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A short guide

Race to net zero: Decarbonising a fixed income portfolio

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Role of fixed income in solving the climate crisis

The climate crisis does not discriminate between asset classes. Yet for most investors, the emphasis when decarbonising their portfolios has been primarily on public equities, accounting for 84% of Morningstar's climate fund universe.[1] However, there is increasing recognition that any efforts to reduce emissions in the global economy must also include fixed income.

A larger and more complex universe than equities, fixed income also serves a different purpose in the capital structure that could help investors engage with portfolio companies more effectively when combined with equity engagement efforts. For corporate investment grade and high-yield bonds, for example, issuers often overlap those in listed equity portfolios. Therefore, some of the same tools can be applied to improve issuers' environmental standards. Furthermore, the knowledge gained by combining fixed income and equity engagement activities can help build scale in forward-looking research and ratings capabilities to yield more meaningful results.

Depending on investors' unique circumstances, various ways of decarbonising a portfolio may be considered. An active fundamental strategy can effectively bring about real-world climate change mitigation and adaptation. And increasingly, investors are complementing this approach with systematic rules-based decarbonisation solutions, as well as green and other labelled bonds as part of a thematic means to reduce their portfolio's carbon footprint.

In this paper, we discuss three ways to approach a climate-aware investing strategy in fixed income - active fundamental, systematic and thematic. We also delve into some of the differences when decarbonising a fixed income portfolio relative to equities and highlight some potential challenges as part of our 'Race to net zero' series.

Key takeaways

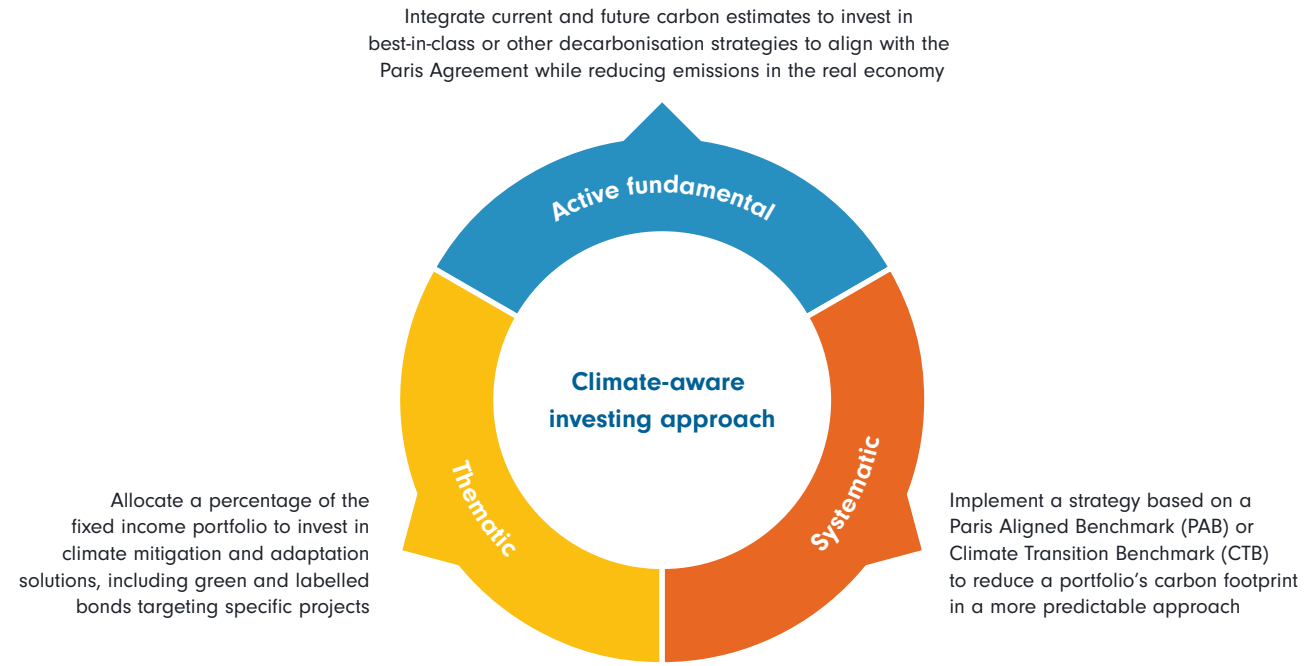
1. Bondholders have a broader, deeper and more diverse universe to influence change relative to equity investors. This also makes implementing a climate-aware fixed income investing strategy more nuanced as a wider set of financial and non-financial performance drivers must be considered.
2. We believe engagement should underpin all efforts to reduce a portfolio's carbon footprint to directly influence the carbon emitters in the real economy. This is particularly the case in active fundamental decarbonisation strategies.
3. Systematic solutions using emissions reduction targets or Paris-aligned benchmarks may complement active fundamental strategies by taking a more rules-based approach to help reduce portfolio emissions in a transparent way.
4. Some asset owners are channelling capital to support thematic climate projects and solutions through green and other labelled bonds - a maturing asset class.
5. Each portfolio decarbonisation approach differs in its risk-reward trade-offs, and it does not need to come at the expense of an organisation's financial goals. Increasingly, it is those investors who do not consider climate change when building a fixed income portfolio who may be ignoring material risks and foregoing opportunities to optimise long-term results.

