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PIMCO’s Net Zero Framework to Decarbonize Bond Portfolios

PIMCO has developed a four-pillar framework to help investors target long-term objectives to reduce portfolio exposure to greenhouse gases.

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SUMMARY

- With the world facing significant climate-related challenges, investors should consider positioning portfolios to navigate material climate-related risks, and also potentially to benefit from dedicated policy support globally and increasing consumer and investor demand for climate solutions.
- Many leaders in both the private and public sectors have already committed to decarbonize and help the transition to a net zero carbon economy.
- In a bond portfolio context, net zero would mean first and foremost significantly reducing the greenhouse gas emissions associated with the portfolio’s underlying holdings.
- For clients with decarbonization goals, PIMCO’s Net Zero Framework provides a meaningful and realistic approach to decarbonizing portfolios over time, while engaging and investing in the climate solutions and leaders best positioned to contribute to real-economy emissions reductions.

The bond market plays an important role in supporting the global transition to a net zero carbon economy, thanks to its size, the repetitive nature of bond issuance, and the presence of a large and growing market of bonds financing the pathway to a low carbon world. In this paper, we discuss the new investment opportunities – and risks – arising as nations and businesses increase their commitments to climate-focused solutions, and introduce PIMCO’s proprietary four-part Net Zero Framework to help bond investors who aim to decarbonize their investment portfolios over time. Indeed, we believe the market adjustment to net zero is no longer theoretical; investors should monitor the climate readiness of their portfolios and consider opportunities presented by the transition to a net zero emissions economy.

CLIMATE COMMITMENTS CREATING MARKET OPPORTUNITIES

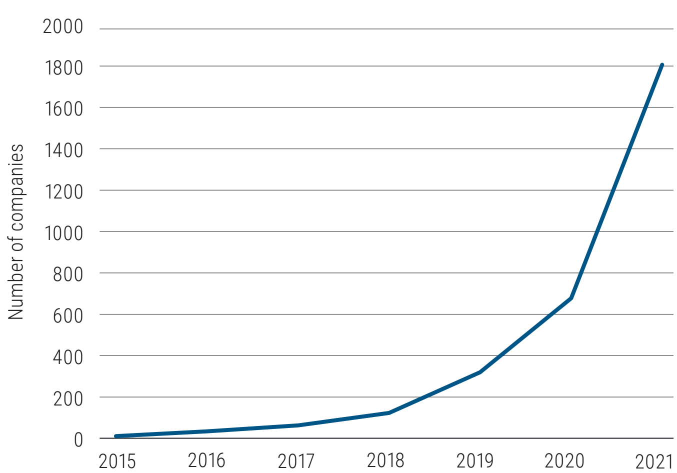
In recent years and months, unprecedented extreme weather events – from hurricanes, floods, and winter storms to heat waves, droughts, and wildfires – are reminders of the threat climate change poses to global economies. With carbon dioxide (CO_2) emissions concentrations reaching new record levels[1] and exacerbating climate risks globally, many world leaders from the public and private sector have announced new climate-related commitments.

1 Source: World Meteorological Organization (WMO); United Nations Environment Programme (UNEP); Intergovernmental Panel on Climate Change (IPCC); United Nations Office for Disaster Risk Reduction (UNDRR); Global Carbon Project (GCP); UK Met Office; “United In Science 2022: A multi-organization high-level compilation of the most recent science related to climate change, impacts and responses” (as of Q3 2022)

In the public sector, more than 70 countries, including the world's largest emitters, have set net zero targets for greenhouse gases (GHG).[2] Governments have also unveiled a flurry of pledges to support climate action in a number of areas, such as methane emission reduction (103 countries pledged to reduce emissions by 30% by 2030 from 2020 levels) and ending deforestation (137 countries, covering 85% of the world's forests, have pledged to end deforestation by 2030).

