Carbon Conscious Capital: Private Equity and Net Zero

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ABSTRACT

Balancing fiduciary responsibility with the integration of global climate considerations into investment decision-making presents a growing challenge for private equity firms. In the absence of strict governmental enforcement of environmental externalities, firms navigate varying strategies to reconcile long-term financial viability with climate concerns. Through interviews with six investment decision-makers, analysis of firm ESG/investment documents, and discussions with a Branch Chief of the Securities and Exchange Commission, this paper aims to delineate the current approaches of private equity firms towards climate issues, highlighting key challenges and identifying strategic approaches for investors to advance environmental goals. The research indicates that 13% of the top 50 firms have committed to full portfolio decarbonization by 2050, while 18% have set targets for median carbon intensity reduction in future investments. Furthermore, approximately $35 billion in private equity fund capital from top-50 firms were held in thematic investment funds focused on climate and social issues. This research implies that, while action on climate is forthcoming, the degree of credibility and impact of such action remains uncertain. Moving forward, investors must leverage three strategies to accelerate their climate ambitions: (1) develop the economic rationale for decarbonization within their portfolio companies, (2) collect and supply benchmarking data from private sector peers for their portfolio, and (3) utilize their market position to negotiate discounts on climate tools and forge coalitions.

KEY WORDS

Carbon Emissions, Private Equity, ESG (Environmental, Social, and Governance) Impact Investing, Investment Firms

INTRODUCTION

There is a growing urgency to integrate climate and environmental considerations into investment decision-making across the U.S. financial landscape. While investment institutions typically generate minimal emissions directly, they play an outsized role in directing capital flows to support the necessary transition toward a decarbonized industry (Teubler and Kühlert 2020). Global progress remains slow, with existing climate financing falling short of the necessary levels to maintain global warming below 1.5°C or 2°C by 2030, according to the Intergovernmental Panel on Climate Change (Lofts et al. 2023). Thus, identifying and deploying new investment strategies that favor climate-responsible enterprises while divesting from polluting industries is paramount to achieving global climate imperatives.

The private equity industry has taken notice of the growing climate and environmental, social, and governance (ESG) movement, with firms investing ~$160 billion in the energy transition between 2017 and the first half of 2022 (McCoy et al. 2023). To put this into perspective, for solar alone, PE firms acquired 10.6 GW of energy assets in 2022, sufficient to provide power for over 9 million homes annually (Kaul 2023). Moreover, the growth of major climate investment funds such as TPG's Rise Climate ($7.3 billion AUM) and General Atlantic's BeyondNetZero ($3.5 billion AUM), show a burgeoning interest in thematic investments centered on climate solutions beyond just clean energy, including sustainable farming, climate-positive plastics, carbon credits, and transport electrification (Hamlin 2023).

However, this shift towards climate-conscious investing has not been solely driven by individual firms. There is palpable pressure from investors, particularly institutional ones, who frequently play an outsized role in financing private equity firms. Entities like the California Public Employees' Retirement System (CalPERS) have directed billions towards investments in climate solutions and committed to transitioning their investment portfolios to achieve net zero greenhouse gas emissions by 2050 with interim carbon reduction targets (CalPERS 2023). CalPERS, among dozens of other asset managers, have aligned themselves with the UN-convened Net-Zero Asset Owner Alliance (NZAOA), a coalition representing over $11 trillion in assets committing to 2050 net zero targets, with interim CO2 reduction ranges of 22-32% by 2025 and 40%-60% for 2030 (UNF PI). Recent legislative tailwinds and regulatory requirements are also paving the way. Signed in 2022, the Inflation Reduction Act has aimed to reduce the cost of electricity and opened up consumer tax

credits for clean energy technologies like heat pumps and electric vehicles. This law, coupled with the CHIPS and Science ACT, has accelerated efforts to decarbonize transportation, electric power, and industry sectors—accounting for approximately three-quarters of US emissions—driving an estimated $360 billion in private sector investments in these sectors since January 2021 (Isaacs-Thomas 2022). More recently, The Securities and Exchange Commission's (SEC) long-awaited climate disclosure bill passed in March 2024, taking out highly contested Scope 3 emissions reporting but still directing publicly traded companies in the U.S. to measure direct and energy-related emissions (scopes 1 and 2) (Securities and Exchange Commission 2024). This comes after California's more far-reaching climate disclosure bill, requiring companies exceeding a $1 billion revenue threshold to report their scopes 1-3 emissions as well as certain emissions claims and use of carbon offsets by 2027 (Cheng et al. 2023).