Complexities of a climate-aware fixed income portfolio

More investors are setting decarbonisation targets and reducing emissions financed by their investments, signalling their future expectations to influence the climate performances of portfolio companies. After all, if investors need to reduce portfolio emissions, then so must their issuers. Within fixed income, the higher level of market breadth and depth presents a diversified set of opportunities to reduce the portfolio's carbon footprint while meeting their risk-adjusted return expectations, depending on the strategy chosen.

Each will come with its own set of advantages and challenges. For example, reducing the carbon footprint by following a rules-based decarbonisation strategy such as a year-on-year reduction target relies on the constituents of the investment universe to lower their emissions. If this is not achieved, then sectoral and geographical skews may follow, affecting risk-return characteristics. Therefore, clear climate-aware investment targets should be calibrated against other financial and non-financial objectives. This is particularly relevant for long-term asset owners such as insurers and mature pension funds, which are more exposed to fixed income. Relative to equities, the process of measuring the carbon footprint, setting targets and implementing objectives for fixed income can be more burdensome. In addition to being a larger investment universe, fixed income is also far less homogeneous. For example, corporate debt can be issued in a range of different maturities, duration, subordination characteristics, callability and coupon ratchet mechanisms.

Figure 1: Ways to reduce emissions



Source: Fidelity International, January 2023.

While fixed income is more senior in the capital structure and therefore has higher built-in defences against loss potential, the asset class also comes with an asymmetric risk profile with a more acute emphasis on the downside risk. As a result, there is a perception that any upside due to effective engagement campaigns is more limited when compared to equities. In our view, however, this perception is changing as investors' understanding of climate factors improves and their motives for engagement evolve.

Three approaches to decarbonise a fixed income portfolio

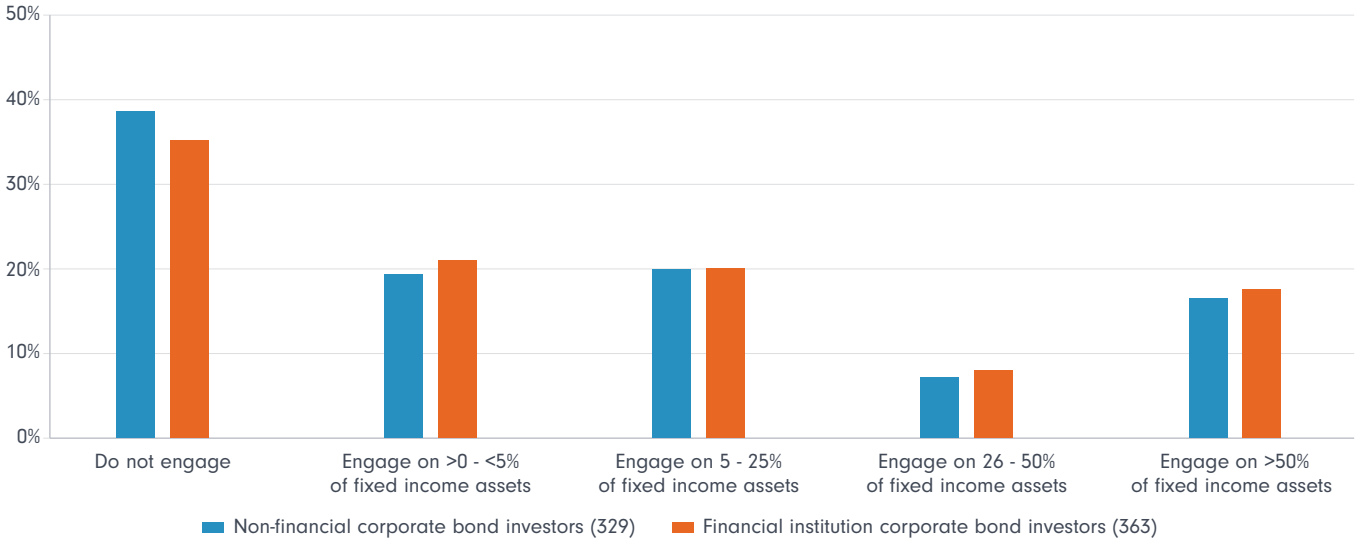
Just as fixed income investors have varying financial risk-return objectives relative to stockholders, they require a different approach to reduce the portfolio carbon footprint at the asset class, sector and company-specific levels. We will discuss three approaches that can help power a decarbonisation journey (see Figure 1).

Underpinning all three approaches is an effective engagement process, although it is perhaps in active fundamental strategies where engagement is most relevant. Traditionally, stockholders are viewed as having more potential to influence change through ownership mechanisms such as voting rights. Therefore, engagement is perceived to be more challenging for bondholders, while the benefits are constrained on the upside compared to equities. In some cases, the holding period for debt may be limited relative to stocks, further reducing the potential to influence issuers. As a result, most corporate bondholders either do not engage or only engage on less than 5% of their holdings, according to a PRI survey of about 700 major institutional investors. (See Figure 2)

This may be changing. While fixed income investors are not owners and cannot vote, they can influence the environmental trajectories of portfolio companies through other means. Timing is of the essence. For example, when companies are restructuring, conducting M&A activities, issuing new bonds or refinancing existing ones, investors may have more options and influence to negotiate improvements in environmental standards, using tools such as covenants to encourage accountability. In addition to holding issuers responsible for their impact on the environment, engagement can also help support a continuous informational feedback loop that assists in more informed investment decision-making.

