



JONATHAN BAILEY

Head of ESG Investing

JENNIFER SIGNORI

Managing Director, ESG and Impact Investing

Transitioning to Net-Zero Investing

A large and influential portion of the investment industry has committed to measure and manage portfolio carbon emissions, with the ultimate goal to eliminate them. What does this mean in practice? And what initial steps can asset owners take on the road to net-zero alignment?

Neuberger Berman was one of the 20 investment managers named to the Principles for Responsible Investment (PRI) 2020 Leaders' Group for our approach to managing climate-related risks. We recognize the impact of climate change, the urgent need to accelerate the sustainable transition toward global net-zero emissions and the critical role that investor capital has to play in that transition.

We believe that climate change will affect businesses in two major ways. First is the physical impact of climate change itself. Extreme weather events, wildfires, floods and rising sea levels are likely to disrupt some supply chains and threaten the viability of some capital assets. Second are business risks associated with the transition toward global net-zero emissions. Efforts to slow climate change through carbon taxes, regulation, green fiscal spending, energy transitions and changing purchasing behavior are likely to create new winners and losers in business, and new risks and opportunities in investment.

As such, many investors are seeking to bring portfolio emissions to net zero both to mitigate their contribution to climate change and manage their exposure to the low-carbon transition, as part of their return- and risk-management. The Intergovernmental Panel on Climate Change (IPCC) estimates that to maintain global temperature within 1.5°C of pre-industrial levels this century, net-zero global emissions will be necessary by 2050.

We increasingly find many of our clients not only echoing these investment beliefs around the impact that climate change can have on businesses, but also calling on us to help manage the associated risks and opportunities, and align portfolios with their long-term goals—which now often include explicit net-zero commitments. Momentum is growing as an increasing number of corporations and investors make public net-zero pledges.

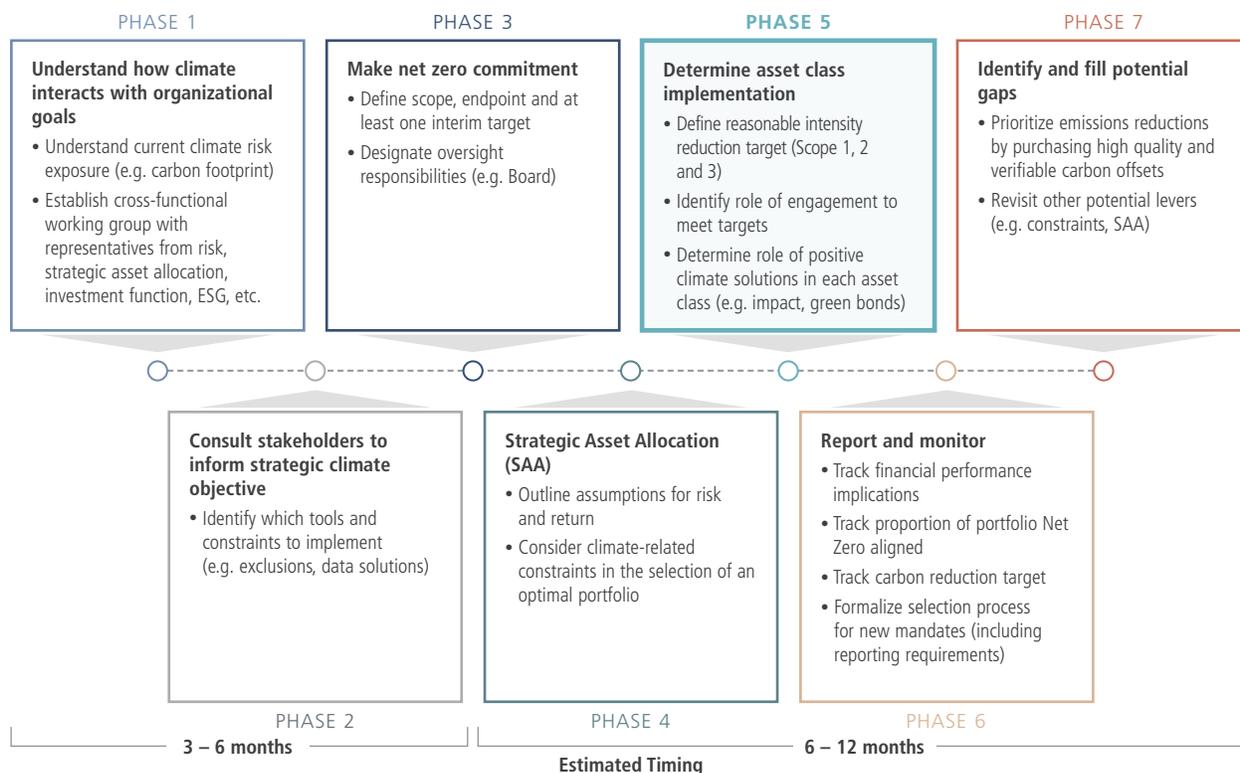
There remains widespread skepticism, much of it justified, around whether such targets are achievable in a way that genuinely reduces emissions and does not simply outsource them to other parties (by subcontracting carbon-intensive manufacturing processes, for example). Nonetheless, investor expectations are growing and uncertainties such as these only underline that Chief Investment Officers, Boards of Directors and Trustees whose institutions have made these net-zero commitments face a daunting task. How does one envisage the long-term strategy that maps a realistic path to net-zero portfolio emissions by 2050, while also identifying the first steps that can be taken on that path today? These are the questions that Neuberger Berman is tackling in partnership with many of our institutional clients right now.