On the private side, the number of companies setting carbon emission reduction targets has increased more than fourfold in the last two years (see Figure 1). Private initiatives, such as the Glasgow Financial Alliance for Net Zero (GFANZ), support the fight against the effects of climate change (GFANZ is led by Mark Carney, U.N. special envoy on climate action and finance, and a member of PIMCO's Global Advisory Board). GFANZ includes more than 450 firms representing over $130 trillion[3] in private capital and is a coalition focused on expanding the role of the financial sector in the effort to limit global temperature rise to 1.5 degrees Celsius above pre-industrial levels, in line with the Paris Agreement.

Figure 1: Growth in emission commitments from companies



Source: Science Based Target initiative (SBTi). Includes companies SBTi classifies as "Committed" or "Target Set."

These pledges, from both nations and corporations, serve as roadmaps to mitigate climate risk and highlight their plans to help achieve net zero carbon emissions. The 2015 Paris Agreement also set a deadline to achieve net zero carbon emissions by the second half of the century, to limit global warming to 2.0 degrees Celsius above the pre-industrial average (while pursuing efforts to limit global warming to 1.5 degrees). While the current pathway is far off the 1.5-degree target and there are uncertainties about the pledges, as underlined by developments in the energy sector following Russia's invasion of Ukraine, we believe the implementation of these new commitments could materially shift capital allocations and open up opportunities for climate-oriented investors.

With governments, businesses, and asset managers buying and selling trillions of dollars of investments linked to clean energy and broader ESG (environmental, social, and governance) initiatives, the move toward net zero will increasingly influence the market pricing of assets, both green and otherwise. Regulation, carbon pricing, and other public policies, as well as shifts in consumer sentiment and business models, will also have a material impact on valuations. It is crucial for investors to be cognizant of the risks and opportunities created by the transition to a net zero economy.

In our view, the market repricing associated with the transition to net zero is already a matter of when, where, and how, not if. Investors need to consider how well their portfolios are prepared to navigate climate-related risks (including abrupt regulatory changes, supply chain disruptions, and political and social backlash). Investors also need to capitalize on the efforts that are going to benefit from dedicated policy support and increasing consumer and investor demand going forward.

NET ZERO IN CONTEXT: DEFINITION AND BROAD APPROACHES

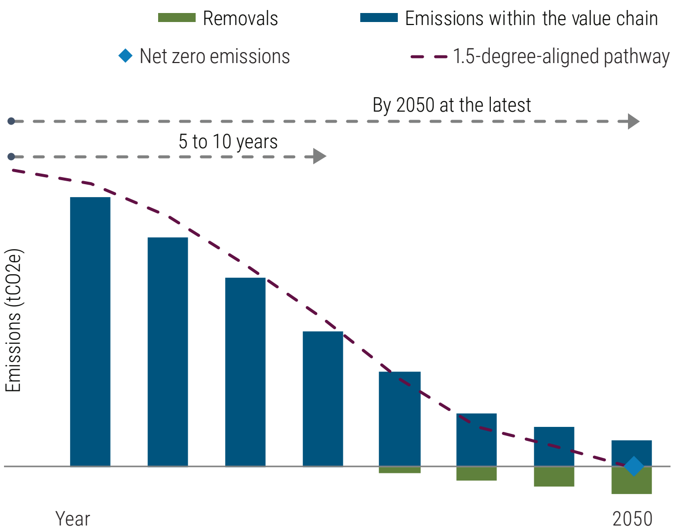
In short, "net zero" means balancing GHG emissions added to the atmosphere with emissions taken out of the atmosphere. Achieving net zero goals will broadly involve two types of actions:

- Reduction in GHG emissions (along science-based 1.5 degree pathways), e.g., via the replacement of coal-fired power with renewable energy; and
- Adoption of high quality carbon removal[4] solutions for the remaining GHG emissions, e.g., via carbon capture and storage or forest carbon sinks.