The range and variations in fixed income instruments require investors to be more deliberate when engaging with issuers. (See Figure 3) Engagement processes also require a distinct approach in fixed income when following standards such as those established by Principles for Responsible Investment (PRI).[2] Different tactics are needed to influence corporate issuers compared to sovereigns. For example, a corporate issuer coming into debt markets in six months' time may be more willing to discuss financial covenants to help reduce climate risks.

Figure 2: Engagement activities vs. fixed income holdings



Source: PRI, 2018.

Figure 3: Elements of an engagement campaign, by asset class

Asset class	Scope	Actions to consider
Investment grade (IG) corporate bonds	Due to the potential to influence issuers and market size*, corporate IG is often at the core of engagement programmes in fixed income	■ Setting an engagement strategy with clear milestones and escalation process, preferably before the issuance process. ■ Prioritising issuers and sectors based on materiality in the low carbon transition, relative portfolio exposure and alignment to other financial and non-financial goals. ■ Assessing issuers' current position and ambitions before engaging to align climate commitments. ■ Alignment should be made at the issuer level, though engagement also can be conducted at the parent company level.
High-yield corporate bonds	While smaller than the IG market**, high yield may provide a more direct path to engage	Similar to those for investment grade, with the following additional considerations: ■ Sustainability ratings and disclosures may be limited, so it is crucial to apply cross-asset research capability to inform engagement. ■ Sizing could matter more because investors with larger holdings may have more direct management access to affect outcomes.
Government bonds	At nearly double the size of the global corporate bond market,[3] the market for bonds issued by sovereigns, supranational organisations and agencies represents a relatively new but much larger universe for climate engagement	■ Due to the relatively less influence any individual investor has, collective engagement may yield more meaningful results. ■ Applying pressure through networks such as IIGCC, Ceres and IGCC, among others, can help affect change. ■ Working with investment banks, development agencies and other non-profit organisations may accelerate a sovereign issuer's decarbonisation pathway.

Source: Institutional Investors Group on Climate Change (IIGCC), Fidelity International, November 2022. *While sovereign bonds account for a larger proportion of the fixed income universe, investors have less leverage to engage. **In terms of US dollar notional outstanding. Note: Supranational bonds refer to those issued by multinational organisations such as The World Bank, European Investment Bank and Asia Development Bank. Agency bonds are those issued by a government-linked entity and generally do not have the same level of guarantee as sovereign bonds.

Denying the debt

For borrowers, one of the most crucial periods is refinancing when bonds mature, so investors can take advantage of this period to influence a company's environmental trajectory. For example, some investors may decide to renegotiate greener terms or deny taking on new debt unless issuers better align with the Paris Agreement. A form of engagement using the threat of divestment without immediately sacrificing the financial risk and return of existing investment exposure, this approach also signals to issuers where improvement is needed, akin to escalation mechanisms used during equity engagements. For example, some institutional investors including a group of Dutch pension funds require fossil fuel companies to align with the Paris Agreement within a specified period or face divestment.[4]

Worldwide, an estimated 1550 institutions - including pension funds, with an aggregate US$40 trillion in assets - have committed to divesting from fossil fuels.[5] Here, too, the decision to divest in fixed income requires a different approach. Because bondholders do not have the same legal rights as equity investors, divesting or the threat of divesting manifests in different ways relative to equities.

The decision to divest is also more complex. (See Figure 4.) In certain pockets of the debt market, such as emerging market corporate debt, illiquidity risk is often higher compared to emerging market equities. In addition, many bondholders hold debt securities for different purposes than stockholders. Insurers and reinsurers, for example, traditionally hold fixed income securities to maturity to match their liability profile. Therefore, it may be more difficult and costly to divest under these circumstances, so due diligence is more critical with the decision itself being a last resort.

Figure 4: Key factors affecting divestment decisions

Factors favouring divestment	Factors favouring engagement
Investor is seeking value-alignment	Investor is seeking real-world impact
Poor opportunities to transition to a more sustainable business model	Issue is systemic and non-diversifiable
Investors have low leverage, e.g. controlled company, lack of legal recourse	Investors have or can improve leverage by working collaboratively
Other escalation measures have already been exhausted	Alternative escalation measures remain open to investors
	Fiduciary constraints on use of divestment

Source: PRI, April 2022.