Getting Started: First Phases on the Net-Zero Journey

We think a good place to start is with the Net Zero Investment Framework set out for consultation by one of the Founding Partner investor networks of the Net Zero Asset Managers Initiative, Europe’s Institutional Investors Group on Climate Change (IIGCC), in August last year.¹ This framework seeks to provide practical methods, actions and assessment metrics for aligning portfolios with the goals of the Paris Agreement. It proposes five components of a net-zero investment strategy, which can be seen in full in the appendix at the end of this article.

At Neuberger Berman, we find it helpful to take these components and their associated actions and reframe them as an action plan, or seven distinct phases on the journey to a comprehensive net-zero strategy, as set out in figure 1. The first three phases define and quantify the challenge, and prepare the ground for implementing the final four phases of the strategy.

FIGURE 1. NEUBERGER BERMAN’S ACTION PLAN TO A NET-ZERO STRATEGY



Source: Neuberger Berman, 2021.

¹ IIGCC, *Consultation: Net Zero Investment Framework* (August 2020).

Phases 1, 2 and 3: The First Three to Six Months

The initial steps establish the governance structure required to make the journey to net-zero emissions and define and quantify the nature of the challenge. What is the portfolio's current carbon footprint, and where are the gaps in your data? Which of your organization's functions need to be included in discussions and decisions? These steps are designed to enable an institution to agree to the net-zero commitment with its stakeholders and establish the broad scope of the tools and approaches it will use to pursue that commitment. What should be the balance between exclusions and engagement? What will be the threshold for moving from considering exclusion and engagement to increasing allocation to investments that offer potential climate solutions, and ultimately to accepting the need to purchase carbon offsets directly, in addition to the portfolio's investments in companies?

Among the institutional clients we work with, many are at this define-and-organize phase. For example, we are currently working with a public pension client to help it assess the carbon intensity of a private equity portfolio that we manage on its behalf, as part of efforts to quantify its whole-portfolio carbon emissions. Generally, we and other asset managers work with emissions data gathered by what we regard as reputable third-party specialists to help build this picture with the client, filling in the information gaps that will exist in private asset portfolios and niche strategies with our own research and analysis, wherever possible. Proxy voting and engagement to encourage more transparency in emissions and climate risk reporting also have a role to play in this phase—exemplified by our own recent decisions to vote against management at Exxon Mobil and Chevron, which were both followed by improved disclosures.

This analysis can go further than simply quantifying portfolio emissions. After all, we believe emissions are not the only source of climate-related risk in portfolios. Certain businesses make obvious contributions to a portfolio's emissions profile, whether positive or negative, such as airlines, coalminers, energy utilities and wind turbine manufacturers. But what about the broader climate-related risks to, say, a cruise line that invests in long-lasting capital assets that spend the majority of their time sailing in hurricane regions, and which is also subject to evolving emissions standards? This is where we have helped clients to analyze parts of their portfolio with our "Climate Value-at-Risk" (CVaR) model, which aims to quantify this exposure for companies across sectors. We define it as the present value of the aggregated future policy risk costs, technology opportunity profits, and extreme weather event costs and profits expressed as a percentage of the portfolio's market value should the scenario in question be realized. CVaR helps to identify climate risk and translate it into an economic value in present dollars.

