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Navigating Climate Analysis in Private Equity

The climate transition continues to be a topic of strategic focus for asset owners and private equity managers alike, but major hurdles remain in order to implement and evidence the progress toward decarbonization.

In November 2022, Neuberger Berman presented 11 key issues asset owners who are interested in the net zero transition should take into consideration now, as well as the significant challenges that come with solving for them across all phases of the net zero transition (see Key Considerations When Navigating the Net-Zero Transition). Although private equity is a key piece to the net zero transition puzzle, the obstacles within private equity are unique to the asset class and the best practices are still in development. At a high level, one of the drivers is limited, inconsistent ESG and climate data disclosures, which makes measurement and setting targets particularly challenging.

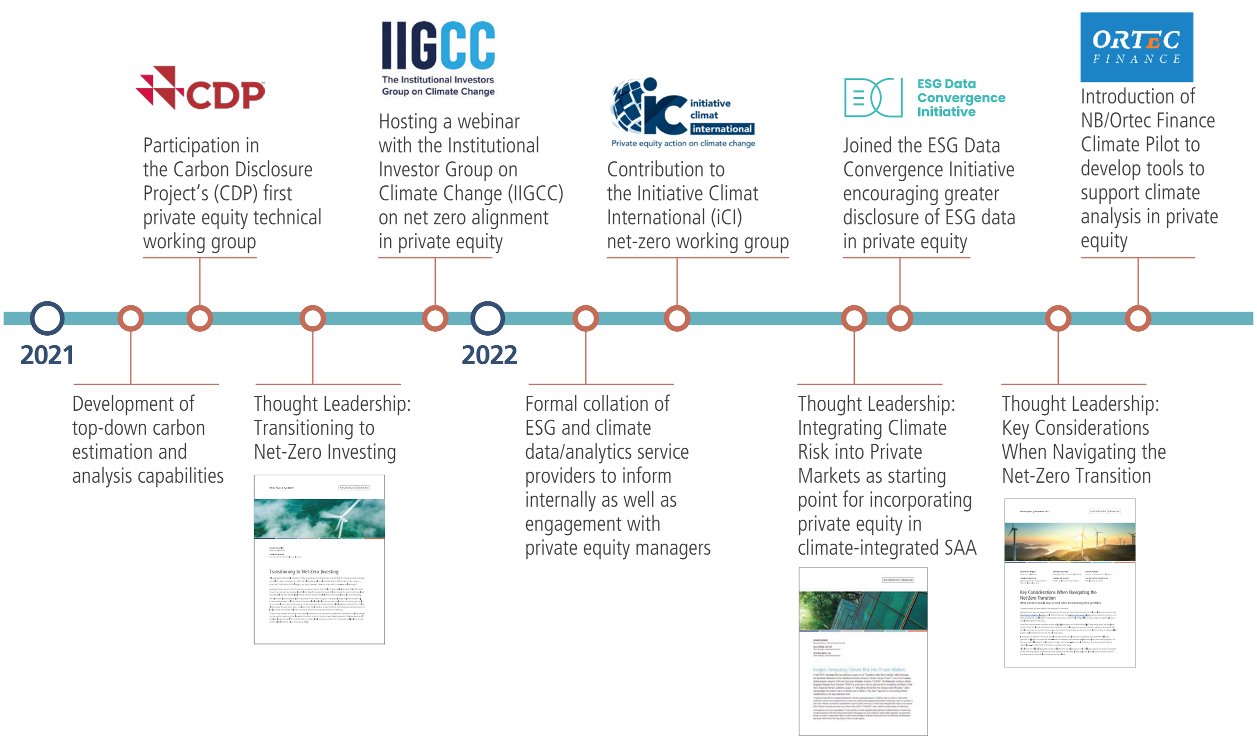
In this paper, we outline some of these challenges and the work NB Private Equity undertook to address them by developing tools to potentially assess climate risk and net zero alignment of a private equity portfolio.

Introduction: Assessing Climate Change within Private Equity

Private equity (PE) has several characteristics that make it well suited for decarbonization. PE managers tend to take controlling stakes in their targets, which can lend more direct influence over key strategic decisions, including those related to addressing climate change. They may also focus their investments on climate solutions that can contribute to reducing carbon emissions and enable the transition to net zero. And finally, PE allocations tend to skew toward industries with lower direct greenhouse gas emissions. However, as an asset class, private equity faces unique challenges stemming from:

- **Limited, Inconsistent Emissions Reporting**
  - The lack of actual data makes target setting and alignment analysis difficult for General Partners (GPs) and Limited Partners (LPs).
- **Target Setting**
  - Given private equity's multi-year investment period, with companies entering and exiting the portfolio at different stages of the closed-end life cycle of a fund, setting annual fund-level climate targets may not fully capture an investor's true progress towards net zero.
- **Role of GPs vs. LPs**
  - While GPs may hold greater potential influence on net zero issues at the portfolio company level given their majority ownership and board positions, LPs may have to exert their preferences mainly through capital commitments and by engagement with GPs.