Actively seeking value in climate pathway alignment

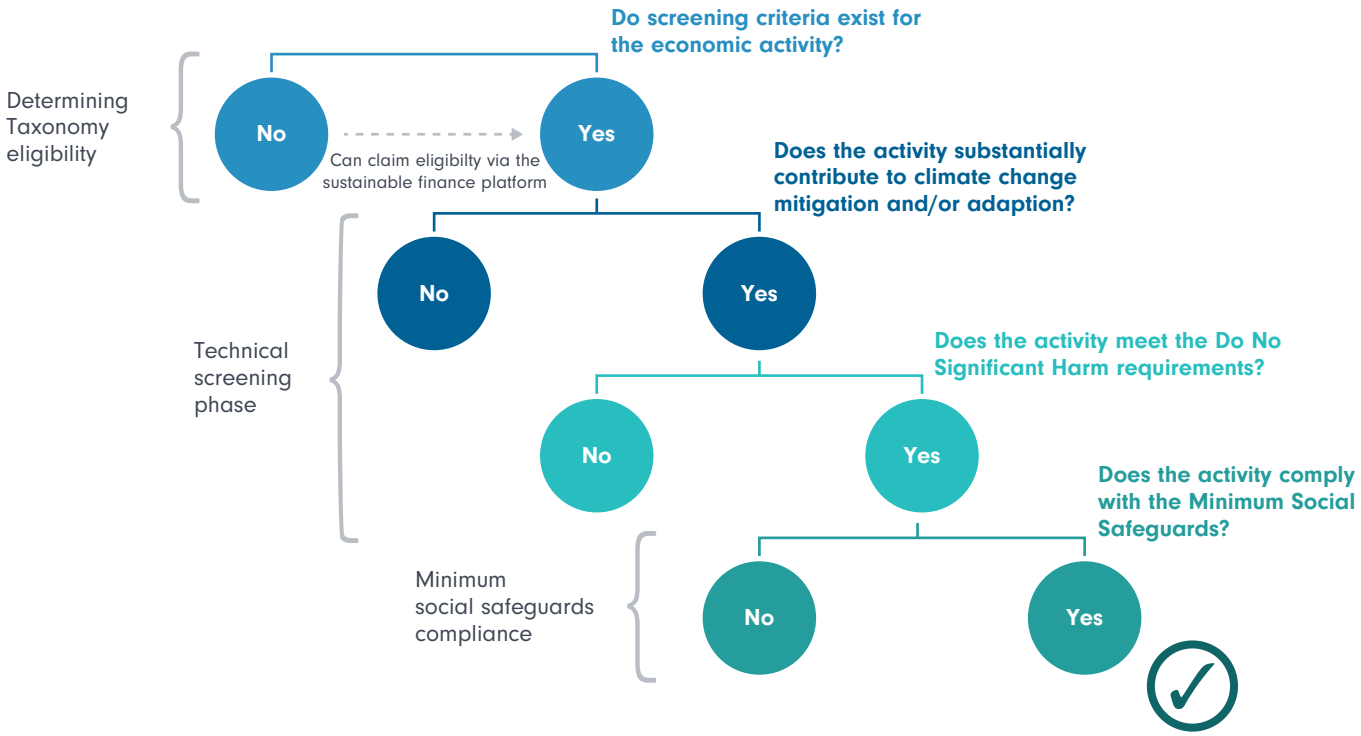
Engagement does not always follow a smooth and predictable path. Under some circumstances, active fundamental strategies may have a more uncertain decarbonisation trajectory, partly dependent on the level and extent of collaboration between various stakeholders. The carbon footprint of a portfolio may temporarily increase, for example, if engagement activities involve high emitters. Investors can take the following steps to manage the more uncertain decarbonisation path of active fundamental strategies:

- Prioritise issuers with the highest potential to add value during their transition pathways.
- Align portfolio to international climate targets
- Forward-looking analysis can help manage climate risks and optimise opportunities

For example, a best-in-class decarbonisation strategy in fixed income might begin with an emission attribution analysis examining the extent to which higher or lower emission exposures between the portfolio and the benchmark can be attributed to sector allocation or issuer selection. A portfolio with a larger amount of assets allocated to an emissions-intense sector will ultimately have higher emissions, so it is necessary to understand emissions at the sector and subsector levels. However, through such exposures, investors can meaningfully reduce real-world emissions through incentives such as green covenants and engagement activities as previously discussed. And as issuers reduce their emissions, so too should the portfolio's carbon footprint.

Second, investors need to align their portfolio pathways to international climate targets. Therefore, an important gauge is a scenario alignment analysis to compare current and future portfolio emissions with carbon budgets based on frameworks such as the IEA Sustainable Development Scenario (SDS), Announced Pledges Scenario (APS) and Stated Policies Scenario (STEPS). Others such as the EU Taxonomy also help investors better understand how sustainability activities fit into the decarbonisation pathway (see Figure 5).

Figure 5: Determining EU Taxonomy eligibility



Source: Bloomberg, January 2021.

Third, investment analysis should be on a forward-looking basis, integrating both quantitative and qualitative measures with regards to considerations such as how exposed an issuer is to physical risks and how prepared they are for a low carbon transition. For example, it is vital to determine if the product portfolio of issuers is compatible with the objective towards a net zero transition by 2050. This may also help to inform the issuer's financial risk in the transition. From a quantitative perspective, investors might apply the Science-Based Targets initiative methodology to monitor carbon intensity metrics at the sector level on a short to medium-term basis. And to enhance their understanding of the investment implications of issuers' decarbonisation pathway, investors can also integrate fundamental analysts' research at a qualitative level.