This paper delves into a subsector of the financial markets—private equity. Private equity enjoys a unique edge in this field, with firms holding significant ownership stakes in companies with a degree of established presence. This positions them to exert significant control and influence over high-potential enterprises across the corporate landscape and place entire portfolios on net zero pathways. Thus, the central research question this paper seeks to answer is: how do private equity firms engage with climate and ESG concerns, and what are the key hurdles and greatest opportunities for improving climate performance in the industry? Within this scope, the research specifically looks into (1) the current climate and ESG goals of major private equity firms, (2) the emergence of thematic investment funds centered on climate and ESG, and (3) which strategic mechanisms firms can employ to drive further progress on climate performance within their portfolios.

BACKGROUND & RESEARCH FRAMEWORK

A Growing, Fragmented "ESG" Landscape

Investment firms play an important role in driving capital toward sustainable and environmentally responsible companies, promoting eco-friendly practices and influencing corporate behavior. Environmental, social, and governance factors are important influencers in capital allocation decisions, influencing financial returns, bond ratings, and risk of stranded assets, among others (Apergis et al. 2022). Thus, the drive towards ESG integration within the

financial sector has been driven in large part by investor fear of both short- and long-term losses—in other words, risk aversion. The financial model of ESG investing has become the standard approach worldwide, and the focus from investors has been a driver of sustainable practices (MacNeil and Esser 2022).

The financial returns and profitability of responsible investment funds show mixed results, with aggregate research not conclusively indicating whether such funds yield higher or lower profits. Moreover, research has also shown that ESG funds may actually perform worse than non-ESG funds in terms of labor violations and hold firms with carbon emissions that are no better than their non-ESG peers (Raghunandan and Rajgopal 2022). Thus, there are inherent risks related to the profitability and the long-term viability of these investment funds, in addition to mixed social and environmental outcomes. This further complicates their assessment, and given these uncertainties, it is crucial to approach this sector with a degree of caution. Yet, the nascent stages of the ESG investment landscape also provide significant opportunities to shape its trajectory. Steering the development of these funds to ensure they achieve robust financial performance while also delivering on their environmental and social commitments can prevent the proliferation of funds that fail to meet financial, environmental, or social benchmarks and set a higher industry standard for future investments.

Risks of "Greenwashing"

The ESG investment landscape is ever-evolving and currently lacks standardization, leading to risks of corporate "greenwashing." This phenomenon refers to an attempt to profit from the growing demand for more sustainable products without actually implementing the environmentally-progressive policies advertised to consumers (Wu et al. 2020). The private equity industry, in particular, also faces issues of limited or unclear disclosures. This issue may be pronounced and persist because private equity firms are not typically public-facing and do not often need to satisfy public scrutiny. They mainly interact with institutional and affluent investors and deal with a limited number of privately held portfolio companies. In a study of the top 100 private equity firms, over half of firms did not disclose any information about their ESG practice, and most of those provided information that was largely uninformative (Markarian et al.

2023). Limited disclosure can be another form of greenwashing, given firms' attempt to gain positive reputational value without advancing substantive climate programs or goals.

The current publicly stated ESG commitments, strategies, and messaging from the largest institutional investors exhibit a degree of fragmentation due to the lack of standardization and regulation. ESG reporting and disclosure standards vary, making it challenging to compare and assess the ESG efforts of different organizations. Contributing to this is a lack of transparency and disconnect in the non-financial information that asset managers and investors handle in the field of socially responsible investing. In a study of 1500 equity mutual funds, firms that were found to portray themselves as socially responsible did not necessarily make investment decisions that supported their claims (Candelon, J.-B. Hasse, and Q. Lajaunie 2021).

Ultimately, capital across financial sectors like private equity, asset management, and public equity funds is subject to inconsistencies and risks. Greenwashing and limited disclosure have produced an environment where claims of sustainability often lack verifiable substance, undermining trust and effectiveness in ESG initiatives. This illustrates the pressing need to implement comprehensive regulatory frameworks and standardized reporting protocols that enforce transparency and accountability, thereby ensuring that ESG commitments translate into meaningful action.