EXHIBIT 1: NB PRIVATE EQUITY CLIMATE INITIATIVES TO-DATE



Although market-driven initiatives and regulations have heightened the need for the private equity industry to react quickly to these challenges, a gap still remains between data availability and the reporting demands of both clients and regulators. Based on NB Private Equity's role in the private equity ecosystem bridging LPs and GPs, through our work managing private equity portfolios on behalf of some of the largest and most sophisticated asset owners globally, while simultaneously serving as a capital solutions provider to GPs, we have observed a gap in where LPs and GPs are in their climate journeys. Asset owners or LPs' top-down climate commitments are often made at the organizational level, and within the GP community, the level of understanding and action on net zero alignment is nascent. Based on our engagement with GPs, we believe many are making advancements in improving the collection and disclosure of data. Some are building carbon reduction playbooks as another tool for value creation at portfolio companies. However, most are falling short of setting formal targets that are Paris Agreement-aligned or verified by a third-party. There are efforts underway to help GPs communicate the action they are taking and the real-world progress they are making at portfolio companies in a way that is pragmatic and works within the holding period of a typical private equity backed company. For example, there is a collaborative initiative among GPs underway to implement decarbonization road-maps that seek to align on clear guidelines and progression steps.

NB Private Equity continues to engage in the broader evolving ESG and climate data landscape to anticipate solving for client and regulatory requirements, as well as to build differentiated capabilities and client solutions, for interested clients. For NB Private Equity to best understand climate-related portfolio risks, the data supporting portfolio carbon footprinting and implied carbon footprint reductions is necessary.

NB Private Equity has focused on what is within its control by encouraging greater disclosure from GPs while also developing capabilities to inform engagement with clients and GPs on climate-related topics where our contribution can help drive the creation of value. Building on this foundation, we embarked on a pilot to understand how estimates may inform climate risk and net zero alignment of a private equity portfolio.

Reflections of Initial Learnings

Alongside NB Private Equity's various climate initiatives focused on establishing industry standards and encouraging ESG and climate disclosures, there were still outstanding questions:

How could we assess forward-looking climate-related risks within a diversified portfolio?

How could we plan to address these climate-related risks both within a diversified portfolio and those of our GP private equity partners?

Our goal in pursuing these questions was to not only gain insights for a private equity portfolio, but also to deploy tools to potentially engage with our private equity GPs who have the ability to initiate direct change at the portfolio-company level but may not have the resources or tools to do so. These questions coupled with the breadth of our coverage in the private equity universe and our understanding of both LP and GP challenges became the basis of our search to address these asset class specific nuances.

We decided to partner with Ortec Finance on a pilot engagement using their ClimateALIGN solution. Ortec Finance is a provider of technology and solutions for risk and return management with strong academic ties and a global footprint. The Climate & ESG Solutions team brings technical and climate knowledge to the table and positions itself as a thought leader with detailed involvement in key industry initiatives, such as contribution to the Climate Biennial Exploratory Scenario (CBES) climate stress-test scenarios, as well as the technical development of the Science Based Targets initiative (SBTi) Finance tool. Finally, Ortec Finance has worked with other financial institutions who are similarly grappling with data gaps, but want to understand how to analyze their portfolios, across asset classes, relative to various climate change scenarios to better understand net zero alignment.

Alongside these credentials, Ortec Finance demonstrated a strong willingness to collaborate to create outputs and tools. As a result, our pilot focused on co-development and shared learnings which helped amplify this joint effort.