In practice, achieving net zero across the global economy, in both public and private sectors, would likely mean a combination of near- and long-term emissions reduction targets and the neutralization of any residual emissions (see Figure 2).

2 Source: U.N. Figure includes countries with net zero targets irrespective of target date. Learn more: https://www.un.org/en/climatechange/net-zero-coalition
3 Source: GFANZ. Learn more: https://www.gfanzero.com/about/. PIMCO is not a GFANZ member.
4 Carbon dioxide removal (CDR) refers to the process of removing CO_2 from the atmosphere via technological or nature-based methods and "durably storing it in geological, terrestrial, or ocean reservoirs, or in products" (source: Intergovernmental Panel on Climate Change (IPCC)).

Figure 2: Carbon emissions reduction pathway



For illustrative purposes only. Adapted from SBTi; tCO2e = tonnes of carbon dioxide equivalent

In an investment portfolio context, the current emphasis among many investors is on the first approach – reducing emissions – meaning that the underlying holdings of the portfolio would still contribute to the total global emissions in the atmosphere, but at a much slower pace and lower level than before. The second approach – credible offsets – will likely become increasingly important over time, especially as the remaining emissions become difficult to abate. Carbon offsets are broadly referring to certain activities that compensate for GHG emissions – e.g., via reduction or removal. Offsets are quantifiable (measured in the volume of GHG emissions offset) and are at least theoretically tradeable.[5] However, the market for carbon offsets is still relatively small, not standardized, and thus heavily debated.

When market participants speak about a "net-zero-aligned" portfolio, in most cases they would not mean a portfolio that is not responsible for any emissions, but rather a portfolio embedding a rate of emissions reduction in line with the Paris Agreement goal and its interpretation by the scientific community.[6] Increasingly, net zero alignment also refers to meaningful actions undertaken in support of reduced emissions in the real economy – typically via engagement with companies and governments.[7]

PIMCO'S NET ZERO FRAMEWORK TO DECARBONIZE BOND PORTFOLIOS

PIMCO's Net Zero Framework provides investors with an approach for decarbonizing portfolios over time. The framework can be adapted to manage investors' criteria and accommodate their preferences and can also support those who have opted not to follow a specific approach.

We recognize that there is no standard definition of a "net zero" portfolio, and PIMCO makes no representation that portfolios using this framework are currently achieving or will necessarily achieve net zero emissions. We developed our methodology to reflect the specific characteristics of the underlying fixed income sectors in terms of carbon accounting, data availability and quality, types of instruments (e.g., for ESG-labelled debt), or levers to influence issuers. Currently, the framework focuses on corporate credit, given the relative degree of advancement of the underlying metrics and methods.

A net zero framework has three key steps:

1) **Define targets and interim milestones:** Clearly define net zero targets and related objectives, and clarify the scope of the project. Consider structuring a timeline for interim targets (e.g., GHG emissions reduction targets by 2030 or 2040).
2) **Implement and gauge impact:** Identify ways to decarbonize the portfolio, including decarbonization and/or the financing of climate solutions; measure effects on portfolio targets and turnover, investable universe, etc.
3) **Track progress and reassess milestones over time:** Track portfolio targets over time, and reassess milestones and interim targets as needed, depending on progress.