Measuring Climate and ESG Metrics

When looking into the identification and measurement of climate and ESG metrics, there are similarities in the voluntary standards and frameworks used by financial firms, with a study of environmental disclosures and investor requirements of 30 oil and gas firms and 19 financial institutions finding that the TCFD and SASB frameworks are dominant in ESG evaluation (Dye, McKinnon, and Van der Byl. 2021). There is a significant need for regulatory cooperation and collaboration between key players towards standardizing regulations to prevent greenwashing. Regulatory oversight and third-party auditing are also seen as key to promoting sustainable growth and helping companies reach their net-zero goal (Redondo et al. 2022). ESG disclosure regulation also influences a country's sustainable development, making ESG criteria an essential step in a country's economic development, and compliance with ESG disclosure regulation, giving the ability to improve a country's position in the ranking (Plastun et al. 2020). Studies

have also found that even though ESG screening has become a mainstream philosophy across investment portfolios, the current rules of the financial industry culture are still a barrier to mobilizing the financial sector's funds towards climate change solutions (Eckhart 2020). Overall, the ESG landscape lacks standardization but has significant potential in promoting environmental and social sustainability; investment firms thus have an important role to play in influencing these investments and shaping their investment strategies accordingly.

Taken together, investor and regulatory pressure and the rising profitability of climate/ESG investments represent a significant opportunity for private equity to contribute to a more climate-productive investment landscape. However, cautious optimism is warranted, considering the persistent political disconnect on climate issues, the slow pace of regulatory mandates and guidelines, fragmented and voluntary ESG reporting frameworks, and the looming threat of greenwashing, all of which pose significant risks to substantive progress.

METHODS

Data sources

This research uses a dual approach, drawing upon a document analysis of the top 50 private equity firms and structured interviews with 6 investment decision-makers and a Branch Chief from the Securities and Exchange Commission (SEC). The firm analysis revealed their public-facing strategies and total capital allocations to thematic climate and ESG funds, offering insights into the adoption of these strategies among the industry's major players and the availability of dedicated funds for targeted investments. The interviews provide context for these goals, helping detail the scope, implementation, and challenges associated with advancing them from the perspective of an investment decision-maker.

The document analysis involved the collection and analysis of ESG reports, annual responsible investment publications, and other related firm documents. Insights from these publications allowed me to map out the prominent climate targets of major firms as well as fundraising for climate and social impact funds. The firms were selected by the amount of private equity capital raised over the five years to March 31 2023, as opposed to total assets under management which includes credit and real-estate assets. This document analysis provided

the basis for determining the preeminent public-facing climate strategies the industry has been taking and the total investment in dedicated climate funds for the top 50 firms.

For interviews, I strategically selected participants who represented a diversity of investment firms and perspectives on ESG integration. Selection was also based on availability, as many of these investment professionals had very busy schedules and there was an initial level of difficulty in acquiring participants. These interviews served as a platform for these investment decision-makers to share experiences, challenges, and strategies related to ESG, helping provide a clearer picture of the decision-making processes in private equity. For this research, the qualitative approach was able to capture a level of depth and intricacy that quantitative methods would have overlooked on their own.

Taken together, the document analysis and structured interviews helped provide a holistic picture of the interactions between private equity firms and ESG issues—bridging the gap between theoretical frameworks and real-life decision-making processes in this dynamic financial landscape.

RESULTS

Portfolio-level Carbon Reduction Commitments [Approach 1]

In assessing the 50 largest private equity firms, a majority of firms had no portfolio-level decarbonization pledge, but a sizable minority are making some kind of progress (Figure 1). 18% pledged full portfolio decarbonization, or Net Zero, by 2050. This includes signatories of the United Nations-led Net Zero Asset Managers Initiative and firms with independent pledges. 14% had some level of portfolio decarbonization goals but the timing and/or magnitude of these goals were unclear. 4% of firms had specified portfolio-level carbon reduction goals over the period of their investment timelines. A majority of firms (63%) had no portfolio-level decarbonization goal.