By constructing a fixed income portfolio that addresses climate risks and opportunities in a repeatable, robust and measurable investment process, investors can better manage the uncertainties of the decarbonisation trajectory.

Paris Aligned Benchmarks and Climate Transition Benchmarks

In addition to a potentially more uncertain net zero pathway in the short term, an active fundamental approach may require more resources to monitor asset managers to ensure the trajectory of the decarbonisation pathway is adequate to meet environmental objectives. To address these challenges, some investors may choose to complement active fundamental decarbonisation strategies with a rules-based strategy or one based on a benchmark index to meet specific decarbonisation objectives at any given point in time.

As illustrated in Figure 6, minimum standards for EU Paris Aligned Benchmarks (PABs) are higher than Climate Transition Benchmarks (CTBs), with the former requiring a 50% carbon footprint reduction relative to the parent benchmark in the first year, compared to 30% for the latter. In subsequent years, both types of climate benchmarks - which cover corporate bonds and do not yet include sovereign bonds - require at least a 7% emissions reduction per annum. (The 7% reduction in carbon intensity is consistent with the decarbonisation trajectory from the Intergovernmental Panel on Climate Change 1.5 °C scenario relative to a baseline date of January 31, 2020.) PABs also exclude index constituents involved in a vast range of fossil-fuel related activities as a part of a principle to "Do No Significant Harm" (DNSH) to environmental objectives (see Figure 6).

Figure 6: Minimum standards for EU climate benchmarks

		EU Climate Transition Benchmark (CTB)	EU Paris-Aligned Benchmark (PAB)
	Risk-orientated minimum standards		
Help reduce exposure to climate-related financial risks including transition and physical risks	**Carbon intensity reduction** Significant reduction on total GHG emission intensity compared to the investable universe	30% decabonisation vs benchmark	50% decabonisation vs benchmark
	Scope 3 phase-in	Up to a four-year timeframe to account for all direct and indirect emissions	
	Baseline exclusions	Controversial weapons; societal norms violators; violators of UN global compact principles; tobacco	
	Activity exclusions	No	Coal (1%+ revenues); oil (10%+ revenues); natural gas (50%+ revenues); electricity producers with carbon intensity of more than 100g CO2 e/kWh*
	Opportunity-orientated minimum standards		
Help direct capital to those companies leading the transition to a low-carbon economy	**Self-decarbonisation** Year-on-year self-decarbonisation of the benchmark	At least 7% per annum; in line with or beyond the decarbonsation trajectory from the IPCC's 1.5C scenario	
	Exposure constraints	Minimum exposure to sectors highly exposed to climate change issues is at least equal to market benchmark value	
	Corporate target setting	Weight increase shall be considered for companies which set evidence-based targets under strict conditions to avoid greenwashing	

Source: European Commission, Sustainable finance – minimum standards for climate benchmarks, 2020. *Electricity producers refers to companies that derive 50%+ of revenues from electricity production.

Customising decarbonisation trajectories

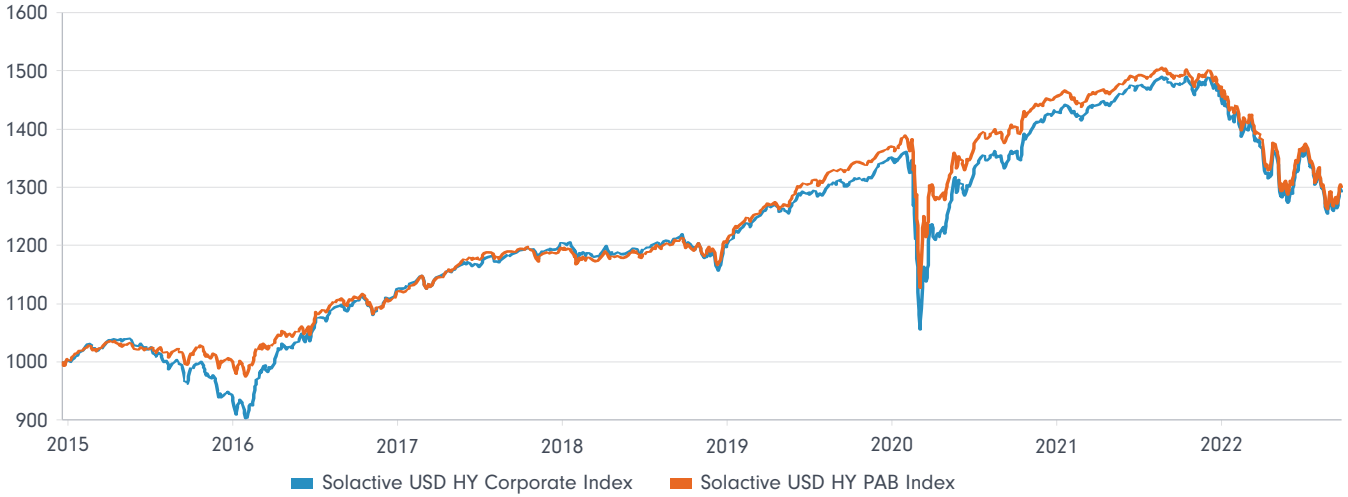
Factor-based strategies can help investors customise the transition pathway according to specific financial and non-financial goals. For example, it is possible to accelerate the rate of portfolio decarbonisation with a PAB-based strategy while maintaining a tracking error within a certain range relative to the parent index.