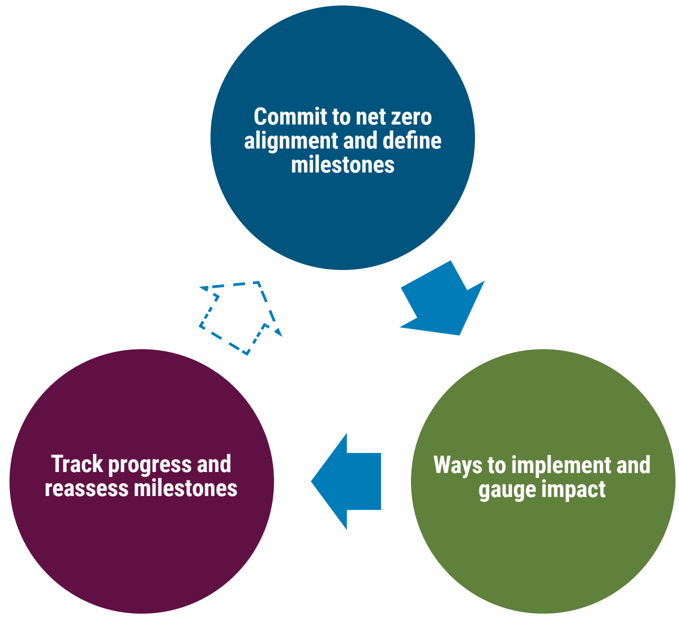
5 Offsets are defined by the GHG Protocol as discrete GHG reductions used to compensate for (i.e., offset) GHG emissions elsewhere, for example to meet a voluntary or mandatory GHG target or cap. Offsets are calculated relative to a baseline that represents a hypothetical scenario for what emissions would have been in the absence of the mitigation project that generates the offsets. To avoid double counting, the reduction giving rise to the offset must occur at sources or sinks not included in the target or cap for which it is used. GHG offsets can be converted into GHG credits when used to meet an externally imposed target. A GHG credit is a convertible and transferable instrument usually bestowed by a GHG program. It represents an emission reduction or removal of GHGs (source: GHG Protocol, SBTi).

6 The pathway limiting global warming to 1.5 degrees Celsius with no or limited overshoot involves CO_2 emissions being reduced to net zero globally around 2050, according to the IPCC. Reducing portfolio emissions by 25% by 2025 and by 50% by 2030 compared with 2019 levels (approximately 7% per year on average) is the most widely used target to demonstrate alignment with a net zero pathway at the portfolio level.

7 There is a fundamental distinction between changes in the greenhouse gas emissions attributed to a portfolio based on recognized carbon accounting methods versus the reductions actually happening in the real economy in relation to each activity associated with portfolio holdings. The latter ("real economy" emissions changes) may be only one factor contributing to the former ("financed" emissions changes), with others including bonds being bought or sold; data coverage; mergers, acquisitions, and divestments made by portfolio holdings; or changes in metrics used to attribute emissions to a portfolio (such as enterprise value including cash).

Expanding on the second step above (implementation), PIMCO's Net Zero Framework leverages a toolkit of four core pillars to help decarbonize a portfolio:[8]

1) **Reduce carbon intensity:** Limit or end exposure to issuers with no ambition to transition, in particular in high-carbon-intensive sectors (e.g., fossil fuels), and reduce the overall exposure to areas that are in contrast with the objectives set by the Paris Agreement on Climate Change.
2) **Invest in climate leaders:** Allocate to issuers that we deem to be at the forefront of the net zero transition. These issuers have demonstrated commitment to mitigating carbon emissions and their broader environmental footprint, in sectors that may involve water, plastic, air pollution, or biodiversity. Examples include real estate investment trusts (REITs) with clear and focused environmental strategies, and food companies committed to ending deforestation and sustainably sourcing their products.
3) **Support climate solutions:** Invest in labelled green bonds, as well as unlabelled bonds of issuers that are materially exposed to climate solutions, such as solar energy or electrified passenger rail transport.