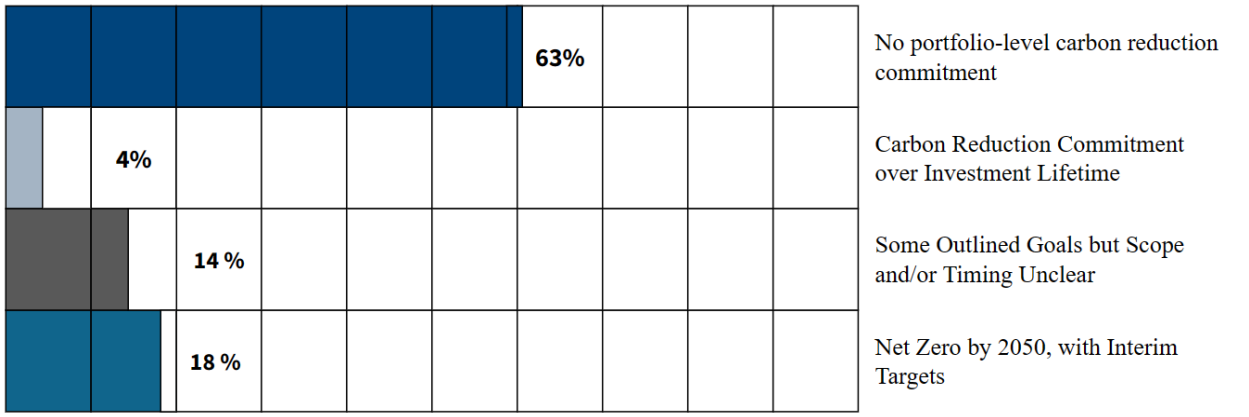

Figure 1: Breakdown of the portfolio-level carbon reduction goals of the 50 largest private equity firms by the amount of private equity capital raised over the five years to March 31 2023. One firm not included due to insufficient information. This does not reflect action versus inaction on climate, just portfolio-level commitments.

It is important to note that portfolio-level climate goals are not necessarily an indication of how strong a firm is working on climate issues. Some funds do not have portfolio-level commitments but take a case-by-case approach, offering extensive decarbonization tools to their portfolio companies or opening up ESG/Impact dedicated funds. However, this does reflect whether they are making portfolio-level commitments, which many would view as an indicator of confidence in the net zero transition of the financial sector.

“ESG” and "Impact” Funds [Approach 1]

Some private equity firms have launched various types of socially-aligned funds, typically ones centered on climate and/or social issues (Figure 2). The difference is primarily that ESG investing involves considering environmental, social, and governance (ESG) factors when assessing an asset's performance, offering a more comprehensive evaluation than traditional methods. It aims to enhance investment performance by focusing on key ESG factors relevant to financial outcomes and how well assets mitigate risks associated with these factors. For instance, energy companies are evaluated based on carbon intensity and climate risk management efforts due to the financial threat posed by climate change. This approach highlights the company's interest in protecting profits rather than solely addressing environmental concerns, which also means that it is beholden to fiduciary duty. Impact investing, on the other hand, goes beyond ESG by seeking investments aligned with United Nations Sustainable Development Goals, aiming to

address global challenges directly. Impact investing commonly occurs in private markets and is guided by the Operating Principles for Impact Management (OPIM) developed by the IFC. While both ESG and impact investing contribute to financial performance and societal betterment, they operate differently, though with some areas of convergence[1].

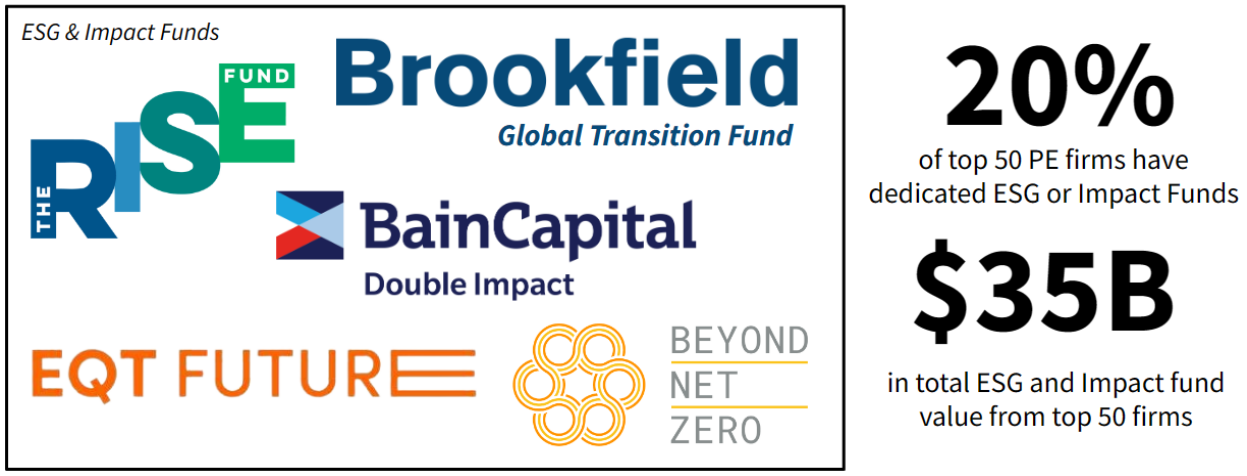

Figure 2: Examples of prominent ESG / Impact Funds and total fundraising of such funds, excluding non-private equity AUM such as credit and real estate.