Many assumptions go into a CVaR calculation and we find it to be a useful measure to summarize portfolio-level exposures, compare them to those in benchmarks and prioritize companies for engagement. However, it's important to note that CVaR is one piece of the puzzle; in our opinion, additional analysis is also required to understand more specific company-level alignment against science-based targets and absolute emissions reductions in accordance with net-zero objectives. For example, in what we see as the most at-risk sectors, our central research analysts work in concert with our ESG Investing team to make long-term estimates of the transition alignment of individual companies against industry benchmarks developed by the [Transition Pathway Initiative](#) (TPI). We are one of five asset managers, and the only manager from the U.S., to sign up as a Research Funding Partner with the TPI, as we seek to contribute to the constantly evolving research, data and reporting associated with measuring climate change exposure.

Phases 4 and 5: Implementation

The next steps are designed to put an investor on the road to implementation.

In Phases 1, 2 and 3, an investor should have built a fairly comprehensive picture of where its portfolio carbon emissions are coming from, and whether they are Scope 1, 2 or 3 emissions. (For definitions of these and other terms used here, see "Net-Zero Investing: What You need to Know," below.)

This will go a long way to inform the balance of exclusion and engagement in the strategy, and certain investors may choose to emphasize one lever more than others. On Scope 1 emissions, for example, investors in utility companies that generate energy from thermal coal may take the view that this fuel has no place in the energy transition, leaving them with no option but to exclude the sector. Others may take the view that some utilities are making that transition within their own business, by investing in renewable energy sources, and this should be encouraged by excluding only those companies planning new investment in thermal coal power generation, and by engagement to

² Neuberger Berman's own policy prohibits new investments in companies that derive more than 25% of their revenues from thermal coal mining or are expanding new thermal coal power generation, and has been applied to essentially all of our U.S. registered mutual funds, closed-ended funds and international UCITS: https://www.nb.com/handlers/documents.ashx?id=0c0d4a1f-a996-40cc-a62a-e676a11ba9d8&name=NB_Thermal-Coal-Involvement-Policy_1020.pdf

better understand the strategic objectives and capital expenditure plans of the other companies in the sector.² In December 2020, the New York State Common Retirement Fund (NYSCRF) set an ambitious goal to transition its portfolio to net-zero greenhouse gas emissions by 2040, including a four-year review of investments in energy sector companies, using minimum standards to assess transition readiness and the risk of continued investment. It has already divested from 22 coal mining companies and six Canadian oil sands firms.³

Engagement may facilitate quick results on Scope 3 emissions, such as setting a goal to cut back on air travel, but also may be difficult to quantify, especially for customer product usage along the value chain. In the short to medium term, it may also be possible to encourage portfolio companies to procure more renewable energy and other products with lower emissions—but this reduction in Scope 2 emissions is to some extent dependent on the energy mix of the local utility. Over the long term, therefore, one way to help portfolio companies reduce emissions is to invest more in climate solutions such as new renewable energy generation and grid integration through impact investing strategies or green-bond financing. This is a reminder that there are opportunities to invest in strategies that support the evolution of companies' business models in the context of the energy transition, which, as we are experiencing with our clients, can take the form of investments across diversified sectors and portfolios in both the public and private markets.

As we can see, decarbonizing one's portfolio requires an evolving balance between exclusion, engagement, climate solutions and, in some cases, carbon allowances or sequestration projects. Some actions will have a direct effect on a portfolio's risk and return profile. At the portfolio level, some investors have gone as far as building climate change risks into the capital market assumptions that inform Strategic Asset Allocation decisions, which could have positive or negative implications for their views on certain asset classes or industry sectors.

