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Implementing net zero for institutional investors

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Net zero has become a central concept in long-horizon portfolio management for many institutional investors. For these investors, aligning with net zero is typically tied to stakeholder preferences and objectives, regulatory expectations, and systemic risk management.

This primer outlines how many US institutional investors who have set a net zero target for their investment portfolio are seeking to achieve it, with a particular focus on implementation approaches and challenges.

Key takeaways

- Institutional investors aiming for net zero emissions typically set interim and long-term reduction targets. Strategies may include divestment, active engagement, tilting portfolios toward sustainable investments, and investment in climate solutions. US-based institutions increasingly tend to emphasize engagement and transition finance over an exclusionary approach.
- Measurement is the linchpin of credible net zero alignment. Measuring emissions exposure is often limited by methodological uncertainty and lack of consistent tracking frameworks, especially for Scope 3 emissions. While data limitations should be transparently acknowledged, investors should not let a desire for perfection hinder progress.
- Different asset classes face unique challenges in implementing net zero strategies. Listed equities and corporate fixed income benefit from better data availability, while sovereign debt and private investments often lack standardized emissions data. Real estate and infrastructure investments require targeted management practices to address climate risks effectively.
- Credible net zero alignment requires robust emissions measurement frameworks, clear asset classifications, and reliable data. Transparency and accountability are essential to preventing greenwashing and building stakeholder trust in institutional climate commitments.

What is net zero?

Net zero refers to the balance between the quantity of greenhouse gases (GHG) produced relative to the quantity removed from the atmosphere. Achieving net zero entails that any emissions produced are offset by equivalent removals, resulting in no net increase in atmospheric GHG. In practice, this often involves reducing emissions through sustainable practices and technologies to remove carbon dioxide (CO2) from the atmosphere. A country, company, or institution can seek to be net zero.

When an institutional investor makes a net zero pledge, it is committing to reducing the GHG emissions associated with its investment portfolio to net zero by a target year, most commonly by 2050. This type of pledge is part of a global effort to align investment practices with the goals of the Paris Agreement, which seeks to limit global warming to 1.5°C above pre-industrial levels.[1]

[1] Source: "What is 'Net Zero', anyway? A short history of a monumental concept" by Ruth Morgan; ANU Institute for Climate, Energy & Disaster Solutions, May 2024.

Implementation

For an investor, moving to net zero involves analyzing and addressing emissions from their investments. They then set about employing a mix of strategies to move toward net zero.

Institutional investors typically set interim and long-term portfolio emissions reduction targets. These targets may apply to the entire portfolio or specific asset classes (e.g., listed equities, corporate bonds, real estate).

Investors often commit to actively engaging with portfolio companies to encourage emission reductions, improved disclosures, and alignment with net zero goals. They may also vote on climate-related shareholder resolutions or support board-level climate expertise.

They may tilt portfolios toward companies that are aligned with the transition to a low-carbon economy. In some cases, this may involve divestment from high-emission industries, such as coal or oil sands, especially where credible transition plans are lacking. In the US, implementation tends to emphasize engagement and transition finance over exclusion, reflecting a pragmatic approach.

In addition, some investors may seek to invest in climate solutions. Investing in climate solutions refers to allocating capital to initiatives, technologies, and companies that actively contribute to mitigating climate change or adapting to its impacts. This might include renewable energy projects, sustainable infrastructure, carbon capture technologies, and businesses that are committed to reducing greenhouse gas emissions.

Some investors have adopted formal climate roadmaps. These strategic plans outline how the institution will address climate change in their investment portfolio, including objectives, policy and strategy, engagement and advocacy, risk management, and reporting and transparency. A comprehensive approach might include mapping decarbonization pathways that reflect real-world variations in transition feasibility.