Of the top 50 firms, 20 percent had some type of ESG or Impact Fund, representing over $40 billion in investments in climate and/or socially beneficial companies. This is not indicative of the total amount of private equity investments made in climate and impact since many firms integrate climate investments into their portfolio but do not dedicate specific funds. Rather, this shows a clear interest from investors in thematic investing in specific impact areas and investors are taking notice and launching such funds.

Individual Climate Offerings [Approach 3]

It is evident that many firms lack publicly stated climate targets, preferring instead to address environmental concerns in a more discretionary and targeted manner. This typically involves tailoring specific climate strategies to particular companies, especially those operating within carbon-intensive sectors. For instance, interviewees cited that their approach to

[1] Hornberger, K. (2023). The difference between ESG and impact investing and why it matters. In Scaling Impact: Finance and Investment for a Better World (pp. 93-112). Cham: Springer International Publishing.

technology companies in their portfolio may be less robust compared to their targeted decarbonization strategies for steel and cement companies. This distinction is justifiable given the fundamental differences in industry characteristics. Technology companies generally have lower direct emissions (Scope 1) and more indirect emissions (Scope 2), such as those from electricity consumption, where direct control is limited. Therefore, focusing on industries with higher direct emissions intensity may yield a higher climate impact.

While this method allows for flexibility and potentially greater resource efficiency, the absence of overarching, tangible targets may limit the impact of firms. All of the top 50 firms (with the exception of 1) discuss ESG or some level of responsible investing on their public-facing websites and other communication materials, demonstrating a clear desire to showcase their commitment to progressive environmental and social practices to the public. This suggests that there is a level of strategic positioning to align with growing public and investor demand for responsible business conduct. However, the actual depth and detail of these ESG practices are less transparent, presenting a challenge in accurately assessing the strategies of firms that choose to take a more customized, company-by-company approach to climate and ESG.

DISCUSSION

Firms have taken a fragmented approach to climate, with some pledging full portfolio decarbonization goals, which points to the intention of possessing only zero-carbon holdings by a specific date. Others have established dedicated ESG and Impact funds that have restricted holdings in companies with climate or other social impact focuses. Other firms are pursuing individualized environmental goals, but fail to make any portfolio-level pledge. Rather, they focus on offering scaled carbon solutions to their portfolio and allowing companies to utilize their resources if needed.

Approach 1: Challenges and Opportunities

While mapping out the climate goals of major firms helps identify which firms are advancing key climate goals, it is equally critical that we contextualize these goals. Projected holdings of portfolio companies in private equity typically last a relatively short 5-7 years, which

means the entirety of most firms' current portfolio will not be there in a decade. Therefore there may be no incentive to place portfolios on immediate decarbonization pathways unless there are interim net zero targets. Furthermore, decarbonization targets typically apply to majority-held investments, which may represent only a small share of a firm's portfolio. Median carbon intensity reduction targets place firms on carbon reduction pathways within their project holds, which guarantees a certain level of emissions reduction. However, there are limitations to this approach as well. In my conversations with private equity investors, many firms grant exemptions for climate leaders in their industry and portfolio companies whose emissions primarily just come from purchased energy and are difficult to decarbonize. Thus, placing portfolio-level goals in the context of their scope and applications reveals that the emissions reduction or net zero goals of these major firms may not necessarily translate to immediate emissions reduction measures across the entirety of their portfolio. These challenges are summarized in Figure 3 below.

Challenge	Description	Example
Scope Limited to Majority Stakes	Decarbonization efforts are often confined to majority-owned companies within a portfolio, potentially excluding a significant number of companies from these initiatives.	In an interview, a major private equity decision-maker reported that **only 37% of their portfolio fell within the scope of decarbonization goals.**
Weak Enforcement Mechanisms	In interviews, firms rarely mentioned withdrawing investments or linking executive pay to outcomes—preferring to provide resources over imposing directives	One firm revealed that **only 27% of the companies that were targeted by decarbonization plans managed to align with net zero** transition pathways.
Conflicts Between Short Investment Periods versus Long-term Goals	The typical investment cycle of 5-7 years can clash with the long-term nature of decarbonization targets, potentially delaying immediate carbon reduction measures.	Firms with a net zero target for 2050 and interim goals for 2030 **may not focus on decarbonizing current investments**, opting instead to invest in already net zero compliant companies in 2030, 2040, etc.