That is why Phases 4 and 5, which include setting strategic risk and return parameters and determining the shape of the net-zero strategy with those parameters in mind, are likely to occur concurrently—the Strategic Asset Allocation framework will set constraints on the actions that can be taken at any point in time to align with emission-reduction targets, while always subject to satisfying applicable fiduciary duties. We believe the nature of current portfolio emissions will determine the evolving balance between exclusions and corporate engagement and the extent to which positive climate solutions and carbon allowances can be additive to or complement an investor's strategy.

To that end, we have worked with clients to help set interim targets for net-zero aligned portfolios. Setting interim targets for asset-class allocations or emissions-related revenue percentages within the portfolio is encouraged, but should be weighed against the desired risk and return characteristics of the client's portfolio, while considering which asset classes appear best positioned to benefit from the push toward emission reductions. This process involves iterative dialogue and analysis to help set targets that are both ambitious and realistic. Whatever the ultimate decisions, we believe a longer-term and systems-level view on future carbon emissions reductions can be additive or complementary to a decarbonization strategy in one's current portfolio.

Phases 6 and 7: Reporting, Monitoring and Filling in the Gaps

Phase 6 is about keeping track of the results of these decisions, in terms of both emissions reductions and financial performance. For the former, we think that measuring and reporting emissions in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) is a helpful starting point.⁴ This is the time to assess alignment with the targets that were set out in Phases 2 and 3, but also to begin formalizing the requirements that the investor will make of new managers and new mandates—as the outstanding exposures, investment techniques and reporting needs of the portfolio become more evident.

It is highly likely that the portfolio will remain a source of Scope 1, 2 and 3 carbon emissions for the foreseeable future. Phase 7 is a phase of reflection on those limitations and, where necessary, identifying potential gaps to be filled. If emissions reduction is falling behind your commitment targets, it may be time to revisit constraints related to the tension between short-term market risk and long-term climate risk. This might involve revisiting Phases 4 and 5, and possibly even Phase 2.

This is also another phase where proxy voting and engagement comes into play. Ultimately, screening the universe of companies for those with the lowest current emissions is not only likely to put a lot of strain on the risk and return parameters of an investor's strategic asset allocation, it is also likely to exert less of an impact on the emissions of the broader economy than engaging with companies to improve their profiles.

³ <https://www.osc.state.ny.us/press/releases/2020/12/new-york-state-pension-fund-sets-2040-net-zero-carbon-emissions-target>;

<https://www.osc.state.ny.us/press/releases/2021/04/dinapoli-moves-state-pension-fund-toward-net-zero-target-restricts-investments-oil-sands-companies>

⁴ <https://www.fsb-tcfd.org/>

Net-Zero Investing: What You Need to Know

A **Net-Zero investment portfolio** is defined by the Net-Zero Asset Owners Alliance and the Institutional Investors Group on Climate Change (IIGCC) as having attributable net emissions equal to zero, whereby any portfolio company emissions are offset by corresponding carbon credits or carbon sequestration projects. See the Net-Zero Asset Owners Alliance's *Inaugural 2025 Target Setting Protocol* (October 2020), and the IIGCC's *Consultation: Net Zero Investment Framework* (August 2020).

Carbon credits or **carbon allowances** are tradable certificates allowing the holder to emit a set amount of a greenhouse gas. Under terms set by the 1997 Kyoto Protocol and subsequent agreements, specific countries and "operators" (including corporations) that do not use their whole quota can sell the rest, in the form of credits for Certified Emissions Reduction (CER); emission-sequestration or mitigation projects approved by Designated National Authorities can generate new CER credits from a verified source. There is also a market in credits for Voluntary Emissions Reduction (VER), generated by projects outside the terms of the Kyoto Protocol. While these projects are often beneficial and result in genuine emission reduction and sequestration, some VER credits have been generated based on questionable "carbon avoidance" projects. Many corporations or organizations purchase credits in the voluntary market and therefore require due diligence to ensure that they represent genuine emissions reduction or sequestration.

Under the widely observed **Greenhouse Gas Protocol** developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), carbon emissions are categorized as Scope 1, 2 or 3. **Scope 1 emissions** are direct emissions. These include utility companies' emissions from burning fossil fuel to generate energy but also, less obviously, emissions from onsite heating apparatus or vehicle fleets, directly owned or controlled, regardless of which sector the emitting company is in. **Scope 2 emissions** are indirect, and mostly include emissions generated offsite, by utilities, in the generation of the energy a company uses. **Scope 3 emissions** are all other indirect emissions, covering everything from business travel to waste disposal.

