Decarbonising equity portfolios: a 'net zero glidepath' solution

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Asset managers can help investors promote the fight against climate change by decarbonising their portfolios. They can use, specifically, a dynamic 'glidepath' for reducing portfolio carbon emissions exposure that is both aligned with net zero goals and designed to minimise the impact on financial performance.

How can investors decarbonise their portfolios?

There are several available approaches, but they vary in the extent and robustness of their emissions reductions as well as in their impact on portfolio financial characteristics.

As a base case, a hypothetical active strategy is considered that maximises risk-adjusted returns using Acadian's proprietary bottom-up and top-down forecasting signals and portfolio construction methods. It does not incorporate any fossil fuel exclusions or decarbonisation tilts.

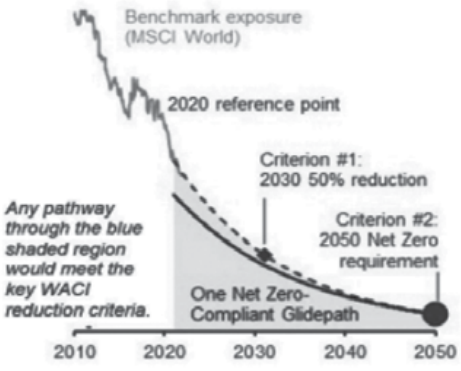
To align this hypothetical active strategy with climate science recommendations, a net zero glidepath solution is implemented. Specifically, the target is to reduce the portfolio's carbon intensity dynamically over time to meet two key criteria:

- a 50% decrease in 2030 portfolio carbon exposure relative to 2020 benchmark levels
- further reductions to levels that by 2050 would be aligned with net zero.

Weighted average carbon intensity (WACI) was chosen as the basis for this illustrative case study. For the glidepath specification two parameters are set:

- an up-front WACI 'haircut', that is, an immediate reduction in portfolio WACI relative to the benchmark's 2020 level
- a percentage decarbonisation rate that over subsequent years defines a smooth upper bound for WACI. The shaded area of Figure 1 shows net zero-compliant combinations of these two parameters, illustrating that there are many ways to achieve the required result. The bold line in Figure 1 illustrates just one of them.

Figure 1. Specifying a net-zero glidepath



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To complete the glidepath specification, an additional control is added to regulate how the portfolio-level target is achieved. The portfolio-level WACI constraint is imposed on each of the three most carbon-intensive sectors: energy, materials, and utilities. This enforces some balance in terms of how the portfolio construction mechanism sources portfolio WACI reductions with the aim of selecting more carbon-efficient companies from within these sectors. This control is considered as consistent with most investors' decarbonisation objectives, and it reduces concentration risk in generating portfolio emissions reductions.

While the glidepath has appealing intuition, simpler exclusionary approaches to decarbonisation are far more common. Therefore, the net zero glidepath was compared to an implementation of divestment that excludes from the base case portfolio companies that are either unable or unwilling to transition to a low-carbon economy.

While divestment is simple in form, for this case study rich criteria are applied to identify climate laggards, including revenue thresholds for fossil fuel activities as well as forward-looking assessments of companies' commitments to decarbonisation.

This refined implementation, or selective divestment allows for maintaining positions in high-emitting companies that are making strides to change their climate profiles. Doing so would provide a manager the opportunity to remain engaged with companies that have shown a reasonable propensity to transition, including high emitters that also operate renewable energy businesses.

One potential advantage of selective divestment relative to the glidepath is that the former can ensure the exclusion of specific companies that are significant emitters, regardless of their other virtues. The glidepath solution may include such firms, for example, if their expected return or risk characteristics are sufficiently attractive, as long as the portfolio-level carbon constraint is met. However, for investors who cannot tolerate holding certain companies, the portfolio glidepath solution can be augmented with an exclusion list.

Results

On average over the sample period, even the base case Acadian active strategy's WACI is 15% below that of the benchmark. This reduction partly reflects the integration of climate transition risk into the stock selection model, which is designed to reduce the appeal of high emitters.