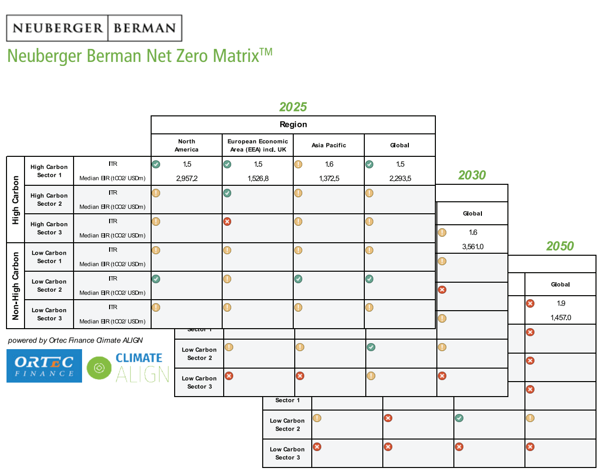
The **Neuberger Berman Net Zero Matrix™** powered by Ortec Finance ClimateALIGN is one of the emerging tools we are excited to socialize with GPs. We observed that much of the public markets transition pathways available in the market were largely focused on the highest carbon intensive sectors initially, due to prioritization and sequencing of resources. While this is understandable, much of these resources do not apply to the vast majority of the private equity investment universe, that typically invests in lower carbon intensive sectors. We noticed that a default temperature rise was often assigned to these lower carbon intensive companies. Ortec Finance's partnership with Cambridge Econometrics enabled more nuanced outputs for the sectors most relevant to private equity investors, covering more sectors in the economy. We developed the concept of a sector-region matrix over time-intervals (e.g., 2025, 2030, 2050) that could be used as a tool to engage with private equity GPs to sign-post what a net zero aligning company could look like over time, with respect to carbon intensity. By translating portfolio Implied Temperature Rise (ITR) back to the basic building block of implied carbon intensity, we now had a measure that could be understandable by companies, comparable, and potentially actionable, as a result. This proprietary Matrix was structured to help GPs understand what decarbonization pathways and targets may look like to encourage improved actual emissions disclosures and to assess the appropriate next steps in taking action. Our hypothesis was: perhaps the lower carbon-intensive sector companies that private equity firms are invested in weren't so far off after all, and perhaps GPs may be more inclined to take action to help implement the goals of their net zero target setting LPs.

The Neuberger Berman Net Zero MatrixTM illustrates decarbonization pathways as well as current median carbon intensity trajectories by sector-region for initiating engagement with private equity GPs to consider with their portfolio companies.

- **Sector-Region Materiality** to understand which sector-regions are of highest priority to consider for further analysis and engagement, based on current-state projections and in the context of decarbonization pathways required for alignment with net zero.
- **Decarbonization Pathways** to provide an indication of how companies without disclosure are likely performing based on their sector-region and to raise awareness among companies of decarbonization pathways.

EXHIBIT 2: CURRENT-STATE PROJECTIONS

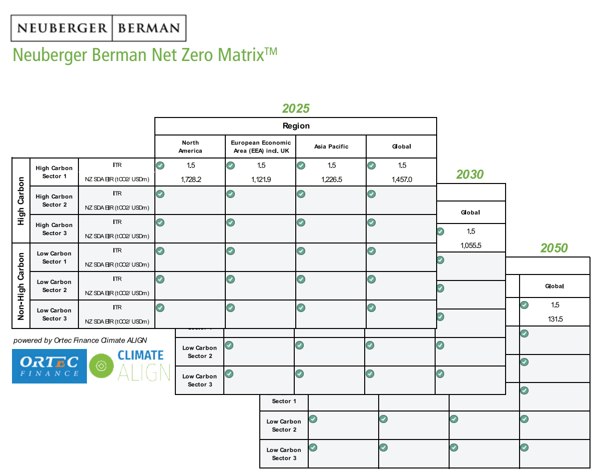
Represents the current median estimate for how emissions intensity will change over time.



For illustrative and discussion purposes only.

EXHIBIT 3: NET ZERO PATHWAY

Represents the current best estimate for the emissions intensity needed to reach Net Zero goals.



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In addition, we explored Portfolio Implied Temperature Rise (ITR) to potentially illustrate the temperature score of a sample portfolio and to help distill key hotspots that can become areas of focus in order to reduce the portfolio's ITR in the future. A portfolio's ITR attempts to articulate the amount of global warming expected if the entire world operated at the same emissions intensity as this portfolio and how the portfolio holdings are likely impacting the climate. In the absence of consistent and actual reporting of emissions data, our analyses defaulted to proxy scores derived from public companies based on sector-region mappings of the underlying sample portfolio, which underscores the importance of getting the data disclosures right. We are still iterating and evaluating the applicability of ITR to communicate the net zero alignment of a private equity portfolio. Given the value NB Private Equity places on decision-useful tools, there are key considerations when applying ITR. First, ITR is a static metric relative to evolving private equity portfolios given the eventual change of control of portfolio companies entering and exiting the portfolio. Additionally, at the moment, the range of scenarios captured within a single ITR, based on estimates derived from public companies, may oversimplify complex challenges.