Reliable Emissions Measurement and Reporting	Accurately measuring carbon emissions across a portfolio requires consistent, reliable data collection and management, which SMBs may lack (PE firms rarely conduct site visits and collect data themselves).	During the 2008 financial crisis, several instances of fraud passed third-party verifications, highlighting that these **checks often only verify the methods used for reporting, not the accuracy of the data itself.**

Figure 3: Summary table of major challenges of portfolio-level decarbonization efforts. Firms are adopting more rigorous goals, but greenwashing risks and impact challenges remain.

Approach 2: Challenges and Opportunities

Most major firms have opted out of dedicated ESG or impact funds. In our discussions with decision-makers from these firms, the reasoning behind it primarily centered around commitments to focusing on these considerations across the entirety of their assets. However, we identified three major challenges to investors spanning already existing portfolio-level goals, the threat of regulatory, political, and public backlash, and a lack of standardized impact metrics. The findings are summarized in Figure 4 below.

Challenge	Description	Example
Hinders Portfolio-Level Commitments	Allocating a specific pool of capital for climate-focused investments may lead firms to overlook the environmental impacts of their broader portfolio.	Despite 20% of top-50 firms offering ESG and Impact Funds, **only 4% had both portfolio-wide goals and dedicated climate funds.**
Regulatory, Political, and Public Backlash	The politicization of sustainable or "ESG" investing can lead to material risks from legislative actions that prohibit the use of ESG criteria in investment decisions.	**Florida's HB-3 law prevents investment managers who consider ESG factors** from managing the state's retirement assets, regardless of their specific ESG or impact goals.

Lack of Standardized Impact Metrics	There is no universally accepted standard for climate impact, with metrics varying across both funds and sectors. This can make it difficult to measure and compare the effectiveness of different investments, leading to greenwashing.	Interviews with investment firms revealed the **use of varying standards such as SASB, CDP, GRI, and UN Sustainable Development Goals in ESG assessments**, which lead to inconsistencies in reporting and challenges in evaluating impact.

Figure 4: Summary table of major challenges of dedicate ESG / Impact funds; such funds carry significant political risks and data reporting challenges

Approach 3: Challenges and Opportunities

The individual climate offerings approach presents unique challenges and opportunities. On one hand, this approach allows firms to experiment with diverse climate solutions tailored to the specific circumstances of each portfolio company. The environmental and climate hotspots of technology companies vastly differ from that of automotive companies which are different from oil and gas. Thus, allowing for flexibility within the portfolio enables a high degree of customization and responsiveness to emerging technologies and strategies.

However, the lack of cohesive strategy and measurable targets complicates the assessment of true impact and progress towards climate goals. This approach's ad-hoc nature can lead to inconsistencies in implementation and outcomes, which may dilute the overall effectiveness of climate initiatives across the portfolio. Furthermore, without standardized metrics and clear benchmarks, external stakeholders will face difficulties verifying the reported progress, substantially increasing the risk of greenwashing. It is crucial for firms to develop a more structured framework within which individualized efforts can be pursued. While customization and flexibility are important, it is clear that greater standardization in goal setting, tracking, and reporting, can ensure that all climate efforts are aligned with broader sustainability objectives and are transparently communicated to stakeholders.

Advancing Impact: Investor Insights

This study underscored three key capacities that private equity firms across the industry should rapidly advance in order to maximize their climate impact and stay competitive in a rapidly evolving financial landscape.

First, private equity managers can promote climate performance by "building the business case" for their portfolio companies. This capacity is foundational since it leverages the rigorous financial and climate models that firms have perfected. By thoroughly analyzing both economic and environmental metrics, these models provide a dual lens through which investment decisions can be optimized for both profitability and sustainability, a capability medium-size companies may not have. Furthermore, aiding portfolio companies in navigating the intricacies of regulatory compliance with emerging disclosure rules is crucial. As global markets shift towards greater transparency and accountability in environmental impacts, and with growing misalignment with regulations across entities like the European Union, United States, California, China, etc., firms that guide their portfolio companies in effectively managing these requirements not only secure a competitive edge but also attract climate-conscious investors and customers. This proactive compliance strategy is vital in establishing trust and credibility in climate-conscious markets, fostering long-term resilience and growth.