Selective divestment would have produced a significantly larger average reduction of 36% in WACI over the sample period.

Like the base case, however, the reduction is unreliable; it sometimes entirely disappears. This highlights the shortcomings of controlling total portfolio emissions entirely via a bottom-up, company-level approach. Even with the intention of reducing future emissions, firms operating within carbon-intensive but harder-to-transition industries such as aviation or heavy industry, for instance steel and cement production, will largely rely on technology that is yet to be developed at scale. Exposure to these companies will continue to contribute to a portfolio's carbon exposure, at least in the short term.

In contrast to both the base case and selective divestment, the net zero glidepath reliably delivers sought-after reductions in benchmark-relative carbon exposure, regardless of their aggressiveness. When the required decreases are modest, for example -30% or less, the constrained portfolios deliver average reductions that exceed targets.

Moreover, as the WACI constraint is tightened to -50% or -70%, the reductions delivered on average meet, but no longer exceed the targets, and they also become much more stable over time.

Financial Impact

Not only does the net zero glidepath do a better job of ensuring the requisite carbon reduction, but under most conditions it does so with little impact on average ex-ante active return over the sample period.

Until the glidepath requires a benchmark-relative cut of -30%, the reduction in ex-ante alpha is insignificant, and even at the -50% level called for by the 2030 climate science target, the average loss is only 1%.

But the average loss of alpha would grow more material if an investor were to select, or if rising levels of corporate emissions were to require, an even more aggressive benchmark-relative control on WACI, for example -70%. Moreover, there are times during the sample period where the impact on alpha is more material, 5% or more.

These results highlight the value of applying sophisticated portfolio construction and a broad investment universe to deliberately manage the potential financial impact of carbon restrictions that reliably achieve climate science recommendations.

Looking at the base case point of departure, most of its benchmark-relative carbon reduction derives from a reallocation across sectors. It turns out that this positioning largely results from an underweight in utilities, which reflects what amounts to a top-down call on the sector's relative appeal.

In comparison, selective divestment achieves a somewhat larger fraction of its carbon reduction—in both relative and absolute terms—from stock selection, which highlights the benefits of the refinements that are employed to identify carbon-efficient companies within sectors.

Nevertheless, the glidepath specification derives even larger WACI reductions from stock selection. In fact, the proportional contribution from stock selection initially grows as the constraint is tightened.

A particularly impressive example of carbon reductions achieved through stock selection comes from the materials sector. As the constraint is tightened to -50%,

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the glidepath-aligned strategy sometimes exceeds the targeted WACI reduction from materials even as the sector is assigned an overweight relative to the benchmark. Nevertheless, while the glidepath makes efficient use of stock selection to meet carbon reduction goals, as the desired/required carbon reductions grow more aggressive, -50% or more, the process starts to lean harder on sector reallocation.

In summary, the net zero glidepath solution allows the sophisticated portfolio construction process to better exploit all avenues for decarbonisation—both within and across sectors, consistent with both bottom-up and top-down return forecasts—than approaches that rely on either sectoral reallocations or stock-specific exclusions. This should provide for more attractive and robust outcomes with respect to both climate and financial objectives.

Conclusion

For concerned asset owners, the dynamic glidepath strategy offers a disciplined approach to meeting net zero emissions exposure criteria while minimising the impact on financial performance.

The historical analysis provided highlights the value of the explicit and aggressive portfolio-level carbon intensity constraint in achieving the necessary reductions. It also highlights the flexibility that the glidepath approach affords to extract emissions reductions from stock selection instead of relying more heavily on sector-level reallocations, as conventional exclusionary approaches tend to do. While the case study explores the benefits of a glidepath approach based on WACI and in the context of a developed market-benchmarked portfolio, it can be applied to other carbon metrics and contexts as well.

Nevertheless, while portfolio decarbonisation offers investors a valuable way to signal to emitters that they care about fighting climate change, prompting the actual company-level reductions called for by contemporary climate science will require ongoing monitoring and engagement. Systematic investing approaches have a unique role to play in aiding that campaign. **FS**