The **Net-Zero Asset Owners Alliance** was co-convened by U.N. Environment Program Finance Initiative (UNEP FI) and the PRI in September 2019. Founding members Allianz SE, Caisse des Dépôts, La Caisse de dépôt et placement du Québec (CDPQ), Folksam Group, PensionDanmark, SwissRe, Alecta, AMF, CalPERS, Nordea Life and Pension, Storebrand, and Zurich have since been joined by more than 20 other international institutional investors and wealth managers. They have committed to achieving net-zero portfolios by 2050, through engagement with companies, asset managers and policymakers, with intermediate targets every five years and regular progress reports. See the organization's *Inaugural 2025 Target Setting Protocol*, published in October 2020.

The **Net-Zero Asset Managers Initiative** was launched in December 2020. This alliance of 30 international asset managers, representing more than \$9 trillion of investment assets, has committed to aligning their investment activities with the goal of net-zero emissions by 2050 or sooner, in line with efforts to maintain global temperature within 1.5°C of pre-industrial levels this century. The initiative will be managed by six Founding Partner investor networks: the Asia Investor Group on Climate Change (AIGCC); the Carbon Disclosure project (CDP); Ceres; the Investor Group on Climate Change (IGCC); the Institutional Investors Group on Climate Change (IIGCC); and the UN-supported PRI.

Corporate net-zero commitments are gathering momentum across a range of sectors. Since February 2020 pledges have come from BP, Ford, Hon Hai Precision Industry, Cemex and, within aviation, Delta Air Lines, American Airlines, Qantas, Easyjet and IAG.

The **Task Force on Climate-related Financial Disclosures (TCFD)** was established by the Financial Stability Board (FSB), at the request of the G20 Finance Ministers and Central Bank Governors, to review how the financial sector can take account of climate-related issues and develop recommendations for more effective climate-related disclosures. The aim of the disclosures, which were published in the Recommendations of the Task Force on Climate-related Financial Disclosures in June 2017, is to "promote more informed investment, credit, and insurance underwriting decisions," which in turn "would enable stakeholders to understand better the concentrations of carbon-related assets in the financial sector and the financial system's exposures to climate-related risks." The Task Force's 32 international members include providers of capital, insurers, large non-financial companies, accounting and consulting firms, and credit rating agencies.

The **Transition Pathway Initiative (TPI)** provides free-to-use, independent research to help investors assess the alignment of their portfolios with the Paris Agreement goals and to promote emissions reductions.

Investors can use engagement and proxy voting to encourage companies to disclose emissions reduction targets, evaluate the appropriateness of the targets and monitor progress toward them. Tracking the percentage of holdings in high-emitting sectors that are not generally considered net-zero-aligned, but where active engagement is ongoing, can be a helpful marker for prioritization. For example, we engaged a utility company with a diversified portfolio of power generation assets, including natural gas, nuclear and coal power plants, on operational improvements, equipment retrofits and plant retirements that we believed had significant potential to reduce its environmental impact and risk profile. The company responded by implementing a faster timeline for reducing its coal exposure and disclosing expectations for future emission reductions.

It is important to remember that, compared with shareholders, corporate bond investors arguably have as much if not more potential to be active with both their engagement and their investment activities. We have built customized multi-sector credit strategies with disciplined emissions-reduction targets and a focus on engagement in pursuit of results. In addition to the usual engagement activities, by stipulating use-of-proceeds clauses in the documentation or by encouraging the issuance of green bonds that are ringfenced to finance renewables infrastructure, fixed income investors can contribute to decarbonization efforts and help broaden renewable energy on utility grids. For example, Nippon Life Insurance Company has made persuading corporates of the merits of issuing green or impact bonds a cornerstone of its sustainable investing approach.

At the end of all of these processes, while it is widely acknowledged that they should not be the starting point in a net-zero strategy, high-quality and verifiable carbon credits from regulated markets can be used to address any residual emissions where there is no other technologically or financially viable solution.