Tilting towards issuers with higher environmental ratings does not necessarily mean giving up risk-adjusted returns. For example, in a comparison of Solactive US-dollar denominated high yield corporate bond index against its PAB equivalent, performance appeared similar in the period between December 31, 2014, to November 1, 2022. (See Figure 7.) Furthermore, other risk metrics such as yield to worst (a measure of downside risk), average duration and option-adjusted spreads are also comparable. (See Figure 8.)

One limitation of PABs is the smaller investment universe relative to a standard global corporate bond index, though the number of bonds for PABs is still close to 8,000. Another is that PABs rely on carbon footprint, which is a backward-looking indicator and therefore does not necessarily reward issuers likely to make the most improvements in reducing carbon emissions.

To mitigate this risk, positioning can be enhanced by systematically integrating additional forward-looking information or ratings into the modelling. For example, leveraging forward-looking ESG ratings and ESG rating outlook can complement the view on the quality and direction of an investee's ESG performance, including its carbon performance. Despite some limitations, asset owners who have committed to decarbonising their portfolio within a certain timeframe may find that PABs offer a simple and transparent option of reducing the carbon footprint of a fixed income strategy to align with the Paris Agreement.

Figure 7: Performance of HY corporate bonds (USD) vs. Paris Aligned Benchmark equivalent



Past performance is not a reliable indicator of future returns. Source: Fidelity International, based on US-dollar denominated high yield index performance data from Solactive as of Nov. 1, 2022, indexed to 1000 (base date: Dec. 31, 2014).

Figure 8: Comparison of PAB vs. non-PAB indices

Key parameters	Bloomberg Barclays Global Aggregate Corporate Index	Solactive Paris Aligned Global Corporate Index
Yield-to-worst	4.99%	4.86%
Average duration	6.35	6.58
Option-adjusted-spread	150	141
DTS*	1035	997
# Bonds / issuers	15158/2149	7638/860
Average rating (Basel linear)	BBB+	BBB+
Weighted average carbon intensity**	235	98

Past performance is not a reliable indicator of future returns.
Source: Fidelity International, data as of Sept. 30, 2022. *DTS is duration times spread, measure of credit risk. **CO2e / million $ of sales, based on scope1 and scope 2 carbon emissions.

Labelled bonds: A maturing market

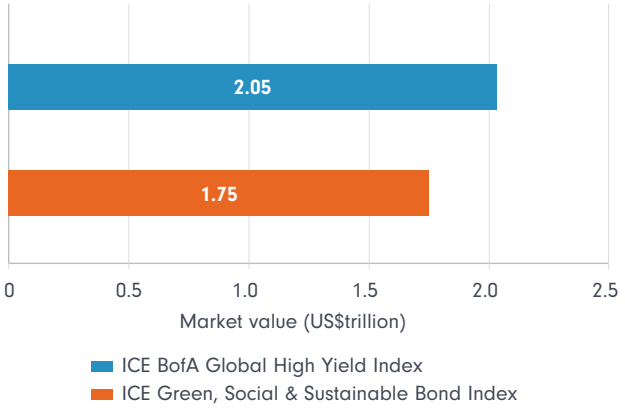
In our previous publications as part of our 'Race to net zero' series, we emphasised the importance of increasing the percentage of climate solutions in the portfolio alongside the decarbonisation sleeves of the portfolio. Comprising a variety of debt instruments to finance green, social, or sustainability-oriented (collectively known as GSS) objectives often at the local level, labelled bonds can help contribute to mitigating sustainability risks and finding idiosyncratic environmental investing opportunities. Importantly, local differences in green and labelled bonds must be recognised within a global approach.

The rapid growth in the asset class, which rivals global high yield when comparing the market value of the respective indices (see Figure 9), indicates investors are increasingly considering labelled bonds to be a good fit for fixed income expressions of dedicated climate financing. According to Climate Bonds Initiative, the most prevalent type is 'use of proceeds' bonds. Among recent activities financed with labelled bonds are renewable energy, energy efficiency, green buildings, sustainable agriculture and climate adaptation.

New regulation and standardisation guidelines globally may further support the market, given the additional clarity provided. For example, the voluntary set of Green Bond Principles backed by the International Capital Markets Association (ICMA) is gaining global acceptance. (See Figure 10.) In China, the catalogue of rules for green bond issuances introduced in April 2021 helps to harmonise green bonds across the region. Further restrictions will require disclosures that all proceeds from green bond issuances in China - totalling about US$200 billion at year-end 2021 - are being invested in green projects.[6] Elsewhere, the European Union Green Bond Standard is a voluntary set of standards to encourage market expansion, standardisation and transparency.[7]

Given the GSS bond market is more nascent than conventional bond markets, some caution should be applied. Though the evidence is inconclusive over the long term, there is some evidence that green and other labelled bonds typically deliver lower yields relative to non-labelled equivalents, partly due to higher demand relative to supply.[8] Meanwhile, the green credentials of labelled bonds still vary significantly. This merits more in-depth analysis at the issuer and project level to understand the starting point and ambitions embedded in bond programmes. Comparisons and contrasts among regional and peer issuer performances also can help better assess the risk of whether projects can deliver on their environmental credentials.