Net zero investors often commit to transparent reporting in line with frameworks like the Task Force on Climate-related Financial Disclosures (TCFD). They may also join alliances such as the Net-Zero Asset Owner Alliance or Net Zero Asset Managers Initiative to collaborate and benchmark progress.[2]

[2] The Net-Zero Asset Owner Alliance (NZAOA) and the Net Zero Asset Managers Initiative (NZAMI) are two major international coalitions of institutional investors committed to achieving net-zero greenhouse gas emissions in their portfolios. They are both part of a broader global effort to mobilize the financial sector around climate action, in line with the Paris Agreement and 1.5°C warming limit.

The measurement challenge

One of the greatest frictions in net zero investing lies in measuring emissions data. Ideally, GHG emissions data would be readily available, and definitions would be universal.

Scope 1 emissions are direct greenhouse gas emissions from sources that are owned or controlled by a company. Scope 2 emissions are indirect emissions from the generation of purchased electricity, steam, heating, or cooling consumed by a company. Scope 1 and 2 emissions data tend to be more readily available, and a broad consensus exists on what they include. While Scope 1 and 2 disclosures are gradually improving, they remain unaudited and non-standardized.

Scope 3 emissions, which include all other indirect emissions in supply chains and product use, are challenging to define and manage, and in some quarters, controversial.[3] The GHG protocol identifies 15 categories of Scope 3 emissions, split into 'upstream' (e.g., vehicles not owned by the company but used for business) and 'downstream' (e.g., product end-of-life treatment). Scope 3 emissions can potentially contribute much more to an organization's total carbon footprint than the other two scopes.[4] Due to the complexity, many companies hesitate to address Scope 3 emissions. A 2024 Deloitte survey of 300 large public companies revealed that while 75% disclose Scope 1 emissions and about 50% disclose Scope 2, only 15% disclose Scope 3 emissions.[5]

Hence, Scope 3 emissions are often estimated using sector averages or incomplete modeling. Investors typically rely on third-party providers whose models differ in emissions attribution logic, emissions factors, and upstream/downstream assumptions. Given these challenges, it is not unusual for investors to omit Scope 3 emissions when estimating their portfolio carbon footprint. Still, sustainability advocates caution that neglecting Scope 3 emissions undermines efforts to meet the Paris Agreement's goal of limiting global temperature rise to 1.5°C above pre-industrial levels.[6]

[3] The definition of Scope 3 emissions is much more open to interpretation. At the portfolio level, its inclusion may lead to double counting.

[4] Source: "What are Scope 1, 2, and 3 emissions?" by McKinsey & Co, September 2024.

[5] Source: "2024 Sustainability Action Report: Survey Findings on ESG Disclosure and Preparedness" by Deloitte, July 2024.

[6] Source: "Neglecting 'Scope 3' Emissions Could Sink Corporate Climate Action" by Adam Wentworth; Climate Home News, March 2025.

Investors tend to prioritize how they address emissions based on where data is more accessible rather than where financial risk is most concentrated. This tendency risks skewing portfolio decisions away from the most efficient steps toward decarbonization. Moreover, divergence in Scope 3 methodologies across third-party providers creates discrepancies that weaken cross-manager comparability. It is important to transparently acknowledge data limitations in reporting.

Variations by asset class

Implementing net zero strategies across different asset classes involves varying methods, execution challenges, and data availability. For listed equities and corporate fixed income, data availability and quality are generally better due to regulatory requirements for public disclosure.[7] These assets are subject to market risks and regulatory changes, and investors often use active engagement and proxy voting to influence corporate behavior towards net zero goals.

In contrast, sovereign debt presents challenges due to less granular and reliable data on sovereign emissions compared to corporate data.[8] These bonds are influenced by national policies and geopolitical risks. Investors can engage with governments to advocate for stronger climate policies, although the integration of climate risks into sovereign bond analysis is still evolving. Some asset owners are experimenting with applying climate-adjusted sovereign risk scores, but this practice is nascent.[9]

Real estate investments face physical risks from climate change, such as flooding and heatwaves. While data on building emissions and energy efficiency is improving, it can vary widely. Management practices in this sector include retrofitting buildings for energy efficiency and investing in green buildings. Although there is significant innovation in sustainable building technologies and materials, widespread adoption is still in progress.[10]

Infrastructure projects often have detailed environmental impact assessments, but the data can be project-specific and not standardized.[11] These assets are exposed to long-term physical and transition risks, and management involves integrating sustainability into project planning and operation. There is a growing focus on sustainable infrastructure, with new financing models like green infrastructure funds emerging.