A Collaborative Effort

There is no doubt that the journey to net-zero emissions in investment portfolios is a daunting task, almost as daunting as the journey to net-zero emissions in the world economy as a whole. But we think there is a clear guide to drawing the roadmap and setting out on the first phases of this journey. Building on the governance and investment strategy outlines proposed by leading industry organizations and thinking about them as a set of sequential steps can break the process down into manageable and achievable targets. And the good news is that, for many institutional investors and their strategic partners, much of the groundwork for this multi-decade effort can be put in place in a matter of months. Many of the steps involve adapting existing governance structures and re-aligning Strategic Asset Allocation, analytical and reporting processes.

Most importantly, this will be a collaborative effort. As more and more investors make net-zero commitments, knowledge and experience will be built and shared. And, of course, emissions reduction will be happening not only at the level of investors' portfolios, but at the level of portfolio companies. As the wider economy sets net zero as an ambition, and we see more company disclosure, new and innovative tools, and growing collaboration, we believe that lowering portfolio emissions will get easier, not harder, as time goes on.

APPENDIX

The IIGCC's Proposed Framework for Net-Zero Investing

Component	Purpose	Actions
Governance & Strategy	To set the overall commitment toward global net-zero emissions, provide direction, and a basis for action. Monitoring and accountability for delivery of strategy and achievement of targets are also included.	<ul style="list-style-type: none"> • Commit to aligning investment strategy with achievement of global net-zero emissions by 2050 • Define beliefs, set investment strategy and mandates/performance objectives for asset managers • Undertake climate financial risk assessment in line with TCFD recommendations • Publish information on strategy and targets, monitor and report on implementation and progress
Portfolio Reference Targets	To set objectives and targets that: <ul style="list-style-type: none"> • Promote investor action that drives decarbonization of assets • Increase investment in climate solutions • Define expected progress in emissions reduction and investment at the portfolio level, and measure achievement 	<ul style="list-style-type: none"> • Set medium-term emissions reduction and climate solutions reference targets to inform SAA and monitor impact of strategy
Strategic Asset Allocation	To define an optimal asset allocation for the portfolio in order to help achieve alignment goals alongside standard risk/return objectives and other constraints, and specify the way in which asset allocation should be implemented—via choice of benchmarks and design of investment mandates—to achieve goals.	<ul style="list-style-type: none"> • Update risk and return expectations based on scenario analysis • Optimization with emissions and climate solutions metrics • Set asset class mix with climate variants • Review constraints to increasing alignment
Asset Class Alignment	To assess the current and future potential alignment of assets to the global net zero goal, and their contribution to climate solutions, using relevant indicators and metrics. To incentivize assets to achieve decarbonization and contribute to climate solutions, and thereby meet portfolio-level targets, by: <ul style="list-style-type: none"> • Using portfolio construction and investment decisions to increase capital allocation to more aligned assets and climate solutions, and withdraw investment from poor-performing assets • Using engagement, stewardship, and management to influence assets toward greater alignment 	Assess assets and set targets: <ul style="list-style-type: none"> • Assess assets based on current and forward-looking alignment criteria, and investment in climate solutions • Set goals for increasing % AUM invested in aligned assets in climate solutions, plus coverage of engagement activity Implement: <ul style="list-style-type: none"> • Portfolio construction: Screening, positive and negative weighting, tilted benchmarks to allocate capital to support alignment and invest in climate solutions • Engagement: Criteria-based escalating engagement and voting strategy for non-aligned assets; tenant and issuer engagement • Selective divestment: Based on climate-related financial risk; engagement escalation; non-permissible activity thresholds • Investment/management actions for directly owned assets (e.g. real estate)
Advocacy & Engagement	To shift the policy environment to support decarbonization and investment in climate solutions, and increase the ability of investors to take forward a net-zero investment strategy. To encourage the market to provide the data, tools and advice that underpins investors' investment strategy implementation.	Policy advocacy: <ul style="list-style-type: none"> • Net-zero-aligned policy and regulation • Disclosure; shareholder rights Stakeholder and market engagement: <ul style="list-style-type: none"> • Asset manager or client • Index, data and service providers

Source: IIGCC, August 2020.

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Neuberger Berman
1290 Avenue of the Americas
New York, NY 10104-0001

www.nb.com