Figure 9: Market value comparison of GSS vs. high yield



Source: Bloomberg, ICE, Fidelity International, 9 Dec 2022.

Figure 10: Four components of the ICMA Green Bond Principles

Elements for alignment	Brief description
Use of Proceeds	Projects provide clear environmental benefits, e.g., climate change mitigation and adaptation, biodiversity conservation and pollution prevention, and where feasible, quantify the benefits.
Process for Project Evaluation and Selection	Disclosures of environmental sustainability objectives, procedures by which they were determined, and information used to identify and manage relevant risks.
Management of Proceeds	Proceeds should be managed on a per-bond issuance basis or an aggregated portfolio basis for multiple green bonds
Reporting	Use of timely, qualitative performance indicators and, where feasible, quantitative performance indicators, in addition to disclosures of underlying methodology.

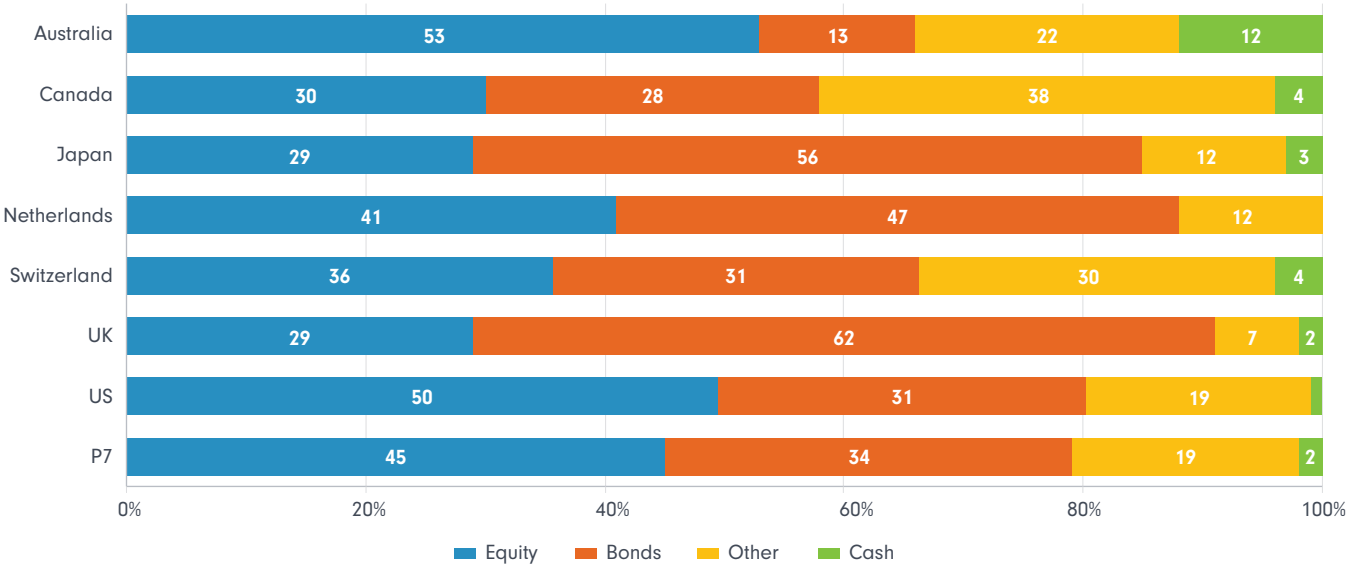
Source: ICMA Green Bond Principles, 2021.

Bonded by the climate crisis

Asset owners invest a significant portion of their portfolios in fixed income, with average bond exposures far exceeding that of equities, according to Willis Towers Watson. (See Figure 11) But when it comes to portfolio decarbonisation implementation, the focus tends to be on equities, according to fund flow data from the International Monetary Fund (IMF).[9]

Yet as an indicator of future economic activity, it has been said that the bond market is smarter than the stock market. It is thought to be a more stable, reliable metric. Larger and more diversified at about US$127 trillion in debt outstanding in 2021,[10] fixed income is vital to keep the global economy running smoothly. Bond market crashes, for instance, are arguably more insidious. This calls for a reconsideration of priorities to put more emphasis on fixed income when decarbonising an investment portfolio. Engagement is a powerful means to persuade portfolio companies to raise their environmental standards. Here, bondholders may have more to gain by collaborating internally with their equity colleagues or externally with other financial institutions and government agencies. Furthermore, engagement can enhance quantitative and qualitative information advantages to better gauge the decarbonisation trajectories of issuers. This allows for a more nuanced understanding of risk-return characteristics while influencing real-world emissions reduction and adding return potential.

Figure 11: 2021 asset allocation trends, by geography



Source: Willis Towers Watson Thinking Ahead Group, 2021. Note: P7 is the aggregate asset allocation for all seven countries in the chart.

Certain asset owners who have committed to a timebound decarbonisation pathway may opt for systematic solutions, which offer a more transparent trajectory. This can be done while achieving a comparable tracking error, duration risk and yield-to-worst among other metrics to traditional benchmarks.