Second firms can access public sector and intra-firm benchmarking data, allowing portfolio companies to compare climate performance with industry peers. This comparative analysis is instrumental in identifying performance gaps and opportunities for enhancement. Firms can also take this a step further, joining data-sharing coalitions like the ESG Data Convergence Initiative that standardizes the type of climate/ESG data collected and allows for inter-firm sharing of anonymized data. Such standardization not only enhances the accuracy and reliability of the data but also supports the broader goal of transparency in ESG reporting. By engaging in these coalitions, firms can benefit from shared insights and best practices, thereby enhancing their own data-driven strategies.

Third, firms can leverage their market influence to broker discounts with providers of carbon accounting, decarbonization, and other climate solutions. This increases the value proposition of tools that seek to advance transparency on key climate and environmental metrics but may be too expensive for portfolio companies to purchase on their own. Furthermore, firms can engage in other joint ventures or collaboration. Such collective efforts not only reduce

costs through economies of scale but also amplify impact by integrating cutting-edge technologies and innovative solutions across multiple entities.

Broader Implications

In the wake of the 2008 financial crisis, investors across the world uncovered fraudulent activity across various investment firms, shaking the confidence of major institutional investors (Goldmann 2010). Unlike high-profile cases such as Madoff, other investment frauds infiltrated firms that should have been equipped to detect and prevent such fraud through rigorous due diligence processes. Over decades, the investment industry has cultivated its own set of practices for reporting performance which have been guided by industry associations' standards. According to my interview with an SEC branch chief, many firms choose to comply with these standards, sometimes taking the additional step of undergoing third-party verification. However, even some fraudulent firms can obtain third-party verification and pass supposed due diligence measures.

The crux of the issue lies in a misunderstanding of the limitations of these reporting standards. While they provide parameters for performance reporting, they may not encompass all aspects investors expect in terms of safeguarding against fraud. Investors often mistakenly perceive these standards as solely governing the calculation methodology for reported numbers, rather than ensuring the accuracy of underlying data.

Similarly, in the realm of ESG (Environmental, Social, and Governance) investing, my interviews with private investors revealed an array of ESG frameworks (CDP (formerly Carbon Disclosure Project), Sustainability Accountability Standards Board (SASB), Global Reporting Initiative (GRI)). These frameworks provide assurance on certain aspects but may fall short in others. Just as with financial reporting standards, ESG frameworks offer a structured approach to measuring and reporting sustainability metrics. However, they may not comprehensively address all dimensions of ESG performance, leaving investors vulnerable to misinterpretations and oversights. Just as the audit process offers a distinct mechanism for ensuring the accuracy of financial data beyond mere compliance with reporting standards, investors must recognize that similar rigorous assessments may be necessary to validate the integrity of ESG-related disclosures. In essence, the lessons from past investment frauds underscore the importance of understanding

the nuances and limitations of reporting standards and frameworks, both in financial and ESG contexts, to mitigate risks effectively.

Limitations and Future Directions

This research primarily focuses on publicly disclosed climate and ESG goals without delving deeper into the full scope of those goals. For example, many firm goals only apply to majority investments, but the proportion of the portfolio that constitutes majority investments remains unknown. The methodology is constrained here since the investment decision-makers were unable to disclose this during our interviews. Furthermore, while the total funding allocated for dedicated ESG and climate funds provides a useful metric to gauge the emergence of such funds, they do not represent the actual amount invested in dedicated climate and ESG efforts since some firms incorporate these considerations into their regular investment funds.

Additionally, this study is confined to the top 50 firms, which may not be indicative of the broader industry. There may be a skew towards more public-facing goals and thematic investment funds as the size of the fund and their resulting public presence grows larger. Therefore, we cannot generalize these findings to smaller firms. The interviews were conducted with only a select group of firms, limiting the applicability of the insights gained to other firms within the top 50.

Looking ahead, future research could benefit from interviewing a broader array of investment decision-makers, especially those from smaller firms, to get a more comprehensive understanding of the private equity investment landscape. There could also be research that dives deeper into the composition of firm portfolios, such as the split between minority and majority investments or investment themes like technology and energy. A deeper analysis of financial performance could also be conducted to determine the relationship between ESG goals and financial outcomes like improved financial performance or enhanced fundraising capabilities.