Key Takeaways

The Net Zero transition is a marathon, and it is a collective marathon where systemic change is required. At this stage, NB Private Equity remains focused on what is within its control by encouraging greater disclosure of climate data, while developing estimation tools and methodologies to inform engagement on climate-related topics and address current gaps in the market. We acknowledge we are still in the early stages of the climate transition including investor education. Our initial work has helped us to better understand and consider how we can address questions the broader industry is facing. Ultimately, dialogue with private equity managers also grappling with similar challenges will be key and we welcome the opportunity to engage in collaborative problem-solving on this important and material topic. Our role in helping to bridge LPs and GPs to align on expectations and timelines will be critical to drive action: meet the industry where it is and encourage practical tools to help the industry improve, step by step. GPs who lead in addressing the climate transition have the opportunity to distinguish themselves among peers to LPs who have set net zero targets. We continue to focus on encouraging climate data disclosures and contribute tools and guidance to the broader private equity industry, as the real change needs to take place at the portfolio company level, and only then, can an investor possibly realize net zero alignment within a private equity portfolio. We remain committed to helping our investors who are interested in assessing the progress of private equity managers on their climate initiatives and are also committed to helping the private equity industry up the curve and to drive improvements that ultimately can create value.

Ortec Finance ClimateALIGN Methodology

Ortec Finance's ClimateALIGN methodology leverages E3ME, an advanced macro-economic model by Cambridge Econometrics, coupled with Ortec Finance's own internal model OFS, a robust and realistic stochastic financial model, to power its ClimateMAPS scenarios. Built on 500+ sector-region modeled combinations that cover the entire economy and planet, Ortec Finance's granular climate scenarios provide insight based on a sectoral decarbonization approach (SDA) to allow for distinct decarbonization pathways per sector-region combination.

The ClimateALIGN methodology builds on Ortec Finance's methodological contribution to OS-Climate's Portfolio Alignment tool, this tool is in line with standards and best practices set by the Task Force on Climate-Related Financial Disclosures (TCFD)'s Portfolio Alignment Team (PAT) and the Glasgow Financial Alliance for Net Zero (GFANZ). OS-Climate is a membership-based organization including a breadth of stakeholders such as the Net Zero Asset Owner Alliance. By building on top of an open-source methodology, ClimateALIGN leverages pre-competitive market collaboration and transparency to accelerate portfolio alignment analytics in the financial sector. ClimateALIGN's underlying methodology incorporates both a company's historical carbon footprint / emissions and a company's ambitions / targets to reduce emissions in the future.

ESG-RELATED DISCLOSURES

The use of ESG factors could result in selling or avoiding investments that subsequently perform well or purchasing Investments that subsequently underperform.

As used in this document, NB Private Markets consists of the following investment strategies that are classified as ESG-Integrated by the Neuberger Berman ESG Product Committee: Private Equity Investment Portfolios and Co-investment Platform, Private Equity Secondary Platform, Almanac ARS Funds, Private Credit Platform, Marquee, NB Insurance-Linked Strategies Platform, Renaissance, Athyrium, and NBAIM Fund-of-Funds Platform. Unless explicitly noted, the ESG integration processes described in this document apply solely to the Private Equity Investment Portfolios and Co-investment Platform and Private Equity Secondary Platform ("NB Private Equity").

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In 2022, Neuberger Berman ("NB") engaged Ortec Finance ("Ortec") to assist in the production of the Neuberger Berman Net Zero MatrixTM powered by Ortec Finance ClimateALIGN ("the Matrix"). The resource is intended as an educational tool to engage with GPs to understand net zero alignment and decarbonization pathways with portfolio companies. The Matrix is comprised of information from Ortec and a variety of other sources. Specifically, Ortec ClimateMAPS and Ortec ClimateALIGN comprise key portions of the Matrix. Ortec ClimateMAPS seeks to capture exposure to systemic, economic and financial climate risks. Ortec ClimateALIGN purports to monitor alignment with net zero goals by 2050, based on sector and region. Ortec also contributes emissions data from public sources. Please see the Ortec Finance Disclaimer for additional information.

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Leverage. Investments in underlying portfolio companies whose capital structures may have significant leverage. These companies may be subject to restrictive financial and operating covenants. The leverage may impair these companies' ability to finance their future operations and capital needs. The leveraged capital structure of such investments will increase the exposure of the portfolio companies to adverse economic factors such as rising interest rates, downturns in the economy or deteriorations in the condition of the portfolio company or its industry.

Highly Competitive Market for Investment Opportunities. The activity of identifying, completing and realizing attractive investments is highly competitive, and involves a high degree of uncertainty. There can be no assurance or guarantee that a private equity strategy will be able to locate, consummate and exit investments that satisfy the rate of return objectives or realize upon their values or that it will be able to invest fully its committed capital.

Reliance on Key Management Personnel. The success of a private equity strategy will depend, in large part, upon the skill and expertise of investment professionals that manage the strategy.

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