Another growing opportunity set is in labelled bonds - a maturing market offering fixed income investors a way to participate in supporting climate solutions. If investors are diligent in managing the risks, then labelled bonds can serve well to complement the decarbonisation sleeves of their portfolio and incentivise a real-world shift towards climate-aware financing.

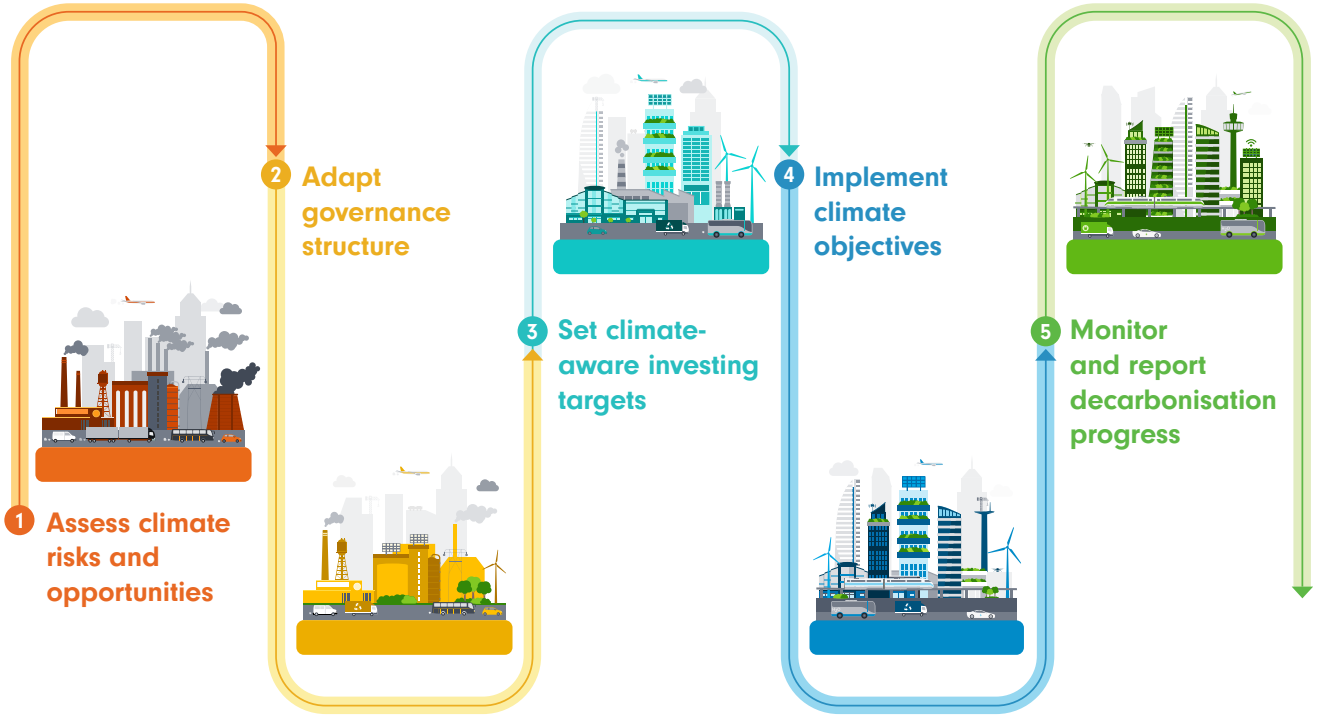
As previously mentioned, there are also some reasons to take a cautious stance. The higher level of complexity in the risk-return characteristics of fixed income relative to equities also calls for a more fine-tuned approach to decarbonising the portfolio. However, delaying action is not a viable option. That simply ignores climate risks and opportunities while sidestepping investor responsibilities. Environmental events such as flash floods, wildfires and heat waves continue to rise across the world, even if attention to the existential threat posed by the climate crisis has perhaps been diminished by recent global events such as the energy crisis.

Yet in the long term, the current energy crisis may accelerate the low carbon transition as governments, companies and consumers turn to more sustainable and secure energy sources. According to the International Energy Agency, fossil fuels were responsible for about 90% of the electricity production price increases worldwide

in 2022, leading governments to increase spending on renewables. By 2030, the IEA estimates, investment in clean energy will increase to US$2 trillion from about US$1.3 trillion this year.

In our view, the crucial role of the fixed income market calls on bondholders to play a more active part in reducing the environmental degradation from human activities. By implementing a climate-aware investing strategy in fixed income to align with other parts of their investment portfolios, investors can help provide issuers with the incentives for a low carbon transition while building resilience in their investment portfolios.

This guide is part of our "Race to net zero" series. In the coming months, we will be adding other modules on topics such as the implications by asset class when implementing climate objectives.



Source: Fidelity International, January 2023.

[1] "Investing in Times of Climate Change 2022 - A Global View", Morningstar, April 2022.

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[6] Samuel Shen and Brenda Goh, "China tightens green bond rules to align them with global norms", Reuters, Aug. 24, 2022.

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[9] "ESG Monitor", International Monetary Fund, Feb. 8, 2022.

[10] "2022 Capital Markets Fact Book", Securities Industry and Financial Markets Association (SIFMA), July 2022.

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