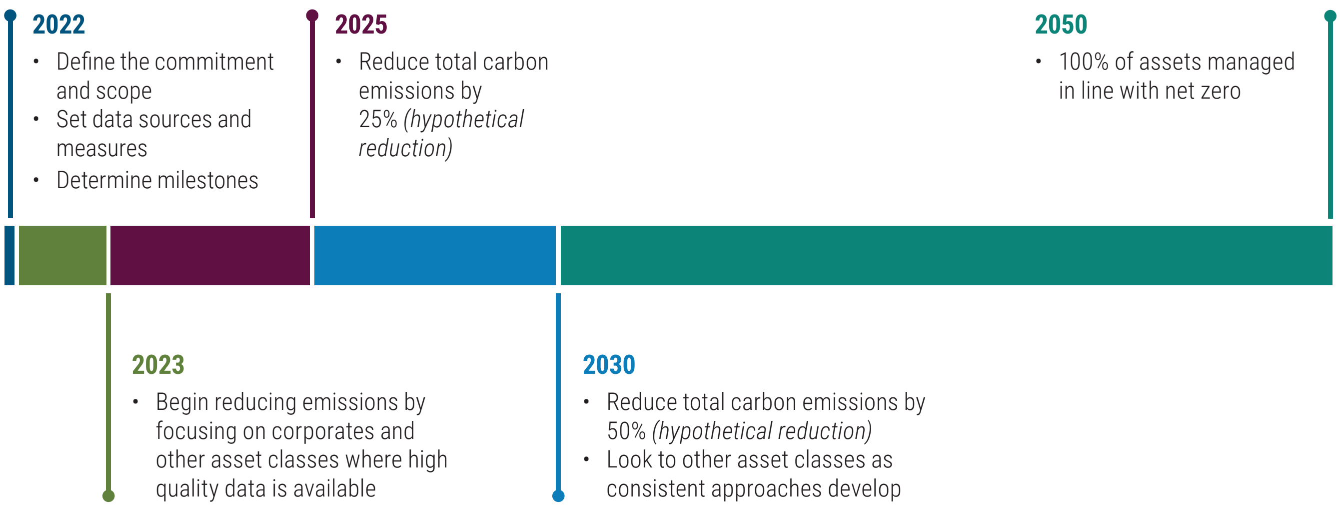
Source: PIMCO. **For Illustrative Purposes Only.**

4) **Influence change:** Increase the exposure to issuers that PIMCO expects to engage with on net zero strategies or targets. Our engagement would focus on bolstering issuers' alignment with Paris Agreement targets, supporting companies to improve their management of the underlying credit risks as they move beyond awareness toward readiness and ultimately a commitment to be consistent with global climate goals (e.g., setting science-based GHG emissions reduction targets, with a focus on the most ambitious pathway).

Source: PIMCO. **For Illustrative Purposes Only.**

8 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 an issuer's climate risk practices or PIMCO's assessment of an issuer's climate risk practices may change over time.

Figure 3: Example timeline of a net zero pathway with measurable milestones



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

Challenges and considerations

While we support industry efforts and investor enthusiasm to incorporate GHG emissions accounting and net zero ambitions into the management of their portfolios, investors should also be aware of the challenges. For constituents who are used to the precision, replicability, and auditability of traditional financial accounting, it is important to remember that GHG accounting is not at the same level of accuracy and precision right now:

- Data is improving every day; however, there are significant gaps as global regulation only covers a portion of global issuers, with the remainder self-reporting.
- Where data is available, it can include unverified emissions, or even estimates, based on physical or economic activity; this can be less accurate than measured, verified emissions.

While there are frameworks in place for many asset classes and types, for others these frameworks are still being developed, leading to potential gaps across investor portfolios. It is, therefore, important to note that a single net zero framework might not be applicable to all asset types at this point, a challenge that will likely subside as the industry addresses those questions over time.

Moreover, setting any objective 20–30 years in the future and combining it with interim targets unsurprisingly raises many challenges and considerations that need to be incorporated when determining those targets. This is akin to the net zero journey that many investors have already undertaken. When it comes to setting decarbonization targets, investors would want to set meaningful but also realistic timelines (see Figure 3 for one example), which will ultimately be affected by other factors including relevant indicators (e.g., absolute versus intensity-based carbon emissions targets), industry evolution, and the assets in scope.

