprietary methodologies are not verified by a third-party and may vary from other independent carbon methodologies.

Carbon Footprint refers to the calculation of the total GHG emissions (scope 1 and scope 2) of corporates in the portfolio normalized by the bond exposure of corporates in the portfolio and expressed as a carbon dioxide equivalent.

It is not possible to invest directly in an unmanaged index.

This material contains the current opinions of the Manager and such opinions are subject to change without notice. This material is distributed for informational purposes only and should not be considered as investment advice or a recommendation of any particular security, strategy or investment product.

Information contained herein has been obtained from sources believed to be reliable, but not guaranteed.

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