Private equity and private debt face unique challenges in data collection due to the private nature of these investments. These assets encounter specific climate change risks related to the industries and companies involved. The extent to which individual partnerships and companies adopt sustainability criteria varies widely.

7 Source: "Climate Data and Net Zero: Closing the Gap on Investors' Data Needs" by United Nations Principles for Responsible Investment, September 2023.

8 Source: "Sovereign ESG Investing: We Can Do Better" by Jean Pesme & Anderson Captuo Silva; World Bank, June 2021.

9 Source: "ASCOR project launches pilot framework for sovereign climate risk assessment", Responsible Investor, February 2023.

10 Source: "Sustainable Architecture Requires Greater Scale to have an Impact on the Planet, Experts Warn" by Marcus Baram; Fortune, July 2022.

11 Source: "Questions and Answers Regarding the Consideration of Indirect and Cumulative Impacts in the NEPA Process" by US Department of Transportation Federal Highway Administration.

Toward more credible net zero investing

Achieving credible net zero alignment requires more than ambition. It demands rigorous measurement frameworks, clearer taxonomies for transition-aligned assets, and a data ecosystem that supports decision-useful emissions metrics.

US institutions pursuing a net zero portfolio goal must balance purpose with pragmatism. Inconsistent global policy, pushback against ESG mandates, and legal uncertainty around fiduciary interpretation all add friction. Ultimately, net zero is achievable in theory, but it is a question of willingness in the face of tradeoffs that these institutions will have to navigate based on their priorities.

Greenwashing concerns arise when pledges lack clear implementation plans or credible interim targets. This undermines stakeholders' trust and distorts the genuine efforts of organizations committed to addressing climate risks. Institutions must ensure transparency and robust accountability measures to avoid misleading claims and to bolster confidence in their net zero ambitions.

Implications for fiduciaries

The trustees for many institutions serve as fiduciaries and therefore must act in the best financial interests of their beneficiaries. In this context, a net zero portfolio pledge reflects a belief that climate change poses systemic financial risk, and that aligning with decarbonization pathways is in the institution's long-term interest.

Some investors believe that climate change increasingly poses systemic financial risks, through physical impacts, regulatory shifts, and transition uncertainty. Failure to address material climate-related risks could be seen as a breach of fiduciary duty. Especially as disclosure standards and investor expectations evolve.

However, fiduciary concerns also arise around how aggressively institutions pursue sustainability goals. For example, if pursuit of a net zero portfolio goal leads to underperformance or increased volatility, trustees may be challenged for prioritizing non-financial goals. This creates tension: investors must weigh climate action not as a political or ethical issue, but as a financial risk management imperative.

In this context, clear alignment between climate strategies, financial materiality, robust governance, and transparent documentation are essential to demonstrate that such actions are consistent with fiduciary obligations. The implementation of a net zero policy must balance return objectives, fiduciary duties, and political and stakeholder considerations.

Conclusion

Achieving credible net zero investing requires discipline, transparency, and a willingness to navigate complex tradeoffs. Institutions must adopt robust frameworks that align climate action with fiduciary duties and financial materiality, ensuring that investment strategies not only address systemic risks but also uphold their beneficiaries' long-term financial interests. By fostering accountability and avoiding greenwashing, institutional investors may be able to build trust with stakeholders and contribute to global decarbonization efforts.

Net zero depends heavily on the integrity of emissions data. Execution remains fraught with gaps in information, inconsistent benchmarks, and real-world complexities. Without reliable and decision-useful emissions metrics, it is difficult to align investment portfolios with decarbonization pathways or to demonstrate accountability. Addressing these measurement hurdles is essential for ensuring that net zero strategies are both credible and effective.

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