It's also important to note that while "zero" and "net zero" are extremely specific concepts, the ability to calculate and account for emissions at the molecular level and allocate to companies, countries, and other issued securities are much less precise concepts. As a result, there are likely to be different interpretations for how those calculations and allocations are implemented, leading to differences in opinion on when "net zero" is achieved for a particular portfolio. In the future, regulators, investors' own constituents, academics, and nongovernmental organizations could have different interpretations and expectations for GHG accounting in portfolios.

Figure 4: Comparing PIMCO's Net Zero Framework with three relevant industry initiatives

Category	Suggested metrics/KPIs	Method/standard			Implementation toolkit for a fixed income portfolio
		Net Zero Asset Owner Alliance	Net Zero Investment Framework (IIGCC)	Science Based Target initiative (SBTi)	PIMCO's Framework
Decarbonization	• Weighted average carbon intensity • Total carbon emissions • Carbon footprint	x	x	x	x
Climate leaders	• Allocation to issuers with set science-based carbon emission reduction targets		x	x	x
Climate solutions	• Allocation to green bonds and climate solutions	x	x		x
Engagement	• Issuers engaged on climate change	x	x	x	x

Source: PIMCO, IIGCC, SBTi, and NZAOA. **For illustrative purposes only.**

Finally, achieving decarbonization or net zero targets is, for most investors, not the sole objective in their asset allocation and portfolio management decisions. Depending on the specific investor and their stakeholders, there can be many different types of objectives related to fixed income portfolios, including financial performance and income generation. Setting decarbonization objectives might lead to some parts of the universe becoming uninvestable and might stand in contrast to other portfolio objectives. It will, therefore, be key to properly balance those objectives in an effort to ensure that a new net zero goal will not materially affect other established objectives – or, where appropriate, to moderate expectations around those objectives.

We highlight these issues not to dissuade investors from incorporating net zero ambitions into their portfolios, but only to make sure that expectations are appropriately set. We are dedicated to the development of best practices and to investors as they embark on their decarbonization journey.

CONTEXTUALIZING PIMCO'S NET ZERO FRAMEWORK

Figure 4 provides a high-level comparison between PIMCO's Net Zero Framework for fixed income assets and the approaches suggested by emerging industry standards, such as the Institutional Investors Group on Climate Change's (IIGCC) Paris Aligned Investment Initiative, the Net Zero Asset Owner Alliance (NZAOA), and the Science Based Targets initiative (SBTi). We view these initiatives as complementary, suggesting different approaches and paths to get to a common destination. Our approach leverages these existing standards and encompasses four main facets: decarbonization, climate leaders, climate solutions, and engagement.

Highlighting three industry approaches to net zero

The **Net Zero Asset Owner Alliance** was initiated in 2019 with a commitment to transition their investment portfolios to net zero by 2050. Leveraging numerous existing climate initiatives such as Climate Action 100+ and Science Based Targets initiative (SBTi), the group emphasizes setting intermediary targets up to 2050.

Established in 2019 by the **Institutional Investors Group on Climate Change (IIGCC),** the Paris Aligned Investment Initiative provides a Net Zero Investment Framework for investors to create net zero portfolios. The framework has three broad components – portfolio level, asset class level, and external.

The **Science Based Targets initiative** is a partnership between Carbon Disclosure Project (CDP), the United Nations Global Compact (UNGC), World Resources Institute (WRI), and the World Wide Fund for Nature (WWF). It defines guidance on best practice in emissions reductions and net zero targets in line with climate science, including sector-specific guidance covering the finance sector, among others.

BACKGROUND: PIMCO'S HIGH-LEVEL PERSPECTIVE ON NET ZERO

PIMCO's Net Zero Framework for investment portfolios draws upon our high-level views. We are committed to providing the best advice and solutions for clients on a range of sustainability and ESG issues, including climate change. We are keenly aware of the market and societal trends that are reshaping what it means to manage a global sustainable business in the 21st century – and we believe strongly in science-based evidence and scenarios.