CONCLUSION

The analysis within this paper highlights a complex and evolving climate and ESG landscape in the private equity sector. Given their significant control and influence over portfolio

companies, PE firms are uniquely positioned to drive substantive, rapid changes in corporate environmental strategies. Yet, the research indicates a varied level of commitment and effectiveness in deploying climate and ESG-focused initiatives in top-50 firms. While some firms demonstrate forward-thinking by committing to net-zero targets and establishing dedicated ESG and impact funds, a majority remain tentative, with limited disclosures that may not help shift the needle on global climate action. This variance underscores the critical need for accelerated action from within firms, greater investor pressure, and standardization in regulatory frameworks to ensure that ESG commitments lead to genuine and measurable environmental improvements.

Interviews with investment decision-makers and the analysis of public-facing documents reveal certain gaps or gray areas between stated intentions and actionable strategies. Scope limitations plague many of these publicly stated targets and the emergence of targeted climate and ESG funds remain limited. However, the responsiveness of many firms also presents a strategic opportunity. By leveraging their influential positions, private equity firms can not only improve their own climate performance but also set industry standards that encourage broader, systemic changes across the financial sector. This would require not just the adoption of more rigorous, transparent ESG frameworks but also a shift in investment culture that values long-term environmental returns as highly as financial ones.

Looking ahead, the trajectory of private equity and climate/ESG investing will be shaped by both internal motivations and external pressures. Legislative and regulatory advancements, such as California's and the SEC's climate disclosure rules, promise greater transparency. Simultaneously, the growing investor demand for responsible and sustainable investments could help favor firms that are able to best balance financial returns with environmental and social performance. In order to meaningfully capitalize on this rapidly shifting investment landscape, private equity firms must reassess their roles and strategies in climate finance. By moving beyond superficial ESG measures and developing strategies that offer real climate solutions, these firms can lead by example, demonstrating that integrating robust environmental governance can go hand-in-hand with achieving superior financial results. This proactive approach will not only satisfy the increasing stakeholder demands but also contribute vitally to the global fight against climate change.

ACKNOWLEDGEMENTS

I would like to thank Professor Patina Mendez, Professor John Battles, and Jessica Craigg for their continued support and guidance in completing this year-long endeavor. Professor Mendez's enthusiasm and support during office hours helped tremendously and our class collaboration was made possible by her teaching. A special thank you to Jessica Craigg for her guidance on navigating key research elements throughout this project, with help both during office hours and offline. Lastly, I would like to thank Professor Ofer Eldar of Berkeley Law School who served as my research advisor. His insights regarding the financial industry were essential to this project and I am grateful for his unwavering support in this process. This project would not be possible without the support of these incredible mentors.

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APPENDIX A: Structured Interview Outline

Disclaimer: This interview is being undertaken as part of an honors thesis under the Environmental, Science, Policy, and Management Program at UC Berkeley, with research guidance from Professor Ofer Eldar at Berkeley Law School. The objective is not to solicit any proprietary or non-public information, and participant names, identifying details, and firm names will not be disclosed. If any question prompts the discussion of sensitive information and you prefer not to answer, we will proceed to the next topic.

ESG Strategy

1. Can you provide a brief overview of your role and experience in the private equity sector?
2. Does your firm allocate a dedicated fund specifically for climate and socially responsible investments (what are the funds)?
3. Do you screen for or measure ESG factors for your non-ESG-designated funds?
4. What ESG standards and frameworks does your company utilize to assess a company's ESG performance (SASB, PRI, GRI, internal framework, etc.)?
5. Who prepares the ESG evaluation (an external consultancy/auditor, internal party, or mix)?
6. Is the ESG evaluation used internally or disclosed?
7. Which teams at your firm are involved in the decision-making process for ESG-targeted investments, and do you consult any external experts (scientists, industry experts, consultants, etc.)?
8. In your firm's investment decision-making process, what ESG metrics hold the greatest priority? And why?

Regulatory Landscape

1. Does your firm set any standards for environmental, social or governance practices of your portfolio companies?

2. If so, how do you monitor portfolio company compliance with the firm's ESG standards (site visits, talking to management, mandating certain disclosures, etc.)
3. Considering your firm's portfolio decarbonization goal by [date], could you outline the financial and/or legal mechanisms in place to ensure portfolio companies maintain compliance with this objective?
4. Are there any regulations, such as California's recent climate risk and disclosure bills or the SEC Climate Disclosure rules, that you expect to influence your investment strategies going forward?
5. What can regulators do to promote greater investment in environmentally and socially beneficial companies from firms like yours?