At PIMCO, we aim to address the topic of net zero across four dimensions:

PIMCO's four dimension focus on net zero:

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

Client solutions

We continue to work with interested clients with specified decarbonization goals to help them reach net zero emissions by 2050 or sooner. Indeed, as of December 2021 we manage significant assets on behalf of 34 of the 71 asset owners who have committed to transition their portfolios to net zero GHG emissions by 2050.[9]

We developed our Net Zero Framework to help clients achieve their decarbonization objectives, but for those clients who do not currently have net zero ambitions as a primary portfolio goal, we can also advise on market and regulatory trends, portfolio insights, and other critical considerations for their decarbonization efforts. Finally, we have developed thematic portfolio solutions that incorporate climate considerations and other objectives.

Portfolio analytics

It is a well-known saying that you cannot manage what you cannot measure. Over the last several years, through partnerships with forward-thinking investors, we have developed analytical capabilities to help clients reach decarbonization objectives in their investment portfolios. We have automated carbon footprinting, climate stress testing, and scenario analysis capabilities, and currently we are developing a proprietary one-stop ESG platform capable of performing instantaneous portfolio optimizations.

Industry collaboration

We believe it is important to actively participate in industry groups and to support industry initiatives. PIMCO endorses the Task Force on Climate-Related Financial Disclosure (TCFD), the Carbon Disclosure Project, Climate Action 100+, the Partnership for Carbon Accounting Financials (PCAF), and numerous major global platforms (please see our ESG Investing Report for details on our partners and participation). We are a member of the Institutional Investors Group on Climate Change (IIGCC), where we contributed to developing the Net Zero Investment Framework Implementation Guide to help investors achieve decarbonization objectives. We will continue to work actively with these and other international organizations and industry bodies to develop standards and policies to harmonize efforts and assist investors and issuers in making meaningful process toward climate goals.

9 Includes PIMCO clients who are listed as members of the PRI Net Zero Alliance, available here: https://www.unepfi.org/net-zero-alliance/alliance-members/

Engagement

We view engagement as critical to fostering sustainable economies, and climate change remains a top engagement priority at PIMCO. Over the past year, we have intensified our focus on specific topics such as the banking sector's alignment with the Paris Agreement, as well as the reduction of methane emissions in the energy sector (for details, please read our recent *Viewpoint*). Below are a few examples of our engagement efforts with sectors and specific issuers.

Engaging with banks on portfolio emissions and alignment with the Paris Agreement

PIMCO has been engaging with more than 20 global banks on implementing their carbon emission strategies and alignment with the Paris Agreement. We shared our view and recommendations on committing to net zero, setting time-bound expectations in lending policy in line with the Paris Agreement, establishing the timeline and scope of interim targets, linking targets to compensation, and so on. By partnering with investors affiliated with the Institutional Investors Group on Climate Change (IIGCC), we reinforced our expectations on climate strategy with some of these banks. Several banks have already made progress in line with our expectations on setting or implementing climate strategy. We expect more announcements from banks on interim progress in the coming months.

Engaging Nationwide Building Society on climate change

Nationwide Building Society is a British mutual financial institution, and currently the largest building society in the world. The bulk of their indirect GHG emissions, known as Scope 3, created across their value chain relates largely to their mortgage portfolio. PIMCO engaged with Nationwide management to help shape their new sustainability KPIs, specifically on setting targets on net zero portfolio emissions and improving the Energy Performance Certificates ratings (EPCs) for the assets secured by their mortgage lending. In 2021, Nationwide pledged to go net zero by 2050, joining the Net-Zero Banking Alliance (NZBA) and the Glasgow Financial Alliance for Net Zero (GFANZ). They also set a target for their mortgage portfolio to reach 50% of C-rated or above by 2030 in line with our recommendations.

Engaging Xcel to improve net zero data availability

A major U.S. utility holding company with operations in eight Western and Midwestern states, Xcel serves 3.7 million electricity customers and 2.1 million natural gas customers. The company has committed to generating 100% carbon-free electricity by 2050 as well as an 80% reduction in GHG emissions by 2030. PIMCO has engaged company management over several years regarding their green bond program, climate disclosure, and climate strategy. PIMCO encouraged alignment with the International Capital Markets Association Green Bond Principles as well as PIMCO's Best Practice Guidance for Sustainable Bond Issuance. We emphasized the importance of data transparency in green bond issuances and alignment with the Paris Agreement. In fall 2020, Xcel published its first green bond impact report largely following suggested best practices. In fall 2021, Xcel published its first standalone sustainable financing framework setting the full list of eligible categories, criteria, and examples, along with a second-party option provided by S&P.

The examples above are presented for illustrative purposes only, as a general example of PIMCO's ESG research and engagement capability, and are 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. All data is as of December 2021, unless otherwise stated.

KEY TAKEAWAYS

We believe the bond market plays a crucial role in supporting the transition to a net zero carbon economy, thanks to its size, the repetitive nature of bond issuance, and the presence of a large and growing market of dedicated ESG-labelled bonds financing the pathway to a low carbon world. As one of the world's largest fixed income asset managers, we are uniquely positioned to partner with both bond issuers and our clients to help them achieve their climate and sustainability goals.

At PIMCO, we are committed to providing the best advice to clients on a range of sustainability issues and targets, including climate change. The decarbonization process is a journey, and many investor types, regions, and specific regulatory regimes are at different stages of the journey and taking different approaches to achieve their goals. While we recognize that there is no standard definition of a "net zero" portfolio, we believe our Net Zero Framework provides clients with a meaningful and realistic approach to decarbonizing portfolios over time, while engaging and investing in the climate solutions and leaders best positioned to contribute to real-economy emissions reductions.

We are truly privileged to have our clients' trust in managing their assets, and we look forward to partnering with them on their net zero journey.

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.

Unlabeled Green Bonds are bond issued by issuers that have a significant share of their business derived from low-carbon solutions. **ESG Labeled Bonds** are defined as green, social, sustainable bonds and sustainability-linked bonds. **Green Bonds** are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible Green 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 structurally linked to the issuer's achievement of climate or broader sustainability goals, such as through a step-up in coupon if key performance indicators (KPIs) are not met. **Climate Leaders** are issuers, determined by PIMCO, that lead in mitigating carbon emissions and broader environmental externalities across their value chain. **There is no standardized industry definition or certification for certain ESG categories.**

PIMCO is committed to the integration of Environmental, Social and Governance (""ESG"") factors into our broad research process and engaging with issuers on sustainability factors and our climate change investment analysis. At PIMCO, we define ESG integration as the consistent consideration of material ESG factors into our investment research process, which may include, but are not limited to, climate change risks, diversity, inclusion and social equality, regulatory risks, human capital management, and others. Further information is available in PIMCO's Environmental, Social and Governance (ESG) Investment Policy Statement.

With respect to comingled funds with sustainability objectives ("ESG-dedicated funds"), we have built on PIMCO's 50-year core investment processes and utilize three guiding principles: Exclude, Evaluate and Engage. In this way, PIMCO's ESG-dedicated funds seek to deliver attractive returns while also seeking to achieve positive ESG outcomes through its investments. Please see each ESG-dedicated fund's prospectus for more detailed information related to its investment objectives, investment strategies and approach to ESG.

This information contains examples of the firm's internal ESG engagement and research capabilities. The data contained within the report 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 multiple 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.

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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. **REITs** are subject to risk, such as poor performance by the manager, adverse changes to tax laws or failure to qualify for tax-free pass-through of income. **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.**

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. Investors should consult their investment professional prior to making an investment decision. Outlook and strategies are subject to change without notice.

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